# INTERREG VA IMPACT EVALUATION – MID-TERM REPORT

# PRIORITY 2 – ENVIRONMENT – APPENDICES

Special EU Programmes Body
Foras Um Chláir Speisialta An AE
Boord O Owre Ocht UE Projecks

Cogent
MANAGEMENT CONSULTING

**Cogent Management Consulting LLP**

**30th December 2020**

**INTERREG VA IMPACT EVALUATION**

**PRIORITY 2 - ENVIRONMENT**

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## List of Abbreviations

| Abbreviation | Definition |
|---|---|
| ACT | Argyll and the Isles Coast and Countryside Trust |
| AFBI | Agri-Food and Biosciences Institute |
| ABCBC | Armagh City, Banbridge & Craigavon Borough Council |
| AGM | Annual General Meeting |
| ALS | Acoustic Listening Station |
| ASO | Assistant Scientific Officer |
| ASSI | Areas of Specific Scientific Interest |
| AUV | Autonomous Underwater Vehicles |
| AWQMS | Automatic Water Quality Monitoring Station |
| AWS | Alternative Water Supplies |
| BC | Butterfly Conservation |
| BGS | British Geological Survey |
| BOQ | Bill of Quantities |
| BWI | BirdWatch Ireland |
| CABB | Conservation Across-borders for Biodiversity |
| CAFRE | College of Agriculture, Food and Rural Enterprise |
| CANN | Collaborative Action for the Natura Network |
| CAP | Conservation Action Plan |
| CCGHT | Causeway Coast and Glens Heritage Trust |
| CENIT | CEntral NITrogen |
| CEO | Chief Executive Officer |
| COMPASS | Collaborative Oceanography and Monitoring for Protected Areas and Species |
| DAERA | Department of Agriculture, Environment and Rural Affairs |
| DAFM | Department of Agriculture, Food and Marine |
| DAP | Drainage Area Plan |
| DCC | Donegal County Council |
| DEMs | Digital Elevation Models |
| DfI | Department for Infrastructure |
| DWPAs | Drinking Water Protected Areas |
| EBR | East Border Region Ltd. |
| EC | European Commission |
| EMS | Electronic Monitoring System |
| ENGOs | European Non-Governmental Organisation |
| EPA | Environmental Protection Agency |
| ESB | Electricity Supply Board |
| EU | European Union |
| FLC | First Level Control |
| FT | Full Time |
| GAW | Global Atmosphere Watch |
| GDPR | General Data Protection Regulation |
| GES | Good Environmental Status |
| GET | Golden Eagle Trust |
| GLAS | Green Low-Carbon Agri-Environment Scheme |
| GMIT | Galway-Mayo Institute of Technology |
| GSI | Geological Survey of Ireland |
| GW | Ground water |
| HSO | Higher Scientific Officer |
| IE | Intestinal Enterococci |
| IFI | Inland Fisheries Ireland |
| IUCN | International Union for Conservation of Nature |
| IW | Irish Water |
| KNIB | Keep Northern Ireland Beautiful |
| LA | Loughs Agency |
| LAWCO | Local Authority Water and Communities Office |
| LIS | Land Incentive Scheme |
| LoO | Letter of Offer |
| MarPAMM | Marine Protected Areas Management and Monitoring |
| MCC | Monaghan County Council |

| Abbreviation | Definition |
|---|---|
| MF | Marsh Fritillary |
| MFTF | Moors for the Future |
| MI | Marine Institute |
| MMP | Marine Management Plans |
| MoU | Memorandum of Understanding |
| MPAs | Marine Protected Areas |
| MSFD | Marine Strategy Framework Directive |
| MS | Microsoft |
| MSS | Marine Scotland Science |
| NGO | Non-Governmental Organisation |
| NHA | National Heritage Area |
| NI | Northern Ireland |
| NIEA | Northern Ireland Environment Agency |
| NIW | Northern Ireland Water |
| NMDDC | Newry, Mourne & Down District Council |
| NPWS | National Parks and Wildlife Service |
| OB | Optimism Bias |
| PM | Project Manager |
| PMO | Programme Management Office |
| PO | Project Officer |
| PSDP | Project Supervisor Design Process |
| QUB | Queen's University Belfast |
| RBMPs | River Basin Management Plans |
| R&D | Research and Development |
| RHAT | River Hydromorphology Assessment Technique |
| ROI | Republic of Ireland |
| RSPB | Royal Society for the Protection of Birds |
| SACs | Special Areas of Conservation |
| SAMS | Scottish Association for Marine Science |
| SCAMP | Sustainable Catchment Area Plan |
| SEUPB | Special EU Programmes Body |
| Sligo IT | Institute of Technology Sligo |
| SNH | Scottish Natural Heritage |
| SPAs | Special Protected Areas |
| SSSI | Site of Special Scientific Interest |
| STMB | Scientific and Technical Management Board |
| StT | Source to Tap |
| SWAT | Soil and Water Assessment Tool |
| SWELL | Shared Waters Enhancement and Loughs Agency |
| SWIM | System for Bathing Water Quality Modelling |
| TRT | The Rivers Trust |
| UCC | University College Cork |
| UCD | University College Dublin |
| UoG | University of Glasgow |
| UU | Ulster University |
| UW | Ulster Wildlife |
| UKWIR | UK Water Industry Research |
| UWWTD | Urban Wastewater Treatment Directive |
| WEMP | Water and Environment Management Plan |
| WFD | Water Framework Directive |
| WTWs | Water Treatment Works |
| WWTWs | Wastewater Treatment Works |

# 1. INTRODUCTION AND BACKGROUND

## 1.1 Introduction

The Special EU Programmes Body (SEUPB) has commissioned Cogent Management Consulting LLP (Cogent) to undertake a longitudinal Impact Evaluation of INTERREG VA Programme[1] Investment Priority Axis 2 – Environment to include 3 reports due by end of 2018, end of 2020 and early 2022[2].

The overall focus of the evaluation is to assess (at three stages of implementation), the impact of the interventions within the 'Environment' Priority Axis. As a full implementation evaluation is being undertaken across INTERREG VA concurrently with the Impact Evaluation, the Impact Evaluation does not seek to assess the implementation of projects nor how the Programme is operating. Rather than addressing financial and operational issues, the purpose of the impact evaluation is learning, through an exploration of the contribution of the Programme to the movement of the Result Indicator, to inform the remainder of the INTERREG VA Programme and potential future programming periods.

As agreed with SEUPB, the key focus of this second evaluation report is to provide an overview of each project's achievements at this interim stage in its rollout and to take cognisance of the actual/potential impact of the ongoing COVID-19 pandemic - to reflect any effect that it may be having on each project, any steps that projects are taking to mitigate any risk to the project's successful implementation and any support that projects may require from SEUPB to help ensure the project's successful completion.

This section of the report provides an overview of Priority Axis 2 – Environment, its aims, and objectives and of the nine projects supported.

## 1.2 Priority Axis 2: Environment & its Objectives

### *1.2.1 Introduction*

The Cooperation Programme states that the key aim of Priority Axis 2: Environment is to *"encourage investment to achieve a resource-efficient, sustainable economy through the implementation of green infrastructure and environmental risk management strategies".*[3]

It also states that two key challenges in the programme region will be tackled through this priority axis, namely the integrity of its:

1. Biodiversity; and
2. Water quality.

The **selected investment priorities** under Priority Axis 2: Environment and their **associated objectives** are as follows:

| Investment Priority | Associated Objectives |
|---|---|
| **2a** - Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure. | **2.1** Recovery of Protected Habitats and Priority Species<br>**2.2** Manage Marine Protected Areas and Species |
| **2b** - Investing in the water sector to meet the requirements of the Union's environmental acquis and to address needs, identified by the Member States, for investment that goes beyond those requirements. | **2.3** Improve Water Quality in Transitional Waters<br>**2.4** Improve Freshwater Quality in Cross-Border River Basins |

[1] For Northern Ireland, Ireland and Western Scotland
[2] The report received in 2022 will include a summary of all previous findings and will contribute directly to the programme summary of evaluation findings, to be submitted to the EU Commission.
[3] The Cooperation Programme identifies that the proposed financial allocation for Priority Axis 2: Environment is anticipated to be €84.71m (€72m from ERDF and €12.71m via national match funding).

### 1.2.2 *Objective 2.1 – Recovery of Protected Habitats and Priority Species*

The need to protect the environment is one of the key themes in the EU 2020 Strategy. It is also one of the needs and priorities identified in the Socio-Economic Profile of the Region and the Position Papers from the European Commission for the United Kingdom and Ireland. The investment by the programme in this important area will be aimed at ensuring that designated habitat sites of cross-border importance and identified areas for priority species will achieve or be approaching favourable conditions. These include nationally designated areas, areas of specific scientific interest (ASSI), sites of special scientific interest (SSSIs), natural heritage areas (NHAs)) and European designated areas (special protection areas (SPAs) and special areas of conservation (SAC)). Other areas for breeding wader species and marsh fritillary that are not designated may also be considered where they are important to the ecological functioning of habitats within the designated site network. In many cases, sites will be close to or straddle the border. However other sites further from the terrestrial border, including those in Western Scotland, may be included, where the site is of cross-border significance.

It is anticipated that increased levels of integration in the planning and management of the environment across the region will result in the development of best practice methodologies and increased levels of public sector efficiency. It is also anticipated to lead to increased awareness of, and responsiveness to, the potential threats of climate change to habitats and species.

The aim of Objective 2.1 is, therefore, to *"promote cross-border cooperation to facilitate the recovery of selected protected habitats and priority species".*

To achieve this objective, it was anticipated that it would be necessary to invest in increased cross-border integrated planning and management of habitats and species, using best-practice methodologies. It is anticipated that this investment will lead to results beyond the lifetime of the Programme in the form of increased compliance with EU directives in the area of environmental protection.

The three jurisdictions have prioritised 7 protected habitats and 7 priority species. These have been selected from habitats and species common to all three jurisdictions and include habitats that have an important role in connectivity between protected areas and protected species that migrate across the eligible region. All habitats and species selected for investment will be taken from this priority list:

| | | |
|---|---|---|
| **Protected Habitats** | 1. Alkaline fens<br>2. Blanket bog<br>3. Active raised bog<br>4. Marl Lakes | 5. Calcareous fens<br>6. Petrifying springs with tufa formation<br>7. Transition mires and quaking bogs |
| **Priority Species** | 1. Hen Harrier<br>2. Marsh Fritillary<br>3. White-clawed crayfish<br>4. Breeding waders (curlew, lapwing, redshank and snipe) | 5. Golden plover<br>6. Corncrake<br>7. Red grouse |

Only sites important to these protected habitats or priority species can be chosen for investment by the Programme.

### 1.2.3 *Objective 2.2 – Manage Marine Protected Areas and Species*

The Marine Strategy Framework Directive (MSFD) requires the EU Member States to co-operate in the management of regional seas with the objective of meeting Good Environmental Status by 2020. Increased co-operation in this area can mitigate climate change impact. The need for a coherent approach across the region is particularly relevant in this area because of the shared waters. Maintaining biodiversity is a requirement to achieve Good Environmental Status and an inherent part of the delivery of MSFD is to develop an ecologically coherent network of Marine Protected Areas across Europe. With the marine environment coming under increasing pressure from human activity, such a network will ensure that biodiversity is safeguarded.

Studies illustrate that the marine environment shared by Northern Ireland, Ireland and Scotland is regarded as having one of the greatest renewable energy resources in Europe, with the capacity to support economically viable wind, wave and tidal energy projects. Within the confines of a network of marine protected areas, developments need to be managed and mitigated in a manner which will promote, sustain and conserve the marine environment. Investment by the programme in this area is aimed at increasing the capacity for integrated planning and management of marine resources and increasing the effectiveness of cross-border marine management strategies. It is anticipated that new cross-border cooperation strategies will be developed based on existing and newly acquired data. This will lead to an increase in compliance with the EU MSFD.

It is further envisaged that investment by the programme will lead to an increased understanding of and ability to capitalise on the marine resources in the region. This will include an increase in the availability of comprehensive mapping programmes; the development and growth of a regional "blue economy" based on the maritime resource and the alignment of regional activities with the EU Atlantic Strategy and Action Plan.

The aim of Objective 2.2 is to *"develop cross-border capacity for the monitoring and management of marine protected areas and species".* [4]

To achieve this objective, it was considered that it would be necessary to invest in cross-border data capture and mapping for the development of joint marine management and development activities. It is anticipated that the sustainability of this activity beyond the lifetime of the Programme will be evidenced by the creation of a regional marine innovation centre that will provide a focal point for these activities. This will result in an increased contribution to the achievement of the targets associated with EU Marine strategies.

### *1.2.4 Objective 2.3 – Improve Water Quality in Transitional Waters*

Within the Programme area, Ireland and Northern Ireland share the following transitional water bodies:

1. Carlingford Lough - between County Louth in Ireland and County Down in Northern Ireland; and
2. Lough Foyle - between County Derry in Northern Ireland and County Donegal in Ireland.

According to the Programme's Citizens' Summary, cross-border collaboration is essential to improve the water quality of these shared transitional waters and thus efficiently address the requirements of the Water Framework Directive[5]. In particular, this specific objective will seek to achieve a good or high-water quality status for these two shared transitional waters. Modelling of cross-border waters can identify the potential sources of pollution and the optimum way to achieve and maintain good water quality status. Such modelling will identify the most effective interventions and improvements required for the sewage network and wastewater treatment works that impact upon the shared transitional waters.

It is also anticipated that the Programme will facilitate the implementation of common approaches to the management of the water resources and the sharing of best practice and technical expertise across the eligible region, drawing on the relative strengths of the three jurisdictions.

The aim of Objective 2.3 is, therefore, to *"improve the water quality in shared transitional waters".*

[4] The Output Indicator Guidance document for Objective 2.2 (January 2016) states that Marine Protected areas (MPAs) or conservation areas are locations which receive protection because of their recognised natural, ecological and/or cultural values. Special Protected Areas (SPAs) with marine components are defined as those sites with qualifying Birds Directive species or regularly occurring migratory species that are dependent on the marine environment for all or part of their lifecycle, where these species are found in association with intertidal or sub tidal habitats.

[5] Which is an EU directive that commits EU member states to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore) by 2015.

In order to achieve this objective, it is stated that it will be necessary to invest in cross-border solutions and the joint management of water bodies that straddle the border. It is anticipated that this will result in long term impacts on the quality of water in the region beyond the lifetime of the Programme.

### *1.2.5 Objective 2.4 – Improve Freshwater Quality in Cross-Border River Basins*

To improve water quality across the region, it is necessary to promote the shared management of shared water resources and to invest in cross-border solutions to achieve the targets within the EU Water Framework Directives. It is anticipated that investment by the programme will lead to an improvement in the baseline condition of water quality, physical structure, and habitat in a number of cross-border catchment areas. This will contribute towards the achievement of targets relating to good water quality and ecological status of all water bodies (rivers, lakes, groundwater, transitional).

Importantly, such improvements in water quality may mitigate the need for capital investment and contribute to reducing operating costs whilst also protecting and enhancing biodiversity.

It is further anticipated that the investment will provide for an increase in the level of cross-border integrated management of river catchment areas and the development of shared solutions to meet EU targets concerning water quality. There are also opportunities to share best practice approaches across the region. This will, in turn, lead to an increased number of water bodies with the higher classification of moderate, good or high quality and a decreased number of water bodies classified as poor or bad quality, in line with the designations contained within EU Water Directives.

It was anticipated that interventions supported under this Objective would focus on the following:

- The river catchment activities would be limited to river catchments where the area is on both sides of the Northern Ireland / Ireland border.
- The location of the groundwater wells would be on both sides of the Northern Ireland / Ireland border to support monitoring and pollution of the river catchment activities.
- The sustainable catchment area management modelling and plan would be a cross-border plan focusing on a freshwater capture area, encompassing activities in areas exclusive to some of the border counties of Ireland and the adjacent border counties of Northern Ireland.
- Knowledge transfer and exchange of best practice within the three jurisdictions.

The aim of Objective 2.4 is, therefore, to *"improve freshwater quality in cross-border river basins".* Within the Programme area, Ireland and Northern Ireland share the following 11 cross-border river basins[6]:

| Table 1.1: Cross-Border River Basins | |
|---|---|
| 1. Blackwater River | 7. Finn Foyle River |
| 2. Burnfoot River | 8. Flurry River |
| 3. Castletown River | 9. Foyle Deele River |
| 4. Derg River | 10. Lower Erne River |
| 5. Fane River | 11. Upper Erne River |
| 6. Finn Fermanagh River | |

To achieve this objective, it is stated that it will be necessary to invest in cross-border solutions and the joint management of water bodies that straddle the border. It is anticipated that this investment will lead to an improvement in the baseline condition of water quality, physical structure, and habitat in a number of cross-border catchment areas.

[6] As outlined in the Call Documentation issued for Objective 2.4.

### *1.2.6 Summary of Specific Objectives, Result Indicators and Targets*

Tables 1.2 and 1.3 provide a summary of the Specific Objectives, Result Indicators and Targets for Priority Axis 2: Environment:

| Table 1.2: Specific Objectives, Result Indicators and Targets | | | |
|---|---|---|---|
| **Specific Objective** | **Result Indicator** | **Baseline** | **Target** |
| **2.1** To promote cross-border co-operation to facilitate the recovery of selected protected habitats and priority species | The percentage of selected protected habitats in or approaching a favourable condition | 1% | 10% |
| **2.2** To develop cross-border capacity for the monitoring and management of marine protected species in the region | Cross-border capacity for monitoring and management of marine protected areas and species | A little collaboration | A lot of collaboration |
| **2.3** To improve the water quality in shared transitional waters | The percentage of shared transitional waters in the region with good or high quality | 0% | 100% |
| **2.4** To improve freshwater quality in cross-border river basins | The percentage of cross-border freshwater bodies in cross-border river basins with good or high quality | 32% | 65% |

The anticipated Output Indicators are summarised below:

| Table 1.3: Anticipated Output Indicators | | |
|---|---|---|
| **Output Indicator** | **Measures by Number of:** | **Number** |
| Surface Area of Habitats supported in order to obtain a better conservation status | Hectares | 4,500 |
| Conservation action plans | Conservation action plans | 25 |
| The network of buoys for regional seas | Networks | 1 |
| Models developed to support conservation of marine habitats and species | Models | 5 |
| Marine Management Plans for designated protected areas | Complete plans | 6 |
| System for the prediction of bathing water quality and the installation of real-time signage | Systems | 1 |
| Additional population benefiting from improved wastewater treatment | People | 10,000 |
| Sewage network and wastewater treatment projects completed to improve water quality in shared transitional waters | Projects | 2 |
| Cross-border drinking water Sustainable Catchment Area Management Plans | Plans | 1 |
| Cross-border groundwater monitoring wells installed | Wells | 50 |
| River water quality improvement projects | Projects | 3 |

The INTERREG VA Citizens' Summary suggested that the above outputs might be achieved through the following **indicative actions**:

| **Table 1.4: Indicative Actions**[7] |
|---|
| **Objective 2.1** |
| • Development of mapping of protected habitats and sites of cross-border relevance;<br>• Development and implementation of conservation action plans for protected sites of cross-border relevance;<br>• Tangible conservation actions for protected habitats and species;<br>• Conservation management and protection activities to encourage sustainable natural regeneration of species populations;<br>• Development and sharing of best practice and enhancement of skills in ecosystem management;<br>• Development and use of databases to assist conservation actions;<br>• Removal of invasive species;<br>• Research into species and habitats, including the impact of climate change, which supports the actions within the Programme; and<br>• Education and outreach activities. |
| **Objective 2.2** |
| • Development and implementation of cross-border management plans for marine protected areas and species;<br>• Mapping of marine/seabed environment;<br>• Creation of a network of marine protected areas;<br>• Research and development in the marine environment (including the impact of climate change);<br>• Marine skills initiatives;<br>• The coordinated research programme of direct relevance to the management challenges of the eligible area;<br>• Knowledge and data sharing; and<br>• Prediction model development and signage for short-term pollution and real-time management of bathing water quality in coastal waters. |
| **Objective 2.3** |
| • Research and development in wastewater treatment technologies, including the use of sustainable technologies with direct relevance to the shared transitional waters;<br>• Creation of demonstration sites in the catchment areas to illustrate best practice wastewater treatment methodologies; and<br>• Sewerage network and wastewater treatment projects to protect and enhance the Water Framework Directive classification of the cross-border catchment areas. |
| **Objective 2.4** |
| • Development and implementation of integrated river basin management plans and actions;<br>• Development and implementation of a management plan and projects for designated drinking water protected areas so that Water Framework Directive water classifications can be maintained and improved;<br>• Activities related to the improvement of river water quality;<br>• Activities related to freshwater quality management research; and<br>• Activities related to establishing groundwater monitoring wells. |

[7] Source: Citizens' Summary: INTERREG VA Programme (2014-2020).

## 1.3 Overview of Projects Supported

Table 1.5 provides an overview of the **nine projects** approved by the INTERREG VA Programme Steering Committee.

**Table 1.5: Summary of Projects Approved for Funding[8]**

| Project Ref | Lead Partner | Project Name | Operational start date | Operational end date | Anticipated Project Cost (€) |
|---|---|---|---|---|---|
| **Objective 2.1** | | | | | |
| 032 | Newry, Mourne & Down District Council | CANN | 01/01/2017 | 31/12/2021 | €9,406,313 |
| 037 | RSPB NI | CABB | 01/01/2017 | 31/12/2021 | €4,935,985 |
| ***Subtotal*** | | | | | ***€14,342,296*** |
| **Objective 2.2** | | | | | |
| 034 | Agri-food and Biosciences Institute (AFBI) | COMPASS | 01/01/2017 | 31/03/2022 | €7,726,441 |
| 038 | University College Dublin (UCD) | SWIM | 01/01/2017 | 31/12/2020[9] | €1,393,075 |
| 5059 | AFBI | MarPAMM | 01/01/2018 | 31/03/2022 | €6,361,317 |
| 5060 | Lough Agency | Sea Monitor 2 | 25/07/2017 | 31/12/2022[10] | €4,722,671 |
| ***Subtotal*** | | | | | ***€20,203,504*** |
| **Objective 2.3** | | | | | |
| 005 | Northern Ireland Water (NIW) | SWELL | 18/11/2014 | 31/12/2022 | €35,047,604[11] |
| ***Subtotal*** | | | | | ***€35,047,604*** |
| **Objective 2.4** | | | | | |
| 029 | NIW | Source to Tap | 01/10/2016 | 31/03/2022 | €4,909,921 |
| 027 | Donegal County Council | Catchment Care | 01/10/2017 | 31/10/2022 | €13,792,436 |
| ***Subtotal*** | | | | | ***€18,702,357*** |
| **Total** | | | | | **€88,295,761** |

[8] The decision whether or not to fund a project rested entirely with the IVA Programme steering committee.
[9] NB: Original LoO end date was 30/06/2020. It was noted during consultation that a revised LoO was issued in April 2020 extending the project to December 2020.
[10] NB: Original LoO end date was 31/03/2022. It was noted during consultation that an extension was approved in April 2019.
[11] NB The SWELL project received an original Letter of Offer (dated 31st January 2017) offering a grant of up to a maximum of €3,282,786.52 (ERDF + Government Match Funding) to be expended and claimed by 30th April 2018 (The period of assistance was for 42 months starting on 1st November 2014 and completing on 30th April 2018), towards total anticipated project costs of €3,282,786.52. This Letter of Offer was later superseded by a second letter of offer that incorporated both Phase I and Phase II of the project.

The contribution that each of the 9 projects is anticipated to make to the Priority's key Output Indicators is detailed below:

| Table 1.6: Projects Approved for Funding – Stated Contributions to Output Indicators (source: Letters of Offer issued by the SEUPB) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Output Indicator** | **Objective and Project Ref** | | | | | | | | | **Total** |
| | **2.1** | | **2.2** | | | | **2.3** | **2.4** | | |
| | **CANN** | **CABB** | **COMPASS** | **SWIM** | **MarPAMM** | **Sea Monitor 2** | **SWELL** | **Source to Tap** | **Catchment Care** | |
| 4,500 ha of habitats supported in order to attain a better conservation status | 3,650 | 2,228 | | | | | | | | **5,878** |
| 25 conservation action plans | 27 | 8 | | | | | | | | **35** |
| 1 network of buoys for regional seas, including telemetry and oceanographic monitoring (e.g. for seals, cetaceans and salmonids) | | | 1 | - | - | - | | | | **1** |
| 5 models developed to support conservation of marine habitats and species | | | 3 | - | 4 | 5 | | | | **12** |
| 6 complete marine management plans for designated protected areas | | | - | - | 6 | 3 | | | | **9** |
| 1 system for the prediction of bathing water quality and the installation of real-time signage | | | - | 1 | - | - | | | | **1** |
| 10,000 additional people benefiting from improved wastewater treatment | | | | | | | 10,000 | | | **10,000** |
| 2 sewage network and wastewater treatment projects completed to improve water quality in shared transitional waters | | | | | | | 2 | | | **2** |
| 3 river water quality improvement projects completed | | | | | | | | - | 3 | **3** |
| 50 cross-border groundwater monitoring wells installed | | | | | | | | - | 50 | **50** |
| 1 cross-border drinking water Sustainable Catchment Area Management Plan | | | | | | | | 1 | - | **1** |

# 2. IMPACT OF COVID-19

## 2.1 Introduction

Given the unprecedented onset of the COVID-19 pandemic and its potential to impact on both the implementation of the nine Priority Axis 2: Environment projects and ultimately their ability to achieve their aspirations, SEUPB asked the Evaluation Team to ascertain the impact that COVID-19 was having on the projects. Consequently, the Evaluation Team completed consultations with each of the project leads to understand the implications of COVID-19 on their organisation and project, which sought to help SEUPB:

- Identify any issues that the projects are facing and/or the risks to the projects' successful implementation;
- Ensure that projects have considered the implications of the pandemic and that appropriate plans have been put in place in response; and
- Identify any further support that the projects might require to ensure their successful implementation.

## 2.2 Summary of Key Findings

The table below provides a high-level summary of the key findings derived from those consultations:

**Table 2.1: Environment Covid-19 Implications Survey Key Findings**

| Project | Potential risk that the project will not achieve its aims and objectives | Suggested need for a time extension | Potential for budget underspend at the end of the project period | Adaptions to project activities, target groups and outputs |
|---|---|---|---|---|
| CANN | Some Risk | Yes (6 months) | No | No |
| CABB | No Risk | No | No | No |
| COMPASS | No Risk | No | No | Yes (Fieldwork put on hold and meetings held online). |
| SWIM | No Risk | No | No | Yes (No physical activities, only online promotion this Summer as well as the closing event moving online). |
| MarPAMM | Some Risk | Yes (6 months) | No | Yes (Had to cancel/ reschedule physical activities and instead have completed desktop work on models). |
| Sea Monitor 2 | Some Risk | No | No | Yes (Will deploy equipment in March 2021 instead of March 2020). |
| SWELL | Some Risk | Yes (3-4 months) | No | Yes (school and stakeholder visits cancelled. SEUPB AGM cancelled. Moved the commissioning of projects online and AFBI used alternative techniques to service buoys and NI water closing events scaled down. |
| Source to Tap | No Risk | No | No | Yes (school visits to water treatment works were cancelled, journalists highlighting water treatment issues also cancelled. Unable to attend Agri-shows). |
| Catchment Care | Some Risk | Yes (6 Months) | Yes (not specified) | Yes (mid-term conference postponed until February 2021, events are either not happening or have been scaled back. Online conferences were considered but our partners felt it would not work). |

Key points to note in relation to Table 2.1 include:

- 5 of the 9 projects consider that the onset of the COVID-19 pandemic and the associated lockdown and disruption to normal working practices have created a risk that their project will not fully achieve its aims and objectives.
- 7 of the 9 projects have made some adaptations to their project as a result of the COVID-19 pandemic;
- 4 of the 9 projects consider that their project will likely require an extension to its originally anticipated timescales to complete successfully;
- 1 of the 9 projects consider that it will likely not be able to spend its full budget allocation.

The following sub-sections provide the detailed analysis from the COVID-19 focused consultations with the nine project leads.

## 2.3 Implications of the COVID-19 Pandemic for project implementation

### *2.3.1 Likelihood of achieving aims and objectives as outlined in the LoO*

Almost all (8 of 9) of the project leads considered that, before the onset of the COVID-19 pandemic, their project was on track with no substantial risk to it fully achieving its aims and objectives as outlined within their LoO, with:

- 4[12] (of 9) projects stating that their project was, before COVID-19, fully on track with little risk to it fully achieving its aims and objectives; and
- 4[13] (of 9) projects suggesting that their project was, before COVID-19, mostly on track with no substantial risk to it fully achieving its aims and objectives.

Other salient points to note include:

- The MarPAMM project lead indicated that prior to the onset of COVID-19, the project was behind schedule and there was a risk that it would not achieve its aims and objectives, as a result of a 6-month delay to the project start date.
- Pre-COVID, whilst being mostly on track, one project[14] highlighted that the Land Incentive Scheme aspect of their project was behind schedule, due to issues with GDPR and securing SEUPB approval.

**Table 2.2: Extent project was on track to achieve its aims and objectives (N=9)**

| | Pre-COVID | Current Position |
|---|---|---|
| The project was (is) fully on track with little risk to it fully achieving its aims and objectives | 4 | 1 |
| The project was (is) mostly on track with no substantial risk to it fully achieving its aims and objectives | 4 | 3 |
| The project had been changed from that presented in the original project application but was (is) on track to fully achieve its new aims and objectives | - | - |
| The project was (is) behind schedule and there was (is) a risk that it would (will) not achieve its aims and objectives | 1 | 5 |
| The project was (is) behind schedule and there was (is) a high risk that it would (will) not achieve its aims and objectives | - | - |
| The project had been changed from that presented in the original project application, and there was (is) a risk that it would (will) not achieve its aims and objectives | - | - |
| The project had been changed from that presented in the original project application, and there was (is) a high risk that it would (will) not achieve its aims and objectives | - | - |

[12] COMPASS, CANN, SWIM and SWELL
[13] CatchmentCARE, Source 2 Tap, Sea Monitor 2, CABB
[14] Source to Tap

However, per Table 2.2, the situation has changed considerably as a result of the COVID-19 pandemic and associated lockdown measures with only 4[15] projects continuing to feel that their project is fully (N=1) or mostly (N=3) on track with no substantial risk to the project fully achieving its aims and objectives. The remaining five[16] project leads now consider that their project is behind schedule and potentially at risk of not achieving its aims and objectives.

The project leads highlighted several impacts that COVID-19 has had (or that they anticipate it will have) on their ability to achieve the project's aims and objectives including:

- The disruption to site investigation visits, meetings, and retaining planning application;
- The disruption to education programmes; and
- The suspension of data collection and sampling.

| | |
|---|---|
| **CatchmentCARE** | *"As a result of COVID-19 various workstreams were interrupted, for example, site investigation work and site meetings with landowners and agencies to secure agreements/permits for proposed works. These interruptions affected various partners. Another example of disruption was that the Loughs Agency was seriously challenged in making planning applications for works required in the Finn which is a protected area. Applications had to be made in hard copy, yet the staff involved were working remotely and did not have access to large printers.*<br><br>*Also, as a result of the COVID-19 pandemic, legislation was altered to allow longer timelines for planning-related decision making. All of which delayed the planned works which have now been tendered with delivery to follow. Furthermore, the delivery of Education programmes in various schools across the catchments was also interrupted and the project is currently considering how to deliver some of the programme online.*<br><br>*Our works were delayed, possibly by 6 months, despite the best efforts of everyone. We hope that SEUPB sees value in an extension as we have a good working relationship with them.*<br><br>*As a result of the pandemic, the project will not deliver fully on all the works that were planned, for example, the Loughs Agency is only now beginning its groundwork. Also, worth noting is that the project will have less data available from the monitoring of completed works which will affect the overall project. Partners progressed as much as they could and have begun to do work on the ground now (September 2020). The objectives will be achieved but unfortunately will not be as solid as we would have liked."* |
| **Sea Monitor 2** | *"The COVID-19 pandemic has wiped out a year's worth of marine research and data collection. 2020 was the first of 3 years to deploy equipment, tag fish, and collect data. We have delayed deployment until March 2021, so we will only be able to gather 2 years' worth of data, which will result in lesser quantity and lower quality of data. Two years' worth of research might not be enough to develop a management plan for salmon for example, but it is enough for recommendations."* |
| **CANN** | *"This is an environmental project, and the restrictions have meant that we lost time in collecting field data as we were only able to get out at the end of June 2020, which has affected the Conservation Action Plans. Stakeholder engagement cannot happen at the minute and we have put in a request for a project extension. We could produce the CAP on time, but we have lost data and the project will not be completed to the standard we would have liked."* |
| **SWELL** | *"There was a delay in Irish Water being able to deliver their capital projects which will have a knock-on effect on the post improvement sampling programme that AFBI is due to complete. AFBI requires 12 months to carry out the post-improvement sampling.*<br><br>*A request for an extension paper is being prepared for SEUPB to advise them on the current situation and a modification request will be submitted to SEUPB in due course,* |

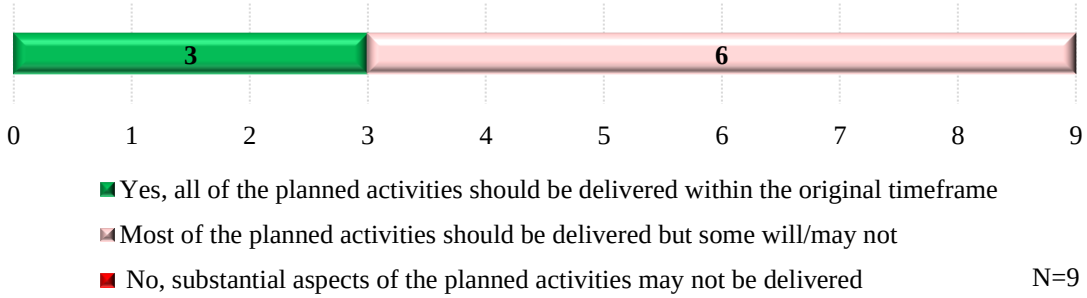
[15] SWIM, COMPASS, Source to Tap, and CABB
[16] CatchmentCARE, Sea Monitor 2, CANN, SWELL, and MarPAMM

| | |
|---|---|
| | *likely to be in October/November time. AFBI's modelling is dependent on all capital projects and will now not have 12 months' post improvement sampling, therefore evidence of improvements will not be as robust as we originally hoped. NI Water did capital work early and took the financial risk before SEUPB support, but Irish Water did not. Irish Water had a tight timeline anyway but COVID has caused further delays."* |
| **MarPAMM** | *"Our project's work for monitoring seabirds is seasonal and we lost the opportunity to monitor them due to the lockdown. We can only carry out the work when the birds are around at certain times of the year, and we missed this due to the lockdown. The delays were exacerbated by COVID-19."* |

### 2.3.2 *Feasibility of delivering the project's planned activities within the original timeframe*

3[17] (of 9) project leads suggested that it continues to be feasible to deliver all of their project's planned activities within the original timeframe**.** However, six[18] project leads were of the view that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe. Specifically, these project leads indicated that most of the planned activities should still be delivered but some may or will not.

**Figure 2.1: Is it still feasible to deliver all of the project's planned activities within the remaining timeline?**




The project leads highlighted that the following activities have been (or will be) affected by the COVID-19 pandemic and/ may no longer possible to complete:

- Education programme;
- Stakeholder and community engagement;
- Data collection and sampling.

[17] COMPASS, CABB, and SWIM
[18] CatchmentCARE, Source to Tap, Sea Monitor 2, CANN, SWELL, and MARPAMM

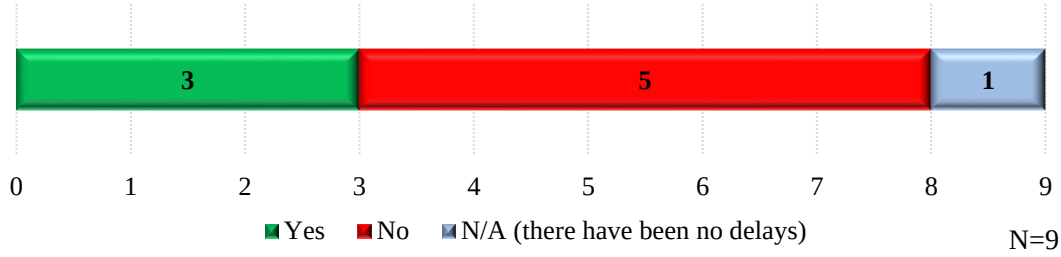
Specific comments from project leads are detailed below.

| | | |
|---|---|---|
| **Yes, all of the planned activities should be delivered within the original timeframe** | **CABB** | *"Whilst the education deliverables may not be able to happen on a face to face basis as originally planned, we will adapt and deliver them virtually if required."* |
| **Most of the planned activities should be delivered, but some will/may not** | **Catchment Care** | *"Various work has been interrupted due to COVID-19 including:*<br>• *In-stream and riparian works by Armagh City and Banbridge Borough Council, Inland Fisheries Ireland, and Loughs Agency;*<br>• *The education programme work led by Armagh City and Banbridge Brough Council;*<br>• *Groundwater monitoring stations (x50 No) and the subsequent monitoring data for those, led by the British Geological Survey and Geological Survey of Ireland;*<br>• *Project management and closeout led by Donegal County Council;*<br>• *Engagement with the agriculture community (farm nutrient management/farmyard studies), led by AFBI and UU; and*<br>• *AFBI is tasked with working with willow crops to treat dirty water and planting season is very defined. They were able to get two sites planted and established before May but will have to try again next year to plant the rest."* |
| | **SWELL** | *"Post improvement sampling is the most affected activity. The ecosystem model is being developed and the achievement of the programme results indicator would benefit from a full 12-month post-improvement sampling period, which will not be available unless an extension to the project is granted."* |
| | **Sea Monitor 2** | *"2020 was our first year of fieldwork and data collection which has not been possible to complete due to COVID-19 restrictions. This will lead to a reduced quantity and quality of outputs and results. We were not able to hold some knowledge transfer events. Some webinars and meetings were held online but they were not as impactful."* |
| | **CANN** | *"We have asked for a 6-month extension, which we need. We are hoping to get the extension but are still working towards the LoO end date. Stakeholder engagement is the activity that has been most affected by COVID-19."* |
| | **Source to Tap** | *"We are worried about the community engagement side. It is harder to do as we cannot gather in crowds or schools, but we have been trying to get around it. We have put the education information online and plan to get in touch with schools soon to potentially deliver it through zoom. Other elements will hopefully be delivered as planned."* |
| | **MarPAMM** | *"Monitoring and data collection of the seabirds has not been possible, as we lost a season monitoring due to the lockdown. Our monitoring will not be delivered to the standard that was expected at the outset."* |

One-third (3[19] of 9) of the project leads consider that it would be feasible to make up for any delays (to August/September 2020) caused by COVID-19. However, 5[20] (of 9) project leads considered that it may not be possible to make up for the delays experienced as a result of COVID-19, as the project's work is seasonal, and the time lost as a result of the COVID-19/lockdown measures cannot be made up without an extension to the project's timeframe.

[19] COMPASS, Source to Tap, and CABB
[20] CatchmentCARE, Sea Monitor 2, CANN, SWELL, and MarPAMM

**Figure 2.2: It is feasible to make up for delays caused by COVID-19?**




| | |
|---|---|
| **CatchmentCARE** | *"It is hard to say, we have limited time to do work before the winter starts. We cannot fully make up for what is lost, particularly in the various preparatory works which were necessary to allow project partners to advance the delivery of planned works. The project will endeavour to deliver as much as possible in the remaining period, however, a 6-month time extension would be very valuable to the project to allow more works to be delivered and associated monitoring data to be collated/reported. This would be very valuable as it would bring the end date up to 2023 and would mean work could continue for all of 2022."* |
| **Sea Monitor 2** | *"Species tracking is seasonal, and we only have certain windows in the year to be able to capture, tag, and track species, so we have essentially lost a year of data."* |
| **CANN** | *"Most of the activities should be delivered but some may not be due to losing the season and trying to make up for that lost time is very difficult."* |
| **SWELL** | *"Irish Water infrastructure delivery timeline has been adversely affected by COVID-19. Any further COVID restrictions may affect the delivery of Irish Water schemes. Physical improvements will be completed but for AFBI 12 months sampling will not be possible as we need coverage of the 4 seasons. There is insufficient time remaining for AFBI to undertake 12-month post-improvement sampling."* |
| **MarPAMM** | *"We were facing delays before COVID-19 due to the project starting later than originally planned. We have had to reschedule some of our data collection cruises into next year, but it is hard to know if they will be able to go ahead next year. We intend to ask for a 6-month no-cost extension."* |

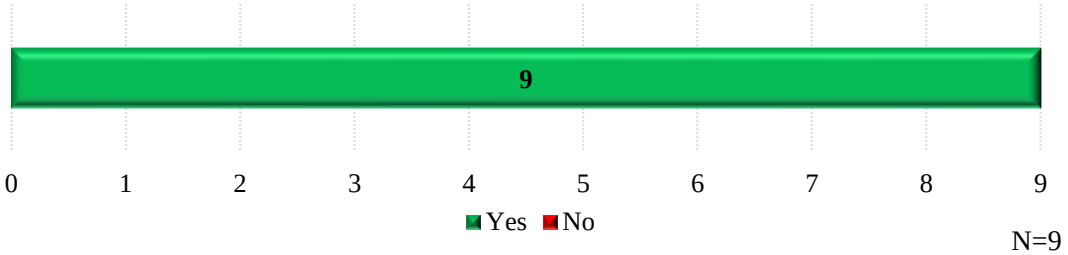
Other salient points to note include:

- One[21] project has not experienced any delays as a result of the COVID-19 pandemic; and
- One[22] project lead noted that whilst it would be feasible to make up for delays caused by COVID-19, the community engagement element may not be delivered to the same extent.

### *2.3.3 Ability to Deliver Project within Original Budget*

All (9 of 9) project leads stated that they will be able to deliver their project fully within its current budget.

**Figure 2.3: Deliver project fully within its current budget**




[21] SWIM
[22] Source to Tap

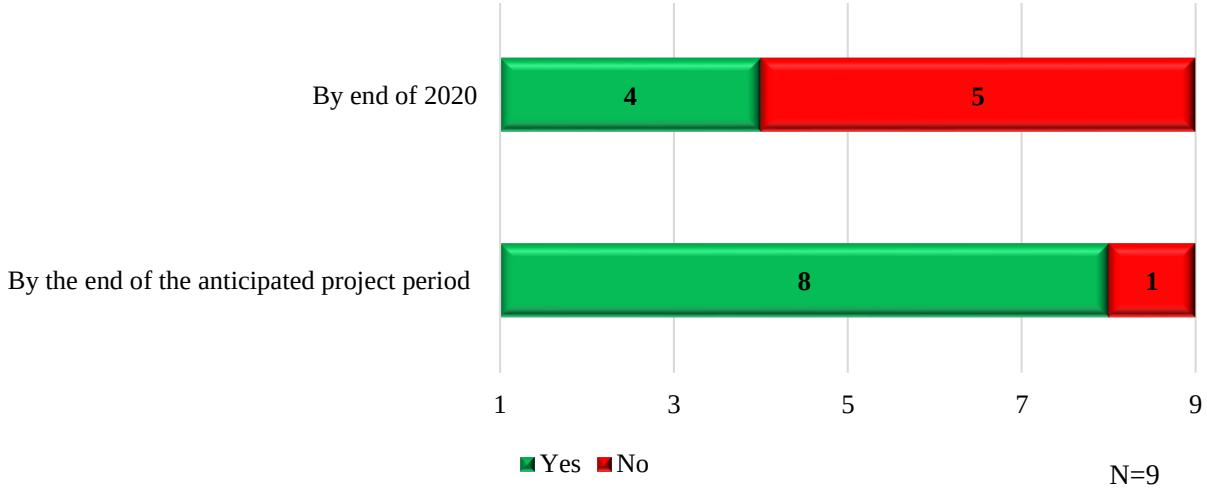
Whilst each of the project partners noted that their project would be delivered within its current budget, it was also stated that this would only be the case if:

- Large capital work is appointed to a contractor and does not have to go out for procurement again; and
- Reprofiling of the budget is allowed/approved.

| | |
|---|---|
| **CatchmentCARE** | *"We will not be over budget, but we will not be able to deliver the project fully. Some partners have noted that costs for tendered works have increased from previous estimates (e.g. in-stream/riparian works). The CatchmentCARE project is planning to arrange meetings with SEUPB to consider how best to allocate funding, which is underspent at this time, for example, staff costs which arise because of delayed recruitment across the partnership."* |
| **Sea Monitor 2** | *"We will be able to deliver within our current budget as costs can be moved from travel for example to other cost categories if required."* |
| **CABB** | *"It depends, as a large capital work contract has already gone out for procurement twice. It is going out again in January 2021, so if it does not go this time, we might not have enough money."* |
| **CANN** | *"The budget is not where the problem lies, the problem is with the timing."* |
| **SWELL** | *"The budget will see us through to the end of our project. We did have to utilise our OB, to pay compensation to contractors, but that is included in the budget."* |
| **MarPAMM** | *"It will be tight to deliver the project within its current budget. It would be useful if additional funds were available, and we would ask for them if they were. We ideally need to extend staff contracts and the procuring of equipment. We hired equipment that we ultimately could not use due to the lockdown, but we will need to use it in the future."* |

Five[23] (of 9) of the project leads felt that they will not be able to reach their anticipated level of expenditure by the end of 2020. However, 8[24] (of 9) project leads were confident that they will spend the full budget allocation by the end of the anticipated project period.

**Figure 2.4: Will your Project reach the anticipated levels of expenditure…….**




Whilst most respondents were unable to provide the proportion of the budget that may be underspent during 2020 or the anticipated project period, one project indicated that it will potentially have an underspend of 20% in 2020.

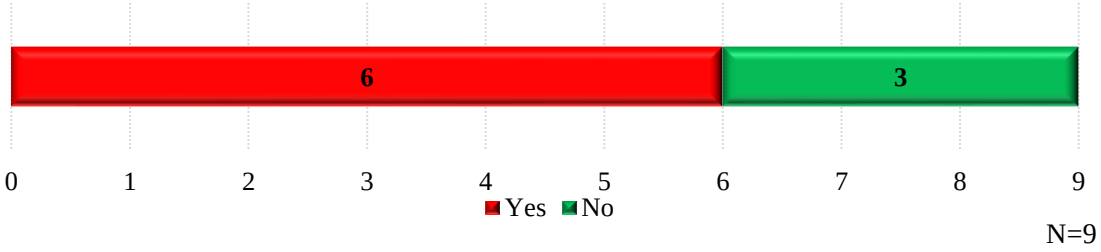
[23] CatchmentCARE, Source to Tap, CABB, SWELL, and MarPAMM
[24] COMPASS, Source to Tap, Sea Monitor 2, CABB, CANN, SWIM, SWELL, and MarPAMM

| | |
|---|---|
| **CatchmentCARE** | *"It is too difficult to estimate the proportion of underspend at this time. The project runs to October 2022 and we needed 2020 to be productive by doing work early and it just was not the case."* |
| **Source to Tap** | *"I cannot accurately estimate a proportion right now."* |
| **CABB** | *"We had to push £300,000 into 2021 for capital works. If we could have further modifications to the budget, then yes we should reach the level of expenditure by the end of the project period."* |
| **SWELL** | *"We will not reach 2020's anticipated budget from the outset, but we have submitted a budget reallocation request on EMS to reflect the COVID changes."* |
| **MarPAMM** | *"We will have an approximate underspend of 20% in 2020. We had to move the chartering of ships to 2021, there was no travel this year and we may need to procure our equipment again."* |

### *2.3.4 Risks to the Achievement of Project Results*

6[25] (of 9) project leads were of the view that COVID-19 and/or the lockdown measures or matters related to it will jeopardise their project's expected results.

**Figure 2.5: Risks to the achievement of the Project's results**




The six project leads foresee the reduced quantity of monitoring data as the main impact that might jeopardise their project's anticipated results.

| | |
|---|---|
| **CatchmentCARE** | *"COVID-19 will jeopardise our expected results to some extent, but we will endeavour to recover as much as possible. The monitoring will be impacted as we will not be able to complete as much as was anticipated."* |
| **Source to Tap** | *"The monitoring of the land incentive scheme will be impacted. Normally in March/April, we increase the frequency of sampling. However, staff were not allowed to leave their home to do the sampling this year, therefore, this will not be consistent in comparison with previous years."* |
| **CABB** | *"Education deliverables will potentially be jeopardised, as they will not happen face-to-face. Quality assurance cannot get out on site, but I think there is enough time to resolve this."* |
| **CANN** | *"A field season that was lost is the biggest impact that may jeopardise our results. We will have to caveat the survey results, as we missed out on several months. The more years of monitoring carried out, the better. It is not that conclusions and recommendations will not be drawn, they will just not be of the expected standard or have as much of an evidence base as originally anticipated."* |
| **SWELL** | *"The ecosystem may not be as comprehensive/robust as it could have been due to the reduced post-improvement sampling period."* |
| **MarPAMM** | *"We lost a season of fieldwork, which would typically be fed into our models, but as there was no monitoring undertaken our models and outcomes will not be fully developed or achieved. However, if we were granted an extension to the project timeline, we would be able to complete our monitoring."* |

[25] CatchmentCARE, Source to Tap, CABB, CANN, SWELL, and MarPAMM

Salient points to note concerning projects that do not feel that COVID-19 will jeopardise their results include:

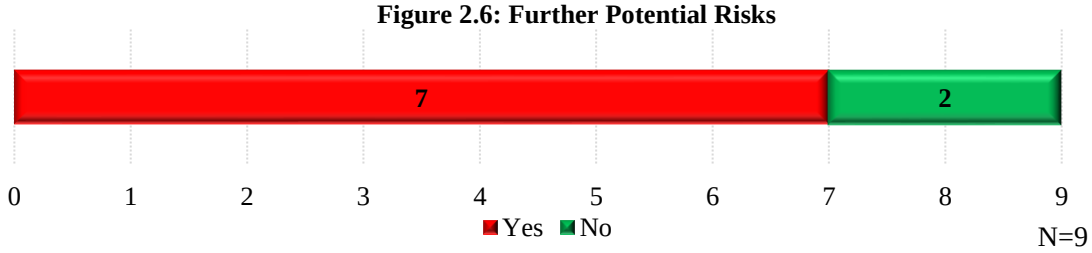
- COMPASS noted that COVID-19 had altered the work it is doing. The project was unable to complete fieldwork and instead, they completed work with data it had already obtained, which in its view may enhance the output.
- Sea Monitor 2 noted that whilst the pandemic would have a negative impact on the quantity and quality of results, it would not jeopardise the anticipated results of the project.

### *2.3.5 Other Potential Risks*

Most (7[26] of 9) project leads noted that there were further risks posed to their projects due to the COVID-19 pandemic. These included:

- Limited stakeholder and/or community engagement as a result of government restrictions on the number of people allowed to meet; and
- Delays commencing fieldwork or sampling which may impact on the quantity and or quality of data available.

**Figure 2.6: Further Potential Risks**




Sea Monitor 2, who felt there were no further risks noted that this was, however, dependent on whether a second lockdown was introduced.

| | |
|---|---|
| **COMPASS** | *"A partner furloughed staff which has caused a bit of delay, but this was only for 3 months so we should be able to make up for it."* |
| **CatchmentCARE** | *"The ongoing restrictions continue to have an impact; it is the reality. For example, the project was planning the first in a series of onsite events with the farming community at the Finn to address a chemical export issue to the river Finn, however current restrictions meant that can only a maximum of 15 people could attend whereas we would have anticipated 80-100 people attending which would have had a greater impact. We will proceed with smaller events if possible, which we know will take the same effort but will deliver less impact from our project."* |
| **Source to Tap** | *"We may not be able to deliver all the community engagement we had planned, but we hope to be able to deliver most of it online via Zoom. In terms of the roadshows and information exchange events, we could potentially organise them so that farmers come along in small groups and talk to them that way, but this could be time-consuming for us to deliver and it will limit the networking opportunities. The exchange rate is always a risk as well."* |
| **CABB** | *"We have been able to keep things ticking over, contractors are back on site. Verification from SEUPB was a bit slow at times perhaps due to them working from home. Also, in terms of audit requirements, our electronic system is not suitable for SEUPB, therefore we must print all documents and get the director to sign them. However, as we are all working remotely from home, we cannot get into the office to do this and if this requirement could be waved it would be great. We will not have access to our offices until March 2021."* |

[26] COMPASS, CatchmentCARE, Source to Tap, CABB, CANN, SWIM, and SWELL

| | |
|---|---|
| **CANN** | *"It all depends on how long the lockdown measures go on for. We are lucky we work in isolated areas and the work could continue, but restrictions can cause issues and delays.*<br><br>*Stakeholder engagement is nearly impossible to complete but we carried out phone calls. We are not prepared to run face to face stakeholder engagement events, even in-line with government guidelines (maximum of 30 people) as some of the landowners involved are over 70 and even if it was done safely there is still a risk of infection. Fieldwork has resumed but we now have to go out on 2 boats instead of the usual 1 to adhere to social distancing requirements. We are having to think outside the box."* |
| **SWIM** | *"We have faced two minor risks, the first is around beach sampling. In NI we were only able to send out one team to collect beach samples due to restrictions which resulted in less sampling and, in the Republic of Ireland sampling was delayed by one month.*<br><br>*Secondly, we supplied electronic signs for beaches to the councils to be erected at the end of May, however, some are still not erected (at beginning of September) due to the furloughing of council staff. This does not affect our outputs, but the signs would have been erected on time if COVID-19 had not happened."* |
| **SWELL** | *"There are potentially further risks to the project if there is a second lockdown as a result of COVID-19 before the end of 2020. Another lockdown would affect NI Water's commissioning of capital projects, reactive sampling by AFBI/Loughs Agency and delivery of Irish Water's capital schemes. Irish Water may also face land issues (land purchase/wayleaves) and delays to planning approval or potentially refusal of planning. However, there is Irish Water senior staff buy-in and involvement in this project and we are hopeful that these issues will be closed out this year."* |

## 2.4 Measures Taken as a Result of COVID-19

Each of the project leads provided information to the best of their knowledge, on the specific measures their organisation, their project partners, and direct beneficiaries of the project implemented due to the COVID-19 pandemic. The most common measures implemented were that their organisation, project partners, or direct beneficiaries had:

- Staff working remotely instead of at their normal place of work;
- Furloughed staff; and
- Decreased normal hours of operation.

**Table 2.3: Measures implemented as a consequence of COVID-19 (N=9)**

| | Lead Organisation | Project Partners | Direct beneficiaries of the project |
|---|---|---|---|
| Furloughed Staff | - | 2[27] | 1[28] |
| Temporarily stopped operating | - | - | 1[29] |
| Had staff working remotely instead of at their normal place of work | 9 | 9 | 6[30] |
| Decreased normal hours of operation | 1[31] | 1[32] | 1[33] |

[27] COMPASS, and CABB
[28] SWELL
[29] SWELL
[30] COMPASS, CatchmentCARE, CANN, SWIM, SWELL, and MarPAMM
[31] SWELL
[32] SWELL
[33] SWELL

## 2.5 Support requested from SEUPB

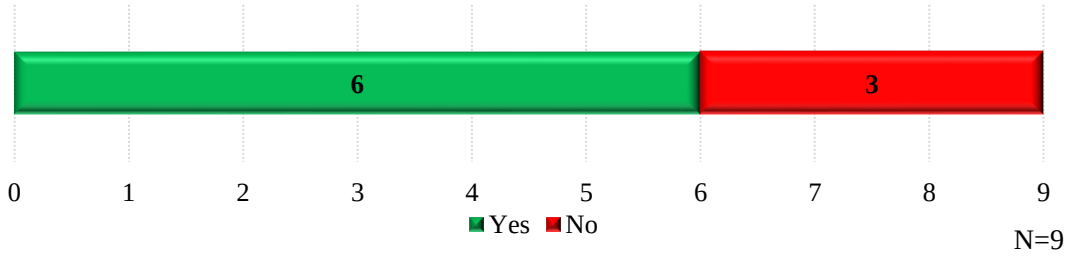
6 (of 9) project leads indicated that they had requested specific support from SEUPB relating to their project during the COVID-19 pandemic. These requests included:

- An extension to their project timeframe (N=3);
- Advice on furloughing personnel (N=2);
- Permission to claim without verification and additional time to produce reports (N=2);
- Permission to vary project activities (N=1); and
- Permission to use optimism bias costs for compensation events (N=1).

| | |
|---|---|
| **Catchment CARE** | *"2 claims were made during the lockdown and 80% of that was paid, with verification to be provided when the lockdown lifted."* |
| **Sea Monitor 2** | *"We were provided with more time to produce the claims."* |
| **SWELL** | *"Permission was sought to use OB, for contractor compensation events, for delays relating to COVID on NI Water capital projects.*<br><br>*We also sent a modification request to SEUPB on 22nd June regarding the re-allocation of budget. Going forward, the success of the project hinges on whether SEUPB provides an extension of 3/4 months. The project is in the process of collating the evidence as to why the extension is required and hope to submit this modification request in the coming months."* |

Of note, Source to Tap indicated that an extension request was submitted before the onset of the COVID-19 pandemic.

**Figure 2.7: Requested support from SEUPB**




| Table 2.4: Support from SEUPB | | |
|---|---|---|
| | **Requested Support (N=6)** | **Beneficial support (N=6)** |
| An extension to your project timeframe | 3[34] | 4[35] |
| An increase in your funding allocation to cover unforeseen costs associated with the pandemic | - | - |
| Reduction in your project budget | - | - |
| Advice on furloughing project personnel | 2[36] | - |
| Permission to vary project activities | 1[37] | 3[38] |
| Permission to vary project targets | - | 2[39] |
| Permission to use Optimism Bias for compensation events | 1[40] | |
| Permission to claim without verification; and additional time to produce reports | 2[41] | |

[34] CatchmentCARE, CANN, and SWELL
[35] COMPASS, CABB, SWELL, and MarPAMM
[36] CABB, and MarPAMM
[37] Sea Monitor 2
[38] COMPASS, SWELL, and MarPAMM
[39] COMPASS, and MarPAMM
[40] SWELL
[41] Sea Monitor 2 and CatchmentCare

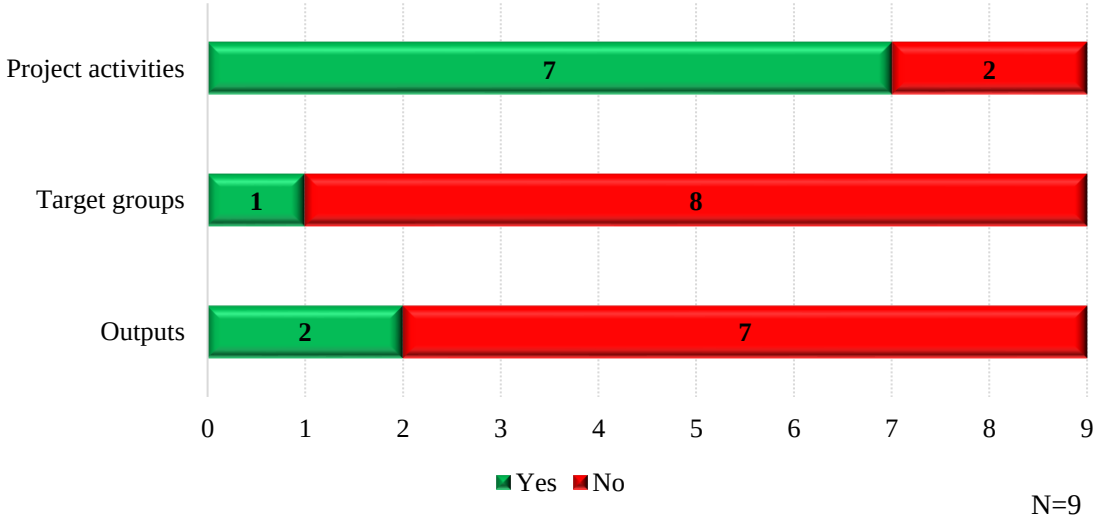
In addition to the support that had already been requested, 4 project leads stated that other forms of support from SEUPB would be beneficial to enable them to deliver their project as fully as possible, these include:

- An extension to their project timeframe (N=4);
- Permission to vary project activities (N=3); and
- Permission to vary project targets (N=2).

## 2.6 Potential Adaptations to project activities, target groups, or outputs

Seven[42] (of 9) projects suggested that they had adapted their project activities as a result of the pandemic. In addition, two[43] of these projects had adapted their project outputs, and one[44] had also adapted their target groups.

**Figure 2.8: Have you or do you intend to adapt project activities, target groups, and outputs?**




Projects made adaptions to their project activities and/or outputs by refocusing activities, cancelling, or rescheduling activities.

| Table 2.5: Changes made or intended to be made (N=7) | | |
|---|---|---|
| | **Adaptations already made** | **Intended adaptations** |
| Rescheduled activities | 6[45] | - |
| Cancelled activities | 5[46] | - |
| Refocused activities | 4[47] | - |

| | |
|---|---|
| **Source to Tap** | *"The four rush control events planned for later this month (September 2020) are no longer going to take place on a farm, but we will get people to meet outside in smaller groups. There are two events planned for next year and are anticipated to be held on farms. We also thought about putting up a marquee and interacting with the people but that requires a lot of planning and it might not go ahead due to changes in legislation.*<br><br>*School visits to water treatment works were cancelled. We planned to have journalists highlighting issues with water treatment, this was also cancelled. Furthermore, we were not able to attend any agriculture shows."* |

[42] COMPASS, CatchmentCARE, Source to Tap, Sea Monitor 2, SWIM, SWELL, and MarPAMM
[43] CatchmentCare and MarPAMM
[44] CatchmentCare
[45] COMPASS, CatchmentCARE, Source to Tap, Sea Monitor 2, SWIM, and MarPAMM
[46] COMPASS, CatchmentCARE, Source to Tap, and SWELL, and MarPAMM
[47] Source to Tap, SWIM, and SWELL, and MarPAMM

| | |
|---|---|
| **SWIM** | *"Normally over the summer months Keep NI Beautiful organise promotional events at the beach and we would attend and distribute flyers but there was no physical promotion this summer, it all moved online, and the money was put into online promotion e.g. short animation videos created. We will have to hold the closing event for the project online which is a disappointing end to the project."* |
| **SWELL** | *"We have made several changes including how we commission projects which are now online. NI Water provided training incorporating online video demonstrations. AFBI used alternative techniques to service its buoys, they did this by kayak instead of a small rib due to the need for social distancing. NI Water project closeout events were scaled down. In terms of project management, we adapted ways of working including online meetings, EBR verification checks are now done remotely.*<br><br>*Also, school visits and stakeholder visits were cancelled as was the SEUPB AGM (showcasing the SWELL project)."* |
| **MarPAMM** | *"We had to cancel/reschedule physical activities and instead we have completed desktop work on models."* |
| **COMPASS** | *"Our fieldwork was put on hold and meetings held online. The advisory meeting was affected on 31st March 2020 and we had to think on our feet. Receivers were out already and only picked up recently, therefore we had lots of data to work on."* |
| **CatchmentCARE** | *"Our mid-term conference has been postponed until February 2021, which is one year ahead of the final conference. Events are either not happening or will be scaled back. We did consider holding the conference online, but partners felt it would not work."* |
| **Sea Monitor 2** | *"We have had to revise our programme, and we will deploy equipment in March 2021 instead of March 2020. We were able to deploy some equipment and tagging but at a drastically reduced capacity to that which was envisaged. Remote working means more time to analyse the data, complete literature reviews, and collaboration with other marine projects."* |

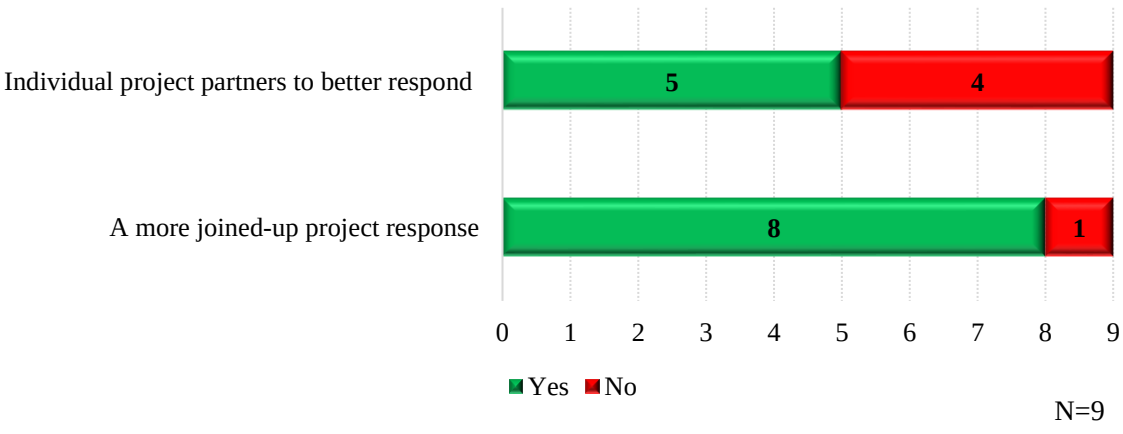
Other points to note include:

- COMPASS stated that its report may refer to different species than initially planned; and
- Source to Tap indicated that it may need to adapt their information exchange, however, this will not be considered until closer to the time.

## 2.7 Cooperative Measures Implemented

Almost all project leads (8[48], of 9) indicated that their project partnership had implemented cooperative measures to enable a more joined-up project response, whilst 5[49] (of 9) project leads also indicated that they had implemented cooperative measures to enable the individual project partners to better respond to the pandemic.

**Figure 2.9: Cooperative measures implemented**




[48] COMPASS, CatchmentCARE, Source to Tap, Sea Monitor 2, CANN, SWIM, SWELL, and MarPAMM
[49] COMPASS, CatchmentCARE, Source to Tap, SWIM, and MarPAMM

Examples of cooperative measures implemented include:

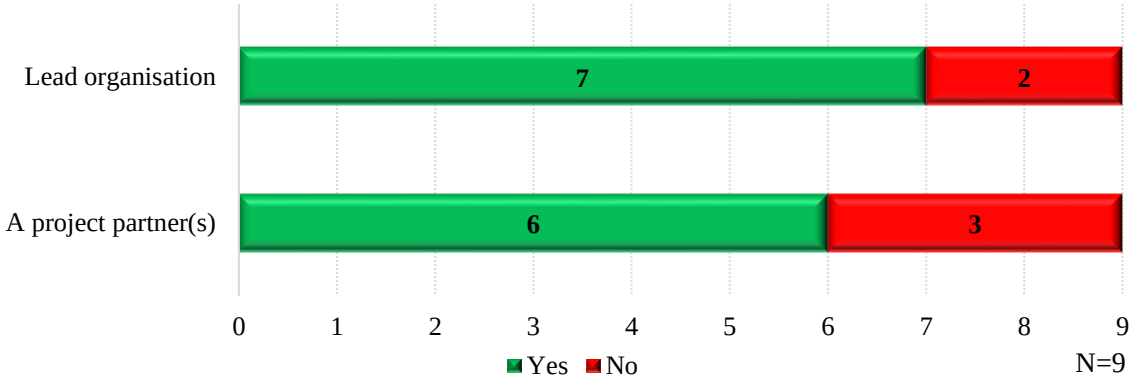
- Continuing regular meetings online; and
- Working collaboratively with other EU marine projects.

| | |
|---|---|
| **COMPASS** | *"For the first 6 weeks, we did a weekly risk review to ensure partners were made aware of the risks. We sent an email to everyone involved and we typically had a good response, therefore we have a good idea of what to do if another lockdown were implemented. The meetings never stopped as we kept in touch online."* |
| **CatchmentCARE** | *"We continued relationships and they stayed strong throughout. Individually everyone did their best to keep things moving. We kept communicating through meetings online. The partner meeting, and steering group meetings were still held every quarter.*<br><br>*Newsletters were released and the website was upgraded."* |
| **Source to Tap** | *"Internally, NI Water had to provide a lab service and we were supporting other partners. We have had Steering Group and external advisory group meetings completed online. We continued having meetings and planning out what we were going to do and how we could get around issues. Everyone has been good at coming forward with information."* |
| **Sea Monitor 2** | *"We appreciate the importance of working collaboratively and working with other marine projects. We are working more collaboratively with other EU marine projects, including MARPAMM and COMPASS - for example, running a knowledge transfer webinar with MARPAMM and COMPASS."* |
| **CANN** | *"We had a lot of meetings. We increased our workplan meetings to every 2 weeks to keep in touch and ensure everyone knew what was going on. At the start, everybody was a bit lost and did not know how to keep in touch remotely, but we have had all our meetings via skype and it has become the norm. Our meetings are not as regular now as people have adapted to the situation. We continue to catch up with partners individually."* |
| **SWIM** | *"We ensured continued communication on the publicity side, UCD and KNIB worked together in revising and refocusing ideas for example. animation videos. AFBI were doing their own sampling work and internally may have had to adapt."* |
| **SWELL** | *"We continued working collaboratively remotely via MS Teams."* |
| **MarPAMM** | *"We worked quite well with partners during the crisis. We were able to reschedule data collection cruises. If a partner from an institute was self-isolating and unable to work, we would have found someone else to take their place as we had increased availability of staff to work on the models. As a project, we were more interactive and increased our communication with sister projects Sea Monitor 2 and COMPASS. A further example of cooperative working is that MarPAMM and COMPASS moorings have been picking up salmonids tagged by Sea Monitor 2 in the North Sea."* |

## 2.8 Direct Involvement in the Response to the COVID-19 Pandemic

Most (7[50] of 9) of the project leads indicated that their organisation or one of their project partners had been directly involved in the response to the emergency (beyond actions relating to the project), with 6[51] of those project partners' organisations directly involved in the response to the emergency.

**Figure 2.10: Directly involved in the response to the emergency**




Examples of how the lead organisations and their project partners have been directly involved in the response to the emergency (beyond actions relating to the project) included:

- COVID-19 testing;
- Creating scrubs for care home staff; and
- Distribution of food packages or bottled water.

| | |
|---|---|
| **COMPASS** | *"AFBI, a project partner, conducted COVID testing. Marine Scotland Science is linked to the government and has had other responsibilities concerning the emergency response, but I do not know what they did exactly."* |
| **Source to Tap** | *"NI Water is a key essential service. The key staff have been in laboratories and out repairing things. Everyone now appreciates that having clean water is now more critical than ever with the increased need for handwashing. AFBI completed laboratory analysis to help with COVID-19 testing. I am sure there is a lot more happening that I am not aware of."* |
| **CABB** | *"RSPB offered employees 5 'volunteer' days to help with the response to the emergency. For example, I took 2 volunteer days off work to make scrubs for care home staff."* |
| **CANN** | *"The Council provided support to the public through the distribution of food packages to the vulnerable, but this is not directly related to CANN."* |
| **SWIM** | *"University College Dublin and AFBI have been involved in testing COVID-19 samples."* |
| **SWELL** | *"The project lead is managing NI Water's alternative water supplies (AWS), which involved delivering bottled water to critical care customers and storing water in case of another drought. AFBI labs at Veterinary Science Division were repurposed to analyse COVID tests.*<br><br>*Irish Water personnel with operations experience were made available to ensure operational continuity of work. Loughs Agency staff and vehicles were made available on the back-up list for essential deliveries such as food/medicine etc."* |
| **MarPAMM** | *"All project partners were on a list of emergency contacts in case of need. For example, Marine Scotland was on call if a pollution event occurred in the North Sea. AFBI is involved in science and agriculture and will help with emergencies with farm animals and are also involved in COVID-19 testing."* |

[50] COMPASS, Source to Tap, CABB, CANN, SWIM, SWELL, and MarPAMM
[51] COMPASS, Source to Tap, CANN, SWIM, SWELL, and MarPAMM

One[52] of the lead partners emphasised that throughout COVID-19/lockdown measures their focus remained on delivering the project.

## 2.9 Lessons Learned as a Result of the Changing Circumstances

The nine project leads highlighted a variety of lessons/best practice that they have learnt when adapting their project to the changing circumstances. Examples included:

- The importance of consistent and effective communication (i.e. using electronic means) to compensate for not being able to meet on a face-to-face basis to discuss project progress or issues encountered;
- The ability of online (via tools such as Zoom and Microsoft Teams) to ensure that project partners continue to feel involved in the project and to ensure than no one feels isolated;
- The importance of visuals/ infographics to communicate complex information to stakeholders during virtual discussions;
- To be flexible with timescales and amend a project where necessary to accommodate uncertainty;
- The importance of having an online presence e.g. as a means of communicating project aims and objectives and progress to external stakeholders.

| | |
|---|---|
| **COMPASS** | *"It was essential that we kept good communication through the weekly risk review on top of the other work we were doing. We needed to regularly review what everyone was working on to ensure they were adjusting well to the changing circumstances and also encouraging people to think differently. We understood that it was vital that we supported those people who were struggling to work remotely."* |
| **CatchmentCARE** | *"We set up 'go-to-meeting' to use as the projects communication and video conferencing software, and all partners agreed that it was great software to use for online meetings. We recognised the importance of changing how we communicate online, and we developed more visuals and infographics to use to open discussions with stakeholders."* |
| **Source to Tap** | *"We just had to get on with it. We all learnt how to use online communication tools like MS Teams and Zoom. We have placed educational materials online and plan to do so for the foreseeable, and essentially, we are just trying to find solutions to ensure we can still meet our objectives. We have all adapted to how things must be done differently now, for example wearing face coverings/masks and having hand sanitiser available. We also developed protocols for staff if they need to travel together in the same vehicle."* |
| **Sea Monitor 2** | *"We learned of the importance and need for honest and clear communication from the earliest opportunity, especially on the potential impacts on the project. We held meetings to share ideas on how we as a project will mitigate the potential risks arising as a result of COVID-19. The crisis also highlighted the importance of working collaboratively with other marine projects, the research area is very integrated, so there is a great need to share data and collaborate, to potentially solve challenges together."* |
| **CABB** | *"We learned about the importance and need to be flexible in terms of timescales. Also, we need to be supportive and keep everyone talking and sharing information. If there is an issue it needs to be brought to the lead partner and discussed with SEUPB."* |
| **CANN** | *"I suppose we never skyped/ or were involved in anything of that nature before COVID-19. So, working remotely was a challenge at the start but everyone has embraced it. As project lead, I am still doing presentations during meetings as I would have done previously, it is just shared through our virtual conferencing software. We have run workshops online.*<br><br>*We are lucky in the nature of the project that the majority of what we do is on isolated sites and people could continue working whilst adhering to social distancing restrictions or work remotely. We found that everyone is as productive as we would have been if we were in the office. One strange outcome of COVID is it has brought the partners closer together as we are very dispersed geographically. Communicating online (via skype) has made it easier to communicate. It is encouraging to hear that partners based in Islay, Scotland noted that they feel less isolated now due to increased online communication."* |
| **SWIM** | *"We are still learning; it is interesting to see the shift online. It emphasises how useful online as a resource is and how it could still be exploited further. We appreciated the* |

[52] CatchmentCARE

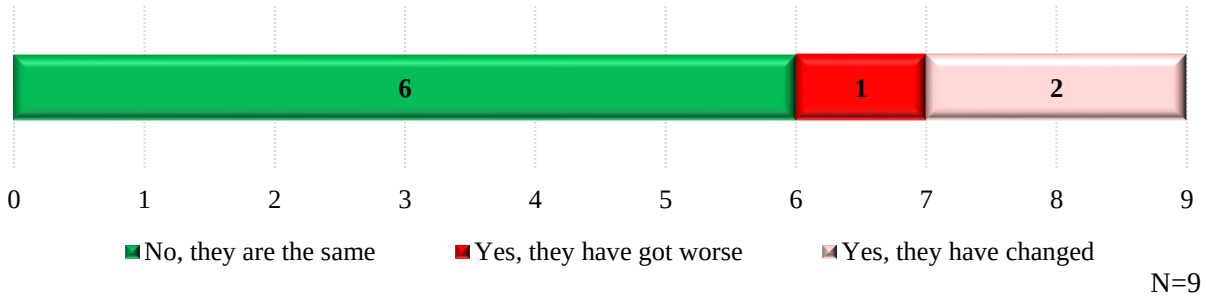
| | |
|---|---|
| | *importance of increasing our online presence and being able to adapt to the changing circumstances."* |
| **SWELL** | *"The importance of communication in all forms and adapting to use the latest technologies. We aligned partner risk assessments, as project partners had not envisaged working together on aspects of the project at the outset but as a result of COVID-19, things changed and AFBI and Loughs Agency had opportunities to work together. We have shared knowledge and experiences with our project partners on ways in which we have adapted, for example developing video demonstrations of our sites to show at online site closure events and other health and safety measures taken to ensure staff could continue working safely, this was especially important as there is a high risk of spreading the virus while using aerosol equipment so appropriate safety adjustments were required."* |
| **MarPAMM** | *"The importance of great communication and being honest with each other. We ensured to pass on any information provided by SEUPB to all project partners. Our SEUPB case officer was a great help throughout. We carried out meetings as issues arose, to ensure they were addressed as quickly as possible."* |

## 2.10 COVID-19 - Implications for Challenges Facing the Programme Area

Each INTERREG VA project was established to address specific challenges or need in the eligible region, 6[53] (of 9) project leads were of the view that the COVID-19 pandemic had not impacted upon those challenges or needs in any way (i.e. the challenges are still the same). However, the remaining project leads indicated that the COVID-19 pandemic has impacted upon those challenges or needs, as follows:

- 1[54] project lead noted that the challenges or needs had worsened; and
- 2[55] project leads suggested that the challenges or needs had changed.

**Figure 2.11: Impact on challenges or needs in the eligible region**




Projects noted the following:

| | | |
|---|---|---|
| **The challenges have got worse** | **Sea Monitor 2** | *"The challenge is worse in the sense that the government's current priority is on the human pandemic, so the question is how will the government policy priority address the areas needs/issues going forward. COVID-19 exposed inefficiencies and the long-term impact remains to be seen."* |
| **The nature of the challenges have changed** | **Compass** | *"COVID-19 has made people think differently and appreciate the effect they have on the environment. For example, as a result of lockdown measures, there was less vessel traffic in the water which had an impact on marine mammals such as whales and dolphins, and this allowed research into the effect vessels have on marine life. It was unexpected that this type of data would be available, so we are making the most of it and it is currently being analysed."* |
| | **CABB** | *"What COVID has done is to steer people towards nature to improve their physical and mental wellbeing. The immediate effect of COVID is positive as people are keen to get outdoors. However, in the long-term it is likely* |

[53] CatchmentCARE, Source to Tap, CANN, SWIM, SWELL, and MarPAMM
[54] Sea Monitor 2
[55] COMPASS, and CABB

| | | |
|---|---|---|
| | | *money will be diverted to health and there is a concern the environment sector will be left behind."* |

## 2.11 A Future Programme's Potential Contribution to Recovery

The project leads identified the following ways in which a future programme could contribute to the recovery from the pandemic:

- Taking cognisance of COVID and the reflecting the changes implemented as a result of the pandemic including remote working;
- Ensuring there is a continued focus on improving the quality of the environment; and
- Ensuring there is adequate provision of outdoor space, such as pathways, to support the public's physical and mental wellbeing.

| | |
|---|---|
| **COMPASS** | *"A future programme should consider the impacts that COVID-19 has had. It should also consider how delays could be reduced if a similar pandemic occurred. For example, what if fieldwork cannot go ahead, how would the programme address this. SEUPB need to ensure they help people to adjust to change quickly."* |
| **CatchmentCARE** | *"A future programme could certainly build on the excellent groundwork completed to date across the partnership. The scoping period on this project has presented works which could be the focus for delivery in the subsequent programmes which would lead to positive impacts."* |
| **Source to Tap** | *"It is hard to know exactly how a future programme could contribute towards the recovery. However, it is essential going forward that funding mechanisms are available to support the improvement of water quality and achieved all the benefits associated with this improvement."* |
| **Sea Monitor 2** | *"It will be key that the changes in how projects are delivered are reflected in any future programmes, for example, less travel budget would be required, the importance of IT, and remote working solutions would need to be considered. There should be more emphasis on the collaboration and multi-jurisdiction working, as species do not recognise borders."* |
| **CABB** | *"A future programme should consider health and seek to encourage people to look after themselves physically and mentally. Also, the importance of access to green outdoor space. We need to concentrate on providing access to green space in urban and rural areas, and, in particular, rural areas need access to footpaths. The importance of having a healthy, natural environment is more prevalent now than ever."* |
| **CANN** | *"I am not sure; it is all going to be business-related. Is there potential that a future programme would fund more outdoor space, for example, greenways? It would be great if funding could reinvigorate pathways on more secluded sites, and good pathways will inevitably attract more people to the areas."* |
| **SWIM** | *"People will be better prepared and able to adapt going forward. People are working remotely which in some instances can make communication more difficult. In the future, whether working in an office or at home there needs to be support available to assist with communication, whether it is from SEUPB/ employers etc."* |
| **SWELL** | *"A healthy environment is more important now than ever. The quality of our environment is crucial and any future funding should take cognisance of that. Strong water and wastewater infrastructure and our ability to respond to drought are of the utmost importance. The importance of water quality in all aspects of life (business; recreational tourism) needs to be considered in any future programme."* |
| **MarPAMM** | *"A future programme should consider any elements that current projects are not able to complete due to COVID-19/lockdown measures. We lost a lot of time to monitor specific species during the lockdown and we were asked not to contact fisheries as they had other more pressing issues to deal with. There will be greater importance placed on the environment near where people live going forward."* |

# 3. CANN - COLLABORATIVE ACTION FOR THE NATURA NETWORK

## 3.1 Introduction

This section of the report considers the Collaborative Action for the Natura Network (CANN) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 1 – Recovery of Protected Habitats & Priority Species.

## 3.2 Project Overview

Stores of carbon peatlands and wetlands are important in helping to tackle climate warming; as homes for nature, they are special and unique; and as the raw ingredient of rural farming, tourism and crofting they are vital. They offer a range of vital ecosystems services, such as filtering of drinking water, regulation of water flows in wider catchment and carbon sequestration. On the other hand, degraded peatlands are responsible for an estimated 6% of anthropogenic CO2 emissions globally. Some of the other services they provide are distinct to the jurisdictions, for example, the contribution of peat to the Scottish whisky industry.

INTERREG VA has identified seven priority habitats, where the overall conservation status is poor, as summarised below.

**Table 3.1: INTERREG VA priority habitats and their conservation status across the three jurisdictions**

| Habitat code | Habitat name | Northern Ireland | Ireland | Scotland |
|---|---|---|---|---|
| 7230 | Alkaline fens | Bad-declining | Bad-unknown | Bad - stable |
| 7110 | Active raised bog | Bad-declining | Unfavourable bad | Inadequate - declining |
| 7130 | Blanket bog | Bad-unknown | Bad-declining | Bad - stable |
| 3140 | Hard oligmesotrophic waters | Bad-declining | Bad-declining | Bad-unknown |
| 7210 | Calcareous fens | Bad-unknown | Bad-unknown | Not present |
| 7220 | Petrifying springs | Unknown | Unfavourable-Inadequate | Bad - improving |
| 7140 | Transition mires | Bad-declining | Bad-unknown | Inadequate - stable |

However, designating sites alone has not been enough to achieve favourable conservation status. Protection mechanisms, such as statutory measures to prevent damaging operations occurring, have not necessarily prevented further degradation.

In addition, the jurisdictional border in Ireland has hampered efforts to manage the peatland resource across the region. Before the introduction of INTERREG VA, there were no cross-border networks that allowed managers to co-operate, share information and implement landscape-scale conservation. To this end, the CANN project – a consortium of public bodies, third-level institutions, charities and local government authorities from Ireland, Northern Ireland and Scotland - intends to carry out a number of activities across 24 separate sites, including:

- Delivery of 27 Conservation Action Plans (CAPs);
- With direct conservation actions to be delivered on 20 of these sites. This is anticipated to involve improving the conservation status of 3,650 ha[56] (hectare) of Special Areas of Conservation (of which over half is in private ownership, predominantly farmers) to contribute towards the programme output of 4,500 ha of habitats supported to improve conservation status[57].

[56] NB: While aspects of the project's progress reports and its Letter of Offer (dated 25th October 2018) state 3,605 ha, during consultation the Lead Partner confirmed that the correct figure is 3,650 ha.
[57] According to the project partners, they will aim to guarantee that they achieve this output, by selecting 4,605 ha of selected protected habitats on which direct conservation actions will take place.

It is anticipated that this activity will contribute towards the programme specific result *'to increase the total area of these habitats approaching favourable conservation status from the current baseline of 1% to over 10% of selected protected habitats by 2023.'*

The CANN project partnership is led by Newry Mourne & Down District Council (NMDDC), and is made up of the Agri-Food and Biosciences Institute (AFBI); Argyll & The Isles Coast and Countryside Trust (ACT); Armagh City, Banbridge & Craigavon Borough Council (ABCBC); East Border Region (EBR); Golden Eagle Trust (GET), the Institute of Technology Sligo (Sligo IT), Monaghan County Council (MCC), Scottish Natural Heritage (SNH), Ulster University (UU) and Ulster Wildlife (UW).

A key objective of this project is to strengthen cross-border co-operation to facilitate the recovery of selected habitats and priority species and meet the targets of the EU Birds and Habitats Directives and the EU Biodiversity Strategy. Recovery of these wetland and peatland habitats is considered to be vital for the provision of a range of ecosystem services across the region e.g. carbon sequestration and climate change mitigation; water quality and hydrological regulation; and aesthetic and cultural services such as tourism and recreation.

Given that environmental management has not historically been a core element of agricultural education (and much of the targeted land is in the ownership of farmers), CANN has also proposed to offer training courses to help build capacity within the land-based sector and develop an understanding of the management of designated sites[58]. Landowner engagement will be secured through farm visits and information meetings in local halls and community centres and engagement with existing local organisations – gun clubs, fishing clubs etc. Farmer networks will be targeted through the Irish Farmers' Association, Ulster Farmers' Union and NI Agricultural Producers' Association.

The CANN project has also proposed to facilitate the establishment of the first formal environmental trust to be established to manage the overall conservation and protection of a cross-border habitat (at Sliabh Beagh). Two active Group Water Schemes and a Tidy Town Committee want to be more involved in the protection of this important habitat. The establishment of a demonstration site, interpretative signage and stakeholder engagement will respond to the needs of those who want to learn more about this important wildlife habitat.

It is anticipated that the project's objectives will be achieved in consultation and through liaison with key stakeholders, landowners, and farmers. Conservation work will be undertaken in conjunction with local partnerships, such as those already established for Sliabh Beagh. This will be comprised of members of the local community as well as farmers and landowners, representatives of government departments and state agencies and NGOs. These local partnerships are linked directly to the project and will form the basis of local advisory groups set up as part of the implementation of the conservation actions at each site.

Seven work plans have been developed:

| **Table 3.2: Summary of CANN Project Work Plans (Per Progress Reports)** |
|---|
| 1. Project Mobilisation/Management |
| 2. Mapping, Scientific Monitoring and Evaluation (implementation) |
| 3. Conservation Action Plans (implementation) |
| 4. Upland Peatland & Associated Species (implementation) |
| 5. Freshwater and Lowland Wetlands/Peatlands (implementation) |
| 6. Cuilcagh Mountain SACs (implementation) |
| 7. Communications Activities |

[58] It is noted that at the time of the CANN partnership application to INTERREG, the project partners had had preliminary contact with landholders across the three jurisdictions who had indicated support for restoration activities. Indeed, it was noted that farming representatives from Sliabh Beagh and Boleybrack had been actively engaged with site management planning for some time.

### 3.3 Project Budget to December 2020

The CANN project received a Letter of Offer (dated 20th June 2017) offering a grant of up to a maximum of €8,173,689.24 (ERDF + Government Match Funding) to be expended and claimed by 31st December 2021, towards total anticipated project costs of €8,349,687.85.

However, this was later (LoO dated 25th October 2018) extended after the INTERREG VA Steering Committee approved (on 24th July 2018) an additional €1,056,624.70 following a secondary application for the inclusion of Cuilcagh Mountain as an additional site within the CANN project. The revised total anticipated cost is therefore €9,406,312.55.

As of December 2020, the project had reported total estimated expenditure of €4,672,218 equivalent to 50% of the total project budget. The original projected spend for the same period estimated that 75% of the total project budget would be incurred at this time.

**Table 3.3: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to March 2020 Per Project Progress Report[59] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[60] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 4,295,817 | 2,380,246 | 2,380,246 | 375,932 | **2,756,178** | 64% |
| Office and Administration Costs | 644,373 | 357,039 | 357,040 | 56,388 | **413,428** | 64% |
| External Expertise and Services | 3,041,448 | 703,549 | 703,549 | 225,025 | **928,574** | 31% |
| Travel and Accommodation Costs | 731,007 | 218,254 | 218,254 | 19,172 | **237,426** | 32% |
| Equipment Costs | 651,668 | 309,812.89 | 309,813 | 26,799 | **336,612** | 52% |
| Infrastructure and Works | 42,000 | - | - | - | **-** | 0% |
| **Total** | **9,406,313** | **3,968,902** | **3,968,902** | **703,316** | **4,672,218** | **50%** |
| **Original projected spend level[61]** | | | | | **7,079,294** | **75%** |

[59] Source: Project Progress Report 13 – 'Total reported'. This was the most recently available collated project progress report.
[60] Source: SEUPB's EMS 14th December 2020
[61] Source: SEUPB's EMS 14th December 2020

## 3.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the CANN project's key achievements and the extent to which the CANN project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *3.4.1 Key Achievements (to November 2020)*

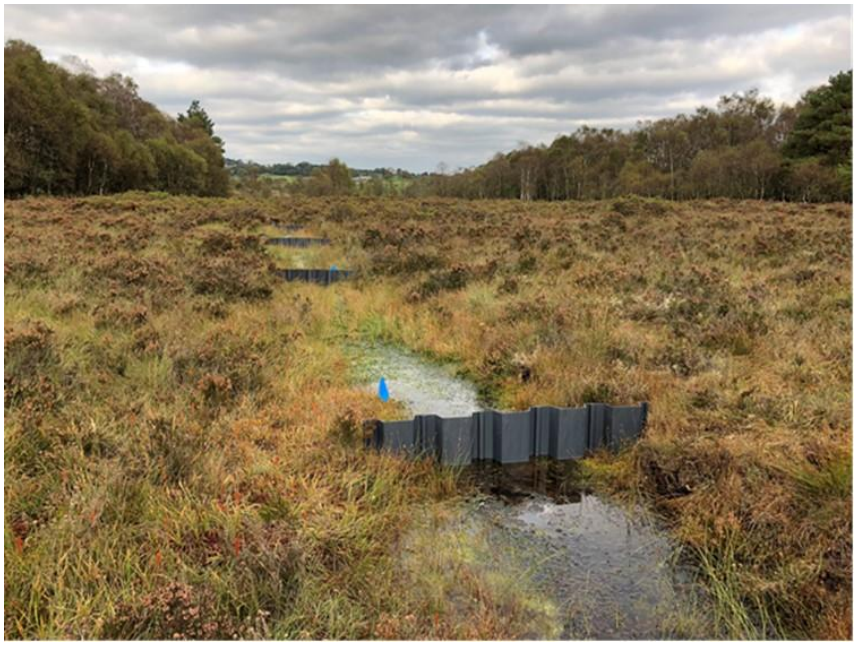
At November 2020, work on the CANN project sites was continuing where it is possible to do so, where protective measures are in place and compliance with government guidelines could be adhered to. Indeed, it is understood that in some areas landowners themselves were doing the work, where they have been deemed capable, as infection control concerns prevented site access. However, other project administrative work such as data analysis was being completed remotely via home working.

Although direct community engagement activities have been cancelled, online and video based guidance was being produced to ensure the links with communities were maintained.

Discussion with SEUPB indicates that a large number of small modifications to contract conditions for external services had been approved to allow a degree of flexibility in delivery to ensure work could continue safely and allowing for some delays caused by the lockdown period.

Nonetheless, the project partners consider that the project is progressing well against the activities and deliverables. Drain blocking, fencing, rhododendron control and choir roll placement has continued on Peatlands Park and Monegal bog along with other sites. Helicopter lift of coir rolls for bog restoration on Cuilcagh was (at November 2020) being procured and it was anticipated that this would commence soon after. A helicopter is needed to minimise any damage to the bog that transporting significant quantities of materials up the mountain would potentially cause. AFBI had also recently completed ammonium monitoring work and the laying of jute matting on Lough Arrow to assist in preventing the spread of waterweed. ACT had appointed a new staff member to oversee the Colonsay works and invasive species removal on the island was progressing well.

**Figure 3.1: Fairy Water Bog drainage blocking**



The CANN project partners cite within their progress reports the project's key achievements (between January 2019 and June 2020) as being:[62]

| Table 3.4: Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 9 | 1st January 2019 - 31st March 2019 | • A decision was taken to withdraw the Boleybrack site from the project due to issues with the site and sought to redistribute funding to additional sites to ensure project targets were met. The LP issued an Addendum to the Project Partnership Agreement to reflect additional funding for the Cuilcagh site and the amended Project LoO.<br>• The Project Manager left their post, and a suitable replacement was appointed. |
| 10 | 1st April 2019 - 30th June 2019 | • A new Project Manager commenced their post on 03/04/2019.<br>• NMDDC organised a work plan trip to Islay and attended a series of workshops on CAPs and bog restoration with other CANN partners allowing sharing of best practice across the three jurisdictions. An RFQ was drafted to procure an events management company to organise the Mid-Term Conference.<br>• Work took place to secure a license from Forest Service NI through UW and Mon CoCo. UW made progress on the core focus of drain blocking across the 13 bogs within 8 raised bog SACs. |
| 11 | 1st July 2019 - 30th September 2019 | • The Project Manager left their post on Friday 13th September. The newly appointed Manager took up the post on Monday 16th September.<br>• CANN project website went live during this period.<br>• SEUPB approved the replacement sites for Boleybrack.<br>• Communication and Outreach Officer left their post on 30th August, the post was advertised, and interviews were held on 17th September. |
| 12 | 1st October 2019- 31st December 2019 | • Lead Partner applied to SEUPB on behalf of ACT for a further Cash Advance - this was approved in November. |
| 13 | 1st January 2020 -31st March 2020 | • CANN PM presented on behalf of the project at the APSE Climate change Conference in Ballynahinch on March 5th.<br>• COVID-19 restrictions were implemented during the latter part of Period 13, the Lead Partner contacted individual partners to discuss the potential impact on deliverables. The CANN Management Team set up to work remotely from home with full access to files.<br>• The FLC for AFBI P10.3 report was included in this report. This related to the Charophyte survey of Magheraveely/Kilroosky lakes by an external consultant (N. Stewart) and Import tax for Radon monitoring equipment. |
| 14 | 1st April 2020 -30th June 2020 (From Partner Progress reports) | **UW**<br>• The unforeseen circumstances caused by the pandemic led to homeworking being swiftly organised for staff and systems upgraded to ensure business as usual. Fieldwork was missed in April and some contracts were impacted, however, the staff team maintained momentum with 4 draft CAPS completed and submitted to NIEA; also 3 tenders for drain blocking, rhododendron control and Japanese knotweed control were issued, assessed and awarded; water monitoring re-started and completed in May and June, and ammonia sampling commenced.<br>• The fencing contract was well underway and was completed at 2 of the 4 bogs covered by the contract and removal of fly-tipping completed at Curran. Work was completed digitising deer tracks at Fairy Water Bogs. Stakeholder engagement involved a presentation to the NI Environment Minister and a lunchtime seminar to DAERA staff. |

[62] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 13 (January – March 2020).

| Table 3.4: Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • An interim draft of the wildfire management plan was delivered and sent to the stakeholder group for review, while the LiDAR and Orthophotography were flown after months of delays due to unsuitable weather and COVID. The grazing management plan was progressing well, with the contractors conducting field visits to test the upland scorecard. Single Tender Actions were agreed for the blanket board restoration work, awarding the landowners the contracts to carry gully restoration and drain blocking. One of the biggest highlights was the success of phase one of the montane heath restoration works on the summit of Cuilcagh, which received positive feedback from the local council and mountaineering Ireland.<br>**UU**<br>• The team carried out preparatory work for radon testing, built and populated a database for results from water quality monitoring, prepared a report on laboratory trials on sediment phosphorus, compiled data from other agencies in support or preparation of planned CANN surveys or draft conservation plans and prepared and submitted Covid-19 risk assessments in support of applications to resume field and laboratory work.<br>**NMDDC**<br>• All 3 staff began working from home at full capacity with remote access. – with regular team meetings taking place. A COVID-19 impact document on deliverables was prepared and collated with input from all partners. This was sent to the Govt. Departments and SEUPB. Communications, various individual workplan and steering committee meetings took place remotely between partners throughout the period. NMDDC awarded the bid for the Lough Arrow Interpretation Panels and Leaflets and submitted a second proposal for a project extension on behalf of Project Partners. NMDDC also began carrying out modifications on eMS for reallocation of budget (from Boleybrack site) to other partners and Prepared LP report for P13.<br>**ITS**<br>• Open water sampling commenced on L. Arrow on May 20th for the 2020 open water season. Ammonia monitoring and piezometer data collection recommenced on Cuilcagh Mountain SAC in June.<br>**GET**<br>• Monitoring of species took place at 5 upland sites. A review of risk assessment and health and safety information for staff including for Covid-19 was carried out.<br>**ACT**<br>• Adaptations were made to project delivery including 100% home working, due to an inability to conduct site work. Restrictions increased working connections, and the team were in even more regular contact than usual by phone and video conference both 1:1 and as a group. There were further challenges as a result of the need to respond to staff changes following Sarah Edwards leaving the project early in March 2020. Also, the successful conclusion of landowner negotiations at Coille meant ACT now had permission to proceed on this site.<br><br>**ABC**<br>• Community engagement activity in this quarter was completely curtailed because of the Covid-19 lockdown. The Biodiversity Officer took advantage of the situation to work with the CANN Partners to scope out project ideas to meet the deliverables included in the Communications Work Package. With the help of CANN Partners, various project ideas were researched and costed. Potential deliverables were matched to those in the Communications Work Package. All the potential ideas were estimated to cost almost £240,000stg compared to the £165,000stg available. The project ideas were prioritised and screened to provide the best deliverables for the budget available. |

### *3.4.2 Progress Towards the Project Output Indicators*

Discussion with the CANN project partnership indicates that whilst the anticipated (approved) project outputs have, as of July 2020, not yet been achieved, there has been some progress made.

**Table 3.6: Project Output Indicators**

| Programme Output Code | Name of Output | Programme Output Indicator Target | CANN Project Target | Progress (as of July 2020)[63] |
|---|---|---|---|---|
| CO23: | Nature and biodiversity Surface area of habitats supported in order to attain a better conservation status (hectares) | 4,500 ha | 3,650ha | 207ha |
| 2.111 | Conservation Action Plans | 25 | 27 | 19 |

### *3.4.3 Target Groups Reached*

As of March 2020, the project partners had engaged with 195 local landowners, thereby achieving 65% of the CANN project's 'target group reached' target of 300 members of the general public.

**Table 3.7: Performance against Target Groups Reached (as of March 2020[64])**

| Target Group | Target | Achieved | % Achieved |
|---|---|---|---|
| General Public | 300 | 195 | 65% |

### *3.4.4 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the CANN project is, therefore, at July 2020, making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, this should be expected at this stage of the project's implementation (as they have a 2023 delivery date) and should not be considered of concern.

## 3.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the CANN project include the following:

- Despite the progress made (see Section 3.4), the restrictions associated with the COVID-19 meant that:
  - During the periods of lockdown, CANN staff across the lead organisation, project partners and direct beneficiaries started working remotely as a result of the pandemic. However, no staff were furloughed;
  - Community engagement activities ceased. However, an online approach is being investigated;
  - Fieldwork was placed on hold, which had a consequent impact on data collection and monitoring activities;
  - However, progress was made to allow landowners to conduct some works such as fencing and drain blocking themselves.

[63] Source: Consultation with project lead (04/09/2020)
[64] Source: Project Progress Report 13 – 'Total reported'. This was the most recently available collated project progress report.

- Consequently, discussion with SEUPB indicates that the CANN project requested a number of project amendments including:

  - A number of contract amendments were made to delay the end dates of several contracts and/or restructure some of the works. This has enabled contractors to restructure their workplans and continue desk based work where possible, delaying on site activities until towards the end of the contracts.
  - Many small amendments were made to activities to assist in project delivery. Theses have tended to be minor amendments but have required considerable attention to ensure that work could continue.

- Upon the easing of lockdown restrictions, the project was able to recommence some of the fieldwork, with protective measures in place and data analysis etc. continuing from home. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this will again impact upon the project's ability to undertake fieldwork activities.
- The project partners have advised (at November 2020) that the CANN project is behind schedule, with the project partnership of the view that there is a risk that the project will not fully achieve the aims and objectives that had been outlined within its Letter of Offer;
- Indeed, the project lead advised that:

  - The COVID-19 restrictions will jeopardise the impact of the project, citing the reduced quantity of monitoring data, due to the loss of a field season, as having the most significant impact.
  - It is no longer feasible to deliver the project's planned activities within the original timeframe due to limited stakeholder engagement and being unable to carry out fieldwork as a result of COVID-19 restrictions;
  - It may not be possible to make up for the delays experienced as a result of COVID-19, as the project's work is seasonal and the lost time as a result of the COVID-19/lockdown measures cannot be made up without an extension to the project's timeframe.
  - Consequently, it is understood that the CANN project partnership will seek a 6-month extension to the project, but at the time of writing were continuing to work towards the agreed LoO end date. Discussion with SEUPB further advises that they understand the CANN project partnership intends to request a modification to address some errors in their figures.
  - The project could still be delivered within its current budget and they were positive that they would spend the forecasted budget allocation by the end of the 2020 and the full budget allocation by the end of the anticipated project period;
  - In order to cover the cost of extension, the project was reviewing budgets to identify possible underspend to cover the additional time for all of the partners as there has been a large number of potential site improvement measures identified when the Conservation Action Plans were being drafted.
  - A second lockdown and associated restrictions (which will be the situation in the early part of 2021), would lead to more delays, and have potential consequences for the project's impact.
  - A positive that emerged from the pandemic was the project partnership's implementation of cooperative measures to enable a more coordinated project response. This included increasing the regularity of workplan meetings to adapt to working remotely, with the project lead noting that these more regular, remote meetings had brought the partners closer together.

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it is working closely with each of the Priority Axis 2 projects to establish the impact of the pandemic on their project and their potential requirements (e.g. project extensions). SEUPB's anticipates that it will receive formal feedback on these matters from each of the projects during early 2021.

# 4. CABB – COOPERATION ACROSS-BORDERS FOR BIODIVERSITY

## 4.1 Introduction

This section of the report considers the Conservation Across-Borders for Biodiversity (CABB) project, which was awarded grant funding under Priority Axis 2 – Environment, Specific Objective 1 – Recovery of Protected Habitats & Priority Species.

## 4.2 Project Overview

A need to improve the conservation status of priority habitats and protected species comes largely from the statutory agencies (e.g. NIEA, NPWS, SNH)[65] – their obligations under the Birds and Habitats Directives, and the need to deliver actions outlined in-country Biodiversity Strategies. Need also comes from the CABB project partners – RSPB, BWI and BC, who seek to deliver on their charitable objectives on the conservation of priority habitats and species and NI Water, which as a government-owned company, has both a biodiversity duty to fulfil but also gains ecosystem service benefits and cost savings from the restoration of peatland at Garron SPA.

The underlying causes of the habitat degradation and species population crashes are complicated and prolonged but, the project partners consider that the main difficulty in addressing the issue is lack of funding within statutory agencies, either to carry out work themselves or to fund others to do so and limited NGO and partner funding. Severe cuts to the relevant statutory bodies across the eligible areas, both in terms of funding and staffing, have resulted in a reduced capacity to deliver for protected habitats and priority species. ENGOs have also been impacted by cuts to the statutory agencies and have limited resources.

Conservation Across-Borders for Biodiversity (CABB) is a partnership of RSPB NI (lead partner), Birdwatch Ireland, RSPB Scotland, NI Water, Butterfly Conservation and (providing advice on peatland restoration) Moors for the Future (MFTF). The overall objective of the CABB project is to bring about the recovery of protected habitats (active raised and blanket bog) and priority species (breeding waders and marsh fritillary at key sites) on a cross-border and cross-country basis. Indicative actions to be delivered include:

- Mapping of protected sites;
- Development and implementation of 8 Conservation Action Plans (CAPs);
- Conservation action for habitats and species;
- Development and sharing of best practice; and
- Education and outreach.

It was anticipated that at the outset, baselines would be established in mapping, habitat quality and species numbers thus informing and facilitating monitoring and evaluation.

On an overall basis, the CABB partnership proposes to contribute to the programme outputs by producing 8 conservation action plans and ensuring 2,228 ha of habitats are supported to attain a better conservation status.

Ultimately, it is anticipated that CABB will result in a suite of protected sites across the eligible area that are mapped, have conservation action plans in place and are in favourable condition as a result of conservation action. UK and Ireland priority species (breeding waders and marsh fritillary) will also have actions put in place to improve their conservation status on a cross-border basis. This is new work that has not been possible to carry out through any other means (other than via INTERREG VA).

[65] Of note, these same statutory agencies also provided support to a sub-section of the current partnership (RSPB NI, BWI and RSPB Scotland) in the previous INTERREG IVA-funded HELP project, which focused on work for priority species. The CABB project builds and expands on this earlier project.

It is anticipated that the 'on-the-ground' physical work delivered, best practice explored and shared, learnings embedded in future work, skilled up staff, key findings shared with colleagues at an EU level, influencing of future policy and the relationships and partnerships formed with stakeholders at and beyond CABB sites will endure well beyond the project's lifetime thus leaving a sustainable legacy.

Whilst it is anticipated that the project will present opportunities for both the statutory agencies and the project partners in helping them deliver on their statutory and charitable objectives, it also has the potential to reach a much wider range of beneficiaries, including:

- Repairing the Gruinart Sea Wall will provide benefits to **farmers/landowners, local communities, and tourists** by ensuring that the integrity of the site for farming, public access (a road runs through it), and conservation is protected and that it remains in favourable conservation status.
- Restoring peatland at Muirkirk Uplands SSSI will benefit the **Scottish government and the statutory agencies**, which want to see this particular site, previously damaged by open-cast coal mining to be brought into a favourable condition
- Replacing the cot at Lough Erne will provide benefits to the **RSPB** which owns or manages over 40 islands in the Lough but will also benefit local farmers enabling them to continue to move stock between their mainland and island holdings. Also, the purchase of specialist machinery at Lough Erne, designed to enable rush cutting on inundated grassland, will ensure sites previously in unfavourable condition for breeding waders can be restored, enabling farmers to graze them effectively.
- In Ireland, there are now options in place for breeding waders in the new agri-environment scheme (GLAS), as a result of the advocacy following the previous HELP project, however, this does not include capital works or advisory, both of which are essential to the conservation of breeding waders. Provision of these through the project is supported by the statutory agencies and will be of benefit to **farmers** to help them meet the scheme requirements.
- Fencing of NPWS land at Dunragh/Pettigo SAC will also enable grazing lets to be offered to local farmers.

The CABB Project Board will oversee the implementation of the project, they will seek to ensure that all objectives, timescales and budgets etc. are managed and progress is on schedule. The CABB Project Board will meet every 2 months initially and once the project is established this will move to quarterly thereafter. The NIEA, National Parks and Wildlife Service and the Scottish Natural Heritage will be represented in the CABB project board and will be involved in an advisory capacity.

The RSPB NI director will also report to the Director of Operations within the RSPB and will act as a link between the Project Board and RSPB Chief Executive.

A dedicated Programme Manager (RSPB NI) will manage the day to day delivery of the project. The Programme Manager and the Administration and Finance Officer will provide the secretariat function to the Board and will manage all aspects of the project including finances, reporting on progress/communications, claims processing and general liaison with SEUPB.

A CABB Working Group will oversee the delivery of the project in each of the three jurisdictions. This group will meet every two months initially and quarterly thereafter. It will be chaired by the Programme Manager and will include delivery leads from Project Delivery Groups and project partners. The CABB working group will ensure clear lines of communication and accountability between staff 'on the ground' and the CABB Project Board. Project Delivery Groups will meet every 6 weeks, will include key staff from Area Delivery Groups and relevant representatives from the statutory agencies and will be responsible for overseeing delivery in each jurisdiction. The Area Delivery Groups will meet every six weeks and will ensure on-the-ground management is being delivered effectively.

Nine work plans have been developed.

| Table 4.1: Summary of CABB Project Work Plans (Per Progress Reports) |
|---|
| 1. Project Management |
| 2. Montiaghs Moss, Northern Ireland (implementation) |
| 3. Fermanagh, NI & Ireland (implementation) |
| 4. Garron Plateau CAP & Actions (ex. Drain Blocking) (implementation) |
| 5. Scotland (implementation) |
| 6. Ireland (implementation) |
| 7. Marsh Fritillary work access key sites (implementation) |
| 8. Garron Plateau Restoration: Drain Blocking (NI Water) (implementation) |
| 9. Communication |

## 4.3 Project Budget to December 2020

The CABB project received a Letter of Offer (dated 7th July 2017) offering a grant of up to a maximum of €4,770,731.31 (ERDF + Government Match Funding) to be expended and claimed by 31st December 2021, towards total anticipated project costs of €4,935,983.90.

The CABB project received a revised Letter of Offer (dated 28th June 2018) which approved the reallocation of budget between categories, as shown in Table 4.2. As of December 2020, the project had reported total estimated expenditure of €2,714,322, equivalent to 55% of the total project budget. The original projected spend for the same period estimated that 75% of the total project budget would be incurred at this time.

**Table 4.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to March 2020 Per Project Progress Report[66] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[67] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 1,642,056 | 817,802 | 901,317 | 164,827 | **1,066,144** | 65% |
| Office and Administration Costs | 246,308 | 122,593 | 135,120 | 24,724 | **159,844** | 65% |
| External Expertise and Services | 693,845 | 333,405 | 345,429 | 34,742 | **380,171** | 57% |
| Travel and Accommodation Costs | 193,196 | 65,507 | 68,839 | 7,078 | **75,917** | 47% |
| Equipment Costs | 387,064 | 375,400 | 376,687 | 1,302 | **377,989** | 75% |
| Infrastructure | 1,773,515 | 651,514 | 652,489 | 1,767 | **654,256** | 38% |
| **Total** | **4,935,984** | **2,366,221** | **2,479,881** | **234,441** | **2,714,322** | **55%** |
| **Original projected spend level[68]** | | | | | **3,714,628** | **75%** |

[66] Source: Project Progress Report 13 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.
[67] Source: SEUPB's EMS 14th December 2020
[68] Source: SEUPB's EMS 14th December 2020

## 4.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the CABB project's key achievements and the extent to which the CABB project has:

- Contributed to the achievement of the Priority's Specific Objectives;
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *4.4.1 Key Achievements (to November 2020)*

Despite the restrictions imposed by the COVID-19 pandemic, the CABB project partnership sought to liaise regularly to come up with some alternative methods of delivery which would ensure that social distancing guidelines could be adhered to whilst continuing to complete activities.

During the period to June 2020, habitat mapping progressed well, and was one of the main priorities for RSPB staff who had been working remotely. The Montiaghs site was completed with Pettigoe, Croaghonagh, Meentygrannagh and Garron habitat mapping nearing completion. Dunragh was considered to be 80% complete, whilst Nillan was 50% complete.

A CABB / CANN best practice and information share event was held virtually in October 2020.

Breeding wader data statistics for 2020 were gathered, albeit at a lower level than had been hoped for. However, it is anticipated that this data will be added to data collection in 2021 and will mean that the project has meaningful data and results that can be compared with baseline data held by RSPB. Surveying work had also re-commenced such as identifying Marsh Fritillary larval webs. Topographical and transport surveys had been completed in line with planning permission requirements for the proposed car park in Montiaghs Moss site, County Antrim.

Draft Conservation Action Plans (CAPs) for Montiaghs Moss, Pettigoe, Dunragh, Muirkirk and Garron Plateau were in the process of being prepared. The Montiaghs Moss CAP was being updated and amended with a view to NIEA sign off in the late autumn 2020. The CAPs are one of the main project outputs.

The site grazing regimes were being delivered in line with the application. The cot boat was operational on Lough Erne and was moving stock to and from islands as appropriate. The specialist tracked tractor had been undergoing trials prior to starting habitat management work. Some onsite works were delayed due to COVID-19, but contractors were (at November 2020) back onsite completing works such as fencing, pool clearing, scrub management and drain maintenance as well as seed sowing of Devil's-bit Scabious (Succisa pratensis). Contracts were also due to be awarded for drain blocking at Fidandarry and predator fencing at Inch Levels. The reed clearance works that were undertaken during the autumn of 2019 had led to a notable achievement, with the return of Lapwing breeding pairs on the Bird Watch Ireland plot of Sheskinmore Nature Reserve for the first time in 8 years.

RSPB ecologists visited the recently restored plantation to bog restoration at Shiel Farm in June 2020 and noted that over the majority of the site the hydrology had attained desirable levels and typical bog plant species were starting to colonise. This gives an early indication that the restoration works have been successful.

Discussions with engineers about a revised tender work programme were ongoing with the aim of having a preferred contractor selected during early 2021 for the Gruinart sea wall. The project had gone out to tender twice and had been unsuccessful. It is considered that the revised tender work programme will assist in securing a construction contract in the coming months.

The photograph below illustrates some of the equipment purchased by the project - the cot boat that transfers livestock between islands on Lough Erne and the tractor with specialist tracks that allows work to be undertaken in very wet and boggy conditions.

**Figure 4.1: The Cot Boat & Specialist Tractor**

The CABB progress reports cite the following key project achievements (between July 2018 and June 2020) as being: [69]

| Table 4.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 7 | 1st July 2018 – 30th September 2018 | **RSPB NI**<br>• Signed the lease for Montiaghs land and recruited volunteers.<br>**RSPB Scotland**<br>• Visit from delegates at International African-Eurasian Waterbird conference, Volunteers did surveys for bog vegetation and large heath butterfly scoped new sites for habitat restoration and held demonstration day for landowners.<br>**BirdWatch Ireland**<br>• Tender for Hydrological and ecological monitoring for Fiddandarry progressed, Pettigo fencing work underway, reeding wader survey completed, fence site identified and planning underway as well as second predator-proof fence scoped. New landowner destroyed breeding wader habitat on adjacent SPA farmland.<br>**NI Water**<br>• Marked drains and agreed not to use plastic dams in sensitive habitat. 609 Peat Dams were also constructed bringing the overall total to 781. This is smaller than anticipated, but the target to restore 444 hectares of the blanket bog will still be met.<br>**Butterfly Conservation**<br>• Volunteers surveyed Marsh Fritillary (MF), data lodged with CEDaR, and NBDC, added additional sites to EFS database. |

[69] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 13 (January – March 2020) albeit it was in progress.

| Table 4.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 8 | 1st October 2018 – 31st December 2018 | **CABB Project Overall**<br>• CABB partners attended IUCN Peatland conference and CABB/CANN info share event was staged. Publication of CABB ezine and webpage was published, and a solution found to cot budget surplus funds was transferred from partners and external funding.<br>**RSPB NI**<br>• Montiaghs – fencing complete, grazing initiated, a newsletter published, volunteers on board.<br>• Pettigoe – drafted CAP and a newsletter published.<br>• Garron – liaised with landowners, co-ordinated of drain blocking work, vegetation surveys, presentations, and talks, dip well monitoring all carried out.<br>**RSPB Scotland**<br>• Shiel Farm plantation to peatland restoration (stump-flipping) completed in December, ahead of schedule and Airds Moss and Shiel farm fencing completed.<br>• A demonstration day delivered, and draft CAP sections considered by a delivery group. CABB facilitated peatland restoration work also carried out.<br>**NI Water**<br>• Compensation events presented to SEUPB for approval.<br>**BWI**<br>• Contract awarded for ecological and hydrological monitoring at F'darry.<br>**BC**<br>• Fencing delivered at Montiaghs, scrub cleared by hand, MF larvae served and Surveyed MF site in Cavan regarding potential capital works. |
| 9 | 1st January 2019 – 31st March 2019 | **CABB Project Overall**<br>• **S**pring Newsletter public event took place.<br>**RSPB NI**<br>• Cot procurement completed, tractor replacement progressing and shed was built.<br>• Some scrub clearance took place at Montiaghs. For Pettigoe there was the drafting of CAP and for Garron co-ordination of drain blocking work.<br>**RSPB Scotland**<br>• Muirkirk CAP in the final stages.<br>• Tardoes Peatland restoration (non-CABB funded 300k) restored 330 ha of priority blanket bog.<br>• Gruinart - Topographical survey and samples informed design and discussions with Islay Estates and procurement was underway.<br>**NI Water**<br>• 143 timber and 93 stone dams done by Feb 2019 with over 500ha land in better condition. Some dams delivered on private land. Works complete ahead of schedule and under budget. Contractor compensation events agreed with SEUPB.<br>**BWI**<br>• Pettigo fencing completed and other fences managed, research work done for the Inch fence.<br>**BC:**<br>• Fencing delivered at Montiaghs; scrub cleared by hand by volunteers.<br>• MF larvae served and surveyed MF site in Cavan regarding capital works. |
| 10 | 1st April 2019 – 30th June 2019 | **RSPB NI:**<br>• Presented CABB at N2K event in Dublin 9/5/19.<br>• Montiaghs – CAP preparation and Irish Damselfly monitoring carried out.<br>• Conservation cattle grazing for marsh frit started, liaised with landowners regarding EFS. Annex 1 habitat training completed, prepared scrub retender.<br>• Fermanagh - an event was held for landowners, Filming with UTV and habitat surveys.<br>• Garron – NIW's grazing agreements, reviewed 1st draft of CAP with NIEA, prepared Dungonnell drain-blocking review report, carried out GPS survey to confirm land boundaries, landowner EFS visits, Irish Uplands AGM site visit, Antrim Hills access meeting. Rapid Condition Assessments carried out, dip well monitoring, and species recorded, and newsletter produced. |

| Table 4.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • Muirkirk – CAP was at the final draft for internals. Gaining permissions for peatland restoration on private land. Peatland restoration (Tardoes) used as a demonstration site. CABB deliverables presented to Regional Conference. Airds Moss habitat management planning and veg cutting. Curlew Trial Management Project work.<br>**BWI:**<br>• First and second visits for breeding waders.<br>**BC**<br>• Capital works complete at Montiaghs and planned for Pettigoe. The training was provided to CABB and CANN staff on Marsh Fritillary management. Feeding into BBC Erne series. |
| 11 | 1st July 2019 – 30th September 2019 | **RSPB NI**<br>• Montiaghs: Installed mains water, 20ha grazed, procured scrub contractors, planned pool/ditch rotation, and produced CAP 1st draft.<br>• Fermanagh: cot delivered, tracked tractor progressed, CAP part signed off by NIEA, fire response plan completed and surveyed dragonfly and Marsh Fritillary.<br>• Garron**:** NIEA reviewed CAP 1st draft, assisted with bog open day and PO left in August.<br>**RSPB Scotland**<br>• Muirkirk CAP sign-off by delivery, consent for restoration at Priesthill (200ha private) near Muirkirk. Peatland Action money received for Phase 2 (400 ha). PO down to 2 days a week. Recruitment underway for officer for advisory and land manager engagement (0.6 FTE).<br>• Gruinart -Design complete, procurement started, sent to SEUPB for comment.<br>**BWI:**<br>• Breeding wader and Curlew surveys done, Reports for Fiddandarry drain-blocking progressed and plan submitted to Steering Group.<br>**NI Water**<br>• Held an open day, carried out bog restoration works and produced information leaflet and video.<br>**BC**<br>• Marsh Fritillary larval web surveys were done, and leaflet published. Works were carried out at Pettigoe Plateau. |
| 12 | 1st October 2019 – 31st December 2019 | **RSPB NI**<br>• Montiaghs: removed 11 ha scrub, carried out drain drone survey.<br>• Pettigoe: MF survey carried out, and an officer left.<br>• Garron: An Officer left.<br>• Showcased CABB at ICUN Peatlands Conference in Belfast, launched cot, hired new FT Finance/ Admin Officer.<br>**RSPB Scotland**<br>• Muirkirk :S Inglis started finalising CAP. Advisory and engagement took place with C Walton who was involved in peatland restoration.<br>• Tardoes (2) – 800ha by end of 2019 (Peatland Action funds). Funds secured for 25 ha extension.<br>• Landowner consent secured for 50ha bog at Priesthill by end 2020.<br>**BWI**<br>• Meentygrannagh maps analysed.<br>• Pettigoe Officer recruited, starts in Jan 2020. Agreed to trial capital works only agreements on Glas farms. Trialling adaptation to make existing fence predator-proof and a workshop held. Carried out farm advisory visits.<br>**NI Water**<br>• Green Apple award for a contractor.<br>**BC**<br>• Pettigoe: Plateau complete. |

| Table 4.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 13 | 1st January 2020 – 31 March 2020 (in progress) | **RSPB NI**<br>• Montiaghs**:** CAP is at the final draft stage. Hosted talks from Ulster Wildlife, Butterfly Conservation, Mike Meharg, and RSPB. A fencing contractor was procured. However, they had to leave the site due to weather and COVID. Carried out otter survey and site visits to Scotland.<br>• Garron**:** A New Manager started, the draft CAP reviewed and edited, formal liaison carried out with statutory stakeholders. Habitat restoration identified 58 landowners, developing Agri-Env Group Option and restoration of Forest Service peatland area on SAC boundary.<br>• Pettigoe**:** Project Officer left the post in Period 12. New cross border Officer employed by RSPB worked with BirdWatch Ireland to prepare the Dunragh / Pettigo CAP. COVID has meant that using the cot to transport stock to and from the islands is impossible as social distancing is not feasible on the cot.<br>**RSPB Scotland**<br>• Muirkirk Uplands: Following a final meeting with SNH Area Officer, the Conservation Action Plan was completed following approval and sign off from SNH. Phase 2 of the peatland restoration and a further extension of 25ha at Tardoes, managed by the CABB PO but out of the CABB budget, was completed during the period. Furthermore, brash spreading on the recently restored plantation to bog restoration at Shiel Farm was completed to facilitate vegetation recovery on the bare peat surface.<br>• Gruinart: Following a second attempt at tendering, this time with a revised budget, once again no tenders were received before the closure of the contract. A late tender, at double the budget was received, as well as an informal quote on budget with reduced spec, from a local contractor. Enquiries were submitted to SEUPB about how best to proceed.<br>• Staffing**:** Clive Walton (0.4 FTE) PO left his role with CABB to take up a full-time ecologist post with RSPB. Stephen Inglis continued as CABB Project Officer (0.6 FTE). |
| 14 | 1st April 2020 – 30th June 2020 (From Partner Progress Reports) | **RSPB Scotland**<br>• Muirkirk Uplands**:** Following feasibility survey visits by Peatland Action and Clive Walton, the specification for the works at Wetherhill were completed and procurement documentation was drafted. Upon reconsideration, Dumfries Estate consented to 70ha of peatland restoration at Kyle Farm. The Peatland Action feasibility survey visits planned for this period were delayed until the following period. |

### *4.4.2 Progress Towards the Project Output Indicators*

Discussion with the CABB project partnership indicates that the project has achieved the following so far:

| Table 4.4 Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **CABB Project Target** | **Progress (as of July 2020)[70]** |
| CO23: | Nature and biodiversity Surface area of habitats supported in order to attain a better conservation status (hectares) | 4,500 ha | 2,228ha | 2,397ha- |
| 2.111 | Conservation Action Plans | 25 | 8 | 1 |

[70] Source: Consultation with project lead (03/09/2020).

As of March 2020, the project partners had engaged with 67 'interest groups including NGOs', thereby exceeding its 'target group reached' target of 7 by 957%.

| Table 4.5: Performance against Target Groups Reached (as of March 2020[71]) | | | |
|---|---|---|---|
| **Target Group** | **Target** | **Achieved** | **% Achieved** |
| Interest groups including NGOs | 7 | 67 | 957% |
| General Public | - | 20 | - |

### *4.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation, the CABB project is, therefore, at July 2020, making marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, this should be expected at this stage of the project's implementation (as they have a 2023 delivery date) and should not be considered a concern.

## 4.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the CABB project include the following:

- As a result of the pandemic:
  - During the periods of lockdown, CABB staff across the lead organisation, project partners and direct beneficiaries started working remotely as a result of the pandemic. It is understood that several staff from across the project partners were placed on furlough. Discussion with SEUPB indicates that for those projects where staff were placed on furlough, SEUPB was not able to pay the additional costs to take furloughed staff up to their usual 100% salary. That is, if staff were furloughed, then by definition they were not working on the project activities and therefore the costs were not eligible for reimbursement.
  - The RSPB became directly involved with the response to the pandemic by offering employees five 'volunteer days', which allowed them to take time off work to produce scrubs for care home staff.
  - Fieldwork and quality assurance activities had to be placed on hold, which has had a consequent impact on data collection activities (e.g. the project was unable to monitor breeding birds and butterflies). However, the project partners are confident that there is sufficient time to address this, and staff have been able to progress some analysis activity from home. In addition, staff were able to continue drafting CAPs, preparing specifications for capital works, some procurement activities, holding delivery, steering and Board meetings.
  - Onsite capital works were placed on-hold;
  - Aspects of the project's education activities may be at risk as they cannot be carried out on a face-to-face basis.

- Upon the easing of lockdown restrictions, the project was able to recommence some of the fieldwork that was temporarily on hold due to COVID-19 restrictions. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this will again impact upon the project's ability to undertake fieldwork activities.
- Positively, the project partners have advised (at November 2020) that they consider the CABB project to be mostly on track with no substantial risk to the project fully achieving its aims and objectives as set out in the project's LoO.

[71] Source: Project Progress Report 13 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.

- Indeed, the project lead suggested that:

  - It continues to be feasible to make up for the delays caused by COVID-19 and to deliver all of their project's planned activities within the original timeframe, albeit some CAPs might be behind schedule, as staff have been unable to get onsite to talk to landowners and check management prescriptions of the land;
  - The project partners will be able to deliver the project within its current budget as long as a contractor is appointed shortly to undertake the planned large capital works aspect of the project (including the Gruinart sea wall) and this aspect does not have to go out for procurement again.

- The CABB project lead did however note that their electronic system is not suitable for SEUPB purposes, which means that they must print and get documents signed off. However, with limited or no access to offices this has often not been possible. Ideally, the project partners would prefer for SEUPB to waive this requirement.

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it is working with each of the Priority Axis 2 projects to establish the impact of the pandemic on their project and their potential requirements (e.g. project extensions). SEUPB's anticipates that it will receive formal feedback on these matters from each of the projects during early 2021. Furthermore, SEUPB's Joint Secretariat had been advised by the project partnership that the project was likely (following a review of its budget) to request (during early 2021) a three-month extension to its project end date to allow the Project Manager and Administration Team time to complete the submission of final reports/claims.

# 5. COMPASS - COLLABORATIVE OCEANOGRAPHY AND MONITORING

## 5.1 Introduction

This section of the report considers the Collaborative Oceanography and Monitoring for Protected Areas and Species (COMPASS) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 2 – Manage Marine Protected Areas and Species.

## 5.2 Project Overview

Marine ecosystems are experiencing an unprecedented loss of biodiversity and species due to the large-scale and far-reaching effects of human activities, including commercial fishing, shipping, aquaculture, oil and gas exploration and a rapidly developing marine renewable energy sector. Marine habitats, fauna and flora, including those designated for protection, are determined by the oceanographic climate (e.g. salinity, temperature, currents, waves, nutrients etc.). Changes in this oceanographic climate will lead to changes in distributions, behaviours and habitats of protected species.

While Marine Protected Areas (MPAs) may be geographically isolated, the marine environment is fluid. Organisms, nutrients, and water bodies are transported on local, regional and oceanic scales. Understanding this, and the defining contribution of physical processes (e.g. current speed, turbulence, stratification, fronts etc.) to habitat type, is crucial to understanding the nature and interconnections between MPAs.

International conservation efforts are often hampered by a gap in exchange and communication across borders, resulting in inefficiencies or duplication of effort, wasted resources and negative conservation results. Furthermore, the high financial cost of delivering oceanographic and marine environmental data restricts observational science.

In areas where ecologically functional regions span national boundaries, integrated monitoring, and the availability of data from different monitoring or assessment programmes are key to effective management. This is particularly important for the management and conservation of mobile species such as marine mammals (cetaceans and seals) and migratory fish (salmonids).

To this end, the COMPASS project – involving the key stakeholders in marine environmental research and conservation across Scotland, Ireland and Northern Ireland – has been developed to strengthen regional collaboration in the marine conservation sector, encompassing all stages of the marine conservation planning process, including long-term data collection and monitoring, cross-border data accessibility and improved communication.

The COMPASS project partnership is led by the Agri-Food and Biosciences Institute (AFBI) and is made up of the Marine Institute (MI), Inland Fisheries Ireland (IFI), Marine Scotland Science (MSS) and the Scottish Association for Marine Science (SAMS). To support this, the Loughs Agency is acting as a delivery agent for the cross-border elements of the project.

It is anticipated that the COMPASS project will utilise both observational data and proven models to help understand complex environmental processes to address management challenges in the eligible region.

The COMPASS project partnership intends to:

- Scientifically design monitoring programmes to deliver baseline oceanographic and species data for the management of MPAs and key protected species.
- Develop data management infrastructures to ensure data quality, accessibility and flow between the regional institutions and international initiatives.
- Interface operational models to support assessments of the connectivity of MPAs in the eligible region.

The COMPASS project partnership has also proposed to contribute to developing the cross-border capacity for the monitoring and management of MPAs and species by:

- Establishing a network of buoys for regional seas, delivering connected monitoring programmes for the statutory bodies of Northern Ireland, Ireland and Scotland - new moored observation stations will be created at key locations (where the requirement has been identified), which will then be integrated with established monitoring stations already within the region;
- Linking regional data management processes to national and international initiatives for a sustainable legacy;
- Establishing the skills and infrastructure for sustained coordinated monitoring that will not be dependent on further financial intervention, and that can provide the infrastructure for future collaborative works and funding applications;
- Developing capacity for monitoring new parameters essential for EU policy compliance (e.g. noise, ocean acidification);
- Providing data and knowledge that directly contributes to the management plans being developed by both statutory and non-statutory bodies; and
- Contributing to peer-reviewed publications.

It is anticipated that a fully coherent network of monitoring buoys across the regional seas of Ireland, Northern Ireland, and Western Scotland, will support long-term monitoring strategies to be developed for highly mobile protected species such as marine mammals and salmonids, and provide infrastructure for baseline oceanographic and ambient noise monitoring.

On an overall basis, the COMPASS project partnership intends to contribute to the programme outputs by developing one network of buoys for regional seas and 3 models to support the conservation of marine habitats and species.

To reflect the connected nature of the seas and to add value to the project, the COMPASS project partnership proposed (at a cost of circa €843k) to integrate two established monitoring locations outside the eligible area into the project, namely[72]:

| | |
|---|---|
| **Moored monitoring at Mace Head (Ireland)** | It is anticipated that integrating marine observations with atmospheric time series at a World Meteorological Organisation Global Atmosphere Watch (GAW) station will contribute towards:<br>• Knowledge exchange - implementing new parameters on platforms in Northern Ireland and Scottish waters.<br>• Improvements to regional survey capacity. |
| **Moored monitoring at Loch Ewe (Scotland)** | Loch Ewe benefits from existing infrastructure and other (separately funded) monitoring activities. It is anticipated that by including this site, data will be representative of the west coast region where relevant MPAs and Special Areas of Conservation (SACs) are located. This will:<br>• Contribute towards knowledge exchange and implementation of in-situ observations in Scottish waters.<br>• Support and development of an existing time-series, benefitting from collaborative input. |

[72] It is understood that these locations were identified by the project partnership on the basis of oceanographic relevance, added value and legacy, conservation status, logistics and cost effectiveness.

The following seven work plans have been developed:

| Table 5.1: Summary of COMPASS Project Work Plans (Per Progress Reports) | |
|---|---|
| **Work plan** | **Work plan lead** |
| 1. Management | AFBI |
| 2. Oceanography | AFBI |
| 3. Data Management Processes and Platforms | MI |
| 4. Salmonids: tracking marine migration of salmon and sea trout | AFBI |
| 5. Monitoring Cetaceans and Marine Protected Areas including Noise Assessment | SAMS |
| 6. Modelling | SAMS |
| 7. Communication | AFBI |

## 5.3 Project Budget to December 2020

The COMPASS project received a Letter of Offer (dated 12th June 2017) offering a grant of up to a maximum of €6,289,181.25 (ERDF + Government Match Funding) to be expended and claimed by 31st March 2022, towards total anticipated project costs of €7,726,441.15.

The COMPASS project received a revised Letter of Offer (dated 6th December 2019) whereby the SEUPB approved the reallocation of budget between categories, as shown in Table 5.2. As of December 2020, the project had reported total estimated expenditure of €4,941,983, equivalent to 64% of the total project budget. The original projected spend for the same period estimated that 75% of the total project budget would be incurred at this time.

**Table 5.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to March 2020 Per Project Progress Report[73] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[74] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 3,379,030 | 1,558,624 | 1,767,606 | 656,504 | **2,424,110** | 72% |
| Office and Administration Costs | 506,854 | 233,793 | 265,140 | 98,475 | **363,616** | 72% |
| External Expertise and Services | 1,397,299 | 403,249 | 426,846 | 155,163 | **582,009** | 42% |
| Travel and Accommodation Costs | 235,073 | 59,313 | 77,034 | 21,084 | **98,117** | 42% |
| Equipment Costs | 2,208,184 | 1,254,627 | 1,298,159 | 175,972 | **1,474,131** | 67% |
| **Total** | **7,726,441** | **3,509,605** | **3,834,785** | **1,107,198** | **4,941,983** | **64%** |
| **Original projected spend level[75]** | | | | | **5,784,871** | **75%** |

[73] Source: Project Progress Report 13 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.
[74] Source: SEUPB's EMS 14th December 2020
[75] Source: SEUPB's EMS 14th December 2020

## 5.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the COMPASS project's key achievements and the extent to which the COMPASS project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *5.4.1 Key Achievements (to November 2020)*

Despite the restrictions associated with COVID-19, the COMPASS project:

- Saw an increase in fieldwork/vessel work from June 2020;
- During July there was ongoing deployment and retrieval of acoustic receivers. These receivers were deployed pre-COVID, so it is anticipated that they should provide some interesting insights relating to marine mammals and the impact of reduced human activity during lockdown. A further trip was planned for autumn 2020 to retrieve data and deploy further sensors.
- The Marine Mammal package submitted a Porpoise Report during July 2020 and was planning a scientific paper for submission by the end of 2020.
- Before the introduction of the first period of lockdown, a line of 22 receivers was deployed in the Irish Sea to detect fish movement of trout and salmon and a recovery cruise was undertaken in early August to retrieve the line. Preliminary analysis of tag detections from this line revealed tagged salmon from various rivers in England, Scotland, Ireland and Northern Ireland in addition to several tagged skate. Of note, many of these detections were from fish tagged by other programmes (e.g. the INTERREG IVA funded Sea Monitor project), which is anticipated will complement and enhance these related research efforts.
- Four fish tagging trips were made during summer 2020 and the autumn tagging of finnock and adult sea trout was progressing slowly on the Shimna due to generally poor runs of fish in 2020. At November 2020, 27 sea trout had been tagged on the Shimna and further trips were planned to increase the sample size. The salmonid team was also working on two new scientific papers.
- In terms of completing the oceanographic data buoys, there was some delays in receipt of equipment due to COVID-19. However, the Strangford buoys telemetry system had been receipted and was anticipated to be installed in the early autumn 2020. Other buoys including MSS Loch Ewe buoy had been procured but delivery was delayed.
- The glider mission scheduled for the late summer was postponed due to servicing issues with the vehicle. Plans were in place for a winter glider mission instead.
- An oceanography workshop due to take place in spring 2020 was delayed until later in 2020, but reports for the tasks were being drafted.
- The modelling package for COMPASS has continued during lockdown and a report has been drafted on a 'User guide for Hindcast'. The Data Management team was also working on data flows from each task with an aim to stream data through the digital portal in late 2020 with testing planned for autumn 2020.
- Communications activities were continuing with an INTERREG marine projects E-zine due to publish in September 2020.

The COMPASS project partners cite the project's key achievements (between January 2018 and September 2020) as being: [76]

| Table 5.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 5 | 1st January 2018 - 31st March 2018 | • A full-time Project Manager was recruited, to start the post in April. Terms of Reference for the Steering and Advisory group was drafted, and members established.<br>• T1 - In terms of moorings preparation was carried out in various areas, including procuring of equipment, assessing moorings for deployment, assessing data management requirements on research vessels, and organising training workshops for use of equipment to be integrated on the moorings.<br>• T2 -Ongoing work between project partners to set up data-sharing platforms (ERDAPP) and demonstrating how data will flow from mooring and procurement of equipment for data management. A data management workshop was held in February at the Marine Institute with representation by partners.<br>• T3 - Procurement and award of contract for tags and receivers. Preparation for tagging was well underway with various stakeholders.<br>• T4 - Procurement and award of contracts for acoustic equipment. Successful deployment of equipment in NI/Irish water and Scottish waters.<br>• T5 – There were ongoing issues with Scottish and Irish models which led to some changes. However, solutions were found, and the modelling task moved forward. T5 held two stakeholder workshops in Scotland and Ireland with academics and regulators in attendance. |
| 6 | 1st April 2018 - 30th June 2018 | • The project manager post was filled in April<br>• T1 - AFBI, MI, and MSS employed vessels to survey baseline oceanographic data. Mooring deployment took place at Loch Ewe to replace instruments/download data, and MI deploying buoy and sensor frame was deployed at Macehead.<br>• T2 – A workshop was held in Galway with a task leader based at the Marine Institute in February to highlight the current state of data management across the partners.<br>• T3 - Completion of the first phase of tagging - 2018 pilot season - 70 fish were tagged.<br>• T4 - Acoustic moorings by AFBI/SAMS were successfully installed/maintained/recovered. This represented the first deployment of AFBI acoustic data being returned as part of the network of buoys across the region. Initial indications are that at some sites there has been a high occurrence of both porpoises and dolphin species.<br>• T5 – A decision to opt for the fall-back option of using the WestCOMS model instead of the SSM was made.<br>• C (Communications) - The project featured on the BBC Homeground programme (T3 task). The T3 team work closely with local anglers and fishing clubs to promote the project and work with them on tagging. The first COMPASS Steering committee meeting took place in June 2018. |
| 7 | 1st July 2018 - 30th September 2018 | • Management (M) -First COMPASS Advisory Group meeting was held and attended by policy leads from each jurisdiction and NGO representation from NI/Scotland.<br>• T1 - Mooring deployed/maintained during P7 at Tiree, Creran, Loch Ewe and Macehead). Regular collection of water samples and data analysed. Additional sensors (MI- ADCP deployed) and the glider mission was underway from SAMS.<br>• T3 –30 finnock tagged in Shimna by AFBI (August). IFI reported the tagging of 23 fish in P7 (Carlingford). |
| 8 | 1st October 2018 - 31st December 2018 | • All project partners and interested stakeholders attended the first Annual Seminar in Galway on 5th Dec.<br>• T1 - The Glider mission got into difficulties during the year but was retrieved in P8 from Harris.<br>• T2 - New equipment was purchased for the project by AFBI. New data management infrastructure for the project was presented at the T2 meeting at the Annual seminar.<br>• T3 - Acoustic receiver maintenance and collection carried out by IFI and AFBI. A number of sea trout were tagged in Strangford Lough. |

[76] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 13 (January – December 2020) albeit it was in progress.

| Table 5.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • T4 - Servicing and redeployment of acoustic moorings by AFBI and SAMS. Acoustic Data for T4 recovered from the glider.<br>• T5 - MI modelling officer was replaced.<br>• Communications (C) - Project Annual Seminar held in December and terms of reference developed to revise the COMPASS website. |
| 9 | 1st January 2019 - 31st March 2019 | • T1 – Capacity was added to existing buoys for example 38a. Ongoing retrieval and deployment of equipment carried out at Macehead, Lough Ewe, Creran with equipment serviced and calibrated when required.<br>• T2 - Development of data standards and mapping of data overseen by MI.<br>• T3 - Completion of tag procurement for tagging of smolts to start April 2019. Receivers retrieved with data coming in on emigration paths. Neared completion of the Receiver Network Serving. |
| 10 | 1st April 2019 - 30th June 2019 | • T1 – Sampling carried out at 38a and equipment serviced. Sensors turned around at Mace Head, new equipment was serviced/replaced. Comms issues resolved at Macehead. MSS deployed mooring/pCO2 sensor. AFBI Technical staff started work building a monitoring buoy.<br>• T2 - Web map of buoy locations delivered, and initial visualisations of MI buoy data added. AFBI Data Management started in June. MSS procured some extra data storage to assist the project.<br>• T3 -Receiver array was deployed from the Boyne to Belfast Lough. 60 sea trout/salmon smolts tagged from Strangford tributaries and 30 at Shimna River. 65 Sea trout smolts tagged at Castletown and 5 at Fane. Receivers placed in estuaries to detect migration timing and detect returning finnock.<br>• T5 -Mesh expansion of hydrodynamic model of Scottish waters was completed during P10 and the new model was running successfully with boundary data provided by the MI. The analysis was carried out of predictions in the overlap zone between the Irish/Scottish models.<br>• C – The project was nominated for a RegioStars Award. YouTube videos were produced centred around smolt capture/tagging activity for the project. |
| 11 | 1st July 2019 - 30th September 2019 | • T1 - SAMS glider mission carried out in August with recovery in September.<br>• T3 - Ongoing deployment of receivers was carried out by AFBI/IFI and data downloading continued from existing receivers at Dundalk Bay, Ardmillin, Enler, Shimna, Castletown River, Strangford Lough. IFI tagged 50 sea trout, AFBI tagged 60 finnock.<br>• T4 - AFBI continuing to service acoustic devices (cruise July and Sept), deployment, and retrieval of devices by SAMS in Jun/Jul and MSS downloaded data from receivers recovered in June. Posters produced on findings of humpback whales in project areas. D. Risch (SAMS) presented findings at the International Conference on Effects of Noise on Aquatic Life in the Netherlands.<br>• C - YouTube video produced on SAMS glider missions. ECO magazine article produced by D Risch (SAMS) on marine mammals. Andy Dale represented COMPASS at the SEUPB Dynamic Earth exhibit. |
| 12 | 1st October 2019 - 31st December 2019 | • T1 -Upgrading of 38a and Strangford buoys carried out by AFBI. MI's Macehead Buoy software updated. MSS instruments replaced on L. Ewe mooring.<br>• T2 -The catalogues were configured to serve the data correctly and agree with data formats to be shared w/ partners.<br>• T3 -Receivers were redeployed in Castletown River to track tagged finnock. Tracking data collected on receivers was supplemented by manual tracking of tagged finnock. Salmon smolt migration data (2019) was downloaded from receivers in Boyne/Castletown. AFBI retrieved the acoustic receiver in Strangford Lough. Several receivers were deployed to ensure winter coverage of tags.<br>• T4 - MSS led a survey to service COMPASS moorings. AFBI serviced NI acoustic moorings during. Data checks and analysis of the first year of data was completed.<br>• C- T3 salmon migration press release was issued this week. |
| 13 | 1st January 2020 - 31st March 2020 (in progress) | • T1 – a data collection cruise took place with limited T1 sampling but T4 acoustic receivers were retrieved.<br>• T2 -Testing of ERDAPP using project data.<br>• T3 - Additional receivers deployed and T3 fish migration report was uploaded<br>• T4 - Staff presented humpback whale data at UKIRSC in Galway.<br>• C - COMPASS Crisis Communications Plan completed updated and uploaded. |

| Table 5.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 14 | 1st April 2020 - 30th June 2020 (From Partner Progress Reports) | **AFBI**<br>• T1 - Cecilia Zambrano left during P14 but produced handover document for completion of 38a.<br>• T2 - AFBI reported the successful deployment and testing of an internal Erddap server which paved the way to additional data nodes being added to the prototype COMPASS data portal.<br>• T3 - Publication of first journal paper. From April to June staff managed, working within COVID-19 restrictions, to maintain considerable project activity. Receivers in Dundalk Bay, Dundrum Bay, and Strangford Lough were visited, and either downloaded and redeployed or serviced. The downloaded data fed into the ongoing mapping of movements of tagged sea trout at sea and in river estuaries. Angling and travel restrictions were relaxed just in time for IFI staff to capture and tag of 30 salmon Smolts in the River Boyne between 11-18 May.<br>• C - Fish migration article produced by the T3 Salmonid team accepted by the journal: Fisheries Management and Ecology (published May 2020).<br>**MSS**<br>• Work continued largely to plan with some disruption as a result of COVID-19. Ship operations were put on hold in March 2020, but a reduced ships programme tentatively restarted, with ongoing constraints on shipboard operations. This has potential consequences for fieldwork activities in P16 and P17, in particular.<br>**MI**<br>• T1 - Sampling resumed with COVID-19 mitigation measures in place. Four sampling trips carried out. All sample analysis up to date for nutrients, dissolved oxygen and salinity.<br>**SAMS**<br>• Data analysis and modelling activities were largely unaffected during COVID restrictions. Lab-based and technical work was heavily impacted, however, and little progress was possible towards mooring deployments at Tiree and Creran due to COVID-19 restrictions.<br>**IFI**<br>• From April to June, AFBI and IFI staff maintained considerable project activity. Receivers which had been out over winter in Dundalk Bay Co Louth, Dundrum Bay Co Down, and Strangford Lough were visited, and either downloaded, re-powered and redeployed or taken back to AFBI or IFI Labs for service. The downloaded data fed into the ongoing mapping of movements of tagged sea trout at sea and in river estuaries.<br>• Angling and travel restrictions relaxed just in time for IFI staff to capture and tag of 30 salmon Smolts in the River Boyne.<br>• The first Journal publication from Compass T3 Salmonids was published in May by fisheries Management and Ecology, documenting the northward movement of Salmon smolts out of the Irish Sea in 2019. |
| 15 | 1st July 2020 - 30th September 2020 (From Partner Progress Reports) | **AFBI**<br>• M - David Murray left post his quarter.<br>• T1 - Limited activity resumed on the Research Vessel Corystes, with T1 activity supporting work on the Malin shelf in combination with T4 lander recoveries and Passive Acoustic survey.<br>• C - Summary communications were included COMPASS article in EU! magazine and Irish Whales and Dolphins Fluke magazine. |

### *5.4.2 Progress Towards the Project Output Indicators*

Discussion with the COMPASS project partnership indicates that, as of July 2020, the anticipated (approved) project outputs have, not been achieved albeit, it was not expected of the project at this stage in its implementation, as they have a 2023 delivery date.

**Table 5.4: Project |Output Indicators**

| Programme Output Code | Name of Output | Programme Output Indicator Target | COMPASS Project Target | Progress as of July 2020[77] |
|---|---|---|---|---|
| 2.211 | A network of buoys for regional seas, including telemetry and oceanographic monitoring (e.g. for seals, cetaceans and salmonids) | 1 | 1 | 0 |
| 2.212 | Models developed to support the conversation of habitats and species | 5 | 3 | 0 |

### *5.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the COMPASS project is, therefore, at July 2020[78], making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, this should be expected at this stage of the project's implementation (as they have a 2023 delivery date) and should not be considered a concern.

## 5.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the COMPASS project include the following:

- As a result of the pandemic:
  - Some project staff were furloughed, whilst other staff across the lead organisation, project partners and direct beneficiaries started working remotely. Discussion with SEUPB indicates that all project staff that had been furloughed had returned to work by August 2020;
  - COMPASS adapted their project activities by rescheduling fieldwork and moving meetings online. They already had a good volume of data to work on during lockdown and they stated that they may refer to different species than what was initially planned, which in the project lead's view may enhance the project's output;
  - The project lead indicated that their project partnership had implemented cooperative measures to enable a more joined-up project response and enable the individual project partners to better respond to the pandemic. Indeed, for the first 6 weeks, they carried out a weekly risk review to ensure partners were aware of any emerging risks. Subsequently, the project partners consider that they have a reasonable plan if another lockdown is implemented; and
  - AFBI conducted COVID-19 related testing as a direct response to the pandemic.

- Upon the easing of lockdown restrictions, the project was able to recommence some of the fieldwork that was temporarily on hold due to COVID-19 restrictions.
- Positively, the project partners have advised (at November 2020) that they consider the COMPASS project to be mostly on track with no substantial risk to the project fully achieving its aims and objectives.

[77] Source: Consultation with project lead (28/08/2020)
[78] Source: Consultation with project lead (28/08/2020)

- Indeed, the project lead suggested that:

  - It continues to be feasible to make up for the delays caused by COVID-19 and to deliver all of their project's planned activities within the original timeframe. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this is likely to again impact upon the project's ability to undertake fieldwork activities;
  - Nonetheless, the project lead is of the view that COVID-19 and/or the lockdown measures will not pose a threat to the expected results of their project, albeit noting that COVID-19 had altered some aspects of the work that they had planned to implement.
  - The project will be able to deliver its anticipated activities within its current budget. Furthermore, the project lead indicated that they will be able to reach their anticipated level of expenditure both by the end of 2020 and by the end of the anticipated project period;

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that their discussion with the COMPASS project partnership indicates that some flexibility may be required in terms of staffing and a possible project extension required. The following specific points were noted:

  - In relation to work package activity:

| Work Package | Risks Identified |
|---|---|
| Oceanography | • There has been some reduced vessel work, but all vessel work has recommenced with COVID restrictions in place.<br>• Nonetheless, the delays will have some impact on report deliverables. For example:<br>– There may be a break in the time series data from sensors that could not be maintained. It is likely that there will be data lost as sensors will go out of calibration or the sensor data will not have corresponding lab validation. This will limit the data set available for the final report and Scientific Publication (T1.5.3);<br>– The 2020 Glider mission was at risk as the autonomous vehicle was stuck in the USA awaiting service and repairs, but the companies were furloughed/locked down.<br>– Risks associated with delivery of equipment was anticipated to push full deployment of some moorings (38a) later into 2020. This risk applied to hardware being procured by SAMS and MSS.<br>– The Ocean Processes and Inter-calibration workshop was at risk. It was anticipated that this workshop would have to be re-scheduled for later in 2020 or early 2021.<br>– It was anticipated that there would be a delay in the 2020 sample analysis as DIC testing lab had not been operating, and 2020 nutrient samples had not been analysed. Albeit the project partnership considered that this issue would be cleared relatively easily once COVID restrictions were relaxed.<br>• As reflected above, some delays were experienced as equipment had been due for delivery during lockdown. However, most of the equipment has now either been delivered or is on its way. |
| Data Management | Data Management experienced some delays due to limited data collected/transfer from other tasks during COVID-19 restrictions, but they were still on target with the anticipated deliverables. |
| Salmonid Fish | There was a delay in the field work activities, but these recommenced quickly after lockdown and were meeting the anticipated deliverables. |
| Marine Mammals | Recorders had been deployed pre-COVID-19 and these were picked up following the first lockdown. The project team continued working on data analysis during lockdown. |

| Work Package | Risks Identified |
|---|---|
| Modelling | Due to the nature of the modelling work this task was not significantly affected by COVID-19 restrictions. Management and communication tasks continued during lockdown with staff working from home and meetings held by teleconference were possible. |

- The project partnership would welcome some leeway with deadlines, particularly in relation to claims, with it noted that as a consequence of additional administration activity as a result of COVID, and the fact that most staff were working from home, co-ordinating project claims had become more complex.
- A short project extension (circa three months) may be required, which the project partnership would confirm in early 2021.

# 6. SWIM - SYSTEM FOR BATHING WATER QUALITY MONITORING

## 6.1 Introduction

This section of the report considers the System for bathing Water quality Modelling (SWIM) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 2 – Manage Marine Protected Areas and Species.

## 6.2 Project Overview

Achieving and maintaining high-quality marine water standards is required under stringent EU environmental legislation such as the Bathing Water Directive (2006/7/EC), Shellfish Waters Directive (2006/113/EC) and Water Framework Directive (2000/60/EC). Relevant authorities in Ireland and Northern Ireland, namely local authorities and DAERA respectively, are charged with implementing the Bathing Water Directive (2006/7/EC).

To ensure effective and efficient implementation of these directives, water resource managers need to know the water quality to take appropriate mitigating actions for social and ecological benefits in the event of pollution. This is particularly so for the Bathing Water Directive, where water quality is defined in terms of Escherichia coli and intestinal enterococci (IE) concentrations as percentile limit values.

Furthermore, the health authorities in both jurisdictions have introduced regulations requiring a public warning against bathing to be issued for bathing water when microbial levels exceed certain values. These regulations are reactive and do not need prediction, but communication with the public is central to their implementation.

To this end, the SWIM project – which is led by University College Dublin (UCD) and involves the Agri-Food and Biosciences Institute (AFBI) and Keep Northern Ireland Beautiful (KNIB) as funded partners – aims to enable short-term pollution to be predicted through the development of a bathing water quality prediction model. The central concept of the SWIM project, 'predict and protect', has been established as part of bathing water regulations throughout the EU.

The SWIM project partnership intends to:

- Acquire all pre-existing available bathing water microbial water quality.
- Determine sources of, and acquire, all available retrospective relevant environmental data.
- Determine which bathing waters had less than 'Excellent' classifications (category 1).
- Determine which had one or more sample results that exceeded 'Sufficient' standard values (category 2).
- Operate the Discard Model[79] for categories 1 and 2.
- Validate successful model performance.
- Develop multivariate and other models where the Discard Model has not been successfully validated.
- Investigate short-term pollution sources using microbial source tracking.
- Obtain additional information relevant to model failure from beach profiles and local sources.
- Implement the necessary software to reliably collect, conflate and route and store disparate data within the spatiotemporal domain from a variety of data streams.
- Design and produce electronic signage and associated software to deliver message alerts and set up a text alert, social media and web page information systems.
- Set up a sustained public awareness campaign and solicit citizen engagement.

The SWIM project partnership intends to test and monitor nine bathing waters, six in Northern Ireland and three in Ireland.

[79] Which is an Excel model that is already operational in Ireland.

It is proposed that the public will then be informed about water quality through a series of media channels, including:

- Automatic localised text alerts.
- Social media channels e.g. Facebook and Twitter.
- Real-time alert services using electronic signage installed strategically at beach entrance points. As part of the project, it is proposed that electronic signage will be installed at beaches where effective predictive modelling has been achieved. Each sign will be uniquely addressable via the internet (IPv6), enabling individual, real-time text messages to be sent to individual sign(s). Each sign will be solar-powered, avoiding the necessity for costly electricity supply and wired telecommunications networks.
- Web page updates - A SWIM project webpage will be added to UCD's website, which will update visitors on the progress of the project. The other project partners will also develop webpages, which will link to UCD's web site to provide the latest project updates. It is proposed that a dedicated beach information website will be developed and hosted by KNIB, which will provide detailed information on Northern Ireland bathing waters including daily alerts on, for example, whether bathing is advised. Information on any beach awards e.g. Blue Flags will also be included. For beaches in Ireland, daily alerts on whether bathing is advised will be added to the relevant Council website.

In addition, it is anticipated that text alerts and social media channels will use geofencing to alert citizens using GPS when they move to within a certain proximity of a given beach, advising them of bathing water quality (NB: they may also receive public advice on traffic/weather conditions, parking availability and surf conditions). It is proposed that such content will be personalised, thereby only delivering content when required and relevant to an individual's or family's needs.

The project objectives are to achieve:

- The development of bathing water quality prediction models. These will tie directly into software infrastructure to support the collection of data and delivery of information to the public.
- Water sampling and microbial source tracking. The methods and technology will be adapted and refined to uniquely suit the chosen sampling sites.
- Public engagement campaigns and local programmes for bathing waters aimed at promoting good management, environmental standards and sustainability for beaches.
- Installation and maintenance of beachfront real-time signage and infrastructure related to prediction modelling.

The SWIM project partnership anticipates that the predictive capability and public communication outcomes of the project will help to serve the needs of both the local authorities and public health agencies in both jurisdictions, as benefits will be delivered to local and visiting bathing water users. In doing so, it is anticipated that this will improve communication to members of the public and will help to:

- Protect public health by ensuring that bathers are warned and protected from adverse health effects;
- Contribute to promoting tourism;
- Mitigate against economic losses incurred by a reduction in amenity attractiveness (e.g. loss of Blue Flag status).

The following seven work packages have been developed:

| **Table 6.1: Summary of SWIM Project Work Packages (Per Progress Reports)** |
|---|
| 1. Management |
| 2. Establishment of Data Inventory |
| 3. Develop Bathing Water Quality Prediction Models |
| 4. Equipment Infrastructure Deployment |
| 5. Software Infrastructure |
| 6. Validation of the Bathing Water Quality Prediction Model |
| **7.** Communication |

## 6.3 Project Budget to December 2020

The SWIM project received a Letter of Offer (dated 14th June 2017 April 2020) offering a grant of up to a maximum of €1,048,906.90 (ERDF + Government Match Funding) to be expended and claimed by 30th June 2020, towards total anticipated project costs of €1,108,358.05.

In April 2020, the SEUPB issued a revised Letter of Offer approving a 6-month project extension to 31st December 2020 and corresponding additional funding offering a grant of up to a maximum of €1,318,151.73 (ERDF + Government Match Funding) to be expended and claimed by 31st December 2020, towards total anticipated project costs of €1,393,074.60. As of December 2020, the project had reported total estimated expenditure of €1,242,052equivalent to 89% of the total project budget. The original projected spend for the same period estimated that 96% of the total project budget would be incurred at this time.

**Table 6.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to June 2020 Per Project Progress Report[80] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[81] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 847,340 | 700,652 | 756,926 | 19,314 | **776,241** | 92% |
| Office and Administration Costs | 127,101 | 104,166 | 112,607 | 2,876 | **115,483** | 91% |
| External Expertise and Services | 53,109 | 38,878 | 42,128 | - | **42,128** | 79% |
| Travel and Accommodation Costs | 41,869 | 29,155 | 29,155 | 276 | **29,431** | 70% |
| Equipment Costs | 323,656 | 134,591 | 277,655 | 1,114 | **278,769** | 86% |
| **Total** | **1,393,075** | **1,007,443** | **1,218,471** | **23,581** | **1,242,052** | **89%** |
| **Original projected spend level[82]** | | | | | **1,338,912** | **96%** |

[80] Source: Project Progress Report 14 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.
[81] Source: SEUPB's EMS 14th December 2020.
[82] Source: SEUPB's EMS 14th December 2020

## 6.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the SWIM project's key achievements and the extent to which the SWIM project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *6.4.1 Key Achievements (to November 2020)*

At November 2020, the SWIM project was progressing well and was approaching its final months with an anticipated project end date of 31 December 2020. Of note, the project manager took up a new post following the Project Advisory Group meeting on the 15 October 2020. It was anticipated that her duties would be fulfilled by existing staff.

The project had received an extension to allow additional time to gather poor weather samples during the 2020 bathing season. These had recently (at November 2020) been completed in the more remote Sligo and Donegal beaches, with more data gathered than had been expected. This will now be incorporated into the scientific models. Once the models are completed, they will require Departmental approval that they are of a high enough standard to be used.

Additional signage that had been purchased during 2020 had been delivered to each of the relevant councils. Whilst, in some areas the signs had not yet been erected due to non-project council staff being furloughed, it was anticipated that this would be completed in the near future. Evidence that all signs have been erected will be provided and verified. Meetings between UCD and AFBI are also ongoing to ensure the models and data can be used in planned legacy projects.

The SWIM project partners cite, within their progress reports, the project's key achievements (between January 2019 and September 2020) as being:[83]

**Table 6.3 Key Achievements**

| Period | Dates | Key Achievements/Points of Note |
|---|---|---|
| 9 | 1st January 2019 - 31st March 2019 | • UCD ensured that the final SWIM weather station was installed in Enniscrone, Co. Sligo and organised a visit to two of the SWIM primary schools.<br>• Daniel Hawtree developed a version one of the Decision Tree models for each of the nine SWIM sites. Bat Masterson developed his 'Discounting Threshold Optimiser' model for each of the nine beaches. Levent Görgü undertook extensive work to get the SWIM models running on the server and prepared a SWIM API so that the predictions can be delivered to the public.<br>• Dr Elaine Mitchell was offered and accepted the SWIM AFBI HSO post. AFBI carried out sampling on both the SWIM bathing waters and associated rivers.<br>• The company "Scaffold Digital" was awarded the tender to develop the SWIM app. |
| 10 | 1st April 2019 - 30th June 2019 | • The UCD team attended the 2019 Blue Flag Beaches and Marinas Awards and presented the SWIM project at this event. This was also SWIM's Go-Live event.<br>• At KNIB, Emma Johnston replaced Debra Castles as the SWIM Communications Officer.<br>• The UCD team consulted with Alpha View in April 2019 and this company was awarded the tender to supply the electronic signs for the project. The order was placed in early May. Each of the nine SWIM beaches were to have a sign installed.<br>• Significant progress was made on the model development in UCD. Several new model versions were developed and tested by Daniel Hawtree. Bat Masterson |

[83] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 14 (April – June 2020) albeit it was in progress.

| Table 6.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | finalised individual Excel workbooks for the nine SWIM beaches. All data collected by AFBI, including bathing water and associated river microbiology, rainfall, river level and tidal data was given to the UCD modellers.<br>• UCD worked closely with KNIB on the development of the SWIM app and advised Scaffold Digital on the requirements.<br>• AFBI continued its work by securing additional data sources, historical and live feed rain radar data. |
| 11 | 1st July 2019 - 31st September 2019 | • A new server for the SWIM project was installed at UCD and all of SWIM's databases and models were moved and installed on the new server.<br>• The mobile app, signage, and bathing water quality updates on the website went live during this period. UCD worked with KNIB on the press releases for the launch of the SWIM app and the roll-out of the electronic signage at the beaches. Both press releases were very good publicity for the project. KNIB received excellent feedback on the app from local sea swimming groups and other bathing water users.<br>• UCD delivered the nine electronic signs to the Councils for the SWIM beaches. All these signs were installed at the sites in July and August and UCD began sending information to some of these signs in early August.<br>• UCD carried out intensive water sampling over 12-hour periods at the three ROI sites: The primary focus of AFBI's work during this reporting period was the collection of reactive samples during significant rainfall events over the 2019 bathing season.<br>• Data collected from the intensive sampling carried out by the UCD team was added into the SWIM database for use in model training and testing.<br>• In September 2019 UCD as a lead partner was awarded €150,000 from SEUPB to purchase additional electronic signage for all the SWIM beaches. |
| 12 | 1st October 2019 - 31st December 2019 | • A request was submitted to SEUPB for an extension of SWIM by six months from 1st July - 31st December 2020.<br>• As the project was successful in securing an additional €150,000 after liaising with the councils, it was agreed that an additional 22 electronic signs would be procured.<br>• The SWIM modelling approach was presented at Bathing Waters Conference 2019 Belfast and a poster describing the objectives and activities of the SWIM project was on display throughout the conference. The SWIM project was also presented at the "Better Beaches Forum." |
| 13 | 1st January 2020 - 31st March 2020 | **AFBI**<br>• An unavoidable impact of the SWIM project extension was stalling of the Legacy aspects of the DAERA WQPMIDS project, in addition, the possible impacts of COVID-19 on both projects resulted in a project change control request being submitted to DAERA, delaying the adoption of the SWIM project and extending the DAERA project for a further 9 months to December 2023.<br>• The AFBI SWIM team purchased a licence for the Admiralty Total Tide software for providing tidal datasets for each NI SWIM site and this data was shared with the UCD modelling team. In addition, the Hyrad Rain Radar Live feed data source was secured by AFBI.<br>• A replacement NC RLS1 was deployed on the Burren river at a location adjacent to the previous instrumentation.<br>• A sampling strategy meeting for the 2020 bathing season was convened at UCD with Prof Wim Meijers on the 21st February 2020 to discuss and agree on the most productive and useful sampling bathing water sampling strategy for the 2020 bathing season. However, these plans were subsequently reviewed as a consequence of the COVID-19 outbreak.<br>**UCD**<br>• Request for an extension of the SWIM project by six months was approved by the INTERREG IVa Steering Committee.<br>• Contracts for UCD SWIM staff expiring at the end of this period were extended until the end of 2020.<br>• Alpha View was awarded the tender for additional electronic signage.<br>• Dr Rosemarie Gannon organised a Beach Workshop on the East Strand in Portrush. A local sea swim group and two local primary schools were invited to attend this |

| Table 6.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | event. Video recording was done at this event as part of a promotional video for the project. |
| 14 | 1st April 2020 - 30th June 2020 (In Progress) | **UCD**<br>• SWIM's project manager worked closely with Alpha View to ensure that all of the 22 new signs were built and tested and delivered to all of the councils by the end of May 2020 despite the COVID-19 restrictions.<br>• The promotional video for SWIM was completed and launched in April 2020.<br>**AFBI**<br>• The AFBI team provided environmental water microbiological data relating to the 2020 bathing season to support the development and contribute to the validation of the SWIM bathing water quality predictive models being developed by UCD.<br>**KNIB**<br>• Jamie Miller officially took over the role of Local Environmental Quality Manager for KNIB and therefore joined the SWIM Project. During this period KNIB had to adapt to operational change due to COVID-19. KNIB offices were closed and home working procedures were established.<br>• A number of KNIB's planned activities for the extension period were identified as no longer feasible (i.e. beach engagement sessions) due to travel restrictions and social distancing requirements. As a result, Jamie, with support from Emma and Gill, prepared an alternative strategy for the communications activities.<br>• During the period Emma Johnson moved on from her role as SWIM Project officer. KNIB undertook a recruitment process and after interviewing 11 shortlisted candidates appointed Gill McNeill. |
| 15 | 1st July 2020 – 30th September 2020 (From Partner Progress Reports, in progress) | **UCD**<br>• The PM liaised with SEUPB to secure approval for the production of four animated videos for the project. KNIB worked with an external company to produce the first animation and the PM completed a budget modification for KNIB on the eMS system.<br>• The UCD modelling team produced a paper called "Optimising Water Quality Predictions for the SWIM Bathing Waters". This paper recommended an approach that the Local Authorities and DAERA may use to fine-tune the model performance for each of the SWIM bathing waters. The paper was circulated to EPA and DAERA.<br>**KNIB**<br>• KNIB produced a range of alternative comms to promote the project in the absence of the planned activities at beaches which were cancelled due to COVID-19. Namely, these were the "stories from the beach," short article series and a short promotional video was completed. |

### *6.4.2 Progress Towards the Project Output Indicators*

Discussion with the SWIM project partnership indicates that, as of July 2020, the anticipated (approved) project outputs have not been achieved albeit, it was not expected of the project at this stage in its implementation, as they have a 2023 delivery date.

| Table 6.3 Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **SWIM Project Target** | **Status (as of July 2020)[84]** |
| 2.214 | System for the prediction of bathing water quality and install real-time signage | 1 | 1 | 0 |

[84] Source: Consultation with project lead (04/09/2020).

In addition, as of June 2020, the project partners had engaged with 4 members of the general public.

| Table 6.4: Performance against Target Groups Reached (as of June 2020)[85] | | | |
|---|---|---|---|
| **Target Group** | **Target** | **Achieved** | **% Achieved** |
| General Public | 0 | 4 | - |

### *6.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the SWIM project is, therefore, at July 2020, making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, this should be expected at this stage of the project's implementation (as they have a 2023 delivery date) and should not be considered a concern.

## 6.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the SWIM project include the following:

- Despite the restrictions associated with the COVID-19 (leading to project staff working remotely), the SWIM project partnership was of the view that their project was on track with no substantial risk to the project fully achieving its aims and objectives. The project lead suggested that the project had faced very little delay as a result of COVID-19 and that it was feasible to deliver all of their project's planned activities within the original timeframe (i.e. by December 2020). Of note:
  - The project partnership implemented cooperative measures to enable a more joined-up project response and enable the individual project partners to better respond to the pandemic by ensuring continued communication relating to the publicity aspects of the project;
  - AFBI and UCD conducted testing as a direct response to the COVID-19 pandemic.
  - Onsite sampling was conducted successfully towards the end of the summer in both Sligo and Donegal with sufficient levels of rain to provide poor weather samples. It is considered that this should be enough to bring the model up to an appropriate standard.
  - The other beaches had been successfully sampled on an ongoing basis as they were close enough to partners' bases to avoid having to book accommodation for a period of time.
  - Otherwise, preparations for the end of project event have continued with a focus on online legacy promotions to avoid COVID-19 restrictions e.g. the project's closing event was moved online.
  - However, KNIB sought amendment to alter its on-beach engagement activities. Instead of going out to seafronts to promote the signage network and app (with associated purchase of banners and promotional flyers etc) they intend to have animated videos produced. Discussion with SEUPB indicates that this amendment was approved.
  - A request was also made to extend AFBI staff contracts to December to cover displaced activities. Again, discussion with SEUPB indicates that this amendment was approved.
- However, the SWIM project lead was of the view that COVID-19 posed two potential minor risks. In terms of beach sampling, in NI there was less sampling carried out than anticipated and in ROI sampling was delayed by a month due to restrictions. The second risk is that the erection of electronic signage may be delayed due to the furloughing of council staff, although it was not anticipated that this would affect the project's outputs;
- The SWIM project partnership consider that they will be able to deliver the project within its current budget.

[85] Source: Project Progress Report 14 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.

# 7. MARPAMM - MARINE PROTECTED AREAS MANAGEMENT AND MONITORING

## 7.1 Introduction

This section of the report considers the Marine Protected Areas Management and Monitoring (MarPAMM) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 2 – Manage Marine Protected Areas and Species.

## 7.2 Project Overview

Marine ecosystems are experiencing an unprecedented loss of biodiversity and species due to the large-scale and far-reaching effects of human activities, including commercial fishing, shipping, aquaculture, oil and gas exploration and a rapidly developing marine renewable energy sector. For example:[86]

- 38% of the UK's marine habitats protected by SACs are in unfavourable (or 'bad') condition;
- 75% of marine invertebrate species have declined over the long term; and
- Seabird populations in the eligible area have declined over the last 30 years e.g. 12 species of breeding seabirds in Scotland declined by 50% between 1986 and 2015. These declines have been attributed to invasive non-native species colonisation of breeding colonies, reduction in prey availability and climate change.

Due to jurisdictional boundaries, the waters adjacent to Northern Ireland, Scotland and Ireland (and the MPAs that they contain) are often viewed as separate stretches of water adjacent to the individual countries rather than as an interconnected sea area. This presents a challenge in managing sites effectively, where pressures from waters within adjacent jurisdictions (e.g. changing water temperature, ocean acidification, sea-level rise etc.) can have an impact on MPAs.

While MPAs may be geographically isolated, the marine environment is fluid. Organisms, nutrients and water bodies are transported on local, regional and oceanic scales. Furthermore, many protected species are either mobile (e.g. marine birds, marine mammals) or have pelagic life stages which leaves them vulnerable to pressures outside of protected areas.

The above challenges need to be understood and managed strategically to ensure adaptation and resilience of the MPA network. All jurisdictions in the eligible region are committed to developing a well-managed, ecologically coherent network of MPAs. Whilst much progress has been made in site designations and in the setting of conservation objectives, many sites have no management plans or have one which is out of date. This means that they may not reflect current pressures and risks.

There is little resource available within the cross-border region to update existing plans or produce new plans, which consequently means that the timescales associated with implementing management plans are uncertain. There is also no existing mechanism for the production of cross-border MPA plans, and there is no process for collaborating on management plans for the many MPAs that are ecologically related. Resource limitations mean MPA management is reactive, often focusing on localised issues and may not lead to the best MPA management outcomes. Locations can suffer damage before formal, and sudden, action is taken, which can also alienate users of MPAs.

Given that all the MPAs in the programme's eligible area are connected by the wide habitat use of mobile species (e.g. seabirds, cetaceans and seals) and pelagic life stages of benthic species (e.g. horse mussels), effective management requires knowledge of such connectivity and the cumulative pressures from a regional and cross-border context.

To this end, the MarPAMM project aims to address the need for cross-border MPA management plans across the eligible region, through a focus on both the information requirements for plan development (to be fulfilled by the development of models for species and habitats of conservation importance) and on plan preparation and implementation through collaboration with stakeholders.

[86] Source: Stage 2 Application Form/Business Plan.

The MarPAMM project partnership is led by the Agri-Food and Biosciences Institute (AFBI) and is made up of Marine Scotland Science (MSS), Scottish Natural Heritage (SNH), the Scottish Association for Marine Science (SAMS), BirdWatch Ireland (BWI), Ulster University (UU) and University College Cork (UCC).

The overarching objective of the MarPAMM project is to increase cross-border capacity for the monitoring and management of marine protected areas and species.

The MarPAMM project partnership intends to deliver four models designed to support the conservation of habitats and species that underpin MPA designations within the eligible region. Details of the four models are outlined below:

1. **Seabird monitoring and modelling:** this will provide information on how protected marine bird species or populations within the INTERREG VA eligible region may be impacted by key pressures, including the interaction with fisheries. The impact of future climate change scenarios on key seabird species will also be modelled.
2. **Benthic (seabed-dwelling) habitat mapping and modelling:** this will seek to understand the distribution and connectivity of key habitats and species of conservation value throughout the INTERREG VA eligible region, improving methods for habitat extent and condition monitoring, and identifying key habitats and areas for species of conservation importance. This model will provide vital baseline data required for the marine management plans' development through improving the information available on the eligible area's subtidal MPA network.
3. **Marine mammals modelling:** this will provide information on the foraging areas of harbour seals for improved regional management of MPAs with seals as designated features.
4. **Coastal processes modelling:** this will seek to understand the coastal processes operating along the County Down and County Louth coasts to enable long-term planning decisions to underpin the development of cross-border Marine Management Plans for the MPAs.

These models (alongside existing datasets and the models anticipated to be produced as part of the COMPASS project, as per Section 5) will provide the sound scientific evidence base required for marine management plan development for MPAs.

It is anticipated that six MPA marine management plans (MMP) (2 site-specific and 4 regional) will be delivered by the project, using a cross-border, collaborative focus and extensive stakeholder engagement:

| | |
|---|---|
| **Site-Specific MMP** | 1. Murlough Special Area of Conservation (SAC), County Down, Northern Ireland<br>2. Carlingford Lough Special Protection Areas (2 adjacent cross-border sites – Ireland and Northern Ireland) |
| **Regional MMP** | 3. Outer Hebrides region, Scotland<br>4. Argyll region, Scotland<br>5. North Coast Ireland – North Channel (cross-border – Ireland and Northern Ireland)<br>6. County Down – County Louth (cross-border – Ireland and Northern Ireland) |

The MarPAMM project partnership proposed that all MPA MMPs will follow the most up-to-date recommended best practice for the management of MPAs, including, for example, the Convention for the Protection of the Marine Environment of the NE Atlantic (OSPAR) Guidelines for Management of Marine Protected Areas.

It is anticipated that targeted stakeholder engagement will play a crucial role in the development of all the MMPs and the promotion of their adoption. It is proposed that the following will benefit from the production of MPA management plans:

- **Key stakeholders (e.g. coastal communities, fishing industry, recreational interests etc.)** will have the opportunity to feed into and shape the management of MPAs. They will also have the opportunity to feed their aspirations for MPAs into the process to produce a collective vision and identify benefits from the MPAs.
- **Government advisers and decision-makers** will be able to use the MPA management plans to support wider discussions on marine management e.g. through marine spatial planning. The plans will make it easier to integrate MPAs with other key marine policy areas.
- **Conservation/MPA practitioners** will learn lessons from the regional MPA management plans, which will help inform future conservation practice.

The MarPAMM project's outputs will be delivered through a series of co-designed work packages, with a separate work package for each model, and a further work package for development and implementation of the MPA management plans. Work package leads are distributed across the partnership, based on partner expertise, and each work package has a number of partners contributing to it from across the eligible region.

The following seven work packages have been developed:

| **Table 7.1: Summary of MarPAMM Project Work Package (Per Progress Reports)** |
|---|
| 1. Management |
| 2. Seabird modelling |
| 3. Benthic habitat mapping and modelling |
| 4. Marine Mammal modelling |
| 5. Coastal Processes |
| 6. MPA management plans |
| 7. Communication |

## 7.3 Project Budget to December 2020

The MarPAMM project received a Letter of Offer (dated 5th July 2018) offering a grant of up to a maximum of €5,993,173.51 (ERDF + Government Match Funding) to be expended and claimed by 31st March 2022, towards total anticipated project costs of €6,361,317.45

In July 2020, the SEUPB approved the reallocation of budget between categories, as shown in Table 7.2. As of December 2020, the project had reported total estimated expenditure of €2,588,660equivalent to 41% of the total project budget. The original projected spend for the same period estimated that 65% of the total project budget would be incurred at this time.

**Table 7.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to June 2020 Per Project Progress Report[87] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[88] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 3,634,080 | 1,166,544 | 1,372,629 | 221,164 | **1,593,793** | 44% |
| Office and Administration Costs | 545,111 | 175,705 | 206,618 | 33,175 | **239,792** | 44% |
| External Expertise and Services | 1,494,827 | 319,003 | 333,279 | 60,540 | **393,819** | 26% |
| Travel and Accommodation Costs | 327,994 | 87,460 | 94,960 | 7,008 | **101,968** | 31% |
| Equipment Costs | 359,304 | 208,978 | 257,376 | 1,912 | **259,288** | 72% |
| **Total** | **6,361,317** | **1,957,690** | **2,264,861** | **323,799** | **2,588,660** | **41%** |
| **Original projected spend level[89]** | | | | | **4,144,696** | **65%** |

[87] Source: Project Progress Report 10 – 'Total reported'. This was the most recently available collated project progress report.
[88] Source: SEUPB's EMS 14th December 2020
[89] Source: SEUPB's EMS 14th December 2020

## 7.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the MarPAMM project's key achievements and the extent to which the MarPAMM project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *7.4.1 Key Achievements (to November 2020)*

At November 2020, the MarPAMM project team was continuing to work remotely in the majority of cases. However, some important fieldwork had resumed in those areas that have been assessed as low risk and compliant with governmental policy. In addition, the project partners had procured contracts to allow aerial surveys to be completed during 2021.

However, due to COVID-19 restrictions, most of the fieldwork planned in relation to the bird surveys that were due to take place at the height of first period of lockdown had not been completed. It was anticipated that this work would be rolled forward into the spring / early summer of 2021. Nonetheless, this comes with an associated risk of the potential impact of bad weather affecting the time available to complete the work necessary for this area of work, and indeed the impact of COVID-related restrictions in early 2021. It is anticipated that this will lead to a request for a project extension in case an additional survey season is required. It is understood that SEUPB is working closely with the project on this matter.

The Project Manager had been working closely with the teams of SeaMonitor and COMPASS on arranging and organising some 'synergy' webinars which were planned for late November 2020. Bi-weekly meetings were taking place on the lead up to the webinars. Synergy communications strategies were also in place with planned sister project articles and press releases scheduled for October 2020. On a practical level, MarPAMM and COMPASS moorings have been picking up salmonids tagged by SeaMonitor in the North Sea. This is a positive outworking of the collaboration between the three projects as all three projects have benefitted from each other's data collection activities.

The climate change model was subcontracted to the British Trust for Ornithology (BTO) and it was anticipated that the delivery of this output would be completed in line with the agreed deliverable timeline.

Data collection cruises for habitat and species modelling took place in July and a previously cancelled Autonomous Underwater vehicle/AUV cruise was re-scheduled for October 2020. A cruise collecting data on sandeel habitat distribution was carried out during September in the Irish Sea. Other cruises have been rescheduled for 2021.

Desktop work on the scientific model continues remotely, but delays in recruitment, extended sick leave of a staff member and loss of time on ship for data collection will feed into any request for a project extension.

Moorings deployed pre lockdown were unable to be reached until recent months which has led to a delay in data collection. All but one mooring has been recovered, and work now begins on data recovery, cleaning and analysis for modelling.

There has been collaboration requests with the JONAS project (an INTERREG Atlantic project) which is working on mapping underwater noise and related impacts on marine mammals. A contract between Sea Mammals Research Unit/SMRU and UCC has seen the completion of a complex seal distribution map in relation to underwater noise in the Ireland region of the MarPAMM area. This will be linked to the MSS map for the Scotland/Northern Ireland areas. Data acquisition and subsequent modelling development and testing will feed into any request for a project extension.

Monthly survey work on Dundrum Bay has now resumed. AFBI has procured satellite derived bathymetry under SEUPB approval to assist filling in the data gap identified in the shallow bathymetry model. Permission has been granted by NIEA to install a time lapse camera at Murlough Bay and the logistics of this were being worked through. It is anticipated that this will provide excellent footage for project dissemination.

Some issues arose and are in the process of being addressed with the project partner, Bird Watch Ireland and implementation is paused until this is resolved. The lead partner and SEUPB are working on this as a matter of priority.

The MarPAMM project partners cite, within their progress reports, the project's key achievements (between October 2018 and September 2020) as being:[90]

**Table 7.3 Key Achievements**

| Period | Dates | Key Achievements/Points of Note |
|---|---|---|
| 4 | 1st October 2018 - 31st December 2018 | • The success of the Project Launch was the main objective for AFBI and SAMS during this period. This platform facilitated an opportunity to have a public engagement which all partners utilised via project launch and social media. Other achievements included undertaking the first steering group meeting with key actions and ongoing data collection for T4 |
| 5 | 1st January 2019 – 31st March 2019 | • During this period the Management work package was progressed with AFBI (Lead Partner) hosting the first Steering group meeting and carrying out guidance meetings with two project partners (SAMS and UCC), giving training in procurement protocols from the program rules and documentation necessary for eligible claims. In T1, BWI underwent a recruitment process for the Project Manager position as well as two field workers to carry out bird survey work and update the survey report from 2018.<br>• In T2, AFBI and SAMS worked on organising a benthic mapping cruise during and continued collecting data for habitat modelling. An AUV workshop was held in SAMS and a T2 workshop was held in AFBI which identified priority species for the work package.<br>• In T3, AFBI procured acoustic recorders and releases to be deployed later in the year. UCC began a literature review on noise impacts on harbour and grey seals at sea.<br>• In T4, UU set up regular intertidal survey work on the North Antrim coast and began an intensive compiling of datasets.<br>• In T5, AFBI tendered for a Stakeholder engagement officer.<br>• In Communications, SAMS and AFBI continued on the website and eZine, creating publicity banners and leaflets. SAMS took film footage during T2 workshop for project promotion on BBC Scotland online. SNH hired staff for the T5 WP. |
| 6 | 1st April 2019 - 30th June 2019 | • The first MarPAMM Advisory committee meeting was hosted, where the TOR was amended.<br>• The PMO finalised the legal agreement between AFBI and BWI for their requested Cash advance and also completed the project-wide modification which was accepted on eMS.<br>• Comms released the first eZine.<br>• A T1/T3 workshop was hosted, looking at the best use of VMS/AIS data and assessing preliminary distribution mapping of seabirds in the MarPAMM region.<br>• A T2 cruise in April set off from Galway involving all partners in this work package, looking at MarPAMM sites in the Malin Sea.<br>• In T5, a best practise workshop was hosted in Glasgow by SNH. |

[90] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 10 (April – June 2020).

| Table 7.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 7 | 1st July 2019 - 30th September 2019 | • PMO posts were interviewed, with Naomi Wilson accepting the post as PM and Stuart Gillanders as PA.<br>• T1 – Bird survey work and climate change model procurement began.<br>• T2 – AFBI produced first outputs from the horse mussel model, with future enhancement planned. Baited cameras were deployed around Skerries. AFBI and SNH presented posters at ICES conference. SNH carried out survey work around Kintyre, producing new records of target model species and habitat. UU obtained laser scanner data to begin the exploratory analysis, continued work on molecular analysis, and were processing benthic image data from cruise CE19007 with AFBI and SAMS. SAMS prepared Digital Elevation Models (DEMs) for 3 main survey areas. UCC participated in the Dowindy marine survey to improve data acquisition skills for T2.<br>• T3 – UCC continued literature review and presented at the British Ecological Society meeting in Sheffield.<br>• T4 – UU completed the desktop study, continued monthly intertidal survey work, and coastline drone survey.<br>• T5 – BWI, and AFBI awarded the posts of Policy officer to Justin Judge and Jay Calvert.<br>• Comms – SAMS carried out outreach events and school workshops in Scotland and NI and produced the first eZine in association with sister projects. |
| 8 | 1st October 2019 - 31st December 2019 | • Held 2-day annual conference in Edinburgh.<br>• T1 –AFBI and MSS awarded bird tenders for Scottish and Northern Ireland/NI bird surveys and a climate change model, UCC worked on VMS data for seabird-fisheries interactions and collected tracking data on Herring Gull and Great Skua.<br>• In T2, UU continued work on flame shell molecular work and eDNA extraction, AFBI worked on a horse mussel abundance model and SAMS processed Digital Elevation Models/DEM from a previous cruise and repaired the Autonomous Underwater Vehicle/AUV for upcoming cruises.<br>• A T2/T3 cruise was carried out in November, deploying acoustic devices and baited traps.<br>• T3 – progress made on noise recording analysis (AFBI).<br>• T4 – drone survey on Dundrum Bay is almost complete, with gaps in coverage being identified.<br>• T5 – A stakeholder engagement workshop was held in AFBI to identify key stakeholder groups in two regions in Northern Ireland/Ireland. |
| 9 | 1st January 2020 - 31st March 2020 | • Alex Callaway joined the project as T2 Lead/ Project coordinator in February.<br>• With the initiation of COVID-19 lockdown mid-March, the PM and PC worked with Project staff and WP Leads on assessing the impact of COVID-19 on the progress of project deliverables, identifying mitigation measures, and implementing ways of working where feasible. All project partners started remote working in Mid-March, which required more coordination and communication between PMO and project staff to minimise the impact of COVID-19 on project management and work.<br>• T1 subcontracted bird survey work began with steering groups and VMS/AIS data work progressed.<br>• T2 cruise schedule was finalised in January including AUV cruise. This was cancelled due to COVID-19 and was to be rescheduled.<br>• T5 policy officer staff post in AFBI was filled by agency staff who worked with BWI T5 officer and contracted stakeholder company TCIe on ROI/NI cross border meeting with government agencies and creation of 2 stakeholder groups in Ireland.<br>• Comms worked on a draft Crisis Comms plan which was sent to WP Lead for comments. Preparation on exhibits and displays was postponed with the advent of COVID-19. PM and Comms staff worked with COMPASS and Sea Monitor in writing a joint article for the Ocean Challenge journal. |

| Table 7.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 10 | 1st April 2020 - 30th June 2020 | • Relaxation of COVID restrictions permitted small scale fieldwork and cruises in this period.<br>• T1 - The impact of COVID on T1 was significant, causing a loss of seasonal fieldwork. This has been rescheduled to 2021. However, some small-scale fieldwork was carried out by BWI in Donegal.<br>• T2/T3 - Cruise work compliant with COVID restrictions commenced in June, with the remainder either rescheduled to autumn 2020 (SAMS, AFBI) or moved to 2021 (UCC, NatureScot). Preliminary results were generated in the species distribution models (AFBI). Staff illness in UU has been mitigated by utilisation of a PhD student (approved by SEUPB).<br>• T3 - progress included the completion of the seal distribution model (UCC) and the retrieval of data loggers attached to moorings deployed pre COVID (MSS, AFBI).<br>• T4 – A time-lapse camera was installed in Murlough Bay. |
| 11 | 1st July 2020 - 30th September 2020 (From Partner Progress Reports) | **SNH**<br>• T5 – Focused on carrying out a more detailed analysis of stakeholder views collected to date in the Outer Hebrides, developing a COVID-compliant engagement strategy and producing an MPA Story map.<br>**SAMS**<br>• T2 – A number of cruises were postponed to 2021 due to COVID restrictions. However, some surveys took place. Loch Carron flame shell beds survey was conducted in August and there are plans for the skate survey was planned for October. Ulster came over to Oban and successfully deployed Baited Remote Underwater vehicles.<br>**BWI**<br>• Work was undertaken in Co. Down and Donegal, where feasible but activities were heavily constrained by COVID-19 and financial constraints which did not enable equipment to be purchased in time to use. Consequently, the field time schedules were out of sync with breeding phenology.<br>• BWI retrieved 7 geolocators from Kittiwakes in the Irish Sea.<br>• Storm Petrel, large gull and Manx Shearwater ringing was conducted on Inishtrahull; and a breeding colony of Manx Shearwaters was established for the first time - establishing this population as the most northerly on the island of Ireland.<br>• The contracts of field project staff - Paul Whitelaw and Paul Baker - were not renewed after the end of August so the MarPAMM BWI team was reduced from 4 people to 2.<br>**UUC**<br>• Dr Gavin Arneil drafted a collaboration agreement and facilitated ongoing discussions between MarPAMM T3 and the Interreg-AA JONAS project to utilise complex noise propagation model outputs. |

### *7.4.2 Progress Towards the Project Output Indicators*

Discussion with the MarPAMM project partnership indicates that the anticipated (approved) project outputs have, as of September 2020, not been achieved albeit, it was not expected of the project at this stage in its implementation, as they have a 2023 delivery date.

The project lead noted that whilst a lot of underlying preparatory work has been carried out since COVID-19 restrictions eased, the reduction in the project's ability to conduct fieldwork will impact project progress.

| Table 7.4 Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **MarPAMM Project Target** | **Status (as of Sept 2020)[91]** |
| 2.212 | Models developed to support the conversation of habitats and species | 5 | 4 | 0 |
| 2.213 | Marine management plans for designated protected areas complete | 6 | 6 | 0 |

### *7.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the MarPAMM project is, therefore, at September 2020[92], making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, as reflected below, the project partners have raised some concern that their project may not fully deliver on its original aims and objectives as a result of factors associated with the pandemic.

## 7.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the MarPAMM project include the following:

- Despite the progress made (see Section 7.4), the restrictions associated with the COVID-19 meant that:
  - During the periods of lockdown, MarPAMM staff across the lead organisation, project partners and direct beneficiaries started working remotely as a result of the pandemic. No MarPAMM staff were furloughed.
  - It was not possible to undertake many aspects of fieldwork such as the monitoring and data collection of seabirds due to the lockdown restrictions and the seasonality of these activities;
  - The project adapted their project activities as a result of the pandemic, noting that they had to cancel and/or reschedule physical activities and instead completed desktop work on models;
  - Whilst some of the data collection cruises have been rescheduled for 2021, the ongoing uncertainty relating to the pandemic means that the project partners continue to be unsure if they will be able to go ahead.
  - Stakeholder engagement has been postponed. However, the project is looking at ways to use social media for some of it.
  - The physical annual meeting planned for the end of November 2020 was anticipated to be replaced by webinars.
  - The project partnership had implemented cooperative measures to enable a more joined-up project response and enable the individual project partners to better respond to the pandemic. They noted that if a partner from an institute was self-isolating and unable to work, they found someone else to take their place as they had increased availability of staff to work on the models. Furthermore, as a project, MarPAMM became more interactive and increased communication with sister projects Sea Monitor 2 and COMPASS; and
  - As a direct response to the pandemic, all project partners were placed on a list of emergency contacts. For example, Marine Scotland was on call if a pollution event occurred in the North Sea. AFBI helped with emergencies regarding farm animals and was also involved in COVID-19 testing.

[91] Source: Consultation with project lead (14/09/2020).
[92] Source: Consultation with project lead (14/09/2020).

- Consequently, discussion with the MarPAMM project indicates that:

  - The MarPAMM project is behind schedule, and potentially at risk of not achieving its aims and objectives. In particular, MarPAMM cited the lost season of fieldwork and monitoring, leading to their models not being fully developed, as a risk to the expected results of their project. However, the project lead noted that if they were granted an extension, they would be able to complete their monitoring;
  - It may no longer be feasible to deliver all of the project's planned activities within the original timeframe. Indeed, the project lead noted that even before the onset of the COVID restriction, the project had started later than had been originally anticipated.
  - The project will not be able to reach their anticipated level of expenditure by the end of 2020, anticipating a 20% underspend as a result of having to reschedule the chartering of ships to 2021 and the lack of travel meaning they may have to procure equipment again. However, the project considers that they will reach the anticipated level of expenditure by the end of the anticipated project period;
  - Given the points noted above, the project intends to ask SEUPB for a 6-month no-cost project extension.

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it has been working closely with the MarPAMM project partnership. The following specific points were noted:

  - In relation to work package activity:

| Work Package | Risks Identified |
|---|---|
| Seabird Modelling | Fieldwork for 2020 was cancelled. Some small scale terrestrial work was able to be carried out in Donegal, but at a limited capacity. A request to extend the project's end date will be made to allow time to complete the fieldwork. |
| Benthic Habitat Mapping & Modelling | A number of cruises planned for 2020 were cancelled. These are now planned now for 2021 (or late autumn 2020 if it is deemed suitable to be carried out in-line with compliance to social distancing requirements and COVID risk assessments). The inability to conduct lab work during lockdown and recent staff loss in UU has impacted eDNA molecular and grab sampling analyses. |
| Marine Mammal Modelling | Cruises relating to the deployment of acoustic devices, collating and analysing underwater noise recordings, production of seal distribution map in relation to underwater noise (subcontracted to SMRU institute) were rescheduled from spring/summer 2020 to 2021 (or late autumn 2020 if it is deemed suitable to be carried out in-line with compliance to social distancing requirements and COVID risk assessments).<br><br>Moorings that had been deployed pre-lockdown had only recently been retrieved at September 2020 and the project was unable to redeploy devices under current social distancing and COVID restrictions. |
| MPA Management Plans | Delays in other work packages as a result of COVID are anticipated to impede progression of MPA plans which are the major deliverables of this Work Package. MPA plans require input from models and data analysis from other WPs, and cannot be created until work on these have been completed. This will require a project extension.<br><br>Other impacts included postponement of physical interactions and engagement with stakeholders, cancellation of planned public events, postponement of initial stakeholder meetings in NI/RoI, rescheduling of stakeholder events across the MarPAMM region, which were moved to virtual platforms or to 2021. |

  - Anticipated expenditure would be reduced in line with the changes made to delivery.
  - The project had advised that an extension (of circa 6 months) would be required, which will be formally discussed with SEUPB during January 2021.

# 8. SEA MONITOR 2

## 8.1 Introduction

This section of the report considers the Sea Monitor 2 project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 2 – Manage Marine Protected Areas and Species.

## 8.2 Project Overview

New and existing commercial activities are rapidly developing around the coasts of the programme's eligible area e.g. sub-sea marine renewables, fish farming, offshore wind farms, dredging, harbour development, oil and gas exploration and extraction, and commercial fishing. A key strategic objective across the programme's eligible area is, therefore, *"to manage human impact on the marine environment"*[93].

There is, however, a recognition that the current level of knowledge and information on such activities limits how the guiding principle of sustainable development can be translated into definitive planning policy[94]. This paucity of information directly affects the rate of development and success of strategically important marine businesses and conservation activities.

To mitigate potentially adverse environmental impacts of such activities, and to ensure they are developed sustainably, there is a requirement for high-quality evidence to allow the development of balanced national and cross-jurisdictional management plans. In this context, highly mobile marine species are particularly difficult to manage, as a multi-jurisdictional approach is often required.

Furthermore, several key EU directives (e.g. the Habitats Directive and the MSFD) require specific monitoring and information to evaluate implementation outcomes. There are, however, notable gaps in the information retained, particularly in relation to MPAs (the information is particularly weak for large mobile marine species).

To this end, the Sea Monitor 2 project – involving the key stakeholders in marine environmental research and conservation across Scotland, Ireland and Northern Ireland – has been developed to address this knowledge gap. It is anticipated that the project will bring together and interpret existing information in the context of the conservation and management needs of important species and habitats in marine management plans.

Considerable evidence gaps exist for several species and habitats. It is anticipated that the Sea Monitor 2 project will address some of these gaps by utilising modelling techniques (built upon existing data) to identify management options and alternative management outcomes. Where empirical data does not exist but is important to deliver successful management outcomes, the Sea Monitor 2 project partnership proposed to undertake studies to collect additional data.

A key objective of the project is, therefore, to further develop cross-border capacity for the monitoring and management of marine protected areas and species.

[93] As cited in the Scottish Government's National Marine Plan and the Irish Government's 'Harnessing Our Ocean Wealth' - the Integrated Marine Plan for Ireland.
[94] As referenced in the Scottish Government's National Marine Plan, Section 3.3.

The Sea Monitor 2 project partnership intends to:

- Develop 5 models to support the conservation of marine habitats and species. These include:
  - Spatial distribution of harbour seals;
  - Common skate spatial movement along with North Antrim coast (including population structuring and Loch Sunart to Jura MPA);
  - Cetacean spatial usage of the area;
  - Salmonid marine migration pathway model for the Foyle, Bush and Clyde rivers; and
  - Basking shark spatial usage of Malin/Islay area.

- Develop 3 Marine Management Plans (for designated protected areas). These include:
  - Loch Sunart to Jura MPA for Common skate;
  - Foyle area Marine Management Plan for Atlantic salmon; and
  - Clyde area Marine Management Plan for Atlantic salmon.

- Extend the network of buoys proposed as part of the COMPASS project (as per Section 5), from the east coast of the island of Ireland to the north, thereby establishing a physical connection of acoustic receivers between the island of Ireland and Scotland. This will include a line from Malin to Islay and the use of Autonomous Underwater Vehicles (AUVs) to monitor movements of acoustically tagged mobile marine species of high economic and conservation value through the region. It is anticipated that these will provide data to develop models and management plans e.g. common skate, salmonids, basking sharks etc.

The following three work plans have been developed:

| Table 8.1: Summary of Sea Monitor 2 Project Work Plans (Per Progress Reports) |
|---|
| 1. Management (M) |
| 2. Implementation (T1), including:<br>• Spatial model for Common skate on North Antrim coast and North Channel (T1.1)<br>• Spatial distribution of harbour seals (T1.2)<br>• Cetacean spatial usage model Malin/Islay (T1.3)<br>• Salmonid migration pathway model for Foyle, River Bush and Clyde (T1.4)<br>• Spatial usage model for basking shark Malin/Islay (T1.5)<br>• Loch Sunart to Sound of Jura Management Plan (T1.11)<br>• Foyle Area Atlantic Salmon Management Plan (T1.12)<br>• Clyde Estuary Marine Management Plan for Atlantic salmon (T1.14)<br>• Data and Technical Support from MI - Ocean Science Services (OSIS), Fisheries Ecosystems Advisory Services (FEAS) and INFOMAR[95] (T1.13)<br>• Sea Monitor 2 Project Scientific Staff (T1.14) |
| 3. Communication (C) |

The Sea Monitor 2 project partnership is led by the Loughs Agency (LA) and is made up of the Marine Institute (MI), the University of Glasgow (UoG), Queen's University, Belfast (QUB), the Agri-Food and Biosciences Institute (AFBI), University College, Cork (UCC) and Galway-Mayo Institute of Technology (GMIT) as funded partners. There are also two non-funded partners, namely: Ocean Tracking Network, Dalhousie University (Canada) and the University of California, Davis (USA)[96].

[95] The Integrated Mapping for the Sustainable Development of Ireland's Marine Resource Programme, which creates integrated mapping products of the physical, chemical and biological features of the seabed in the near-shore area.
[96] NB: Per the Letter of Offer (19th November 2018), the Canadian and USA partners are not allocated any funding but bring additional expertise to the project. For example, the University of California Davis (as partners to QUB) is contributing 40+ additional acoustic receivers (equivalent to €80,000) to aid the animal tracking components (skate, basking shark, seals and salmonids).

## 8.3 Project Budget to December 2020

The total proposed Sea Monitor 2 project received a Letter of Offer (dated 19th November 2018) offering a grant of up to a maximum of €4,641,436.50 (ERDF + Government Match Funding) to be expended and claimed by 31st March 2022, towards total anticipated project costs of €4,722,671.26.

In April 2019, the SEUPB issued a revised Letter of Offer approving a 9-month project extension to 31st December 2020 and reallocation of budget between categories, as shown in Table 8.2. As of December 2020, the project had reported total estimated expenditure of €2,152,762equivalent to 46% of the total project budget. The original projected spend for the same period estimated that 54% of the total project budget would be incurred at this time.

**Table 8.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to July 2020 Per Project Progress Report[97] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[98] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 2,140,185 | 538,648 | 569,336 | 128,151 | **697,486** | 33% |
| Office and Administration Costs | 321,028 | 80,797 | 85,400 | 19,223 | **104,623** | 33% |
| External Expertise and Services | 733,116 | 89,360 | 96,685 | 117,629 | **214,314** | 29% |
| Travel and Accommodation Costs | 132,827 | 23,479 | 25,108 | 4,151 | **29,259** | 22% |
| Equipment Costs | 1,395,516 | 804,384 | 1,102,753 | 4,327 | **1,107,080** | 79% |
| **Total** | **4,722,672** | **1,536,667** | **1,879,282** | **273,480** | **2,152,762** | **46%** |
| **Original projected spend level[99]** | | | | | **2,538,499** | **54%** |

[97] Source: Project Progress Report 12 – 'Total reported'. This was the most recently available collated project progress report, albeit it was in progress.
[98] Source: SEUPB's EMS 14th December 2020
[99] Source: SEUPB's EMS 14th December 2020

## 8.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the Sea Monitor 2 project's key achievements and the extent to which the Sea Monitor 2 project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *8.4.1 Key Achievements (to November 2020)*

The Sea Monitor 2 project continued to function through the COVID-19 restrictions with staff working from home. However, the restrictions associated with the pandemic meant that fieldwork was limited, albeit as the restrictions eased the fieldwork recommenced with appropriate protective measures in place. Whilst (at November 2020) project activity was progressing well, the spring 2020 shutdown prevented any substantial salmon smolt data being collected. It is envisaged that this will lead to a gap in the Salmon data that may cause difficulties in the future as only two years' data will be available for analysis. Discussion with SEUPB suggests that this may lead to a request for an extension to the project end date but initially the project will work with the data they have to establish if there is enough data available from the two years of collection. More positively, seal, cetacean and skate work has been comparatively unaffected by the COVID interruptions as many of the sensors were either already in place or had planned placements later on in the year.

The project overcame a number of budgetary issues recently with an extensive cost saving exercise. This has help address an underestimation of equipment costs at the application stage.

The Sea Monitor project partners continue to maintain a very positive and close working relationship with the MARPAMM and COMPASS projects, and the data sharing has proved fruitful. Indeed, there has been some incidental interceptions of tags by and from the other INTERREG marine projects which is positive.

The Sea Monitor 2 project partners cite the project's key achievements (between May 2019 and July 2020) as being:[100]

**Table 8.3 Key Achievements**

| Period | Dates | Key Achievements/Points of Note |
|---|---|---|
| 8 | 1st May 2019 - 31st July 2019 | • The Partnership Agreement was signed by all partners and appointments made for all Loughs Agency scientific staff.<br>**Management**<br>• A Project Execution Plan, which is a document which ties all aspects of the project together, drafted and circulated to the Board for comment/approval. The signing of this document allowed each partner to start their recruitment processes.<br>**Implementation**<br>• The procurement processes for key items such as the acoustic receivers and transmitters and the Underwater Autonomous Vehicle (AUV) commenced. This included engagement with the Central Procurement Directorate and Business Case approvals. This will ensure that the equipment and necessary external services will be in place in time for the main array to be deployed early in 2020. |

[100] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 12 (May – July 2020) albeit it was in progress.

| Table 8.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 9 | 1st August 2019 - 31st October 2019 | **Implementation**<br>• 14 out of 24 posts were filled. All Loughs Agency staff were in posts and all QUB, Glasgow University and UCC staff were appointed. GMIT PhD student was appointed and expected to start in November.<br>• High-value procurement exercises for equipment were completed (i.e., acoustic tags and receivers, autonomous underwater vehicle).<br>**Communication**<br>• Engagement with stakeholders, NGOs, local authorities, and 'sister' projects increased. Formal links with the European Tracking Network were established with Sea Monitor presence and presentation at the annual meeting in October. |
| 10 | 1st November 2019 -31st January 2020 | **Implementation**<br>• 20 out of 24 posts had been filled. All Loughs Agency staff were in posts, All QUB, Glasgow University and UCC staff had been appointed. The GMIT PhD student was appointed and the AFBI ASO appointed in January.<br>• Key orders of equipment (receivers, moorings, and shackles, etc. for the main array) were received with Acoustic Listening Stations (ALS) being assembled in preparation for deployment in March.<br>**Communications**<br>• Sea Monitor was involved in the European Tracking Network Horizon 2020 funding application which would aim to enhance large scale European telemetry projects. Dr Mark Jessop conducted an interview for BBC NI broadcast on the rehabilitated seal release and Sea Monitor tagging programme. |
| 11 | 2nd February 2020 - 30th April 2020 | • In relation to the planned deployment of the main array across the north channel, the project came up against a series of unforeseen legislative (licensing and diplomatic clearance from UK Foreign Office) and existential problems (Covid-19 pandemic), that postponed full deployment and tagging of smolts as originally planned. A complete contingency plan for all activities was written and reported to the Project Management Board and SEUPB. Despite the problems faced, where safe and possible, partners were able to undertake fieldwork. A revised plan of activity for 2020/21 was drafted.<br>**Implementation**<br>• Despite a very challenging time, the project managed to deploy some of the main array and all the Foyle arrays in March along with the tagging of smolts in April. The data will be mostly freshwater due to the inability to deploy marine listening stations and therefore greater importance will be placed on deployment and tagging in 2021 and 2022. The autonomous underwater vehicle (AUV) or 'glider' was readied for the first mission in May. |
| 12 | 1st May 2020 – 31st July 2020 (In progress) | • Despite the restrictions, some fieldwork (salmon tagging) which commenced in period 11 was completed by AFBI, University of Glasgow and the Marine Institute. The project's first glider mission was also run with successful deployment and retrieval by Marine Institute.<br>• All project partners undertook a cost savings exercise that has balanced the project budget and a revised programme of activity for 2020/21 was agreed at both Steering Group and Project Management Board level. |

### *8.4.2 Progress Towards the Project Output Indicators*

Discussion with the Sea Monitor 2 project partnership indicates that the anticipated (approved) project outputs have, as of July 2020, not been achieved nor was it expected of the project at this stage in its implementation, as they have a 2023 delivery date.

**Table 8.4 Project Output Indicators**

| Programme Output Code | Name of Output | Programme Output Indicator Target | Status (as of July 2020[101]) |
|---|---|---|---|
| 2.212 | Models developed to support the conversation of habitats and species | 5 | 0 |
| 2.213 | Marine management plans for designated protected areas complete | 3 | 0 |

As of July 2020, the project partners had engaged with several of their target groups.

**Table 8.5: Target Groups Reached (July 2020)[102]**

| Target Group | Target | Achieved | % Achieved |
|---|---|---|---|
| Local Public Authority | 4 | 4 | 100% |
| National Public Authority | 11 | 24 | 218% |
| Interest Groups including NGOs | 12 | 7 | 58% |
| Higher Education and Research | 9 | 4 | 44% |
| International organization under international law | 1 | 2 | 200% |
| General Public | 0 | 5 | - |

### *8.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the very early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the Sea Monitor 2 project is, therefore, at July 2020[103], making only very marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, as reflected below, the project partners have raised some concern that their project may not fully deliver on its original aims and objectives as a result of factors associated with the pandemic.

## 8.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the Sea Monitor 2 project include the following:

- Despite the progress made (see Section 8.4), the restrictions associated with the COVID-19 meant that:
  - It has not been possible to carry out fieldwork and data collection. In effect, a year's worth of marine research has been lost. The main impact COVID-19 was on the core salmon smolt tagging and tracking activity;
  - Staff across the lead organisation and project partners started working remotely. No staff have been furloughed;
  - The project partnership requested permission to vary project activities and were provided with more time to produce claims by SEUPB;
  - The project had to adapt their project activities as a result of the pandemic by revising their programme and rescheduling the deployment of equipment to 2021; and

[101] Source: Consultation with project lead (03/09/2020).
[102] Source: Project Progress Report 12 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.
[103] Source: Consultation with project lead (03/09/2020).

- The partnership had implemented cooperative measures to enable a more joined-up project response, and in particular had enhanced their level of collaborative activity with other EU marine projects, including MarPAMM and COMPASS.

- Consequently, discussion with the Sea Monitor 2 project indicates that:

  - The project is behind schedule, and it may no longer be feasible to deliver all of the project's planned activities within the original timeframe;
  - It may not be possible to make up for the delays caused by COVID-19 as species tracking is seasonal and there are only certain windows of the year where capturing, tagging, and tracking is possible;
  - Although the spatial models are on course, the marine management plans are at a significant risk due to the loss of a seasons tracking data for salmon smolts. Other species being tracked by the project are at a reduced risk due to tracking methodology or later migration seasons however the smolts are at the core of the project. Three years' data is required for a sufficiently robust model, as a season tracking smolts has effectively been lost. The current end date will prevent a sufficiently robust marine management plan, therefore the project may require a significant extension to allow time to collect the relevant data. Beyond this issue with the loss of a season's data the project is progressing well and adapting to the COVID-19 restrictions;
  - The project is potentially at risk of not achieving its aims and objectives, particularly if a second lockdown is implemented. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this is likely to again impact upon the project's ability to undertake fieldwork activities.
  - However, the project partners consider that they will be able to deliver the project fully within its current budget as travel costs can be moved to other categories if required and were positive that they will be able to reach their anticipated level of expenditure both by the end of 2020 and by the end of the anticipated project period;

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it has been working closely with the Sea Monitor 2 project partnership. The following specific points were noted:

  - The main impact COVID-19 was on the core salmon smolt tagging and tracking activity. Tracking of seals, cetaceans and skate was relatively unaffected as either sensors and tags were already in place or the migration season was later in the year.
  - Some limited smolt tagging may be possible during 2020 using smolt traps that were already in place in some watercourses.
  - The key risk at the moment is that there will only be two years' worth of information available for marine management plans (2020's salmon activity was considered to be 'practically lost') and this would not be sufficient to develop a robust management plan.
  - Three possible outcomes have been suggested by the Lead Partner:

    1. With a project extension (funded by SEUPB) for salmon tagging activity only, the LoO objectives should be able to be completed.
    2. LoO completion with an end date extension funded by other parties; or
    3. No change to budget or end date - the LoO outputs would not be achieved due to insufficient salmon smolt data.

  - An Autumn deployment of the main array was investigated as a way to ensure porpoise data could be gathered. The array would then be in place early for the next smolt season. However, the risk of the array shifting due to inclement weather and thus leaving gaps in the sensor net was deemed to be too high. A limited deployment of 5 sensors, including dedicated porpoise, took place in October 2020 to calibrate the array and retrieve 6 deployed sensors.
  - The recovered sensors have registered some smolt 'hits' and appear to be operating well. Full deployment is now planned for March 2021.

- Seminars planned for November 2020 took place online with three afternoon sessions from the 24th-26th November.
- The project was generally operating well despite the pandemic and co-operation with the other marine projects was producing results as sensory data was being shared as the projects were picking up each other's tags on their various deployed sensors.

# 9. SWELL - SHARED WATERS ENHANCEMENT AND LOUGHS LEGACY

## 9.1 Introduction

This section of the report considers the Shared Waters Enhancement & Loughs Legacy (SWELL) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 3 – Improve Water Quality in Transitional Waters.

## 9.2 Project Overview

Environmental pressures do not recognise international boundaries and borders. The only mechanism therefore for delivering improved water quality in shared waters such as in Carlingford Lough and Lough Foyle, is to consider each Lough catchment as a single ecosystem impacted by polluters on both sides of the border.

The Water Framework Directive (WFD) was established to protect and prevent further deterioration of inland surface waters, estuaries and coastal waters and implement a framework to enhance and return these aquatic ecosystems to at least "Good Status"[104]. There has been a significant investment to improve wastewater infrastructure on both sides of the border in recent years concerning UWWTD compliance. However, the shift in emphasis to a catchment-wide approach under the WFD requires substantial further investment to deliver the classification targets and associated environmental benefits. Compliance with the Water Framework Directive (WFD) therefore requires an integrated approach to the sustainable management and protection of water resources across multiple sectors and national boundaries.

For the purpose of the project, the term shared water bodies is defined as shared transitional and coastal water bodies in the Carlingford and Lough Foyle catchments i.e.:

1. Lough Foyle Coastal Water;
2. Foyle Harbour and Faughan Transitional HMWB;
3. Upper Foyle Transitional Water;
4. Carlingford Lough Coastal Water; and
5. Newry Estuary Transitional HMWB.

Given that the Foyle and Carlingford river catchments extend both sides of the border, a cross-border management approach is essential to ensure the maximum environmental benefit and provide the necessary water quality improvements. However, despite good progress on the implementation of the WFD to date, the status of the shared transitional and coastal waters falls short of the required "Good

[104] The WFD is implemented on the basis of hydrologically discrete River Basin Districts, which have been identified and classified according to their physical and biological characteristics, by the Regulating Authority of each EU Member State. These classifications are used to identify waterbodies within the District that are 'at risk' of failing to meet the environmental objective of "Good Status". A Programme of Measures is then developed, as part of a River Basin Management Plan (RBMP), to identify and reduce pollutants and ensure the waterbody achieves "Good Status". The WFD requires Member States to review RBMP's on a six-yearly cycle, across three cycles (2009-2015, 2016-2021 and 2022-2027) during which management measures must be implemented to achieve the target "Good Status" in all waters. Northern Ireland and Ireland share three International River Basin Districts with many river systems flowing across the border. The drainage catchments of Carlingford Lough and Lough Foyle fall within the Neagh Bann and North Western International River Basin Districts respectively. The Regulating Agencies (NIEA & EPA respectively) commenced working together during the first planning cycle to develop common environmental targets for the cross-border basins to ensure that activities in one jurisdiction complement water quality improvement activities in the neighbouring area. The Regulating Agencies have commenced preparation of the second cycle of RBMP's covering the period up to 2021. These will describe the main pressures and activities affecting water quality status, set out the environmental objectives and identify the measures needed to achieve these objectives. There is now general acceptance that the first cycle of RBMPs set over ambitious targets for water quality improvements which coincided with the recent economic downturn on both sides of the border. Therefore, although water quality compares favourably with other EU Member States, it falls short of the ultimate "Good Status" target for all waters.

Status". Significantly more work and investment are therefore required to tackle the complex issues and deliver the required water quality improvements with appropriate solutions.

The Shared Waters Enhancement & Loughs Legacy (SWELL) project represents a cross-border partnership comprising NI Water, Irish Water, Agri-Food & Biosciences Institute (AFBI), Loughs Agency and East Border Region (EBR), working collaboratively to improve water quality within the shared waters of Carlingford Lough and Lough Foyle, through the improvement of municipal wastewater assets. By adopting a cross-border management approach, the Partnership aims to ensure maximum environmental benefit and provision of the necessary water quality improvements within the shared waters.

In line with the principles of the WFD, SWELL seeks to undertake a holistic approach to sustainable water use within the catchments of Carlingford and Foyle, balancing social and economic factors with the need to protect and improve the water environment.

The SWELL project partnership brings together for the first time, key state-owned regulated water companies with sole responsibility for wastewater services on both sides of the border – Northern Ireland Water (as Lead Partner) and Irish Water. It is anticipated that the project will provide an opportunity for the two Companies to prioritise and align works in a coordinated way to make an impact on the shared water bodies on the island of Ireland.

The SWELL Partnership aims to utilise best practice and tap into their individual areas of expertise to effectively achieve its anticipated outputs and results. Through strategic catchment investigation and modelling, SWELL aims to deliver optimised, sustainable capital upgrades to wastewater assets with added value through innovation and knowledge sharing to the benefit of the entire region.

SWELL comprises two separate projects within the Carlingford and Foyle catchments. Each of the two projects consists of distinct work packages for the upgrade of existing Water Company assets and include a number of key activities including catchment studies, ecosystem modelling and capital work to deliver improvements to water company assets. The capital works will likely include significant asset modifications.

The SWELL Project builds on the work carried out by the Regulating Authorities in both jurisdictions, by developing ecosystem models to simulate various sources of pollution and their impact on water quality. It is anticipated that this unique modelling approach will facilitate validation of optimised solutions to meet the required programme outputs and results indicators.

The project execution strategy is well defined and has been split up into four key stages, each with component work packages that are all intrinsically linked to delivering the project outcomes. The project stages are as follows:

| | |
|---|---|
| **1. Catchment Investigation** | A desktop analysis of existing monitoring data will be compiled to inform a risk-assessed baseline sampling study. The data gathered will be used to calibrate existing models and enable focus on areas where anthropogenic pollution is having an impact. This analysis will augment the business cases and capital expenditure proposals. |
| **2. Ecosystem Modelling** | An ecosystem model will be used to simulate the effects of the catchment in response to the hydrological cycle. Models will be integrated to link various sources of pollution and simulate their effect on water quality. Modelling will facilitate validation of construction proposals to derive the necessary level of "Asset Discharge Improvements". |
| **3. Capital Delivery (outputs)** | Business Case development will be undertaken in parallel with the modelling programme to ensure sustainable solutions are delivered. Optioneering and economic appraisal will be refined on completion of the modelling programme. Upgrade of wastewater assets will take consideration of any necessary constraints and will promote sustainable, innovative technologies to reduce operating cost and drive carbon efficiency |

| | |
|---|---|
| **4. Project Closure & Legacy** | The project will undertake modelling calibration and validation post improvements to demonstrate achievement of the output indicators and contribution towards the results indicator. Added value is provided by the legacy model which can enable identification of further residual measures to improve water quality, beyond the lifecycle of the SWELL Project. |

Seven work plans have been developed.

| **Table 9.1: Summary of SWELL Project Work Plans (Per Progress Reports)** |
|---|
| 1. Management |
| 2. Catchment Investigation & Modelling (implementation) |
| 3. Delivery of Business Cases and Construction Planning (implementation) |
| 4. Project Evaluation (implementation) |
| 5. Construction of Assets (NIW – investment) |
| 6. Construction of Assets (IW – investment) |
| 7. Communication |

Of note, NI Water and Irish Water have committed to taking ownership of any constructed assets delivered by the project and all responsibilities relating to operation and maintenance activity on these assets beyond the lifetime of the project. The legacy ecosystem model developed as an output from the project will be held under the custody of Loughs Agency, as the cross-border body with responsibility for water quality within Carlingford Lough and Lough Foyle.

## 9.3 Project Budget to December 2020

The SWELL project received a Letter of Offer (dated 31st January 2017) offering a grant of up to a maximum of €3,282,786.52 (ERDF + Government Match Funding) to be expended and claimed by 30th April 2018, towards total anticipated project costs of €3,282,786.52. However, the LoO noted that it was anticipated that the project would be implemented in two phases. The 31st January 2017 LoO addressed the funding required to achieve Phase 1. Phase 1 of the project was considered to be a necessary first phase to establish the detailed works required to achieve the Programme Outputs which it is anticipated will be addressed by the work undertaken during Phase 2.

It was then anticipated that the successful completion of Phase 1 would result in a further application for grant funding for Phase 2 of not more than €32,011,331.13. The SWELL project achieved the approved project outputs during late 2018. Subsequently, it is understood that the suggested Phase 2 was subject to a further project assessment and funding decision, which ultimately was successful.

Given this, SEUPB issued a second Letter of Offer (dated 21 January 2019), inclusive of Phases 1 and 2, ) offering a grant of up to a maximum of €35,047,604.24 (ERDF + Government Match Funding) to be expended and claimed by 31st December 2022, towards total anticipated project costs of €35,047,602.24.

As of December 2020, the project had reported total estimated expenditure of €21,554,310, equivalent to 62% of the total project budget. The original projected spend for the same period estimated that 73% of the total project budget would be incurred at this time.

**Table 9.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to May 2020 Per Project Progress Report[105] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[106] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 3,288,911 | 1,442,787 | 1,601,173 | - | **1,601,173** | 49% |
| Office and Administration Costs | 493,337 | 216,313 | 240,070 | - | **240,070** | 49% |
| External Expertise and Services | 5,917,197 | 3,364,822 | 3,665,759 | - | **3,665,759** | 62% |
| Travel and Accommodation Costs | 107,928 | 65,404 | 65,779 | - | **65,779** | 61% |
| Equipment Costs | 627,206 | 584,402 | 587,892 | - | **587,892** | 94% |
| Infrastructure and works | 24,613,025 | 13,847,481 | 15,393,636 | | **15,393,636** | 63% |
| **Total** | **35,047,604** | **19,521,208** | **21,554,310** | **-** | **21,554,310** | **62%** |
| **Original projected spend level[107]** | | | | | **25,689,105** | **73%** |

[105] Source: Project Progress Report 22 – 'Total reported'. This was the most recently available collated project progress report.
[106] Source: SEUPB's EMS 14th December 2020
[107] Source: SEUPB's EMS 14th December 2020

## 9.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the SWELL project's key achievements and the extent to which the SWELL project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *9.4.1 Key Achievements (to November 2020)*

Following the onset of the COVID-19 pandemic, the SWELL partners begun to work remotely. However, NI Water as lead partner maintained regular contact with each of the partners and held progress meetings using Microsoft Teams.

Construction works were temporarily suspended at all NI Water sites from the end of March 2020. However, they recommenced during May 2020, and are now (in November 2020) either complete or close to completion. The works performance tests at Warrenpoint were due to commence in October 2020. The main construction works at Strabane had been completed and handed over to NIWL operations. Some equipment was currently undergoing performance testing and the site was almost ready to be handed over as completed. The construction works recommenced in Donemana in May 2020 and are all now substantially complete. The temporary treatment plant was removed from service in July 2020 at which point the new works took over full treatment. It was anticipated, in November 2020, that the works would be undergoing a performance trial shortly with handover to operations to follow.

AFBI has been using an innovative approach for the servicing of equipment. With one staff member working from a small inflatable boat and another from a sea kayak, they were able to ensure adherence to social distancing measures.

The sites within Ireland are still in the procurement and planning phases and work is continuing in these areas. Development and progression of the main Irish Water SWELL Construction Contract Procurement was the main focus of the summer. The Invitation to Tender for this was issued in August 2020, with positive tenderer engagement including site visits on 17 & 18 September.

Development and submission of planning applications to Donegal County Council was another critical task. Planning applications were lodged for all three SWELL Donegal Sites - Carrigans and Killea and Lifford. Positive planning has been granted for Carrigans and Killea in September 2020 and a decision on Lifford was due in October 2020.

Land & wayleaves acquisitions progressed well for both sites where this was required i.e., Carrigans and Lifford. Landowner negotiations were ongoing, with the process advancing to heads of agreement and offer stage. Conveyancing was underway by Irish Water legal representatives.

The partnership was continuing to sample water quality in the transitional waters of Carlingford Lough and Lough Foyle. The data was collected via instrument buoys and rainfall reactive sampling.

The SWELL project progress reports cite the project's key achievements (between December 2018 and August 2020) as being: [108]

| Table 9.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 17 | 1st December 2018 - 28th February 2019 | **NIW:**<br>• Signed LoO returned to SEUPB Office on the 15/02/2019.<br>• SEUPB Project Lead Partner Site Visit accommodated in NIW Offices on the 28/02/2019.<br>• Value for money reports completed for each scheme.<br>**IW:**<br>• Update of IW Forecast completed and returned to NIW.<br>• Ongoing Preliminary Design of Sites.<br>• Land & Wayleaves process was ongoing.<br>• AA Screening commenced; Ecological & Archaeological Assessments was being developed.<br>**AFBI:**<br>• Staff undertook site visits throughout the Carlingford and Foyle catchment and within the Strule sub-catchment to identify suitable sites for sub-catchment monitoring/sampling. |
| 18 | 1st March 2019 - 31st May 2019 | **NIW**:<br>• Project Risk Register submitted for approval.<br>• Project Forecast, requested at Interreg VA workshop, submitted.<br>• All 4 NIW contracts awarded on 08/03/2019.<br>• Construction works progress as planned at Donemana, Strabane, and Warrenpoint. Minor delay at Newpoint.<br>• DAP studies were ongoing - Flow, Manhole, and Asset survey completed. Model Build for Warrenpoint completed. MB for Strabane, QA, and DWF verification completed. MB for Culmore, ancillary modelling completed.<br>• SWELL Launch Event preparation as planned. All promotional items completed.<br>**IW**:<br>• Ongoing Design of Sites. Land and Wayleaves requirements identified; documents produced.<br>• Network Survey Tender awarded.<br>• Investigative contracts scoped and completed.<br>**AFBI**:<br>• Sub-catchment sampling commenced in April 2019. |
| 19 | 1st June 2019 - 31st August 2019 | **NIW:**<br>• DAP studies were ongoing - Strabane, Culmore, and Warrenpoint models/verifications issued for external audits.<br>• Launch Event organised on the 25th of June.<br>• SWELL website operational: https://swellproject.com<br>**IW:**<br>• Network Survey Works (for DAP outputs) underway.<br>**AFBI**:<br>• SWELL monitoring buoy was deployed within the Narrow Water area of Carlingford Lough.<br>**LA**:<br>• Assistance with Baseline pre-improvement works Foyle and Carlingford. |
| 20 | 1st September 2019 - 31st November 2019 | **NIW**:<br>• Partner Workshops held in November.<br>**IW**:<br>• The detailed design was broadly completed within Period 20.<br>• Development of applications and documentation Local Authority Planning Permission for the sites.<br>• Network Survey / DAP outputs underway.<br>• Site Investigation procurement - tenders evaluated.<br>**AFBI**: |

[108] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 22 (March - May 2020).

| Table 9.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • Recording Hydrophone belonging to the MarPAMM project deployed on one of the moored instruments within Carlingford Lough.<br>• AFBI undertook a bathymetric survey of the proposed location of the SWELL buoy within the Foyle transitional waters.<br>**LA**:<br>• Assistance (providing vessels and staff) with baseline pre-improvement works at Foyle and Carlingford Lough. |
| 21 | 1st December 2019 - 29th February 2020 | **NIW**:<br>• Progress at Strabane WwTW ahead of schedule, progress on other NIW sites as planned<br>• DAP studies ongoing - Culmore overall programme incl. SWAT output has been extended by 3 weeks.<br>• SEUPB approved CE for installation and commissioning of an additional screen at Strabane WwTW.<br>• The presentation was given to the EBR Board and visit organised at Warrenpoint WwTW in February 2020.<br>**IW**:<br>• Detailed design of sites was almost complete.<br>• Contracts procurement - PQQ's issued to the market.<br>• Environmental reports completed.<br>• Flood risk assessment is finalised.<br>• Network Survey works and DAP's completed.<br>• Site Investigation Contract awarded.<br>**AFBI**:<br>• AFBI promoted the SWELL project during the NI Science Festival.<br>**LA**:<br>• Assistance (providing vessels and staff) with baseline pre-improvement works at Foyle and Carlingford Lough.<br>• Created links between the outreach aspects of the SWELL project and local fishing clubs. |
| 22 | 1st March 2020 - 31st May 2020 | **NIW:**<br>• NIW responded to the Audit Authority in regard to Article 27 audit.<br>• NIW responded to SEUPB in regard to programme updates (Covid-19 impact).<br>• NIW with their project partners reviewed the Project Risk Register.<br>• Performance trial at Strabane WwTW completed in April.<br>• Development of PMS for Carlingford Lough and Lough Foyle.<br>• First edition of E-zine issued in April.<br>• Crisis Communication Plan issued to SEUPB for comment in May.<br>**LA**<br>• Loughs Agency assisted AFBI with the pre improvements works on Foyle and Carlingford.<br>• LA provided a crew and jeep to collect Foyle Freshwater samples in the first week of March. Following this, all fieldwork was suspended due to Covid-19.<br>• Loughs Agency assisted with the production of the Project Progress video by providing additional footage. |
| 23 | 1st June 2020 – 31t August 2020 (From Partner Progress Reports) | **NIW:**<br>• Strabane WwTW - Additional screen installed in August.<br>• Warrenpoint WwTW - Aeration tank seeding process completed. Commenced demolition works.<br>• Newpoint WwPS - NIE switchgear and transformers installed. Inlet/overflow chamber metalwork installed.<br>• Donemana WwTW - Turn of flows completed. Commenced reinstatement.<br>• Modification request was compiled using backup information from relevant Partners.<br>**IW:**<br>• Work on the SWELL project by Irish Water in Period 23 focused primarily on the progression of Irish Water Infrastructure/ Capital Works to submission of planning applications and issue of ITT for the main construction contract.<br>**AFBI:**<br>• AFBI continued to work with the contracted modellers on the development of the SUCCESS model framework. |

| Table 9.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • AFBI staff completed nutrient analyses of marine samples collected before the lockdown was imposed as a result of the COVID-19 pandemic.<br>• AFBI staff continued to maintain the moored instruments within Carlingford Lough during the claim period and prepared instruments for deployment within Lough Foyle.<br>**LA:**<br>• In June all fieldwork remained suspended due to the COVID-19 outbreak.<br>• Numerous discussions took place between Loughs Agency and AFBI with regard to the resumption of fieldwork. New Risk Assessments (RA) and Standard Operating Procedures (SOP) were completed for all SWELL tasks. RA and SOPs were reviewed and signed off by Loughs Agency Senior Management and Health and Safety. Fieldwork was able to resume mid-July.<br>• Loughs Agency assisted AFBI with site recces for the selection of reactive rainfall event sampling sites in July/August. AFBI sent a formal letter to request assistance. Site recces of x7 sites were completed.<br>**EBR:**<br>• Throughout period 23, EBR provided ongoing advice and support to all Partners in respect of compliance with EU INTERREG VA eligibility. This included prior approval of tender documentation, review of frameworks/historical tenders and review of recruitment documentation for Partners. Due to the Covid-19 pandemic, all EBR staff were operating a remote working policy, and all meetings since 18th March were held via Microsoft Teams. |

### *9.4.2 Progress Towards the Project Output Indicators*

Discussion with the SWELL project partnership indicates that the anticipated (approved) project outputs have, as of July 2020, not been achieved albeit, it was not expected of the project at this stage in its implementation, as they have a 2022 delivery date.

| Table 9.4: Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **SWELL Project Target** | **Progress (as of July. 2020[109])** |
| CO19 | Additional population benefitting from improved wastewater treatment | 10,000 | 10,000 | 0 |
| 2.311 | 2 Sewage network and wastewater treatment projects completed to improve water quality in shared transitional waters | 2 | 2 | 0 |

In addition, as of May 2020, the SWELL project partners indicate that they have not yet engaged with its various target groups, as illustrated below:

| Table 9.5: Performance against Target Groups Reached (as of May 2020[110]) | | | |
|---|---|---|---|
| **Target Group** | **Target** | **Achieved** | **% Achieved** |
| General Public | 25,000 | 0 | 0% |
| Local public authority | 5 | 0 | 0% |
| Infrastructure and (public) service provider | 6 | 0 | 0% |
| Interest groups including NGOs | 5 | 0 | 0% |

[109] Consultation with project lead (04/09/2020).
[110] Source: Project Progress Report 22 – 'Total reported'. This was the most recently available collated project progress report.

### *9.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the SWELL project is, therefore, at September 2020[111], making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, as reflected below, the project partners have raised some concern that their project may not fully deliver on its original aims and objectives as a result of factors associated with the pandemic.

## 9.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the SWELL project include the following:

- Despite the progress made (see Section 9.4), the restrictions associated with the COVID-19 meant that:
  - Staff across the lead organisation, project partners and direct beneficiaries started working remotely and decreased normal hours of operation. Whilst no project staff were furloughed, contractors and sub-contractors did furlough staff working at the four NI construction sites.
  - Whilst the partnership had implemented cooperative measures to enable a more joined-up project response by continuing to work collaboratively through MS teams, some project activities have been cancelled and/or refocused as a result of the pandemic. For example, the project partners moved the commissioning of projects online, whilst AFBI started servicing buoys in kayaks instead of small ribs to adhere to social distancing requirements, NI Water closeout events were scaled down and school and stakeholder visits were cancelled;
  - There has been delay in Irish Water being able to deliver their capital projects, which has had a knock-on effect of delaying post-improvement sampling.
  - The SWELL project lead now considers that their project is behind schedule, and potentially at risk of not achieving its aims and objectives and that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe.
  - In particular, the project lead notes whilst the that physical improvements will be completed, the achievement of the programme results indicator would benefit from a full 12-month post-improvement sampling period (as AFBI requires coverage for the four seasons), which will not be available unless an extension to the project is granted.
  - Without a project extension, the SWELL partners consider that there is a risk that the ecosystem model may not be as comprehensive or robust as it should be (due to the reduced post-improvement sampling period).
  - Of note, in direct response to the pandemic, the project lead managed NI Water's alternative water supplies (AWS), which involved delivering bottled water to critical care customers and storing water in case of another drought. In addition, AFBI's laboratories at the Veterinary Science Division were repurposed to analyse COVID tests.
- As a consequence of the impact of COVID-19, the project lead advised that the SWELL partnership intends to request an extension of 3 or 4 months, suggesting the approval of an extension will be crucial to the success of the project moving forward;
- The SWELL partners note that a second lockdown might pose a further risk to the project. Another lockdown would affect NI Water's commissioning of capital projects, sampling by AFBI and the Loughs Agency and the delivery of Irish Water's capital schemes. Irish Water may also face land issues and delays to planning approval or potentially refusal of planning. Given that at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021, the Evaluation Team considers that the risks identified by the project partners should be monitored closely.

[111] Consultation with project lead (04/09/2020).

- The SWELL partners believe that they will be able to deliver the project fully within its current budget noting that they had to utilise the allowance for Optimism Bias, for which they gained approval from SEUPB, to compensate contractors. However, they anticipate that there will be underspend at the end of 2020, but they have submitted a budget reallocation request to SEUPB to reflect the COVID-related changes;
- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it has been working closely with the SWELL project partnership. The following specific points were noted:

  - Construction works at the four NI Water sites is coming to an end. However, individual publicity events will be held at the four sites but on a much reduced scale due to social distancing and it will not be possible to provide training at the four sites in the normal manner. Training will now be facilitated online, which will be the first time for NI Water.
  - Irish Water has encountered delays in submitting planning permission, barriers to progress decisions, meetings, and site visits. Site investigation surveys critical to the procurement process were delayed as face to face meeting with Local Authorities, contractors and other stakeholders (e.g. to close out land acquisitions) could not take place. Subsequently, it is anticipated that Irish Water will submit a modification request for an extension to their capital work package 9which were originally anticipated to be completed by December 2021).
  - However, any extension to Irish Waters' capital works will have a knock on effect on AFBI who require 12 months' of surveying post-construction.
  - As all project staff were working remotely deficits in technology meant staff had difficulty accessing large files, leading to significantly reduced productivity.

# 10. SOURCE TO TAP

## 10.1 Introduction

This section of the report considers the Source to Tap (StT) project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 4 – Improve Freshwater Quality in Cross-Border River Basins.

## 10.2 Project Overview

The Erne and Derg catchments straddle the Northern Ireland and Ireland border and are predominantly rural. Peatlands and forestry dominate in the upper catchments, with grassland-based agriculture and pasture in lower areas. The NIEA and the EPA agree Water Framework Directive (WFD) status and objectives for all cross-border water bodies[112]. A number of Drinking Water Protected Areas (DWPAs) have been designated in both catchments.

Regulatory compliance has been threatened at several Northern Ireland Water (NIW) and Irish Water (IW) Water Treatment Works (WTWs) in these shared catchments (Derg WTWs, River Derg and Killyhevlin WTWs, Lough Erne) in relation to colour, turbidity and the pesticide MCPA[113]. More specifically:

- Derg WTWs has failed to achieve compliance with MCPA regulatory standards in recent years, and the Drinking Water Inspectorate Northern Ireland (DWI NI) issued a Provisional Enforcement Order requiring mitigation measures.
- Similar issues were identified for NIW's Belleek WTWs and IW's Ballyshannon WTWs, both supplied from the Erne System.

These risks arise because raw water abstracted from watercourses often contains contaminants such as pesticides, organic colour and sediments, which run off the land and must be removed in WTWs to produce drinking water to acceptable water quality standards.

It is more cost-effective to reduce contaminants in run-off from the land as this results in reduced:

- Capital investment requirements;
- Carbon outputs; and
- Operational costs required to remove pollutants at WTWs.

There is the added benefit of improving water quality which provides improved wildlife habitats. For example, the Erne and Derg catchments are economically significant salmonid fisheries and they support endangered freshwater pearl mussel populations – both of which require high water quality.

In addition to the above, risks to drinking water sources have been identified in these catchments in the Drinking Water Safety Plans (DWSPs).

[112] The two catchments lie in the north western International River Basin District (IRBD), which is in its second River Basin Management Plan (RBMP) cycle (2015-2021).

[113] MCPA is a selective herbicide specifically designed to kill weeds without harming crops and is a common active ingredient in both agricultural and domestic herbicide products. MCPA is widely used for controlling the growth of weeds like the Common Soft Rush, which has flourished in grassland following wet weather periods in recent years. MCPA does not bind to soil particles so it is prone to leaching, directly into watercourses or via land drains. Once in the water it can take 3-4 weeks to break down without treatment. NIW frequently detects high levels of MCPA in rivers and lakes and at abstraction points in many drinking water sources in Northern Ireland. This MCPA is removed in the water treatment process and drinking water is of a high-quality standard. (Source: NIW website).

The StT project has been developed to address these issues by:

- Exploring sustainable, cost-effective measures to reduce pollution in shared catchments;
- Contributing to improvements in cross-border raw water quality; and
- Securing safe drinking water sources.

The StT project partnership is led by NIW and is made up of IW, AFBI, UU, the Rivers Trust (TRT) and East Border Region Ltd. (EBR).

The StT project partnership suggests that, in the absence of the project, it is likely that raw water quality will continue to decline due to the aforementioned pressures, which would result in:

- Costly water treatment solutions at WTWs; and
- The maintenance of water quality, as part of WFD status, being prevented.

The main aim of the StT project is to deliver sustainable solutions to the pollution of drinking water sources by developing a Sustainable Catchment Area Plan (SCAMP) for the Erne and Derg cross-border catchments.

Whilst sustainable catchment management has been implemented elsewhere, the StT project partnership proposed that the project will support the implementation of sustainable catchment management across two jurisdictions[114].

It is anticipated that the SCAMP will supplement the existing WFD's programme of measures and will contribute to WFD objectives, including improving water body classifications. It is also anticipated it will contribute to the Drinking Water Directive (DWD) objective of reducing risks and ensuring safe drinking water.

It is anticipated that involving the local community in the delivery of the StT's project objectives will result in behavioural change and the upskilling of community members in river monitoring, which will, in turn, ensure the future legacy of the project outputs and long-term sustainability benefits.
Sustainable Catchment Management initiatives, such as that proposed by the StT project partnership, are now widely considered as the first stage of treatment, though the financial payback varies depending on catchment size, risks, water quality and treatment process. StT project has, therefore, been designed with consideration of river catchments as complex systems, affected by agricultural intensification and other activities, and which require focused management interventions.

The following seven work plans have been developed:

**Table 10.1: Summary of StT Project Work Plans (Per Progress Reports)**

| Work plan[115] | Work plan lead |
|---|---|
| 1. Management | NIW |
| 2. Community Activities (Community Engagement) | TRT |
| 3. UKWIR[116] Catchment Characterisation and Benefits Assessment | AFBI |
| 4. Development, Implementation and Delivery of the Land Incentive Scheme (LIS) | NIW and IW |
| 5. Peat Restoration Pilot Project - Implementation and Monitoring of Effectiveness | NIW |
| 6. Forestry Best Practice Pilots Workplan Development, Implementation and Monitoring of Effectiveness | NIW and IW |
| 7. Water quality monitoring and evaluation | AFBI |

[114] The newly formed IW has not delivered integrated catchment management approaches (to date), whilst NIW has only carried out small-scale SCAMP initiatives.
[115] The forestry and peat interventions (work plans 5 and 6 respectively) will be facilitated by Coillte and Forest Service NI who control access and operational processes in the study catchments.
[116] UK Water Industry Research.

## 10.3 Project Budget to December 2020

The Source to Tap project received a Letter of Offer (dated 3rd July 2017[117]) offering a grant of up to a maximum of €4,909,921.26 (ERDF + Government Match Funding) to be expended and claimed by 31st March 2022, towards total anticipated project costs of €4,909,921.26.

The Source to Tap project received a revised Letter of Offer (dated 7th February 2019) which approved the reallocation of budget between categories, as shown in Table 10.2. As of December 2020, the project had reported total estimated expenditure of €2,585,108, equivalent to 53% of the total project budget. The original projected spend for the same period estimated that 82% of the total project budget would be incurred at this time.

**Table 10.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to March 2020 Per Project Progress Report[118] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[119] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 2,347,226 | 1,160,683 | 1,450,211 | 252,580 | **1,702,791** | 73% |
| Office and Administration Costs | 352,084 | 174,013 | 217,442 | 37,887 | **255,329** | 73% |
| External Expertise and Services | 250,713 | 128,343 | 144,064 | 830 | **144,894** | 58% |
| Travel and Accommodation Costs | 263,727 | 76,898 | 96,485 | 6,121 | **102,606** | 39% |
| Equipment Costs | 264,431 | 190,985 | 202,939 | 7,171 | **210,110** | 79% |
| Infrastructure and works | 1,431,741 | 33,849 | 80,203 | 89,174 | **169,377** | 12% |
| **Total** | **4,909,921** | **1,764,771** | **2,191,345** | **393,764** | **2,585,108** | **53%** |
| **Original projected spend level[120]** | | | | | **4,909,921** | **82%** |

[117] LoO has since been updated at the beginning of 2019.
[118] Source: Project Progress Report 14 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.
[119] Source: SEUPB's EMS 14th December 2020
[120] Source: SEUPB's EMS 14th December 2020

## 10.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the StT project's key achievements and the extent to which the StT project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *10.4.1 Key Achievements (to November 2020)*

The project has had reduced activity as a result of the COVID-19 restrictions. However, by November 2020, much of the work had recommenced and the project was looking at ways to deliver some of the other activities remotely and via virtual workshops. For example, the Source to Tap education programme has recently focussed on providing five education units as online learning materials for parents and teachers to use with children at home and these are available on the project website. https://www.sourcetotap.eu/learn/

The project is also working on plans to deliver the education programme to schools via Zoom or similar media and the partnership is in the process of contacting schools to see if this would be feasible. The project partnership plans to prioritise schools that were originally booked for visits prior to lockdown and to target other schools in the Erne and Derg catchment following this.

Following the lockdown period, a COVID-19 safe working protocol was developed and Project Officers resumed farm visits concerning the Land Incentive Scheme (LIS) in June 2020. During lockdown, farm contractors were able to continue carrying out work on the measures on the ground such as the installation of fencing and weed wiping. As of November 2020, there had been 218 expressions of interest with 195 farm visits completed, with 4 pending.[121]

A significant concern with the LIS at present is the uncertainty around the impact of State Aid and Brexit negotiations on the Scheme. The scheme is registered by both the UK and Ireland in Europe until the end of 2020. However, the project partners hope to extend it until September 2021. It is understood that requests have been made via SEUPB to DAERA's State Aid team to determine at which point in the payment process, state aid applies to the scheme. This is important, as it will allow the project to manage delivery of the existing applications to the scheme and to ensure the budget is spent within the appropriate timeframes. SEUPB is working with the project and relevant government agencies on this matter.

The contract for the peat restoration work at the Forest Service's Tullychurry site was awarded, with construction work anticipated to start during October 2020 subject to a Forest Service licence being granted. Equipment was also purchased for the monitoring of the water table and shallow groundwater piezometers had been installed on part of the site, prior to restoration works.

Work on the forestry pilot resumed in June 2020 following the establishment of a safe working protocol by NI Water and agreement with Ulster University and Irish Water. However, the forestry operators continued harvesting activities during lockdown, which meant that unfortunately some of the pilot measures and samplers were not installed until after harvesting had occurred. However, the project partners consider that the prolonged dry weather may help to ensure that run-off from the felled sites would not occur during the lockdown period. Following the end of the lockdown period, all forestry pilot sites were underway. Activities included re-fitting of log dams that had been removed following harvesting, fitting of timber dams and fitting of brash dams.

[121] The LIS provides subsidies for farmers to carry out works such as weed wiping, fencing, clean & dirty water separation and farm track improvement. This aims to improve the catchment water run off which in turn improves water quality.

Monitoring activities were increased and the backlog of sampling due to the COVID-19 lockdown has now been cleared. Analysis of samples that were frozen during lockdown showed no discernible difference to unfrozen samples meaning that the samples collected during the period of lockdown are still valid.

Deployment of the chemcatches by AFBI at sites in the Derg catchment has been delayed due to COVID-19. The laboratory in Wales that supplies the chemcatches discs had staffing problems and lab closures so none of the previously returned chemcatches have been analysed, and there was delays in the supply of new discs.

An External Advisory Group Meeting was held in June via Zoom with around 25 attendees from agencies North and South attending. A presentation was provided by AFBI on results of the monitoring to date on the LIS and this was well received by all participants. All project steering group meetings and Board meetings have continued via MS Teams/Zoom ensuring business on the project has continued despite most partners still working at home.

The Source to Tap project progress reports cite the project's key achievements (between January 2019 - June 2020) as being: [122]

**Table 10.3: Key Achievements**

| Period | Dates | Key Achievements/Points of Note |
|---|---|---|
| 10 | 1st January 2019 - 31st March 2019 | • A review of the Project Risk Register was carried out by the PM and F/A Manager. Interviews were held within NI Water for the post of Peat and Forestry Pilots Manager, a modification request completed, and a new Letter of Offer was issued by SEUPB and signed.<br>• To March 2019, 98 farm visits had been completed and a further 9 were scheduled. 85 Water and Environment Management Plans were produced and issued to landowners and a further 13 were in draft form.<br>• EZINE 3 was published in March to 159 subscribers and 14 units of the StT Education Programme were delivered in 4 schools.<br>• To March 2019, the StT Education Programme has been delivered in 8 schools. A total of 35 units were delivered which engaged 322 pupils.<br>• Work was undertaken to identify and approach landowners regarding selected sites. |
| 11 | 1st April 2019 - 30th June 2019 | • The Peat and Forestry Pilots Manager started on 29th April 2019 and work was started on the peat pilot literature review.<br>• Monitoring for the forestry pilot sites was put in place by Ulster University, Irish Water, and NI Water at 5 sites (3 NI Forest Service sites and 2 Coillte sites). Procurement for contractors to install the mechanisms at the forestry sites was undertaken by NI Water and IW.<br>• Project Officers took a stand at the Castlederg Angling Fair and Balmoral Show (Irish Water and TRT) and also took an information stand at the Pettigo and District Angling Association event in June. Project Officers were also invited to work with schools as part of Waterways Ireland Biodiversity Week.<br>• Monitoring continued at the AWQMS in the Derg and Finn. The Derg catchment characterisation report was circulated during this time.<br>• Discussions with DAERA re the cross-checks for double funding occurred.<br>• A meeting was held with the Project Officers, NIEA and LAWPRO staff to discuss the project at a local level and build links for future liaison. |
| 12 | 1st July 2019 - 30th September 2019 | • 625 people were spoken to through the attendance at various events, agricultural shows, presentations at the Eco-Schools event in Irvinestown and the Lough Erne Landscape Partnership Schools Convention in partnership with the Share Centre.<br>• A rush control event was held in Killeter on 7/8/19 in cooperation with CAFRE and Teagasc and was well attended. A press release was issued following the event with coverage in the Farming Life and a radio interview on BBC Farmgate.<br>• A presentation was made to the Operational staff at the Derg Water Treatment Works on the progress within the Project.<br>• Sampling and analysis continued at the AWQMS and the CENIT sites. |

[122] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 14 albeit this was in progress (January – March 2020).

| Table 10.3: Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • UU continued fieldwork for weekly water samples at 5 forestry pilot sites and also monthly Lab work included tests for colour, turbidity/suspended sediments and also the volume of sediment captured upstream/downstream of measures. |
| 13 | 1st October 2019 - 31st December 2019 | • An external advisory group meeting was held in Enniskillen focusing on the progress of the pilot LIS and a presentation was made by DAFM on the issue of pesticides in raw water abstracted for drinking water in Ireland.<br>• Videos telling the 'Source to Tap' story were finalised and used at the 4 Project Information exchange sessions and project roadshow events in the Derg catchment. Issue 4 of the project newsletter was issued. Along with Irish Water, the project officers attended a school workshop hosted by ESB.<br>• Farm visits continued in this period and there were now 148 complete with 125 WEMPS produced. Water quality monitoring continued at AWQMS and CENIT by AFBI.<br>• The Peat and Forestry Pilots Manager continued to support Ulster University with weekly sampling. A field trip to the Derg Catchment to identify potential 2020 forestry sites took place.<br>• The Peat Pilot literature review was progressed to the final draft, HRA produced and preparation for restoration work continued. Attendance at the ICUN Peatland conference Belfast was a useful opportunity to network and learn about peat bog restoration elsewhere.<br>• The Finance Manager worked on obtaining approvals from DFI for the LIS advances and related procedures. |
| 14 | 1st January 2020 - 31st March 2020 (in progress) | • The PM showed AFBI economists around Derg catchment during a visit to Derg WTW and met Roy Taylor to provide information for the cost benefit analysis.<br>• The PM attended the Derg LIS farming family open day at Derg WTW. Two sessions were held to raise awareness about the challenges of water treatment. Press Release was prepared and issued to promote the LIS.<br>• PM and Peat and Forestry Pilots manager visited potential forestry pilot sites. Forestry sampling continued.<br>• PM and Peat and Forestry Pilots manager progressed the procurement of the peat pilot with various meetings. A visit to the CANN peat bog restoration work in Co. Tyrone helped answer queries on procurement of the peat pilot. Peat depth survey carried out.<br>• Meeting held with SEUPB, 9/3/20 to discuss an extension to the project, attended by NI Water, EBR, AFBI, TRT. |
| 15 | 1ST April 2020 - 30th June 2020 (From Partner Progress Reports) | **AFBI**<br>AFBI's work during this period was impacted by Covid-19 restrictions:<br>• Checks and maintenance of the Derg and Finn Monitoring sites were only carried out once a month instead of Bi-monthly (T6.3.5).<br>• It was planned that the sampling frequency would increase to daily sampling in the catchments in March (T6.3.2 and T6.3.7). However, due to the restriction, sampling remained at weekly. Samples were only collected once a month and were returned to AFBI to be frozen for later analysis. The sampling frequency was increased to 24/7 in late June<br>• AFBI labs were closed from the end of March so, during this period, any sample collected was frozen for later analysis. The lab staff returned in the second week of June and worked through the backlog of frozen samples, analysing a total of 196 samples.<br>**IW**<br>• Internal IW and StT risk assessments were completed to allow field/ site visits after government COVID-19 restrictions were lifted.<br>• The school's education programme was made available online in May.<br>• Farm visits were suspended during April and May due to COVID-19.<br>• An initial meeting was held between IW and AFBI economists to discuss data needs for the UKWIR assessment, and water treatment costs and water quality data were collated and issued to AFBI.<br>• Forestry: The log dams were installed by Coillte contractors whilst onsite at Grousehall No 2 site. Monitoring equipment was installed at both sites in June after the COVID-19 restrictions for site visits were lifted.<br>**LIS**<br>• The POs continued to undertake farm visits, produce WEMPs, process applications, and claims. Farm visits were suspended at the beginning of the period due to Covid-19 restrictions but resumed again on 13th May 2020. |

| Table 10.3: Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | **NI Water**<br>• During this period staff continued to work from home due to Covid-19 until the regulations eased in early June.<br>• Work on the final draft of the Forestry Pilot 2019, the draft Forestry Pilot 2020, and the draft Peat Pilot 2020 to June 2020 were all progressed by the P&FPM.<br>• The peat procurement exercise commenced with the documentation being sent out and a response received with meetings held to evaluate the DLG Construction return and negotiate the bill of quantities (BOQ) on 29/6/20. To support learning a meeting was held with staff from Bulrush and a site visit carried out on 23/6/20 to their Randalstown site to see an example of cell bunding at a peat extraction site which although not planted with trees previously was useful to see and a review of the Gantt was initiated.<br>**TRT**<br>• Alistair Maltby continued supporting project delivery team at the beginning of the period but left post, and Mark Lloyd took over supporting the project delivery team.<br>• The StT Education Programme was redesigned as an online education resource in response to the COVID-19 situation and was also added to The Rivers Trust's Schools Hub giving the StT education programme wider coverage across the UK and Ireland.<br>• For the first part of the period, farm visits were suspended due to Covid-19 restrictions. Work was undertaken to establish an operating procedure for farm visits under Covid-19 restrictions. Farm visits resumed on 13th May 2020.<br>• The POs continued to undertake farm visits, produce WEMPs, process applications, and claims. |

### *10.4.2 Progress Towards the Project Output Indicators*

Discussion with the StT project partnership indicates that the anticipated (approved) project outputs have, as of July 2020, not been achieved nor was it expected of the project at this stage in its implementation, as they have a 2023 delivery date.

| Table 10.4: Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **StT Project Target** | **Status (as of July 2020[123])** |
| 2.411 | Cross-border drinking water 'Sustainable Catchment Area Management Plan' research and pilot project | 1 | 1 | 0 |

### *10.4.3 Target Groups Reached*

As of March 2020, the project partners had engaged with 8 target groups, including general public from agricultural shows, farmers (at the launch of pilot LIS), press and radio articles and school children (from visits undertaken in September 2018).

| Table 10.5: Performance Against Target Groups Reached (as of March 2020[124]) | | | |
|---|---|---|---|
| **Target Group** | **Target** | **Achieved** | **% Achieved** |
| General Public | 0 | 8 | - |

[123] Source: Consultation with project lead (02/09/2020).
[124] Source: Project Progress Report 14 – 'Total reported'. This was the most recently available collated project progress report albeit it was in progress.

*10.4.4 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the StT project is, therefore, at July 2020[125], making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, this should be expected at this stage of the project's implementation (as they have a 2023 delivery date) and should not be considered a concern.

## 10.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the Source to Tap project include the following:

- As a result of the pandemic:
  - Staff across the lead organisation and project partners started working remotely;
  - Difficulties were encountered relating to the project's community engagement activities as a result of not being able to gather in crowds or schools. To mitigate this, the project put educational materials online and planned to get in touch with schools to potentially deliver it through online tools such as Zoom;
  - The projects information exchanges and roadshow events have been put on hold. As no agricultural events have been held, there has been less opportunity for the project to inform the public and farmers of the project's work and goals.
  - Various events were rescheduled or adapted to adhere to social distancing measures with reduced attendance. For example, the project plans to trial three rush control events (during late 2020) in the Derg Catchment with press releases about best practice weed wiping and rush control. The event will be in half-hour blocks with eight per group and held outside to ensure social distancing is observed. However, the rush events will be weather dependant.
  - The project partnership considers that the impact on the Land Incentive scheme may pose a risk to the project's anticipated results. Due to lockdown, staff were unable to carry out sampling activity, which means that 2020's results will not be consistent with previous years.
  - A further risk identified by the project lead is potential exchange rate fluctuations caused by Brexit or other factors;
  - The project partnership implemented cooperative measures to enable a more joined-up project response and to enable the individual project partners to better respond to the pandemic, with the project lead noting that NI Water continued to provide a laboratory service and supported other partners, whilst meetings continued online;
  - In addition, as a response to the pandemic, NI Water was considered an essential service, particularly with the increased focus on handwashing. Therefore, the staff continued to operate in their labs and made repairs throughout lockdown. In addition, AFBI completed laboratory analysis to assist with COVID testing.

- Despite the impact of COVID-19:
  - The Source to Tap project partnership continues to consider that it is feasible to make up for the delays caused by COVID-19 and that they will be able to deliver the project within its current budget;
  - However, the partnership considers that it may not be feasible to deliver all of the project's planned activities within the original timeframe;
  - In addition, the project lead indicated that the project would likely not be able to reach its anticipated level of expenditure by the end of 2020, but would reach its anticipated level of expenditure by the end of the project period;

[125] Source: Consultation with project lead (02/09/2020).

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it is working with each of the Priority Axis 2 projects to establish the impact of the pandemic on their project and their potential requirements (e.g. project extensions). The following was noted:

  - Elements of the Forestry Pilot were delayed relating to the 2020 mechanisms for monitoring. However, samplers were installed in June to assist monitoring. Nonetheless, the level and frequency of sampling was significantly reduced during the period to once a day rather than every seven hours. This has impacted the ability to cross-reference against previous findings from the previous year's datasets.
  - Land Incentive Scheme farm visits were put on hold but resumed in June 2020 following the development and approval of protocols for safe working.
  - Consequently, the project is planning to submit a request for an extension.

# 11. CATCHMENTCARE

## 11.1 Introduction

This section of the report considers the CatchmentCARE project, which was awarded grant funding under Priority Axis 2 - Environment, Specific Objective 4 – Improve Freshwater Quality in Cross-Border River Basins.

## 11.2 Project Overview

Land use activities can impact on aquatic ecosystems across jurisdictions. Given that Northern Ireland and Ireland share three International River Basin Districts, there is a requirement for a coordinated, cross-border approach when implementing the EU WFD[126].

Difficulties associated with the spatial fit and institutional interplay (due to differences between administrative, political and International River Basin Districts' boundaries) pose a significant challenge for cross-border management. For example, while agencies in both Northern Ireland and Ireland are adopting risk-based approaches to the targeting of resources and measures for the WFD[127], there is limited coordination of these activities to ensure the approaches are compatible. In developing these risk-based approaches, the use of different models, datasets and scales will impact on the ability to implement and manage cross-border strategies both now and in the future.

In addition, there has been a notable failure to incorporate catchment and water body heterogeneity successfully into catchment management, with administrative and operational constraints limiting a greater focus on targeted mitigation strategies. The CatchmentCARE project partnership – involving key stakeholders that have been involved in delivering programmes to support the cross-border coordinated protection of aquatic ecosystems – identified a specific need for intervention in the following three catchments:

| | |
|---|---|
| **Blackwater catchment** | Throughout much of the Blackwater catchment, agriculture poses a significant threat to water quality due to its relatively high intensity and its location on impermeable drumlin soils (which have high connectivity to water bodies). For example, the EPA estimates that 85% of the phosphorus in the southern half of the catchment is coming from diffuse agricultural sources. In addition, wastewater treatment works (WWTWs) are also having an impact on, for example, the Clontibert Stream, Mountain Water and Blackwater.<br><br>The high export of nutrients and sediment from agricultural land and WWTWs, in conjunction with poorly drained soils, means there is potential for willow and riparian zones to break the hydrological connectivity and reduce contaminant export.<br><br>Previous studies[128] highlighted the contribution of point source nutrients to rivers during periods of low flow in the summer, with Willow being used as a proven (cost-effective) technology for reducing the risk associated with the export of nutrients from small WWTWs.<br><br>The Blackwater catchment has also been subject to significant arterial and land drainage, which has altered the hydromorphology of the river. Numerous artificial barriers on tributaries such as Benburb, Butterwater and Emyvale are also impacting on the hydromorphology and passage of fish. Further assessment of the benefits of removing these barriers is required. |

[126] As previously discussed, the WFD was established to protect and prevent further deterioration of inland surface waters, estuaries and coastal waters and implement a framework to enhance and return these aquatic ecosystems to at least "Good Status". The WFD is implemented on the basis of hydrologically discrete River Basin Districts, which have been identified and classified according to their physical and biological characteristics, by the Regulating Authority of each EU Member State. The management of cross-border catchments is specifically recognised in Article 3.3 and 3.4 of the WFD, which specifies that member states are required to coordinate activities within international river basin districts.
[127] NIEA utilises Critical Risk Mapping and EPA utilises Catchment Investigative Assessment.
[128] E.g. through the Blackwater TRACE project.

| | |
|---|---|
| **Finn catchment** | The Finn River has been designated as an Area of Special Scientific Interest for Atlantic Salmon and Otter. However, recent River Hydromorphology Assessment Technique (RHAT) assessments have indicated the hydromorphology is at 'moderate' status for habitat in much of this catchment. In-stream and riparian water body quality improvement actions are, therefore, required.<br><br>In addition, alien invasive plants such as Japanese Knotweed and Himalayan Balsam are present in the riparian zones. Whilst the physiochemical status of the river on the Ireland side of the border is high, the macroinvertebrate element is poor. This, therefore, suggests that the stream is impacted by other pressures, such as chemical escapes from land-use practices or potentially from hydromorphological impacts. In the part of the Finn catchment that is in Northern Ireland, the river is failing due to fish. There is, however, no clear evidence, as to why this is the case. |
| **Arney catchment** | The status of Upper Lough MacNean deteriorated from 'Good' to Moderate status between 2010 and 2014. The elements that determined the status were macrophytes, phytoplankton and nutrients and it was dissolved oxygen that caused the change to Moderate status. Also, the status of Lower Lough MacNean deteriorated from 'Good' to 'Bad' status between 2010 and 2014. |

The WFD includes a reference to both surface-water and groundwater bodies. The current distribution of boreholes in the border region is, however, inadequate to satisfy the monitoring requirements of the WFD. While current groundwater modelling predictions provide some estimates of the impact of land use on groundwater quality, there is a need for these estimates to be verified through a water quality monitoring programme. In addition, very little is known about the interaction of groundwater bodies with surface water bodies.

Furthermore, with the implementation of a range of policies, regulation and initiatives related to the environment and sustainable land use in both jurisdictions, there has been an intensification of the knowledge requirements of all local, regional and national stakeholders. This poses a particular challenge in border areas, as stakeholders often have to consider information from two separate jurisdictions.

The CatchmentCARE project has been developed to:

- Provide a platform to integrate the two risk-based approaches being implemented in Northern Ireland and Ireland;
- Add value to the Critical Risk Mapping and the Catchment Investigative Assessment and to examine how these approaches can be integrated on a cross-border basis;
- Facilitate a greater focus on catchment heterogeneity by identifying and targeting actions that are specific to the land-use pressures impacting on aquatic ecosystems in the Finn, Arney and Blackwater catchments;
- Add value to the stakeholder engagement activities carried out by Catchment Officers (NIEA) and Community Water Officers (in Local Authority Water and Community Office (LAWCO) in Ireland) in the catchments; and
- Liaise with the LAWCO coordinator for the border region and with the NIEA Water Management Unit to ensure the proposed CatchmentCARE project activities add value to the WFD Programme of Measures (POMs).

The CatchmentCARE project partnership is led by Donegal County Council (DCC) and is made up of the Inland Fisheries Ireland (IFI), the Loughs Agency (LA), the Agri-Food and Biosciences Institute (AFBI), Ulster University (UU), Armagh, Banbridge and Craigavon Borough Council (ABCBC), British Geological Survey (BGS) and Geological Survey of Ireland (GSI).

The CatchmentCARE project partnership intends to:

- Establish 3 water quality improvement projects in the Finn, Blackwater and Arney Catchments; and
- Develop and implement 50 cross-border groundwater monitoring wells (by installing 51 boreholes[129] across the region).

[129] NB: Boreholes need to be installed in multiplies of 3 i.e. 17 x 3 = 51 boreholes.

The CatchmentCARE project aims to establish 3 water quality improvement projects and install 51 boreholes through a series of 6 interrelated 'objectives':

1. Implement actions to reduce the impact of land use activity on the ecology, physio-chemical and hydro morphology of the catchments.
2. Implement 51 boreholes across the border region.
3. Assess the impact of catchment land use on groundwater and its contribution to achieving GES in surface waters.
4. Develop soil type and farm type-specific nutrient advice for cross-border catchments.
5. Assess the costs and feasibility of achieving the WFD targets in the three catchments.
6. Using the knowledge and skill arising from objectives 1-5, improve the capacity of stakeholders to support sustainable land use in the catchments.

The following seven work plans have been developed:

**Table 11.1: Summary of CatchmentCARE Project Work Packages**

| Work Package[130] | Description[131] |
|---|---|
| **1. Management** | This work package will be led by Donegal County Council and relates to all aspects of governance and oversight relating to project delivery. |
| **2. Scoping and Action Targeting** | The CatchmentCARE project partnership notes that existing available information does not provide the level of detail required for targeted implementation of actions within sub-catchments at the scale of fields, farms, river reaches and point source inflows. Targeting actions at this scale will, therefore, increase the cost-effectiveness of the interventions and improve the likelihood of contributing to an improvement in water body status. In addition, it is anticipated that the proposed scoping study (as set out above) will facilitate the integration of the different actions (e.g. surface water monitoring with groundwater monitoring) and with the communication work package. |
| **3. Water Body Actions in Catchments** | This work package will deliver actions within rivers and lakes that are identified during work package 2. This work package will focus on improving in-stream habitats, river connectivity, riparian zones and on reducing the internal loading of phosphorus in lakes. It is anticipated that existing river surveys of some sections of the Finn and Blackwater catchments will also be used. |
| **4. Catchment Land Use Actions** | This work package will undertake actions aimed at reducing the impact of WWTW and diffuse agricultural pollution in each catchment. It is proposed that the focus will be on 'breaking' the hydrological connection between the land and water bodies using strategically targeted willow and riparian zones. |
| **5. Groundwater** | It is anticipated that the installation of 51 boreholes will bring significant added value to the establishment of 3 river improvement projects in the Finn, Blackwater and Arney catchments. This work package will, therefore, install 51 boreholes across the border region, characterise the aquifers, conduct a baseline survey of water quality and investigate the interaction with surface water bodies. |
| **6. Project Legacy** | This work package will focus on enhancing the capacity of stakeholders and assess the costs and feasibility of achieving the WFD targets in the three catchments. It will also evaluate lag-times in response, ecological recovery trajectories, future land use intensification, climate change, disproportionate costs etc. and their impact on achieving the objectives of the WFD in these catchments. |
| **7. Communication** | This work package will implement a range of activities targeted at stakeholders at local, regional, national and international levels. It is anticipated that stakeholder capacity (local, NGOs and Government) will impact on a community's ability to make the changes required to implement the WFD; achieve sustainable agriculture and housing and develop a thriving rural economy in the catchment areas. |

[130] Per Progress Reports.
[131] Per Stage 2 Application Form/Business Plan.

## 11.3 Project Budget to December 2020

The CatchmentCARE project received a Letter of Offer (dated 31st October 2017) offering a grant of up to a maximum of €13,792,435.55 (ERDF + Government Match Funding) to be expended and claimed by 31st October 2022, towards total anticipated project costs of €13,792,435.55.

In August 2020, the SEUPB approved the reallocation of budget between categories, as shown in Table 11.2. As of December 2020, the project had reported total estimated expenditure of €3,653,957, equivalent to 26% of the total project budget. The original projected spend for the same period estimated that 57% of the total project budget would be incurred at this time.

**Table 11.2: Project Costs – Anticipated and Estimated Actual December 2020 (€)**

| Summary Budget | Anticipated Total | Actual to Sept 2019 Per Project Progress Report[132] | Reported to JS by First Level Control (FLC) | Pipeline Expenditure (excluding items deemed ineligible by FLC) | Total Estimated Expenditure in December 2020[133] | % of total budget |
|---|---|---|---|---|---|---|
| Staff Costs | 5,771,991 | 1,037,464 | 1,405,601 | 1,089,241 | **2,494,842** | 43% |
| Office and Administration Costs | 865,798 | 160,961 | 216,182 | 163,386 | **379,568** | 44% |
| External Expertise and Services | 2,162,079 | 40,826 | 45,963 | 327,745 | **373,708** | 17% |
| Travel and Accommodation Costs | 668,385 | 26,961 | 67,019 | 45,635 | **112,654** | 17% |
| Equipment Costs | 610,972 | 95,012 | 113,737 | 122,638 | **236,375** | 39% |
| Infrastructure and works | 3,713,211 | 2,906 | 6,482 | 50,327 | **56,809** | 2% |
| **Total** | **13,792,436** | **1,364,130** | **1,854,984** | **1,798,972** | **3,653,957** | **26%** |
| **Original projected spend level[134]** | | | | | **7,833,347** | **57%** |

[132] Source: Project Progress Report 8 – 'Total reported'. This was the most recently available collated project progress report.
[133] Source: SEUPB's EMS 14th December 2020
[134] Source: SEUPB's EMS 14th December 2020

## 11.4 Contribution to the Priority's Specific Objectives & Result Indicators

This section considers the CatchmentCARE project's key achievements and the extent to which the CatchmentCARE project has:

- Contributed to the achievement of the Priority's Specific Objectives; and
- Contributed to the achievement of the targets for the Result Indicators.

The section also identifies any external factors that have impacted, positively or negatively, on the project's ability to contribute to the achievement of the Specific Objective.

### *11.4.1 Key Achievements (to November 2020)*

The project has had reduced activity as a result of the COVID-19 restrictions. However, by November 2020, much of the work had recommenced and the project was looking at ways to deliver some of the other activities remotely and via virtual workshops.

Due to COVID-19 restrictions, the Catchment Care project has continued to meet as a partnership and as a Steering Committee via video conference. There has however been some interruption in the education programme which has unfortunately been postponed until at least March 2021. Whilst this does not directly affect the outputs of the project, it is nevertheless an important tool for project dissemination and for the learning of future generations. The education programme facilitators are developing a series of online videos which will replace some of the planned works and are doing so with CatchmentCARE partners contributing to video chapters on the five topics listed below:

| Episode | Content |
|---|---|
| 1 | "The River - where it all begins: – ABC |
| 2 | "How to build a river" - IFI / LA / RBCT |
| 3 | "Creatures of the river" - ABC Education Team / Ballinderry Rivers Trust |
| 4 | "The magic moving river" - BGS / GSI / Marble Arch Caves |
| 5 | "All my fault" - AFBI / RBCT |

The project partners (Inland Fisheries Ireland, Loughs Agency and Armagh, Banbridge and Craigavon Council) have commenced in-stream and riparian works for the Finn catchment area. This follows a successful tender process and relevant planning permission approvals.

The project partners (Agri-food and Biosciences Institute in conjunction with UU) have progressed upgrades with willow bio-filtration at existing wastewater treatment plants at Liscooley (Finn catchment) & Cavanagrow (Blackwater catchment).

The Groundwater Team has progressed land access agreements which were anticipated to be finalised in the Finn, Blackwater, Arney, and Hillsborough catchments over the autumn of 2020. Drilling for the boreholes commenced in September in the Finn catchment, whilst drilling was anticipated to commence in the Derg catchment. The team had scheduled to dig more than 50% of the boreholes by the end of 2020 with all 50 scheduled to be in place by June 2021.

The project identified a chemical export issue within the Finn catchment. During this period the focus has turned to sheep dip activities and how a best practice approach can be better promoted. A series of Sheep Dip Demonstration Days in conjunction with Teagasc are planned, the first of which was held on site during September 2020. The intention was to have upwards of 100 attendees present, however with the COVID-19 restrictions only 15 attendees were permitted. As a result of this lower number, the project proceeded with the event, but procured the services of a videographer to record the key messages arising which it is anticipated will be published on the project's social media channels and nationally in conjunction with Teagasc.

A rush control event was planned for early September 2020 at a farm in the Derg and another in the Erne, but this was not feasible due to the difficulties in finding suitable farms with car parking as a bus

could not be used to transport farmers to the farm. Instead, it was decided to hold a series of 3 outdoor information exchange events with a weed wiping contractor present to publicise the benefits and best practice of weed wiping for rush control. Nineteen new enquiries were received during these events, with further phone enquiries also received.

The CatchmentCARE project progress reports cite the project's key achievements (between January 2019 and September 2020) as being:[135]

**Table 11.3 Key Achievements**

| Period | Dates | Key Achievements/Points of Note |
|---|---|---|
| 6 | 1st January 2019 - 31st March 2019 | • Scoping and Action Targeting was in progress with all partners contributing.<br>• Partners continued to collect data and surveys.<br>• Groundwater teams scoped suitable sites across the catchment.<br>• Research work on lakes was ongoing with a selection of sites being identified.<br>• Permission from landowners was being developed for farm-scale surveys and groundwater drill sites. |
| 7 | 1st April 2019 - 30th June 2019 | |
| 8 | 1st July 2019 - 30th September 2019 | • The project focused on the delivery of the Community Incentive Scheme during this quarter.<br>• All partners involved attended information sessions to encourage interested community groups to apply for the available funding.<br>• Work continued under the Scoping and Targeting WP to enable LA to lead out in the next work package of Land Use Actions. |
| 9 | 1st October 2019 - 31st December 2019 (From Partner Progress Reports) | ***ABC***<br>Community Incentive Scheme<br>• The scoring process took place for all 3 catchments CIS projects. 11 funded in Blackwater, 3 in Finn, and 3 in Arney.<br>• Procurement of CIS projects already going ahead in December for elements of all the projects including materials/equipment/resources/site works and access/education programmes / educational hub etc.<br>Education Programmes<br>• Following on from the successful pilot programme, a further education programme engaging with local schools across the 3 catchments was developed. 14 schools were to be involved in the 2020 programme (2 in each catchment). Tendering of the new programme took place to procure an agency to deliver the works.<br>• Schools in the Blackwater Catchment were contacted to flag up a new programme and to get a commitment to take part.<br>***AFBI***<br>• AFBI continued to work on the collection of farm nutrient management data on 17 farms in the Blackwater catchment, agronomic field trials, identification of farm sites for environmental monitoring, development of a farmyard assessment tool, modelling of water quality, monitoring of the willow plantations at the AFBI Hillsborough Farm and identification of WWTP locations for the installation of willow biofiltration plantations.<br>• AFBI staff delivered several presentations and site visits, promoting CatchmentCARE.<br>***BGS***<br>• In the Arney catchment, springs were identified at the desk study stage for potential inclusion in spring flow and groundwater chemistry monitoring network. Some of the springs were visited, and access discussions were opened with the assistance of the Arney Catchment Officer. A surface geophysics survey was undertaken in the Derg catchment and a report delivered. Potential groundwater monitoring sites in the Blackwater catchment were identified with the assistance of the Catchment Officer.<br>• Carntal Primary School was surveyed, and a proposal presented to the principal for a groundwater monitoring station.<br>• Modifications to the borehole completion at St Columba's College in the Finn were made, as the boreholes were found to be artesian (overflowing) Further input was made to the Scoping Summary report. The groundwater monitoring RFT completed and received 2 valid submissions and 2 out of scope. |

[135] Please note that the key achievements have been documented in respect to the most recent Partner Project Progress reports that were available to the Evaluation Team at the time of writing. The most recently available collated Project Progress report for the project was for period 8 (July – September 2019).

| Table 11.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | ***DCC***<br>• Assessment of the Community Incentive Scheme (CIS) applications.<br>• Site visit to AFBI Hillsborough site with delegates from the partnership and Steering Committee.<br>***GSI DCCAE***<br>• The surface geophysics in the Derg catchment was completed. It commenced in late October and finished in mid-November.<br>• A spring catchment and water sampling Information Leaflet was developed to allay landowners' concerns (GSI). Potential groundwater monitoring sites in Blackwater catchment were identified with the assistance of the Catchment Officer (Mainly NI, but some RoI.)<br>• There was ongoing work to secure land access agreement from AFBI and DAERA for the installation of stations on the Hillsborough Estate.<br>***IFI***<br>• After completion of the survey programme for the physical habitat assessment and barriers, summary documents and reports were compiled. This reporting covered all three catchments, with IFI survey data from the Blackwater and Arney and Loughs Agency data from the Finn. The previously agreed survey protocol approach by the two agencies meant that data sets were comparable between catchments. A prioritisation approach was developed, based on scientific literature, and implemented to generate prioritised listings for instream and riparian assessment and, separately, for barrier mitigation. These reports were loaded as DRAFT into the ems system at end of Period 8 with a planned submission of final versions at end of Period 9.<br>• The River Restoration Centre, UK, provided a one-day training in hydromorphology, organised by partners in ABC. This included visits to 2 different sites.<br>• The IFI team also visited sites in the Arney where landowner permissions were being negotiated. |
| 10 | 1st January 2020 - 31st March 2020 (From Partner Progress Reports) | ***ABC***<br>• ABC Instream & Riparian Work: Ballygawley River Phase 1 was out to tender and in terms of Soil Sampling 15 farms were complete. Samples analysed and results compiled and returned to farmers.<br>• Community Incentive Scheme: Scoring process took place for all catchments CIS projects. 11 were funded in Blackwater and 3 each in Finn and Arney.<br>• All successful Blackwater projects were sent acceptance letters and all groups met to develop 'project delivery' timetables.<br>• Education programmes: Phase 2 of education programmes were procured - 14 schools were involved in work.<br>***AFBI***<br>• AFBI continued to work on the collection of farm nutrient management data on 17 farms in the Blackwater catchment, agronomic field trials, monitoring of one farmyard and instrumentation of two others for environmental monitoring, development of a farmyard assessment tool, modelling of water quality, monitoring of the willow plantations at the AFBI Hillsborough Farm and identification of WWTP locations for the installation of willow biofiltration plantations.<br>***BGS***<br>• Arney catchment: springs previously identified for potential inclusion in a spring flow and groundwater chemistry monitoring were visited and discussions with landowners about site access were undertaken with the assistance of the Arney Catchment Officer.<br>• Land access agreements were put in place in the Blackwater Catchment. The drilling RFT was completed with six companies available to be called upon to drill. The date of the commencement of drilling was unclear due to the present COVID emergency.<br>• The groundwater monitoring contract was still being developed and groundwater monitoring would not take place now until spring 2021.<br>***DCC***<br>• Seminar - Exploring the Benefits of SRC Willow Planting for Water Quality Protection and Waste Water Management - 5th March 2020. |

| Table 11.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | • Partner and SC Meetings all changed to virtual conferences due to restrictions put in place under COVID-19.<br>• All responses for COVID-19 Log were shared and collated these demonstrated possible delays that partners may experience with restrictions.<br>***GSI DCCAE***<br>• Arney catchment: springs identified by desk study were visited and probes installed at 11 springs. This process was assisted by the Catchment Officer. 3 springs remained outstanding due to initial COVID restrictions being implemented during fieldwork.<br>• Potential groundwater monitoring sites in the Blackwater catchment were identified with the assistance of the Catchment Officer. Progress was made on the Coillte-owned sites in the Finn catchment, with preliminary land access agreement indicated. However, the project had to go back to the Board for a variation in their approval conditions, and this decision was delayed by COVID. (NB: this was subsequently agreed in April).<br>• The Drilling Framework RFT was completed, published, and evaluated. Six submissions were received. Contract completion was ongoing as it was delayed by COVID.<br>• Additional hydrogeological assistance was procured from the GSI's personnel framework. Submissions from four entities were received.<br>• Three articles were produced by the Ground Water (GW) Team for the CatchmentCARE newsletter. GSI wrote the springs article. A leaflet to explain springs, spring catchments and water sampling to landowners was produced with the assistance of Lead Partner and i2. The drilling explanation leaflet for landowners was also finalised.<br>***IFI***<br>• Reports outlining the survey protocol and subsequent prioritisation methods were finalised.<br>• IFI hydromorphology team walked 3 river reaches (from the prioritised list) in Blackwater and detailed potential hydromorphology works.<br>• IFI catchment officer met with landowners to detail works and gain written permission for riparian works 'Arney-Phase 1'.<br>• The tender riparian works were successfully advertised, however, was subsequently collapsed due to the Covid pandemic.<br>• IFI held internal handover meetings for the newly appointed Senior Research Officer.<br>***LA***<br>• A draft of a Chemical Export Literature Review was completed with recommendations on monitoring and potential mitigation measures.<br>• A substantial survey of all council and privately owned sheep dip facilities on the Finn was completed.<br>• A desktop survey of forestry on the Finn was undertaken to determine the likely interaction hotspots between the forests and the river. |
| 11 | 1st April 2020 - 30th June 2020 (From Partner Progress Reports) | **ABC**<br>• ABC Instream & Riparian Work: Ballygawley River Works Phase 1: Six companies invited to tender. Work beginning at the end of June. 3.1km of works to include fencing, drinkers, planting, stiles, bank stabilisation and instream works in partnership with DAERA.<br>• Community Incentive Scheme (CIS) Updates: Equipment for six Blackwater Groups delivered, totalling £13,000 (€14,500).<br>• Tender scored and contracts awarded to Circle Creative for Interpretive Panels for all Catchments (15).<br>• 6-week Education Programme for 3 groups (5 schools) was awarded.<br>• Bioblitz (2 events) for 2 groups and 2 sites – tender awarded.<br>• Communications: New website was in development. Approx. 1,800 Hits on the website per month. Newsletter 3 – Produced and sent to all partners.<br>**AFBI**<br>Work during this period was impacted by Covid-19.<br>• All lab and fieldwork stopped at the end of March, with some fieldwork recommencing in late May. Staff continued working from home. While covid-19 impacted on the project, at this time it was not expected to cause significant delays |

| Table 11.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| | | to the completion of deliverables unless tighter restrictions were put in place again. It did impact on the recruitment of a Senior Agricultural Economist, however.<br>• Catchment Land Use Actions - Every effort was made to continue with activities during this quarter due to the strict seasonality of land-based activities. If the diffuse sites at Hillsborough were not maintained and the sites at Cavenagrow and Liscooley were not progressed, this would automatically have put these activities back 1 year until planting season 2021. Covid-19 made these operations more difficult to arrange and manage however AFBI believe they were successful. Desk-based activities continued with several outputs being produced.<br>**BGS**<br>• Due to the restrictions imposed by the outbreak of Covid-19, no fieldwork was taken place this quarter.<br>**GSI DCCAE**<br>• The Drilling Framework contracts were awarded and signed. The structure and content of the call-off contracts were drafted.<br>• In the Finn catchment, the boreholes at St Columba's were visited and assessed for fitting specialist equipment to monitor artesian water levels and other parameters. Equipment needed was scoped and identified. All proposed drilling sites were visited, and initial safety files prepared as part of Health and safety requirements (PSDP). Land access agreements were signed for the Coillte sites.<br>• There was no fieldwork in the Arney catchment due to COVID restrictions. However, Risk Assessments have been developed for the required work of checking previously deployed measurement probes, data download, and deployment of further probes. Spring location, probable flow ranges, and other information were summarised and provided to BGS.<br>• A hydrogeological consultant was retained at the end of Q1 2020, whose task was mainly drilling supervision. This activity was delayed by COVID, but the consultant made some progress in the Finn.<br>**IFI**<br>• A tender was advertised for riparian works in the Arney catchment, consisting of fencing and planting a 2.2km stretch of river, and providing alternative water drinking sources for livestock.<br>• IFI catchment officer contacted landowners to gain permissions. Information on candidate barriers was collated as well as possible mitigation techniques feasible for each case.<br>• Tender documents were drawn up for barrier mitigation in the Blackwater catchment. The barrier in question was a ford intended to be replaced with a box culvert. Updated Stand Operating Procedures were developed to include recent circumstances (e.g. Covid-19 mitigation).<br>**LA**<br>• Cummirk Project was submitted as x4 planning permissions, x2 riparian (fencing, tree planting, and buffer zone) and x2 instream work sites. In total Loughs Agency identified 267 km of potential riparian fencing throughout the catchment. The Cummirk project included just over 1.8km of riparian fencing and tree planting on the Northern Bank. This was to create a 5m buffer strip for this whole stretch of the northern bank. This was to allow for the inclusion of the land in the SFP scheme.<br>• The Cummirk project was also to include the planting of 2450 trees because the installation of the buffer zone would exclude livestock from entering the river to drink, gravity-fed troughs (Main Source) and ram pumps (Back up source) were to be installed.<br>• The Cummirk project has two small instream works projects. 2 pools were created by scour from bank modifications upstream. Plan to reduce bank erosion and trap sediment with the installation of brash, the structures will also from habitat for macroinvertebrates and will act as refugia for fish.<br>• Work also continued progressing sites for mitigation under control of chemical escape from land use. A literature review was completed including detailed information on the main herbicides and pesticides being used in agriculture. |

| Table 11.3 Key Achievements | | |
|---|---|---|
| **Period** | **Dates** | **Key Achievements/Points of Note** |
| 12 | 1st July 2020 – 30th September 2020 (From Partner Progress Reports) | **DCC**<br>• Launch of CIS Phase 2 in August.<br>• Site meetings with LA and Coillte to consider impacts from forestry and if additional mitigating measures were required in conjunction with CCP.<br>• The Lead Partner continued to manage the project during the Covid-19 Pandemic and adapted to a new way of working with all the project partners. Planning and procurement continued to be progressed so that work could be ready to proceed when the restrictions are eased.<br>• The Lead Partner progressed stakeholder engagement work in conjunction with AFBI regarding farm nutrient management and farmyard waste and with the Loughs Agency regarding an Open Day with the farming community to promote sheep dip best practice.<br>• The Lead Partner worked closely with ABC and I2 on the upgrade of the Project website which was nearing completion.<br>**LA**<br>• Since the last report, the Cummirk Project was granted planning permission. The project was submitted as x4 planning permissions, x2 riparian (fencing, tree planting and buffer zone) and x2 instream work sites. |

### *11.4.2 Progress Towards the Project Output Indicators*

Discussion with the CatchmentCARE project partnership indicates that, as of September 2020, the anticipated (approved) project outputs have not been achieved albeit, it was not expected of the project at this stage in its implementation, as they have a 2023 delivery date.

| Table 11.4 Project Output Indicators | | | | |
|---|---|---|---|---|
| **Programme Output Code** | **Name of Output** | **Programme Output Indicator Target** | **Catchment CARE Project Target** | **Status (as of September 2020[136])** |
| 2.412 | Develop and implement cross-border groundwater monitoring wells | 50 | 50 | 0 |
| 2.413 | Establish 3 river water quality improvement projects | 3 | 3 | 0 |

### *11.4.3 The Priority's Result Indicator Targets & Specific Objectives*

Given the early stage of the project's implementation and the fact that the project has yet to achieve its anticipated (approved) project outputs, the CatchmentCARE project is, therefore, at September 2020[137], making only marginal progress towards the Priority's Result Indicator Targets and Specific Objectives. However, as reflected below, the project partners have raised some concern that their project may not fully deliver on its original aims and objectives as a result of factors associated with the pandemic.

[136] Source: Consultation with project lead (02/09/2020).
[137] Source: Consultation with project lead (02/09/2020).

### 11.5 Impact of COVID-19

As reflected in Section 2, key findings related to the impact of COVID-19 or otherwise on the CatchmentCARE project include the following:

- As a result of the pandemic:
  - Staff across the lead organisation, project partners, and project beneficiaries started working remotely;
  - Travel restrictions had an impact on the various surveys and fieldwork which is required to enable works to be delivered, including elements of the Groundwater programme, Farm studies, Education programme and River Restoration works (in-stream / riparian works).
  - Procurement activity was also impacted, e.g. simple price checks were delayed as suppliers did not respond to requests for quotations or were having difficulty making deliveries;
  - There has been considerable disruption to the various workstreams (but also delays to planned works caused by changes to legislation which allow longer timelines for planning decisions).
  - The mid-term conference was postponed to 2021, whilst other events have either been cancelled or have had to take place with much lower than anticipated attendances. Therefore, they will have a much lower impact than originally envisaged. For example, the project had planned to deliver a workshop concerning sheep dip and chemical export with 100 farmers in attendance. Instead, the event was held with 5 farmers in attendance, whilst a videographer recorded the event so it could be uploaded to the project's social media accounts, project website and partner websites;
  - There has been reduced levels of monitoring, which pose a risk to the anticipated project results;
  - However, additional cooperative measures have been implemented to enable a more joined-up project response and to enable the individual project partners to better respond to the pandemic by communicating through online meetings, releasing newsletters and upgrading their website.

- Consequently, the CatchmentCARE project partners consider:
  - The project to be behind schedule and potentially at risk of not achieving its aims and objectives;
  - It may no longer be feasible to deliver all of their project's planned activities within the original timeframe, and are of the view that a 6-month extension might be required;
  - However, the project will not go over budget. The project lead noted that they planned to arrange a meeting with SEUPB to consider how to best allocate the budget, which is underspent at this time, and the project expects underspend by the end of the anticipated project period.

- The Evaluation Team notes that discussion (during December 2020) with SEUPB's Joint Secretariat indicates that it is working with each of the Priority Axis 2 projects to establish the impact of the pandemic on their project and their potential requirements (e.g. project extensions). The following was noted:
  - Field work and monitoring has been delayed. If boreholes are not drilled on a timely basis, it will cause issues with the level of monitoring that can be undertaken post-works. The project will require at least 18 months to two years of data gathered to be fully effective.
  - A project extension will likely be required to ensure that there is sufficient time for monitoring works to be undertaken.

# 12. CONCLUSIONS AND RECOMMENDATIONS

## 12.1 Conclusions

### *12.1.1 Impact of COVID-19*

The key findings from the Evaluation Team's consultation with project partners include:

- 5 of the 9 projects consider that the onset of the COVID-19 pandemic and the associated lockdown and disruption to normal working practices have created a risk that their project will not fully achieve its aims and objectives.
- 7 of the 9 projects have made some adaptations to their project as a result of the COVID-19 pandemic;
- 4 of the 9 projects consider that their project will likely require an extension to its originally anticipated timescales to complete successfully;
- 1 of the 9 projects considers that they will likely not be able to spend their full budget allocation.

It should be noted that the Evaluation Team spoke with the projects at a time (end of August/start of September) when COVID-19 restrictions had been eased/lifted to some extent and projects may have been more optimistic about the project's ability to achieve its aims and objectives within the original timeframe. However, at the time of writing (late December 2020) further restrictions are being implemented in Northern Ireland and the Republic of Ireland, which may pose a significant risk to cross-border collaboration activities during their implementation.

### *12.1.2 The current position of the projects*

Specific project conclusions are detailed below:

<u>CANN</u>

Whilst the CANN project partnership indicates that the anticipated (approved) project outputs have, as of August 2020, not yet been achieved, progress has been made. However, the onset of the COVID-19 pandemic has had an impact and the associated restrictions may jeopardise the expected results of the project. In particular, the project partnership cited the reduced quantity of monitoring data, due to the loss of a field season, as having had a significant impact. The partnership also noted the threat of a second lockdown and associated restrictions, which may lead to further delays, as an additional risk to the project's expected results.

The CANN project is therefore behind schedule, with the project partnership of the view that there is a risk that the project may not fully achieve its aims and objectives and that it may no longer be feasible to deliver the project's planned activities within the original timeframe. The project lead also considered that it may not be possible to make up for the delays experienced as a result of COVID-19, as the project's work is seasonal and the lost time as a result of the COVID-19/lockdown measures cannot be made up without an extension to the project's timeframe.

The project lead noted that they would be able to deliver the project within its current budget and they were positive that they would spend the full budget allocation by the end of the anticipated project period. The Evaluation Team is of the view that there is a degree of risk that the project will not be able to deliver all of their planned activities within the original timeframe considering that as of December 2020, despite being more than three-quarters (78%) of the way through the originally anticipated project period the project has only spent 50% of its total budget (against a forecasted position of 75% at the same juncture).

It is understood that the CANN project will seek a project extension early in 2021.

CABB

Despite the onset of the COVID-19 pandemic, the CABB project partnership had (in July 2020) exceeded its aspect of the *'Nature and biodiversity Surface area of habitats supported in order to attain a better conservation status (hectares)'* output indicator achieving 2,397ha against a target of 2,228ha. However, it had only completed one of its 8 Conservation Action Plans.

The CABB project is of the view that the project is mostly on track with no substantial risk to the project fully achieving its aims and objectives. The project lead considers that it continues to be feasible to make up for the delays caused by COVID-19 and to deliver all of their project's planned activities, albeit a small (circa 3 months) project extension may be required. However, the partnership considers that there is a risk to the deliverability of some education deliverables as they cannot take place face to face.

Whilst it is noted that as of December 2020, despite being more than three-quarters (78%) of the way through their project period the project has only spent 55% of their total budget (against a forecasted position of 75% at the same juncture), the CABB project partnership anticipates that it will be able to deliver the project within its current budget provided the remaining large capital work is appointed to a contractor and does not have to go out for procurement again.

COMPASS

The COMPASS project partnership considers that the project is mostly on track with no substantial risk to it fully achieving its aims and objectives, albeit a small (circa three months) project extension may be required.

Encouragingly, the project partnership does not consider that COVID-19 and/or the associated lockdown measures will pose a threat to the expected results of their project, albeit it has affected some aspects of the project's implementation. For example, the project was unable to complete fieldwork during lockdown, but instead completed work with data that had already been obtained. Positively, the project partnership consider that this early analysis may enhance the project.

In December 2020, the COMPASS project was more than three-quarters (78%) of the way through its originally anticipated project period, and had spent 64% of its total budget (against a forecasted position of 75% at the same juncture). Discussion with the COMPASS project partnership indicates that it considers that it will both be able to deliver the project within its current budget and be able to reach the project's anticipated level of expenditure by the end of the anticipated project period.

SWIM

The SWIM project partnership considers that the project is mostly on track with no substantial risk to it fully achieving its aims and objectives with its originally anticipated timeframe (i.e. by December 2020). Indeed, the project partnership report that the project had faced no major delays as a result of the COVID-19 pandemic.

However, the SWIM project lead was of the view that COVID-19 posed two potential minor project risks. The first relates to beach sampling - in NI less sampling was carried out than had been anticipated and in ROI sampling was delayed by a month due to restrictions. The second risk is that the erection of electronic signage may be delayed due to the furloughing of council staff, although it was not anticipated that this would affect the project's outputs;

The project partnership considers that it will spend the full budget allocation by the end of the anticipated project period.

MarPAMM

As a result of the COVID-19 related restrictions, aspects of the MarPAMM project's fieldwork activities could not be progressed and consequently the project is behind schedule. Discussion with the project partnership indicates their view that there is a risk that the project will not fully achieve its aims and objectives and that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe. The partnership cited a lost fieldwork season and reduced monitoring and data collection activities meaning that their models to support the conservation of habitats and species are not as developed as they had envisaged at this juncture (i.e. December 2020). However, the project lead is hopeful that if the project were to be granted an extension (of circa six months), the project would be able to complete the required monitoring activity.

Nonetheless, the project partnership notes that if there are further periods of lockdown it may not be possible to make up for the delays. For example, the project has rescheduled some of its planned 2020 data collection cruises until 2021 but due to the uncertainty associated with the pandemic, the project is now unsure whether they will be able to proceed.

At December 2020, despite being more than two-thirds (69%) of the way through the originally anticipated project period, the project has only spent 41% of its total budget (against a forecasted position of 65% at the same juncture). Much of this underspend is understood to be as a result of having to reschedule the chartering of ships to 2021 and the lack of travel. However, the MarPAMM partnership continues to consider that it will reach the anticipated level of expenditure by the end of the anticipated project period, provided that any new lockdown restrictions do not materially slow the project's progress.

Sea Monitor 2

As a result of the COVID-19 related restrictions, aspects of the Sea Monitor 2 project's fieldwork activities could not be progressed and consequently the project is behind schedule. Discussion with the project partnership indicates their view that there is a risk that the project will not fully achieve its aims and objectives and that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe. The partnership cited being unable to complete a year's worth of marine research and data, with fieldwork and data collection not possible as the key impact of COVID-19 on the project. In addition, the project partnership notes that it may not be possible to make up for the delays caused by COVID-19 as species tracking is seasonal and there are only certain windows of the year where capturing, tagging, and tracking is possible. It is understood that the project will likely request an extension during early 2021.

In December 2020, despite being close to two-thirds (63%) of the way through the originally anticipated project period, the project has only spent 46% of its total budget (against a forecasted position of 54% at the same juncture). The Sea Monitor 2 project partnership believe that they will be able to deliver the project fully within its current budget, noting however that there will likely be underspend in the travel budget, albeit the partnership may submit a request for this budget to eb reallocated to other aspects of the project.

SWELL

As a result of the COVID-19 related restrictions, aspects of the SWELL project's fieldwork activities could not be progressed and consequently the project is behind schedule. Discussion with the project partnership indicates their view that there is a risk that the project will not fully achieve its aims and objectives and that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe. In particular, it was noted that there has been delay concerning Irish Water's capital projects, which will have a knock-on effect by delaying post-improvement sampling activity.

Discussion with the project partnership indicates a concern that the ecosystem model may not be as comprehensive or robust as it might have been due to the reduced post-improvement sampling period. Furthermore, the partnership was concerned about the potential impact of a second lockdown (which

has now materialised) and its potential effect on NI Water's commissioning of capital projects, the sampling activity undertaken by AFBI and the Loughs Agency and the delivery of Irish Water's capital schemes. Irish Water may also face land issues and delays to planning approval or potentially refusal of planning. It is understood that the project will likely request an extension (of circa 3 or 4 months) during early 2021.

Nonetheless, the SWELL project partnership considers that it will be able to deliver the project fully within its current budget and will reach the anticipated level of expenditure by the anticipated project end date (albeit this is subject to SEUPB approving a budget reallocation request that has been submitted and a small extension being offered to the project).

Source to Tap

The Source To Tap project partnership is of the view that the project is mostly on track with no substantial risk to the project fully achieving its aims and objectives. However, they noted that it may not be feasible to deliver all of their project's planned activities within the original timeframe. For example, staff were not able to undertake sampling during 2020 as a result of COVID-19 restrictions.

The Evaluation Team notes that as of December 2020, despite being three-quarters (76%) of the way through their project period, the project has only spent 53% of their total budget (against a forecasted position of 82% at the same juncture).

Nonetheless, the project partnership considers that if the project is granted an extension it continues to be feasible for it make up for the delays caused by COVID-19 and that they will be able to deliver the project within its current budget and reach their anticipated level of expenditure by the end of the anticipated project period.

CatchmentCARE

As a result of the COVID-19 related restrictions, aspects of the CatchmentCARE project's fieldwork activities could not be progressed and consequently the project is behind schedule. Discussion with the project partnership indicates their view that there is a risk that the project will not fully achieve its aims and objectives and that it may no longer be feasible to deliver all of their project's planned activities within the original timeframe. In particular, the project noted that the reduced levels of monitoring will be a risk to the anticipated project results and events will have to take place with much lower attendances, which will mean that they will be less impactful than originally anticipated. It is understood that the project will likely request an extension (of circa 6 months) during early 2021.

The Evaluation Team notes that as of December 2020, despite being almost two-thirds (63%) of the way through its project period, the project has only spent 26% of their total budget (against a forecasted position of 57% at the same juncture). Discussion with the project partnership indicates that it expects that it will not be able to reach its anticipated level of expenditure by the anticipated project end date. It was suggested to the Evaluation Team that the project planned to arrange a meeting with SEUPB to discuss how best to allocate the budget that will be underspent.

### *12.1.3 Programme Expenditure Implications*

Table 12.1 provides a summary of the total estimated expenditure to December 2020 and also the proportion of timescale that has passed at December 2020.

**Table 12.1: Project Costs – Anticipated and Estimated Actual December 2020[138]**

| Project | Anticipated Total (€) | Anticipated Total at December 2020 | Anticipated % of total budget at December 2020 | Total Estimated Expenditure in December 2020 (€) | % of total budget | Proportion of Timescale Passed at December 2020 |
|---|---|---|---|---|---|---|
| **Objective 2.1** | | | | | | |
| CANN | 9,406,313 | 7,079,294 | 75% | 4,672,218 | 50% | 78% |
| CABB | 4,935,983 | 3,714,628 | 75% | 2,714,322 | 55% | 78% |
| **Sub-total** | **14,342,296** | **10,793,922** | **75%** | **7,386,540** | **52%** | - |
| **Objective 2.2** | | | | | | |
| COMPASS | 7,726,441 | 5,784,871 | 75% | 4,941,983 | 64% | 78% |
| SWIM | 1,393,075 | 1,338,912 | 96% | 1,242,052 | 89% | 98% |
| MarPAMM | 6,361,317 | 4,144,696 | 65% | 2,588,660 | 41% | 69% |
| Sea Monitor 2 | 4,722,671 | 2,538,499 | 54% | 2,152,762 | 46% | 63% |
| **Sub-total** | **20,203,504** | **13,806,978** | **68%** | **10,925,457** | **54%** | - |
| **Objective 2.3** | | | | | | |
| SWELL | 35,047,604 | 25,689,105 | 73% | 21,554,310 | 62% | 75% |
| **Objective 2.4** | | | | | | |
| Source to Tap | 4,909,921 | 4,909,921 | 82% | 2,585,108 | 53% | 76% |
| Catchment Care | 13,792,436 | 7,833,347 | 57% | 3,653,957 | 26% | 63% |
| **Sub-total** | **18,702,357** | **12,743,268** | **68%** | **6,239,065** | **33%** | - |
| **Total** | **88,295,761** | **63,033,273** | **71%** | **46,105,372** | **52%** | - |

Key points to note in relation to expenditure (at December 2020) under INTERREG VA Programme[139] Investment Priority 2: Environment include:

- At an overall Axis level, the nine projects have incurred just over half (52%) of their total budget, which compares with a budgeted position of 71%. This may be of concern as projects are at least two-thirds (63%) of their way through their project period.
- However, whilst each of the nine projects are behind budget there are differences between them. For the SWIM and Sea Monitor 2 projects the differential is less than 10%. However, for the CANN (25%), Source to Tap (29%) and Catchment Care (31%) projects the differential is at least 25%.
- Of particular note is the CatchmentCARE project, which despite being 63% of the way through its project period, it has incurred only 26% of its budget, vis-à-vis the anticipated spend at this period of c. 68%. Whilst each of its individual cost categories is behind budget, the infrastructure and works category has only had minimal spend, equivalent to less than 2% of its budget. During a consultation, the project lead considered that there was potential for budget underspend at the end of their project period, albeit did not specify the amount, and also suggested the requirement for a 6-month time extension.

[138] Source: SEUPB's EMS 14th December 2020
[139] For Northern Ireland, Ireland and Western Scotland

### *12.1.4 Progress towards Priority Axis Output & Result Indicators*

With the exception of the CABB project (which has achieved one of its two targets), discussion with each of the project partnerships indicates that their anticipated (approved) project outputs have, as of July 2020, not been achieved (albeit it was not expected of the projects at this stage in their implementation, as most have a 2023 delivery date). This is illustrated in the table below:

**Table 12.2: Extent to which Approved Outputs have been achieved (by Project)**

| Name of Output (by Project) | Programme Output Indicator Target | Project Target | Status (as of July 2020)[140] |
|---|---|---|---|
| **CANN** | | | |
| Nature and biodiversity Surface area of habitats supported in order to attain a better conservation status (hectares) | 4,500ha | 3,650ha | 207ha |
| Conservation Action Plans | 25 | 27 | 0 |
| **CABB** | | | |
| Nature and biodiversity Surface area of habitats supported in order to attain a better conservation status (hectares) | 4,500ha | 2,228ha | 2,397ha |
| Conservation Action Plans | 25 | 8 | 1 |
| **COMPASS** | | | |
| A network of buoys for regional seas, including telemetry and oceanographic monitoring (e.g. for seals, cetaceans and salmonids) | 1 | 1 | 0 |
| Models developed to support the conversation of habitats and species | 5 | 3 | 0 |
| **SWIM** | | | |
| System for the prediction of bathing water quality and install real-time signage | 1 | 1 | 0 |
| **MarPAMM** | | | |
| Models developed to support the conversation of habitats and species | 5 | 4 | 0 |
| Marine management plans for designated protected areas complete | 6 | 6 | 0 |
| **Sea Monitor 2** | | | |
| Models developed to support the conversation of habitats and species | 5 | 5 | 0 |
| Marine management plans for designated protected areas complete | 3 | 3 | 0 |
| **SWELL** | | | |
| Additional people benefitting from improved wastewater treatment | 10,000 | 10,000 | 0 |
| 2 Sewage network and wastewater treatment projects completed to improve water quality in shared transitional waters | 2 | 2 | 0 |
| **StT** | | | |
| Cross-border drinking water 'Sustainable Catchment Area Management Plan' research and pilot project | 1 | 1 | 0 |
| **CatchmentCARE** | | | |
| Develop and implement cross-border groundwater monitoring wells | 50 | 50 | 0 |
| Establish 3 river water quality improvement projects | 3 | 3 | 0 |

[140] Source: Consultation with project leads at the end of August/start of September 2020

Table 12.3 provides a summary of the progress made towards the output indicators by Objective. Whilst, at July 2020, the nine projects are continuing to make progress towards the achievement of the eleven output indicators, tangible progress has only been recorded against two of them. The most progress had been under Objective 2.1, where 2,604 ha of habitats have been supported to attain a better conservation status, which is 42% and 57% lower than the programme target and combined project targets respectively

**Table 12.3: Overview of progress made towards the Output Indicators**

| Objective | Output Indicator | Programme Target | Combined project targets (based on project applications) | Total Actual Output for 9 projects | Variance from Programme Target | Variance from Combined project targets |
|---|---|---|---|---|---|---|
| Objective 2.1 | 4,500 ha of habitats supported in order to attain a better conservation status | 4,500ha | 5,878ha | **2,604ha** | -42% | -57% |
| | 25 conservation action plans | 25 | 35 | **1** | -96% | -97% |
| Objective 2.2 | 1 network of buoys for regional seas, including telemetry and oceanographic monitoring (e.g. for seals, cetaceans and salmonids) | 1 | 1 | **0** | - | - |
| | 5 models developed to support the conservation of marine habitats and species | 5 | 12 | **0** | - | - |
| | 6 complete marine management plans for designated protected areas | 6 | 9 | **0** | - | - |
| | 1 system for the prediction of bathing water quality and the installation of real-time signage | 1 | 1 | **0** | - | - |
| Objective 2.3 | 10,000 additional people benefiting from improved wastewater treatment | 10,000 | 10,000 | **0** | - | - |
| | 2 sewage network and wastewater treatment projects completed to improve water quality in shared transitional waters | 2 | 2 | **0** | - | - |
| Objective 2.4 | 3 river water quality improvement projects completed | 3 | 3 | **0** | - | - |
| | 50 cross-border groundwater monitoring wells installed | 50 | 50 | **0** | - | - |
| | 1 cross-border drinking water Sustainable Catchment Area Management Plan | 1 | 1 | **0** | - | - |

Given the fact that the projects have yet to achieve their anticipated (approved) project outputs, the nine projects have, therefore, at July 2020, not yet achieved the Priority's Result Indicator Targets and Specific Objectives as illustrated below, but are understood to be making progress towards their achievement.

**Table 12.4: Progress towards the Priority's Result Indicator Targets and Specific Objectives**

| Specific Objective | Result Indicator | Baseline | Target | Change between baseline and target (as of July 2020) |
|---|---|---|---|---|
| **1.1** To promote cross-border co-operation to facilitate the recovery of selected protected habitats and priority species | The percentage of selected protected habitats in or approaching a favourable condition | 1% | 10% | 0% |
| **1.2** To develop cross-border capacity for the monitoring and management of marine protected species in the region | Cross-border capacity for monitoring and management of marine protected areas and species | A little collaboration | A lot of collaboration | 0 |
| **1.3** To improve the water quality in shared transitional waters | The percentage of shared transitional waters in the region with good or high quality | 0% | 100% | 0% |
| **1.4** To improve freshwater quality in cross-border river basins | The percentage of cross-border freshwater bodies in cross-border river basins with good or high quality | 32% | 65% | 0% |

As a consequence of the ongoing COVID-19 related restrictions (at the time of writing – late December 2020), it will be important for SEUPB to continue to maintain close contact with the projects to assess on a real-time basis where individual projects are at risk of not substantially contributing to the Priority's Result Indicator Targets and Specific Objectives.

## 12.2 Recommendations

1. Given the ongoing impact of the COVID-19 pandemic, it will be of great importance that SEUPB continues (as it has been doing throughout the pandemic) to regularly monitor the activity undertaken and progress made by each project. The Evaluation Team spoke with the projects at a time (the start of September 2020) when COVID-19 restrictions had been eased/lifted to some extent and projects may have been optimistic about their ability to achieve their aims and objectives within the original timeframe. However, at the time of writing (late December 2020), both the Republic of Ireland and Northern Ireland have announced new lockdown conditions that will last until at least mid-February 2021. The Evaluation Team considers that this will again impact upon the projects' ability to undertake fieldwork activities.

2. SEUPB should engage with projects as soon as possible to discuss potential changes to project activities, timelines or budgets (NB Subsequent discussion with SEUPB's Joint Secretariat indicates that it has asked each of the projects to formally report back in early 2021 as to any further project amendments that might be required as a consequence of the COVID-19 pandemic).