



Scottish
**Marine
Environmental
Enhancement**
Fund

Impact Report 2

2023-2024



Foreword

As we step up our efforts to protect, restore and value nature, it is heartening to see people working together right across Scotland to deliver projects to tackle nature loss and adapt to climate change. Effective partnerships are crucial in this work, and the Scottish Marine Environmental Enhancement Fund is a great example of collaboration to harness the skills, capacity and resources of all partners and direct these to achieve maximum benefits for nature.

There is much more to do, but these are exciting times as we start to see larger value contributions and scale up the impact of SMEEF's work. NatureScot is proud to host SMEEF and we value the lessons we are learning as we grow the value of high integrity nature finance to restore Scotland's coasts and seas.



Francesca Osowska
Chief Executive, NatureScot

Introduction

This has been another very busy year for SMEEF, and one in which we have really begun to see private sector contributions scale up and commit beyond one-year donations. This in turn is enabling us to plan more strategically to ensure that SMEEF grants are targeted to best achieve recovery and restoration of nature in Scotland's marine environment.

Our current small team of 3 staff has worked tirelessly to secure contributions and distribute grant funds to support great projects to enhance nature. Our running total is now £3.8m distributed to 54 projects all around Scotland.

Key achievements during the year have included the development of defined grant 'themes' to encourage targeted investment for particular marine enhancement needs. Alongside this, we have progressed studies to learn lessons from our work to date, including gaining valuable feedback from donors and grant recipients that will help us to improve delivery. We have also developed a reporting matrix to more clearly link SMEEF-funded projects to Scottish marine environmental targets and policy drivers. New funding commitments have allowed us to recruit a specialist grants officer role and this post will further develop our grants strategy, and monitoring & reporting framework.

We move ahead feeling very positive about the future. Interest in the work of SMEEF is growing; including from others considering funding models for other parts of the UK and for terrestrial and freshwater environments. We are engaging with partners to explore how SMEEF might best interact with other such funds as they progress. We are extremely grateful to everyone who has supported SMEEF's work to date and we look forward to bringing new supporters on board to help in our mission to reverse nature loss in our coasts and seas.



Cathy Tilbrook
Head of Sustainable Coasts and Seas, NatureScot
Chair of SMEEF Steering Group

How does SMEEF work?

SMEEF has a robust governance system which aims to give both donors and grantees confidence. A Steering Group is at the heart of our decision-making structure and is made up of representatives from NatureScot, Crown Estate Scotland and the Scottish Government's Marine Directorate. The Steering Group defines the ethical contributions policy and ensures that grant giving is aligned with national strategies and policy.

Our Ethical Contributions Board assesses the source of contributions and a separate Grants Panel decides the grant allocations. We also maintain contact with scientific experts through a close partnership with the Scottish Blue Carbon Forum and MASTS; and operate a wider mailing list for anyone with an interest in SMEEF's activities. Finally, there is the Contributors Forum which meets regularly to be updated on activities and to share experiences.



Fundraising

The pace of activity for the Ethical Contributions Board has steadily built to match the growth of SMEEF and changing risk profile of working with new partners and new sectors. Our system rests on the identifying and understanding risks associated with potential contributors. Some sectors carry more risk than others and this period has seen the ECB refine and codify our approach to ensure we are able to assess and understand the risks posed and any control measures and mitigations that are in place. This has led to updates to the Contribution Acceptance Policy and to our Due Diligence processes. This has also required work with the Steering Group on risk appetite to ensure the tolerances to risk across the organisation are clear and consistently applied.

Ethics and the management of risk is an area of continual development across the nascent green and blue finance ecosystem in the UK, and SMEEF continues to lead the way and to support others in their approach and thinking. I fully expect as we continue to grow and to engage with other sectors this will be tuned further. We are equally keen that our process is clear, consistent and fully understood by potential donors. Work is ongoing to make sure our communication captures these processes fully and is really easy to engage with.

We have also been reflecting on our own performance and the skills we have at our disposal. This will be an ongoing strand of work but already has led us to identify additional people in each organisation to be linked to the ECB and our work providing greater resilience and an increased capacity. We are also considering the potential benefits of adjusting the size of the ECB.



James Stewart
Independent Chair of ECB
Director, One Planet Consulting

Core funding and donors

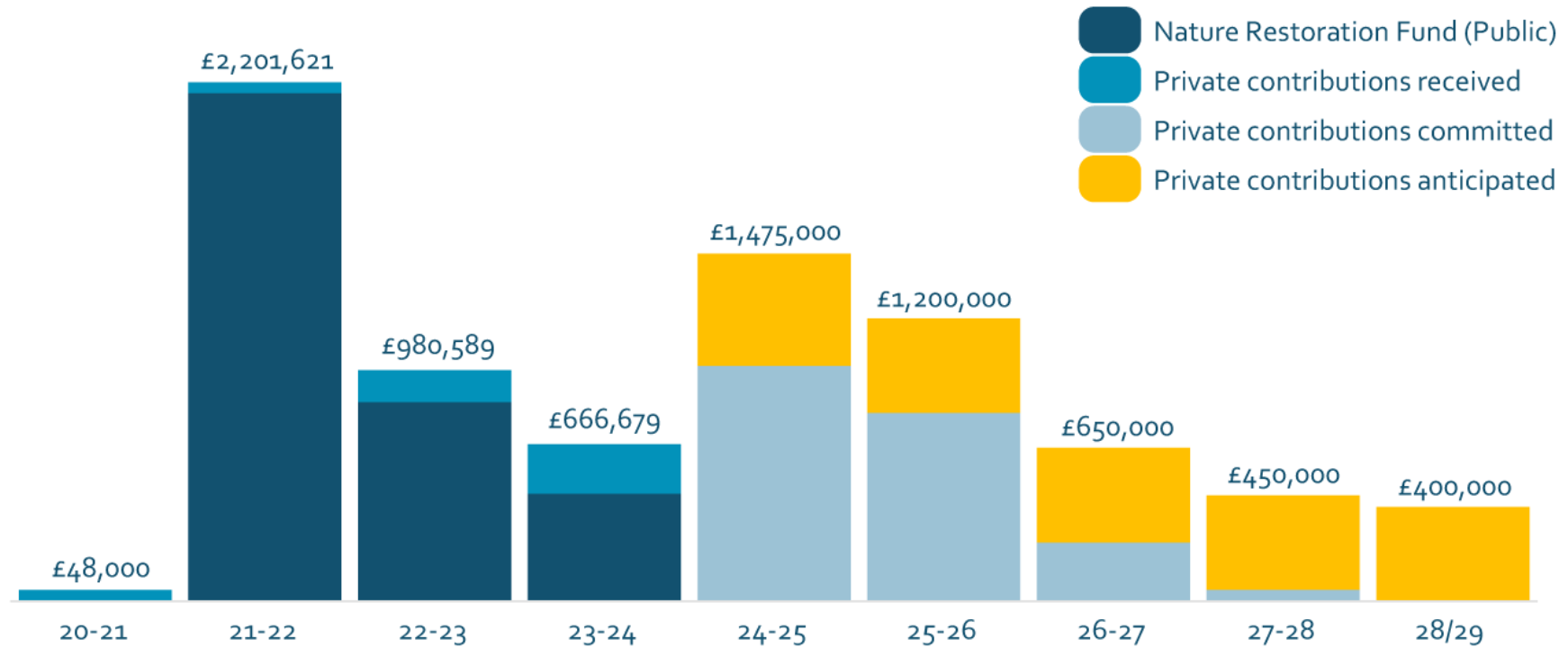
Core funding comes from Crown Estate Scotland, Scottish Government's Marine Directorate and NatureScot (in-kind/hosting). In addition, SMEEF would like to thank the following corporate donors:

20/21	Red Rock Power Limited Vattenfall Wind Power Limited Scottish Power Renewables (UK) Limited Ocean Winds UK Limited
21/22	EDF Energy Renewables Limited SB Offshore Energy Limited UK Mainstream Renewable Power Limited Simply Blue Energy (Scotland) Limited RWE Renewables UK SSE Renewables Services (UK) Limited Offshore Wind Power Limited
22/23	Scottish Power Renewables (UK) Limited Orsted Power (UK) Limited Stromar Offshore Wind Farm Limited
23/24	Simply Blue Energy (Scotland) Limited Muir Mhor Offshore Wind Farm Limited Bellrock Offshore Wind Farm Limited Broadshore Offshore Wind Farm Limited Scottish Power Renewables (UK) Limited Scottish Hydro Electric Power Distribution Limited
24/25	Ossian Offshore Wind Farm Limited Stromar Offshore Wind Farm Limited

Please note that for clarity SMEEF is listing ALL donors since inception in this Impact Report, in future years we will list only active donors who have successfully completed due diligence and donated in the reporting year.

Fundraising update

The last twelve months have seen the SMEEF programme secure substantial donations and welcome a range of new donors to our network of contributors. The graph below breaks down funds raised since inception and at time of writing £2,100,000 has been through our due diligence procedure, approved and committed to SMEEF for spending from 24/25 onwards.



Feature Donation - largest-ever Scottish seagrass grant programme

Restoring nature in Scotland's seas got a more than £2m funding boost this year with our new partnership with SSEN Distribution (listed as parent company Scottish Hydro Electric Power Distribution Limited on page 4). This is believed to be the largest-ever single donation to marine enhancement in Scotland and is a great example of business and the public sector joining forces to tackle the nature and climate emergencies.

Seagrass is a wonder plant, the only true flowering plant in the sea. The meadows it creates in shallow and intertidal waters are home to a bewildering array of wildlife and are often likened to rainforests because of the thousands of species they provide food and shelter for. Scottish seas are a special place for marine habitats like seagrass, with our coast stretching 18,000 km and containing 8,000 species or more.



Seagrasses have another great advantage: their leaves and roots take in carbon dioxide and lock it away, making them great natural solutions to help tackle the climate crisis as well as reducing biodiversity loss. They can also improve water quality, reduce contamination in seafood, and act as the first line of defence along coasts by reducing wave energy, protecting people from the increasing risk of flooding and storms.

But seagrasses have been declining globally since the 1930s, with estimates that 7% of seagrass meadows are being lost each year. This exciting initiative will see at least 14ha of seagrass planted in Scottish coastal waters.

"Tackling the twin crises of climate change and biodiversity loss is a global and national endeavour which will require the collective effort of governments, businesses and our whole society to deliver the necessary change. This announcement is a great example of the potential for unlocking responsible private finance to support nature restoration and could be transformative for our precious seagrass."

Màiri McAllan, Cabinet Secretary for Wellbeing Economy, Net Zero and Energy

"We're proud to be working alongside SMEEF on such a forward-thinking initiative, the benefits of which we look forward to seeing for many years to come. In our Business Plan for 2023-28, we committed to funding the restoration of seagrass meadows around our licence areas and so this innovative, 'first-of-its-kind' programme is something we're excited to be supporting."

Shirley Robertson, SSEN Distribution's Head of Strategic Planning and Sustainability

The donation will be used as part of SMEEF's wider work on Scottish coastal, seabed and marine enhancement and will be open for applications later this year. Projects will be driven by local communities and full engagement and consultation with all interested groups will be essential to their success. SMEEF will work with a range of experts to ensure that the grants are used to best effect and the impacts monitored.

The SMEEF Grants programme

The grants panel reviewed and awarded funding to a variety of projects which reflected the different themes, geographies, applicant typology and scale of support required. The panel has a strong focus on the expertise of the project applicants and their partners, the science quality, the impact of the project proposal for nature, the legacy once the project funding ends and the knowledge transfer that will take place to help others learn and adapt from the experience gained.

Due to the nature of the funding the grant award timeline has often been along a compressed timeline. This can put pressure on grant applicants and can lead to those who have 'go-ready' projects benefitting more. We are pleased to see the new funding streams for seabed enhancement, coastal enhancement, ocean enhancement, seabirds and research emerge. Coinciding with this will be more lead in time to assist applicants with project development and submissions and for the process to be better informed by clear strategic priorities. Multi-year awards will also be possible which helps applicants to better plan and execute their projects to ensure they achieve the greatest impact for nature.

We are grateful to the SMEEF grants team for all their hard work over the year and to applicants for taking the time to submit bids and, when awarded, to provide regular progress updates. As SMEEF develops the story behind the impact of the funding will continue to unfold and nature will be enhanced by this public-private finance collaboration.



Susan Davies FRSB
Chief Executive, Scottish Seabird Centre
Independent Chair of SMEEF Grants Panel








Monitoring and Reporting

Our approach to reporting

As a new organisation SMEEF has been assessing our approach to reporting on our grant giving. In our first Impact Report we used a range of receptors to tell you about how grants were allocated. This year we have fine-tuned the way we report outcomes in particular we are linking our work more strongly to relevant policy and using the emerging core themes to guide our approach.

Grant spending is recorded by three factors:

1. Which of our five funding themes it falls into.

				
Seabed	Coastal	Wider Seas	Seabirds	Research
e.g. work on seagrass, native oysters and other seabed species and habitats	e.g. work on saltmarsh, sand dunes and other coastal species and habitats	work on marine mammals, fish and other mobile species	all work aiming to benefit seabirds	funding work on strategic data and knowledge gaps

2. Which area of the relevant draft policy* the grant is most relevant to.

					
Reducing Pressure	Climate Change	Public Understanding	Collaboration	Knowledge	Restoration
Reduction of pressure on target habitat or species	Improving resilience to/ reducing impact of climate change	Increasing public understanding of issues relating to target habitat or species	Increasing collaboration regarding marine enhancement or protection	Increasing knowledge/ filling data gaps	Undertaking direct enhancement/ restoration

* Policy areas considered most relevant to SMEEF are Scottish Biodiversity Strategy, Scottish Seabird Strategy and the Scottish Whale and Dolphin Conservation Strategy. At the time of writing these are all in draft. The list above represents the high-level themes SMEEF has extracted from the draft policies. These are subject to change once the policies are finalised.

3. Which of the 11 Scottish Marine Regions the grant most applies to. If the grant is widely applicable it will be listed as 'Scotland-wide'.



In the coming year we will work with grantees to collect data on environmental, social, well-being and economic outcomes. This will include relevant data across a range of topics for example:

Hectares of protection, restoration or enhancement of:

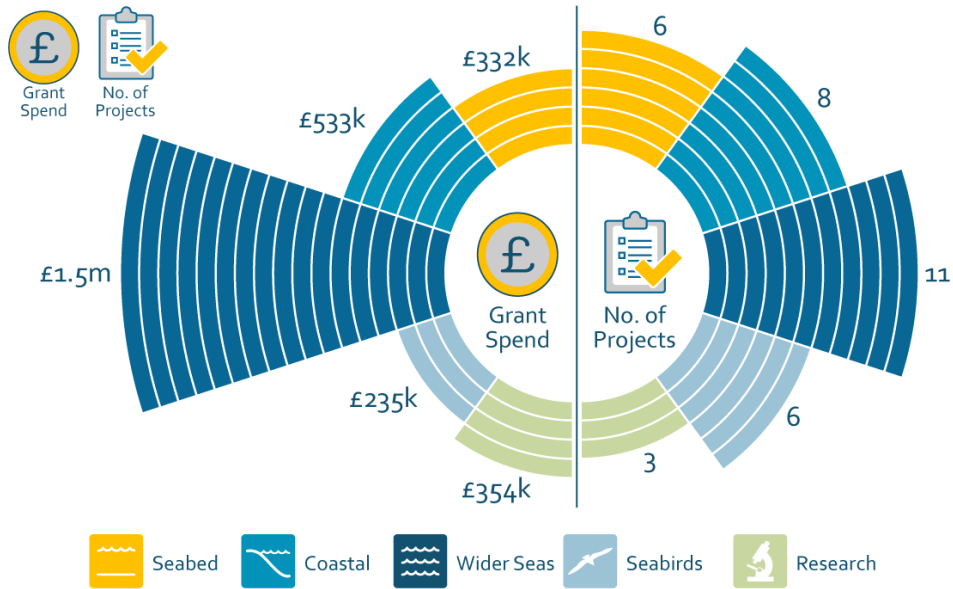
- Seagrass
- Sand dunes
- Saltmarsh
- Seabird breeding, resting or feeding areas
- Invasive species management

Numbers of:

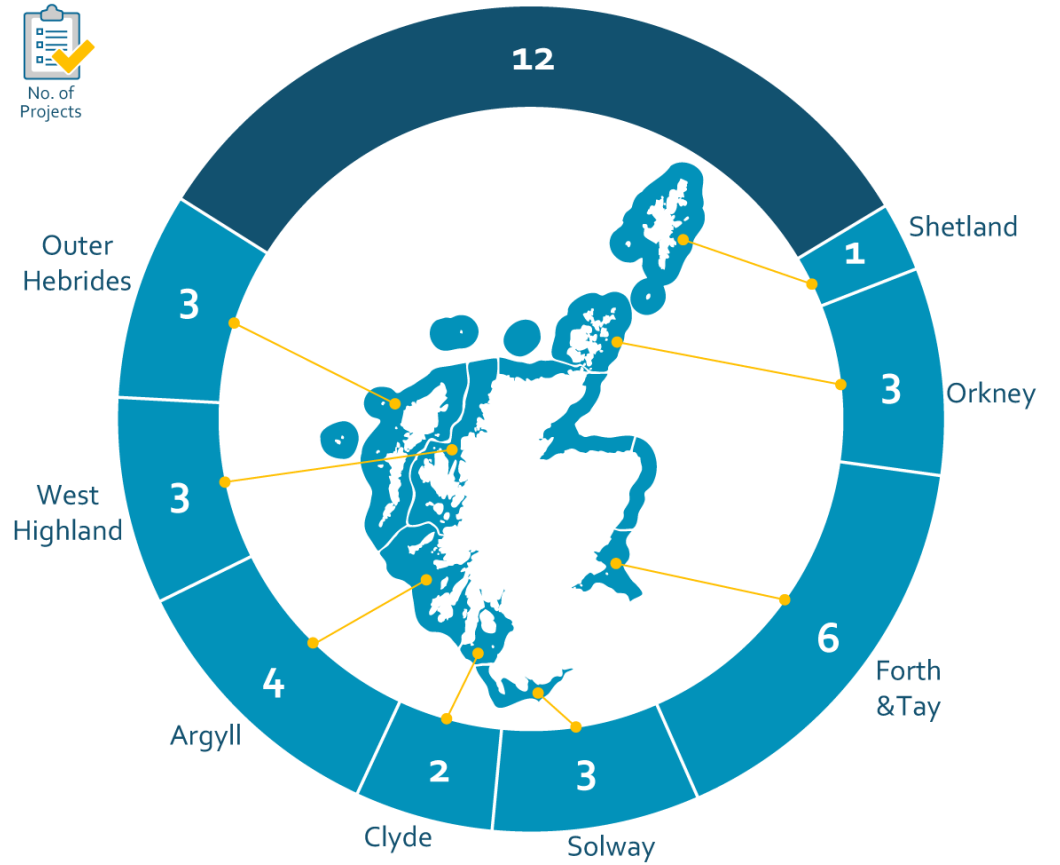
- Baseline surveys conducted
- Volunteers involved
- Jobs created
- Attendees at events
- Citizen science e.g. events hosted, number of people engaged.



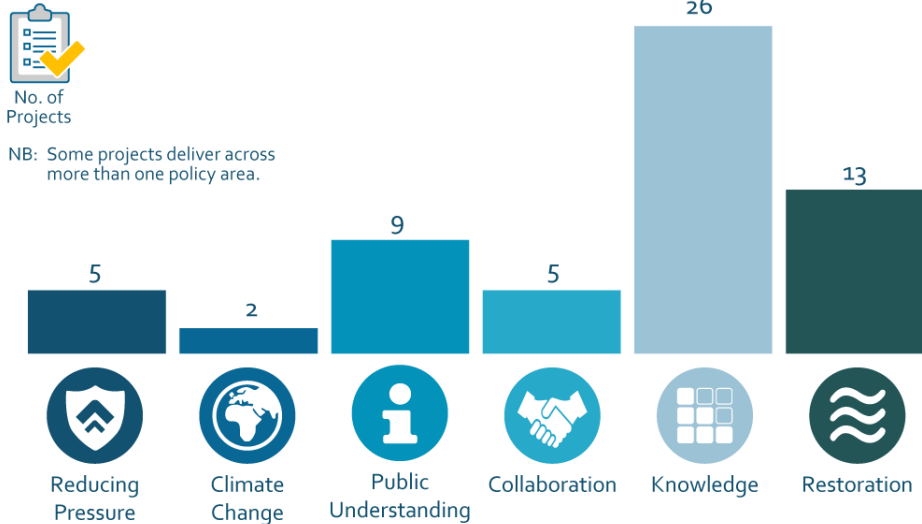
At a glance: 2021-23



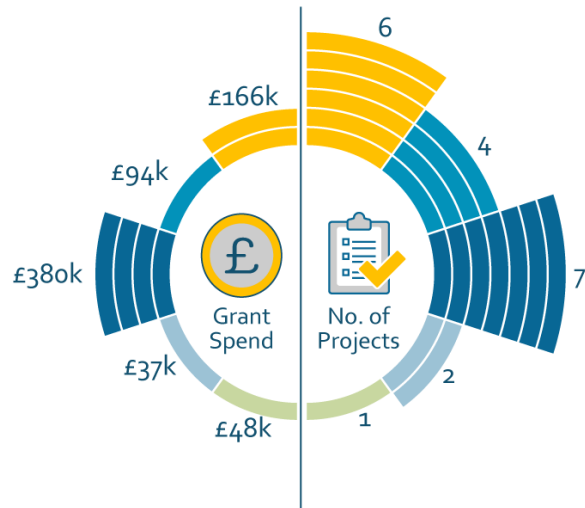
Marine Region



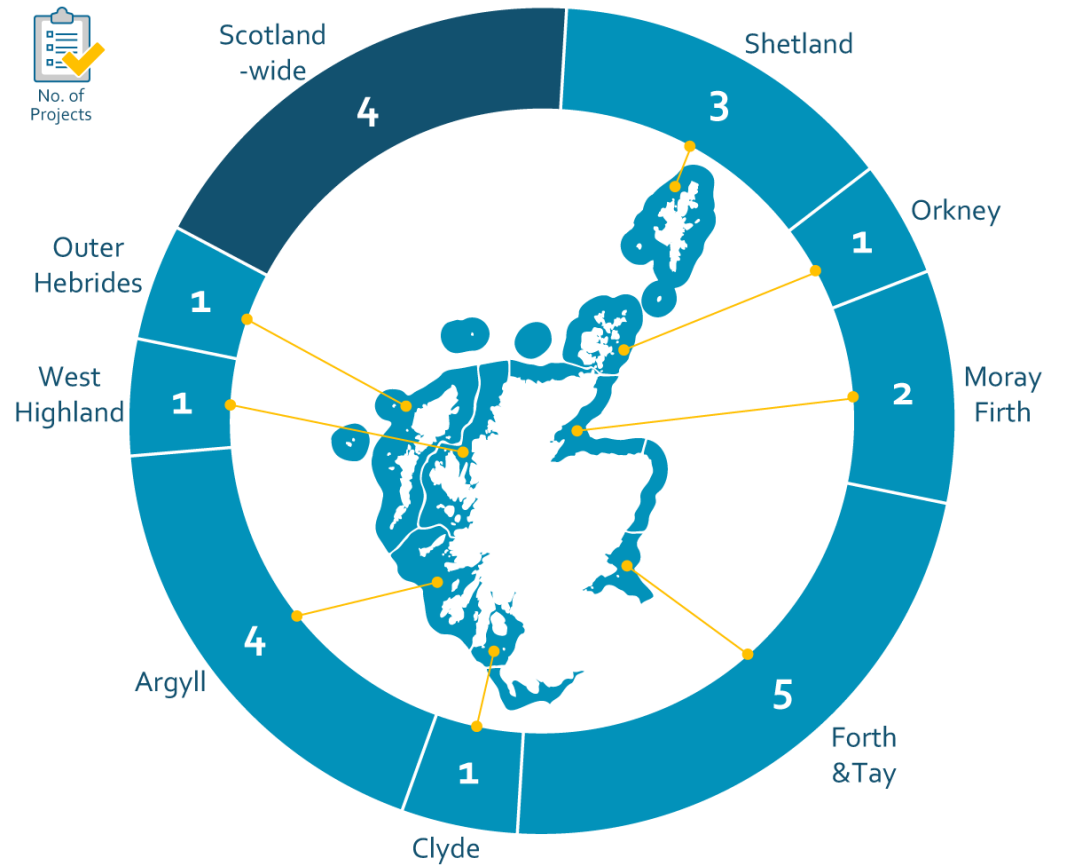
Policy Priorities



At a glance: 2023-24



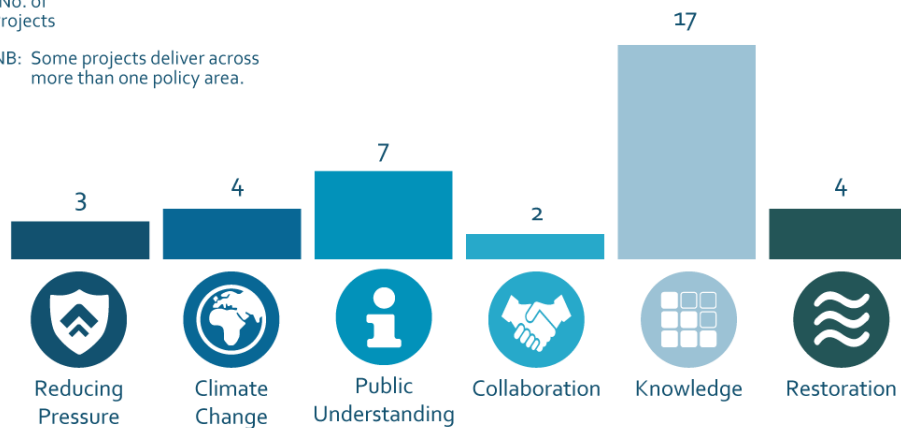
Marine Region



Policy Priorities



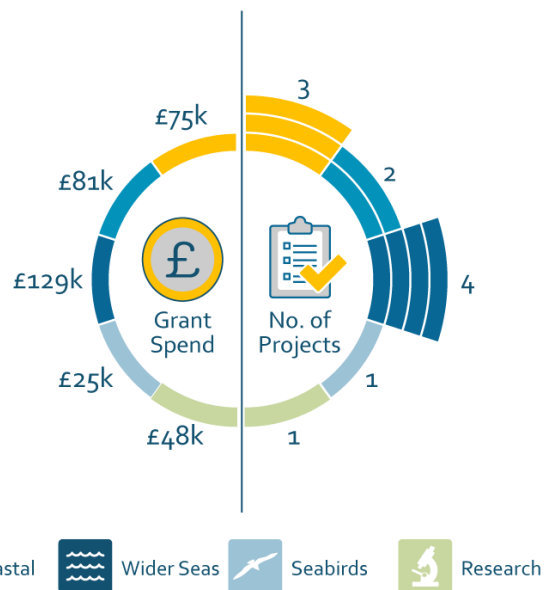
NB: Some projects deliver across more than one policy area.



Grants in 2023-24

SMEEF Privately Funded Grant Round – 2023-2025

11 awards were made in total, some of these also received an additional boost of funds from the Nature Restoration Fund. Three projects have fully completed and are detailed in this report, 8 projects are ongoing.



Climate Change adaptation in Udale Bay - RSPB Scotland

£10,037



Climate change is bringing an increased set of challenges to coastal areas with sea level rise and increased storm surges impacting both coastal habitats and communities. Finding effective nature-based adaptation solutions is crucial in order to protect biodiversity and the local economy.

The Udale Bay Nature Reserve covers 382 ha of wet grassland, saltmarsh and intertidal mud in the Cromarty Firth. The Reserve is internationally important for overwintering waterbirds. Ten years ago, a seawall protecting a field at the reserve failed allowing salt water to enter, developing a new saltmarsh and unfortunately increasing this risk of flooding in neighbouring property. The RSPB was tasked with finding an adaptation solution to maintain the newly formed saltmarsh, whilst also protecting the neighbouring property.

SMEEF’s funding allowed the RSPB to hire a specialist consultant that was able to model different climate change scenarios and evaluate how those would impact the reserve and neighbouring property. Those models were then used to create a set of solutions which were presented to stakeholders.

“The main benefit is that by finding a climate change adaptation solution, instead of maintaining the existing coastal flood defence and therefore losing the newly developed saltmarsh, we are able to retain that habitat and all the benefits for biodiversity and ecosystem services that come with that. We are also therefore able to demonstrate that adaptive solutions to coastal protection can be found, instead of maintaining the status quo.”

Steph Elliot, Site Manager- Central Highland Reserves, RSPB Scotland

Loch Gair Native Oyster Restoration - MacArthur Green



£10,311



Seabed



Native oyster populations in Scotland have rapidly declined in the last 150 years due to a combination of over exploitation, pollution and habitat pressures. In recent years, there has been a growing interest in recovering populations due to their importance as ecosystem engineers - native oysters provide habitat for other species but also have an impact on water temperature and quality. Mac Arthur Green applied for a SMEEF grant to establish whether a viable population, if any, of native oysters exists in Loch Gair, and what the potential might be for reinstatement.

Over the course of a year, MacArthur Green collaborated with SeaWilding, a community – led marine restoration organisation, to carry out transect surveys and determine oyster populations. A key component of the project was community engagement and citizen science with SeaWilding running a successful community day in collaboration with Heart of Argyll Wildlife including a 'sea safari' on the shore with more than 50 people attending.

"We aim to incorporate citizen science activities into the project in the future by engaging at an early stage with the local community. By raising awareness of the native oyster protection and potential restoration, we hope to encourage locals to be involved in future works relating to restoration activities."

Judy McKay, Business Operations & Carbon Manager, MacArthur Green

After conducting the surveys, McArthur Green has a good understanding of the condition of the current population in the area and is considering future steps to enhance the population, in collaboration with experts.



Horse Mussel Reef Survey - Berwickshire Marine Reserve



£31,944



Seabed



Berwickshire Marine Reserve (BMR) is Scotland's first and only voluntary marine reserve. It was established by the local community in 1984 and stretches for 8km along the coast and out to the 50m depth contour. In 2023 SMEEF supported the BMR, with a grant of £21,721 with a further extension from the Nature Restoration Fund of £10,220 for equipment to undertake a baseline mapping exercise and site condition assessment of the reserve for horse mussel beds.

Horse mussels (*Modiolus modiolus*) are an important reef forming organism. The structures they create provide a solid foundation for many other species to grow including soft corals. They also provide shelter for crustaceans, molluscs, and many other small animals. Horse mussel beds are one of Scotland's priority marine features, however, while they are recognised as important habitats, effective conservation is difficult due to a lack of data on their distribution and abundance.

The funding provided by SMEEF contributed towards staff time to research historical records, the hiring of a Remotely Operated Vehicle and operator, and hiring a boat from which to conduct extensive surveys of the reserve. The information collected will be written up for publication in a peer-reviewed journal, making it publicly available for future management plan development.

The funding helped strengthen relationships with project partners including the academic network, Blue Marine Foundation and the St. Abbs Marine Station. The project has also enabled the BMR to work closely with the local community, especially with divers and dive boat operators, encouraging them to record any horse mussel sightings.

The horse mussel project has enabled the BMR to develop a range of visual content (e.g., photos, video, and posters) to share with a broad group of stakeholders.

Horse mussel

Modiolus modiolus

Look out for this priority marine feature while diving to contribute to a collaborative effort to assess the extent of horse mussels in the **Berwickshire Marine Reserve**



© Erica Chapman

How to identify horse mussels

- Adults range between 3.5 to 20 cm
- Oblong to irregular triangle in shape
- Can be dark blue or purple, however adults can have outer fibers giving it a glossy yellow or dark brown colour
- Juvenile shells can appear bluish and have outer fibers extended into long, smooth spines
- 5-70 m depth, individually or in clumps or beds
- Variety of seabed types (cobble to muddy gravel and sand)



© NatureScot

If spotted, please record as much detail as possible

- Location, dive site, name of wreck/feature, GPS coordinates
- Shells or live mussels
- Individual, number in clump, size of bed (density & percentage cover)
- General abundance (rare, occasional, common)
- Photos!
- Seabed type, associated species
- Comparative community complexity
- Date, time, boat name
- Depth, temperature



© NatureScot

For an electronic data entry form and more details on data required scan here:



If spotted, please complete our online form (see QR code) or send details and pictures to: erica.chapman@marinestation.co.uk OR alex@berwickshiremarinereserve.org.uk

OR stop by:

📍
St Abbs Marine Station, St Abbs harbour, TD14 5PW
📍
BMR, Hippodrome, Harbour Road, Eyemouth, TD14 5HT
what3words goats.replays.vibrating or what3words helped.conned.maximum



Berwickshire MARINE RESERVE
Scotland's first voluntary marine reserve



ST ABBS MARINE STATION



BLUE MARINE FOUNDATION



THE UNIVERSITY OF EDINBURGH

14

Ongoing Multi-year Grant Updates

Lost Creels Project – Scottish Association for Marine Science



£33,176



Wider Seas



Scottish Association for Marine Science (SAMS) were received £24,950 with a further extension from the Nature Restoration Fund of £8,226 for equipment. The unique project uses remote sensing to test approaches to identify lost creel fleets, characterise them and then evaluate recovery options to reduce megafauna entanglement risk in Scottish waters. In 2023 the team successfully identified abandoned or lost creels using side scan sonar including being able to visualise the connecting rope which was seen to float more than 10 meters off the seabed demonstrating the very real entanglement threat posed by this type of marine litter. Further field work in 2024 will inform next steps.



WOSHH-eDNA-Sound Project- Edinburgh Napier University

Edinburgh Napier University were successful in their bid for £27,906 with a further extension from the Nature Restoration Fund of £16,791 for equipment for assessing spawning herring under the WOSHH-eDNA-Sound project. The project aims to collect a range of data using environmental DNA (eDNA) and passive acoustic monitoring devices (PAM). In the 2023 survey season the team were able to gather eDNA data around Arran, near Broadford on Skye, Applecross and Melvaig. 16 PAM devices were also deployed to collect acoustic data. The work has received national recognition [after a new spawning ground was discovered](#) and the team have done a significant amount of community engagement including “Silver Darlings” a collaborative project with the Skye and Lochalsh Rivers Trust and Albatross Arts to merge science and art. Creative workshops were hosted at Portree English & Gaelic primary schools, and the resulting artwork was then exhibited at the community centre. The feedback was overwhelmingly positive, with one P7 student saying, “when you mix science with art, you remember it more”. Collection and analysis of data continues into 2024.

Flapper Skate Survey – UHI, Shetland

University of the Highlands and Islands (UHI) Shetland were awarded £23,683 to do further work on the Flapper skate (*Dipturus intermedius*) creating a baseline assessment of population, distribution, movement, and critical habitats. This exciting project has now tagged 44 individual flapper skate. 100% of the Baited Remote Underwater Video Systems (BRUVS) in Fair Isle identified Flapper Skate as did 25% of the Shetland deployments telling us more about how these animals use these waters including preferred habitats. Further field work in 2024 will aim to recapture tagged skate during the annual survey and collect more data to create a more even data set across the area which will help determine distribution and habitat use.

CAN YOU HELP?
REPORT TAGGED FLAPPER SKATE IN SHETLAND

Look out for our tags!

If you catch a tagged flapper skate:

1. Return it to sea alive
2. Share the details

- TAG NUMBER
- DATE
- LOCATION (GRID REFERENCE IF POSSIBLE)
- LENGTH

Tel: **01595 772000**
 WhatsApp: **07385 433508**
 Email: **tags.shetland@uhi.ac.uk**

UHI | SHETLAND

Marine Environmental Enhancement Fund

This project is supported by the Scottish Marine Environmental Enhancement Fund (SEEMEF)

ARE YOU AN ANGLER?

We're looking to join sea anglers on trips to tag flapper skate

LET US KNOW IF YOU ARE INTERESTED

Tel: **01595 772000**
 WhatsApp: **07385 433508**
 Email: **tags.shetland@uhi.ac.uk**

UHI | SHETLAND

Marine Environmental Enhancement Fund

This project is supported by the Scottish Marine Environmental Enhancement Fund (SEEMEF)

Shetlands' Lost Seagrass – UHI, Shetland



A second team at University of the Highlands and Islands (UHI) Shetland were awarded £32,766 (including £7,771 from the Nature Restoration Fund) for their project establishing a baseline through science-led community surveys of [Shetland's seagrass and shallow maerl habitats](#). In their first year of their two year grant the team have been able to train both staff and volunteers on drone flying to enable community extent surveys to take place in eight of the ten beds in Whiteness Voe. Density surveys will follow in the summer of 2024 when environmental loggers will also be deployed to gather extra data about the beds.

Nature Enhancement at Offshore Energy Sites - University of Glasgow



Outside of the main grants programme the team behind the Salamander offshore energy development funded a discrete research project looking into the enhancement opportunities at offshore energy sites. The Nature Enhancement at Offshore Energy Sites (NEMOES) project is being run by the University of Glasgow and will give valuable insights into how nature responds to new structures, such as wind turbine bases, in the marine environment. The project runs until the end of 2024 and the initial work has been to use the Ecopath and Ecosim models to investigate the effects of a hypothetical windfarm installation on flora and fauna.

Craigleith Invasive Species Project – Scottish Seabird Centre



The Scottish Seabird Centre were awarded £24,993 for research on the island of Craigleith to guide restoration of coastal habitats and improve conditions for seabird populations. Work includes trialling effective and sustainable control methods for invasive nettles, research into the linkages between rabbits, soil disturbance and the germination of tree mallow and a count of puffin burrows to assess the results of tree mallow control. The project runs into 2025 but early results show a strong connection between disturbance of the soil and tree mallow seedling germination. The project team has also made a start to compiling the 'Practical management guidance document'.

"Being able to carry out my project on Craigleith to research the impact of tree mallow on the puffin population was a real privilege. My long-term career goal is to work in seabird conservation, so getting the opportunity for practical fieldwork experience on a seabird island has been invaluable."

Charlotte Tomlinson, SRUC student

Climate Action Coastlines - Highland Council

The infographic for 'Climate Action Coastlines - Highland Council' features a total funding amount of £70,798, represented by two pound symbols and the number. It includes a map of Scotland with a yellow box highlighting the Highland Council area. A blue icon depicts a coastline with waves and the word 'Coastal' below it. A grid of six circular icons represents the project's focus areas: Reducing Pressure (shield), Climate Change (globe), Public Understanding (person), Collaboration (handshake), Knowledge (grid), and Restoration (waves).

Highland Council were awarded £25,000 towards their Climate Action Coastlines Programme with a further extension from the Nature Restoration Fund of £45,798 for equipment to assess the current condition of saltmarsh habitat in Loch Fleet. The project is testing novel approaches to mapping as well as an assessment of the carbon stock and a portable methane analyser bought by the project will assist with assessment of the green house gas emissions from the coastal wetlands. Working with the University of St Andrews the team have been collecting and analysing sediment samples and plans for the upcoming year (2024) include multiple field site visits to conduct 'condition' assessments of the Loch Fleet saltmarshes and associated green house gas flux measurements.

Seal Surveys – Sea Mammal Research Unit

The infographic for 'Seal Surveys – Sea Mammal Research Unit' features a total funding amount of £25,000, represented by one pound symbol and the number. It includes a map of Scotland with a yellow box highlighting the Forvie National Nature Reserve area. A dark blue icon depicts waves and the text 'Wider Seas' below it. A grid of six circular icons represents the project's focus areas: Reducing Pressure (shield), Climate Change (globe), Public Understanding (person), Collaboration (handshake), Knowledge (grid), and Restoration (waves).

The Sea Mammal Research Unit at the University of St Andrews were awarded £25,000 to develop their programme for surveying seals with static sensors at Ythan Estuary, Forvie National Nature Reserve. Unfortunately, the supplier of key thermophile equipment has suffered supply chain issues and this has hampered the team in their efforts to deliver the original project. Undeterred they have been able to undertake community engagement activities where more than 60 people attended an open meeting to hear about and give feedback on the project. Happily, they have recently received alternative thermophile equipment which will enable them to make progress in the 2024/25 survey season.

SMEEF and Nature Restoration Funding Round 2023/24

Outside of the main grants programme the team behind the Salamander offshore energy development funded a discrete research project looking into the enhancement opportunities at offshore energy sites. The Nature Enhancement at Offshore Energy Sites (NEMOES) project is being run by the University of Glasgow and will give valuable insights into how nature responds to new structures, such as wind turbine bases, in the marine environment. The project runs until the end of 2024 and the initial work has been to use the Ecopath and Ecosim models to investigate the effects of a hypothetical windfarm installation on flora and fauna.



Red necked phalaropes - RSPB Scotland



£12,291



Seabirds



Red-Necked Phalaropes are unique birds. They are rare in the UK and have an incredible annual migration between Fetlar and the Pacific Ocean. Unlike most birds, it's the female of the species which is more boldly coloured and it's the male who solely incubates the clutch of four eggs and tends to the chicks. RSPB Scotland in Fetlar has decades of experience managing habitats for this enigmatic role-reversing birds and have developed expertise in providing what they require to thrive. From the extensive monitoring of this species, they have learned how phalaropes respond to and benefit from management practices and maximise opportunities to enhance the mosaic of available habitats for them. This involves creating areas of open water using machine excavators and fine-scale water level management, while in parallel managing vegetation structure through grazing and hand-cutting. This is done in collaboration with local crofters and volunteers.

In 2022, due to severe weather, mechanical excavation was not possible and thus the RSPB Scotland applied for funding from SMEEF to undertake the habitat enhancement. They were successful in receiving £12,291 for this work from the Nature Restoration Fund via SMEEF. RSPB is now anticipating the 2024 summer season when red-necked phalaropes return, in order to witness the outcome of the project.

"There are intangible benefits, such as the feelings of pride and compassionate responsibility community members may have, or the emotional connection people feel from having caught sight of this charismatic yet elusive bird. This project fits in with our wider ambitions of making nature more accessible to a more diverse audience."

Helen Moncrieff, Shetland Islands Manger, RSPB Scotland

Tool development for the assessment of European flat oyster restoration success using eDNA, acoustics and visual surveys - Edinburgh Napier University



£49,345



Seabed



Native oyster re-introduction and enhancement has been gaining momentum in Scotland. Despite this, effective, time-and-cost-efficient methods to evaluate native oysters' ecological status are lacking. In his PhD project, Magnus Janson is exploring different methods to monitor the biodiversity and health of ecologically and economically important European flat oyster beds. This project develops, trials and compares different methods including soundscapes, environmental DNA (eDNA), and visual surveys, to assess the biodiversity associated with different percentage of oyster shell cover. To carry out this work, Edinburgh Napier University received £49,345 by SMEEF from the Nature Restoration Fund.

Environmental DNA analysis has the potential to identify multiple species simultaneously through DNA traces left in the environment. Sediment samples collected along an oyster density/age gradient within Loch Ryan, Scotland, and along the west coast of Sweden are being processed to reveal which species are associated with oyster beds.

"Forthcoming results will demonstrate whether and how the three simultaneously applied methods (sound, visual & eDNA), can be used as effective tools to adequately assess/monitor ecosystem complexity and status, and inform oyster conservation and restoration efforts."

Magnus Janson, PhD Student, Edinburgh Napier University



Port Edgar Tern Raft - RSPB Scotland

£
£9,175



Coastal



In 2018, the Roseate Tern LIFE Recovery Project team installed a tern raft at Port Edgar to support the local common tern colony. In 2019, one hundred and eighteen common tern chicks fledged from the raft making it one of the most important colonies in the Firth of Forth. Unfortunately, since then, the raft has been damaged by storms and compounded by the effects of avian flu, the site has now been abandoned for breeding. RSPB Scotland received a grant of £9,175 from the Nature Restoration Fund via SMEEF.

The money was used to repair the damaged raft, add new anchors and create a more robust predator barrier. Cameras have also been fitted to help monitor the terns, provide images for public engagement and check on the state of the raft.

“The project was primarily to deliver ecological benefits. Volunteers who helped out hopefully also benefitted from the positive mental and physical well-being impacts of active volunteering.”

Toby Wilson, Senior Conservation Officer, RSPB Scotland



Improving the welfare and conservation of cetaceans - Whale and Dolphin Conservation



£30,096



Wider Seas



Scotland is home to a diverse group of whales, dolphins, and porpoises. At present there are still many unanswered questions about their feeding, breeding and movement patterns. People in Scotland have been observing dolphins and whales for many years, but a formal system is required to log these observations effectively. In 2005, Whale and Dolphin Conservation founded Shorewatch, a citizen science observation programme that now includes a mobile application to record sightings. Since its inception, more than 85,000 sightings have been recorded. Whale and Dolphin Conservation applied for a grant from SMEEF to purchase valuable equipment, such as binoculars and telescopes, to enhance their Shorewatch programme and equip volunteers. WDC received a grant from the Nature Restoration Fund via SMEEF of £30,096 to purchase the equipment.

“Ultimately these capital items will help us to continue to support volunteers to collect increasing amounts of high quality, citizen science data on whales, dolphins and porpoises in Scotland to be used to fill welfare and conservation data gaps and be used in important marine planning and conservation decisions. This equipment will enhance community capacity to engage with their marine heritage and biodiversity, while simultaneously inspiring a movement of people committed to their protection.”

Joseph Wood, Trusts & Grants Manager, Whale and Dolphin Conservation



Managing Coastal Invasives - RSPB Scotland

£
£3,738



Invasive non-native species (INNS) can be a great threat for native flora and fauna. INNS can outcompete local native species and thus harm local biodiversity. The Inner Clyde and the Inchmickery Reserves are nesting grounds for a number of seabirds. Unfortunately, plants such as the Japanese knotweed and Tree Mallow grow rapidly and reduce the available nesting ground. RSPB Scotland is responsible for the management of these reserves, and they applied for SMEEF funding to undertake INNS removal. RSPB Scotland received £3,738 from the Nature Restoration Fund via SMEEF for removal of Tree Mallow and Elder, from Inchmickery, and to reduce the spread of Japanese knotweed from the Inner Clyde Site of Special Scientific Interest (SSI). They also installed remote cameras to monitor the spread of the invasive species.

“As well as clearing tree mallow and elder, we were able to use the trips to Inchmickery to check on bait boxes, which help monitor for any invasive mammals, and install a sign making people aware that the island is an RSPB reserve and to take care. Both these additional bits of work fit very well with the objective of preventing invasive species and safeguarding the island’s seabirds.”

Toby Wilson, Senior Conservation Officer, RSPB Scotland



New Restoration Work Vessel - SeaWilding



SeaWilding is a pioneering, community-led Scottish charity working with coastal communities to restore degraded inshore marine habitats to enhance biodiversity, improve water quality and sequester carbon. SeaWilding develops best practice, low-cost methodologies and training programmes to help other coastal communities do the same.

Due to the growth of the organisation and associated activities, they required a light-weight robust vessel that has the flexibility to be used for restoration and research work which includes moving oyster cages and equipment, seagrass harvest and sewing and marine habitat surveying, dive-support and passenger transport. SeaWilding received a £27,068 grant from the Nature Restoration Fund via SMEEF to purchase a new coded vessel suitable for the task.



Biodiversity Baseline Survey Equipment - Community Association of Lochs and Sounds



In Lochalsh the Community Association of Lochs and Sounds (CAOLAS) – has launched its own native oyster reintroduction project. The exciting new project is designed to conduct the initial feasibility for native oyster reintroduction, undertaking necessary surveys to check for any remnant wild populations, identifying suitable localities, and introducing juvenile native oysters into cages at the Morvern community pontoons in Lochalsh, with a view to moving to seabed reintroduction trials.

The vision for the project is to reseed increasing areas with oyster beds, providing wider benefits for the recovery of a range of species, improving water quality and in the future creating economic opportunities for the local community projects. CAOLAS applied for a grant from SMEEF to purchase an ROV and associated equipment, which will aid in the baseline monitoring efforts of the project and was successful in receiving £14,988 from the Nature Restorations Fund via SMEEF.

Scottish Marine Animal Stranding Scheme - Glasgow University



£203,921



Wider Seas



Across the UK, whales, dolphins, porpoises, and seals have frequently been found stranded on coasts. The reasons behind these strandings are not always straightforward and the role that human activity can have on causing these strandings is still under investigation.

The Scottish Marine Animal Stranding Scheme (SMASS) has been in operation since 1992. It is part of the Cetacean Strandings Investigation Programme (CSIP) and is funded by the Scottish and Westminster governments. The project aims to provide a systematic approach to the surveillance of Scotland's marine species by collating, analysing and reporting data of all whales, dolphins and porpoises seals, marine turtles and basking sharks that strand on the Scottish coastline. The collection of this data allows for improved understanding of the health status of these species and reveals information about the potential risks they are facing.

SMASS were successful in applying for £203,921 from Nature Restoration Fund via SMEEF. SMASS had an urgent need to replace its stranding response vehicle used to assist in the response to marine strandings. Although the team respond to both live and dead animal responses, the majority are necropsy investigations. SMASS also applied for funding to purchase equipment for the Hub and create a relational, web-accessible database for storage of key SMASS datasets with a searchable interface and data visualisation of strandings cases and trends. This will be integrated with the Beachtrack app for data integration.

In 2022/23, SMASS received a £224,495 grant from the Nature Restoration Fund via SMEEF to renovate a facility that would support marine strandings investigation work in the Highlands and Island region and to develop and update the environmental monitoring app 'Beachtrack', which facilitates the collection and use of high resolution data on marine strandings and other key metrics of marine environmental health around the Scottish coastline.



Flapper Skate Data Collection - Orkney Skate Trust



£17,245



Wider Seas



Scotland's marine environment supports the largest known skate in the world – the flapper skate, and the waters around the Orkney archipelago provide an excellent refuge with optimal conditions for their survival. Due to historic high mortality rates from angling and fisheries, the flapper skate has been in decline in Scottish waters for several decades - it is listed as critically endangered on the IUCN Red List and is recognised as a priority marine feature in Scotland.

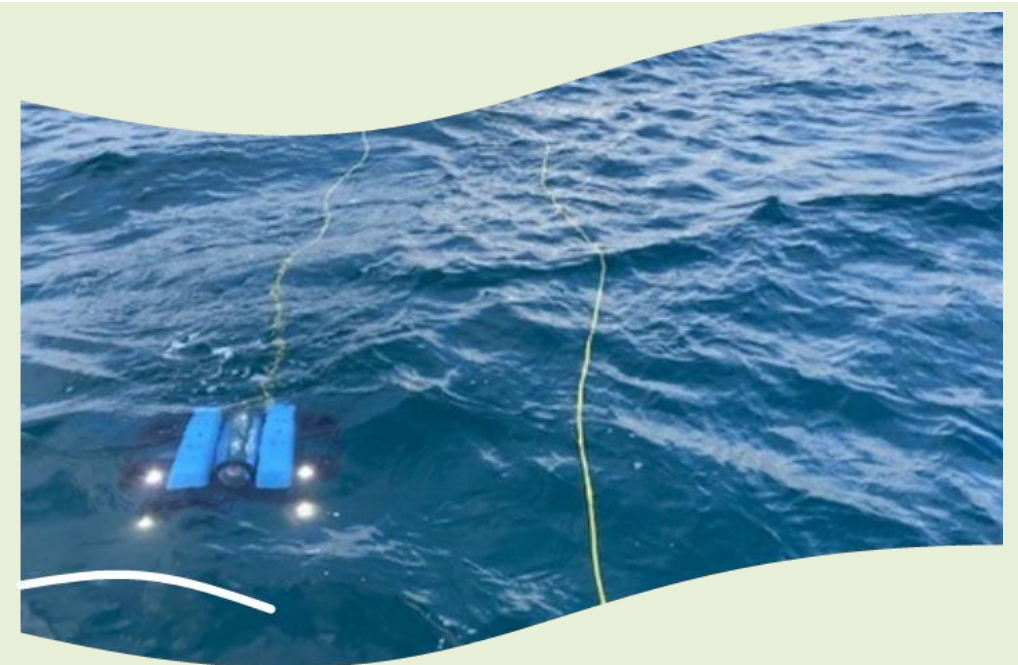
In recognition of the endangered status of flapper skate, the Orkney Skate Trust (OST) was established by a group of volunteers in 2010. To date, OST have delivered a range of projects including:

- Tag and release angling – providing key biological, and spatial data on flapper skate around Orkney.
- Marine Survey – OST works closely with the diving community to record sightings of flapper skate and live egg cases on the seabed.
- Egg Case Records – OST records information on egg cases that have washed ashore using its network of volunteers.
- Baited Remote Underwater Video (BRUV) – OST have designed, built and tested three designs of BRUV frame since 2019 and have become leaders in the deployment of these novel survey frames in citizen science.

In 2021 and 2022 OST received grants of £8,200 and £11,866, respectively, to purchase a small Remotely Operated Vehicle (ROV) and equipment for building a bespoke Baited Remote Underwater Video system (BRUV). As OST are a small group of volunteers, time and capacity are limited. By funding additional equipment, SMEEF enabled OST to collect a greater quantity and quality of data, maximising the use of hired boat time.

“For a small, voluntary organisation like OST, the small pots of funding made available through SMEEF have been highly beneficial. Furthermore, the fast pace at which SMEEF operates, along with the light-touch reporting requirements, are beneficial to organisations like OST.”

Dan Wise, Chairman, Orkney Skate Trust



OST using ROV to survey for flapper skate egg cases. If areas are located where egg cases are observed information is passed on to regulators to best assist conservation aims.

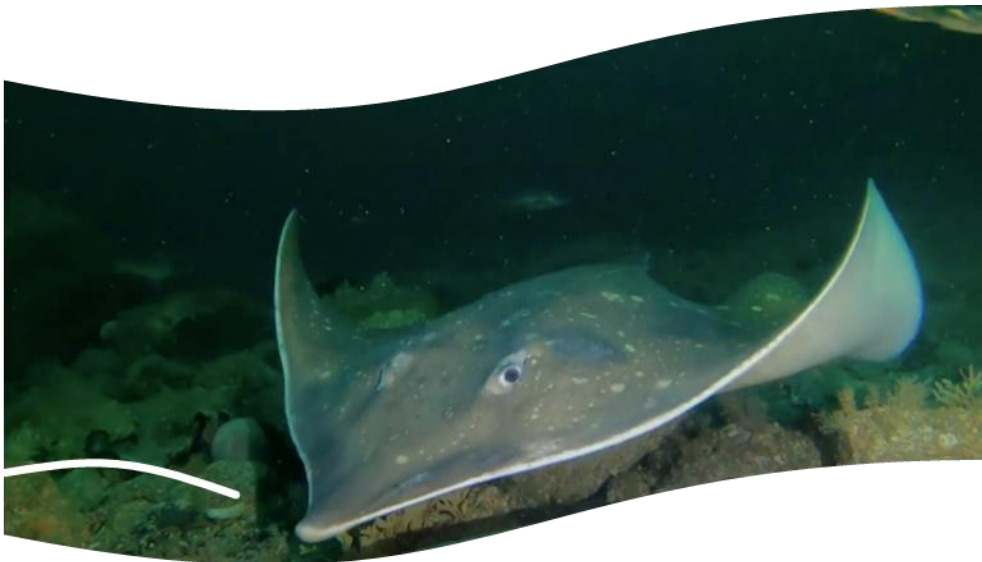
(Image: D. Wise)

With SMEEF funding covering equipment costs, OST were then able to leverage further funding from other sources to pay for vessel hire and operational costs. The striking visuals have also had a positive impact on OST's communications and awareness raising activity with some posts seeing 10k views. This includes being interviewed on BBC News and regular requests to feature on TV programmes, such as the BBC's Spring Watch.

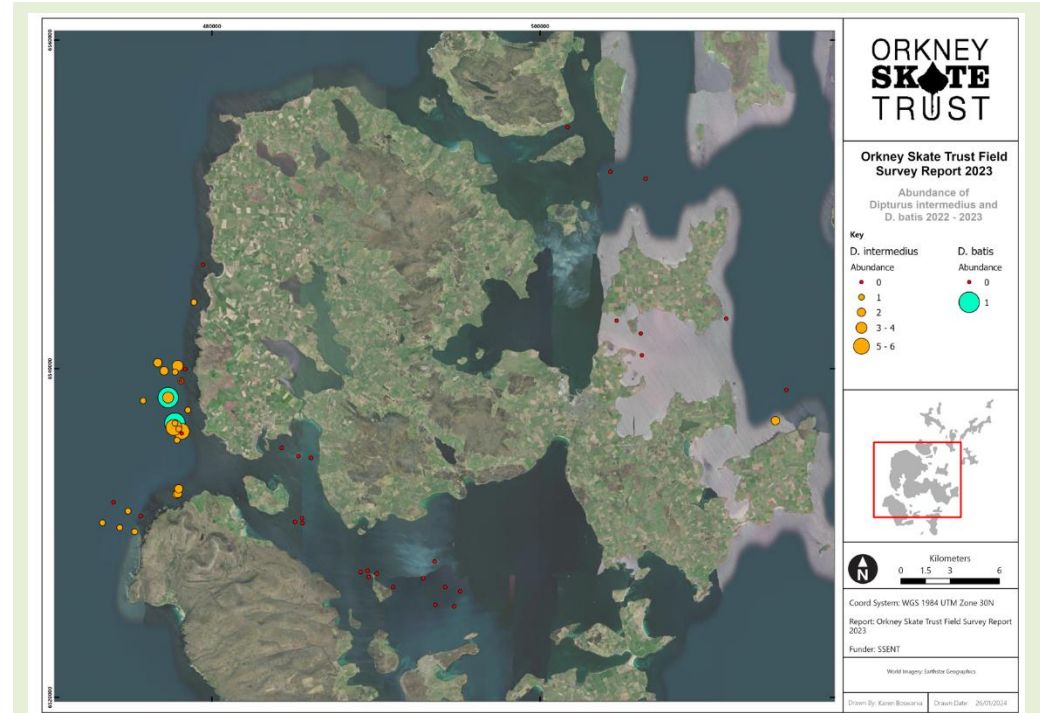
The data collected is submitted to the Marine Recorder database as well as used to create maps to help improve our limited our understanding of their distribution and behaviour and support wider conservation measures.

"We appreciate the support SMEEF have given us over the years, and their trust in us that we can use these highly competitive funds to make a meaningful contribution to filling knowledge gaps that exist around flapper skate. Without these funds, the OST would have been unable to build and deploy the camera systems that give us the data and the engaging films, and therefore we would be much further back in our conservation aims."

Dan Wise, Chairman, Orkney Skate Trust



(Image: <https://www.orkneyskatetrust.co.uk/gallery/>)



OST map of the abundance of flapper skate and blue skate in Orkney between 2022 and 2023 with data gain from SMEEF funded BRUV systems and deployed from vessels funded by SSEN. (Image: D. Wise)

Credit to Donors

SMEEF could not function with the kind and generous support of the following organisations. All the following organisations have donated during the financial year 2023/24. For further details of historic and future donors and a guide to our approach to ethical contributions please visit our website www.smeef.scot.



Meet the Team



Sarah Brown
SMEEF Manager
Fundraising, strategy and oversight

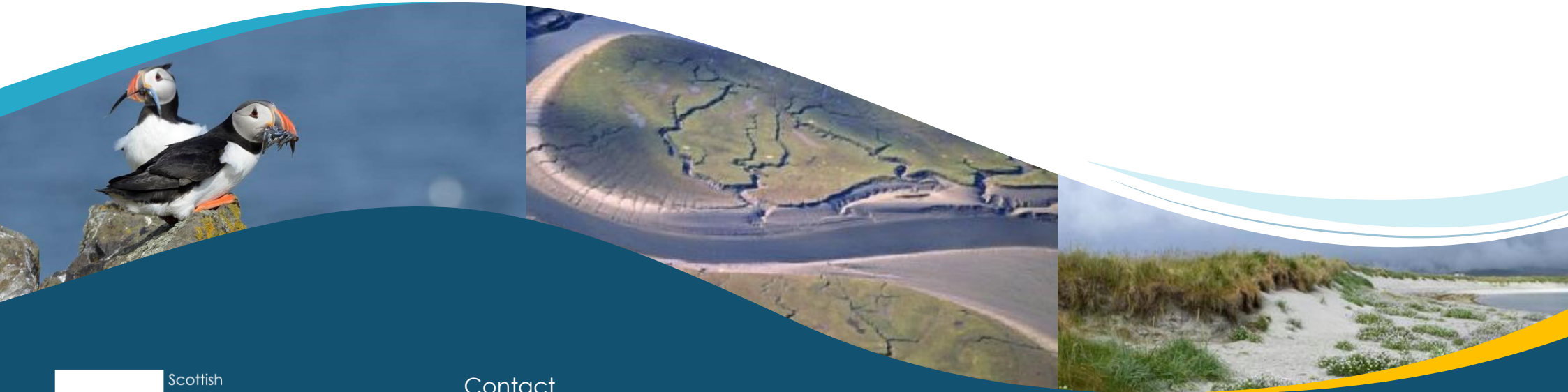


Chris Perkins
SMEEF Officer
Due diligence, grant management, nature finance



Vasiliki Katsorida
SMEEF Co-ordinator
Website, monitoring, newsletter, administration

Founding Partners



Contact



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