



BIOSECURITY
FOR LIFE

COLLABORATIVE BIOSECURITY:

*The UK's globally important seabird
islands are now better protected*



ACKNOWLEDGEMENTS

Biosecurity requires collaboration. The UK's globally important seabird islands are better protected, thanks to the support, hard work and commitment of many.

The project would like to firstly thank its funders: EU LIFE, NatureScot, Natural England, the Department of Agriculture, Environment and Rural Affairs (DAERA), the Department for Environment, Food and Rural Affairs (DEFRA), Natural Resources Wales, and the Scottish Nature Restoration Fund (NRF).

Thank you for the vision and commitment of the partners: the RSPB, the National Trust, and the National Trust for Scotland. The Steering Group and staff of all organisations supported, guided, and collaborated with the Biosecurity for LIFE project team to enable their work.

We are grateful for the hard work and commitment of the project team, the project managers, and biosecurity officers who brought the vision to life. Their expertise brought people together, helped communicate the issues and inspired people to take action for seabirds.

And finally, thank you to the thousands of people living on and visiting our seabird islands, who took time to listen, participate and help protect seabirds.

PLEASE NOTE:

Hyperlinks featured throughout this report are available on the digital version. All hyperlinks are indicated by a light blue highlight with an underline as shown here: [Hyperlinks](#)

To view a digital version of the report please visit: biosecurityforlife.org.uk/achievements



Atlantic Puffin, Isle of May.
Photo credit: Andy Hay (rspb-images.com)

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THE BIOSECURITY FOR LIFE PROJECT

The “Biosecurity for LIFE project: safeguarding the UK’s globally important seabird Special Protection Area (SPA) islands from invasive alien species [LIFE17 GIE/UK/000572]” is a partnership project between the RSPB, National Trust and National Trust for Scotland.

The £1 million project was awarded funding from EU LIFE, with co-financing from NatureScot, Natural England, and the Department of Agriculture, Environment and Rural Affairs (DAERA). Additional funding from the Department for Environment, Food and Rural Affairs (DEFRA), Natural Resources Wales, and the Scottish Nature Restoration Fund (NRF) was secured during the project.

The five-year project ran from August 2018 to July 2023 and worked with a wide range of stakeholders (island communities, businesses, managers, landowners, conservation organisations and statutory bodies) to develop UK capacity to plan and implement biosecurity measures to safeguard seabird islands against the threat of invasive non-native mammalian predators arriving and becoming established. Through training, awareness raising and practical on-the-ground conservation work, the project aimed to secure a future for the UK’s seabird islands free from this threat of predation.

SUMMARY

Collaboration between island communities, businesses, managers, landowners, conservation organisations and statutory bodies has vastly improved biosecurity on the UK’s seabird Special Protection Area (SPA) islands.

Globally significant seabird populations are now better protected against the threat of invasive non-native mammalian predators.

BACKGROUND

The UK is home to globally important populations of seabirds, many of which are threatened. Seabirds face many challenges at sea, such as climate change, being caught in fishing gear (bycatch), and plastic pollution of the oceans. The major threat they face on land is invasive non-native mammalian predators. These invasive predators, including rats, mice, stoats, hedgehogs, mink, and feral cats, are not naturally found on (native to) the islands where seabirds breed. Adult birds, chicks, and eggs are very vulnerable to predation from them. Measures can be put in place to try to stop these invasive predators from getting to these seabird islands; this is called ‘biosecurity’.

The most important UK seabird colonies are found on islands that have been recognised as Special Protection Areas (SPAs) and are historically free of invasive predators. Some seabirds breeding in the UK are found exclusively on these predator-free islands. The Biosecurity for LIFE project aimed to put in place biosecurity measures across all 42 of these SPA islands across the UK. At the start of the project, many of these islands did not have biosecurity measures in place and awareness about the threat posed to breeding seabirds by invasive predators was generally low amongst island communities and visitors. The project has worked with non-governmental organisations (NGOs), government agencies, landowners, communities and others to put in place biosecurity measures on these islands.

The project vision was to see a measurable improvement in biosecurity practice across all of the 42 UK SPA islands designated for breeding seabirds, and more importantly for this improvement to be maintained.

Biosecurity: the practice of protecting places from the threats to wildlife posed by introducing new diseases or types of plants or animals that do not naturally occur there.

Incursion: when an invasive non-native mammalian predator has recently spread to an island but has not yet established a population. An incursion response is the planned actions taken when it is thought an invasive predator has reached an island.

WHAT THE BIOSECURITY FOR LIFE PROJECT DID

Effective biosecurity needs a wide range of people to play their part in protecting seabirds. The project consulted and worked with: national and international biosecurity professionals; island residents and communities; island owners; marine businesses; boat and ferry operators; organisations and statutory agencies that manage islands; visitors; schoolchildren and the wider public.

The project encouraged and empowered these people to:

- Take precautionary measures when visiting islands
- Raise awareness about biosecurity
- Be vigilant for signs of invasive predators on islands
- Take action should a predator be seen

What the project achieved:

- International biosecurity collaboration
- Expert support for island owners, managers and communities
- An engaging communications campaign which mobilised people
- Rapid response systems to keep islands free from invasive predators

In consultation with national and international biosecurity professionals, the project engaged each group and supported them to apply best practice principles, to the best of their ability, to reduce the chances of invasive predators getting to islands.

Vulnerable species include:



ATLANTIC PUFFIN



EUROPEAN STORM-PETREL



BLACK GUILLEMOT



NORTHERN GANNET



EIDER DUCK



COMMON GULL



MANX SHEARWATER



ARCTIC TERN

Non-native mammalian predators:



RAT



MOUSE



MINK



HEDGEHOG



STOAT



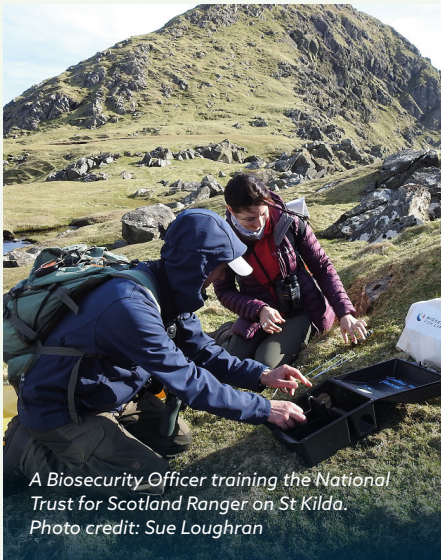
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INTERNATIONAL BIOSECURITY COLLABORATION

The project connected with European Union and New Zealand biosecurity professionals and shared skills through exchange visits and online gatherings. A European group supported and trained each other. They have now formed an [expert advisory group](#) to support the wider professional community working on biosecurity and island restoration. This project has particularly supported and informed the biosecurity work of the [LIFE PanPuffinus!](#) and [LIFE Artina](#) project teams in the Mediterranean.

Biosecurity for LIFE is a continuous inspiration and knowledge source for increasing awareness and providing biosecurity solutions to our Mediterranean islands.

“ **Seabird Research Coordinator, LIFE PanPuffinus!** ”



A Biosecurity Officer training the National Trust for Scotland Ranger on St Kilda. Photo credit: Sue Loughran

BIOSECURITY EXPERTS SUPPORTED ISLAND OWNERS, MANAGERS AND COMMUNITIES

Biosecurity officers created “biosecurity plans” with the SPA island owners, managers and communities. These plans give detailed advice on the likely ways invasive predators might reach each island and tailored strategies to prevent this. They provide a response procedure should a mammalian predator get onto an island. The plans also list responsibilities for managing biosecurity and where island managers can get further information and support.

The biosecurity officers trained and supported people on 70% of SPA island areas to implement their plans. Each island was offered a budget for boat costs and equipment such as cameras, tracking tunnels and bait stations to carry out their surveillance. The project produced a [report](#) “Developing biosecurity plans and implementing measures on the UK’s internationally important seabird island Special Protection Areas” for biosecurity professionals, so they can replicate and build on this work.

The biosecurity project has helped our island community understand the need to protect the seabird population through actively managing and recording data. The use of the app makes it very easy to input the data and knowing that the data can be accessed instantly by those running the project offers reassurance. Assistance with suspect wax blocks is readily available by being able to upload photos into the app.

“ Island Resident and Volunteer with the National Trust for Scotland, Canna Island

AN ENGAGING CAMPAIGN MOBILISED ISLAND RESIDENTS, BUSINESSES, AND VISITORS

An awareness raising campaign was designed to help people to understand biosecurity and the role they play in keeping seabirds safe. Accessible and informative [website pages](#), [Twitter](#) and [Instagram](#) accounts, leaflets, training packs, posters, information boards and [animations](#) were created. They were translated into [Welsh](#) and [Gaelic](#) where appropriate. These resources helped the biosecurity officers to engage with people, to keep biosecurity conversations active and empower different island user groups in the following ways:

- A major pathway for invasive predators is boats, their passengers, and cargo. Over 90 key locations were identified where biosecurity reminders could be placed for this island-bound traffic. A mix of information boards, posters, leaflets and/or animations were installed at all SPA island departure points (waiting rooms, ticket offices, harbour walls), plus major marinas, and likely island visitor hubs, such as tourist information centres, ferry ports, kayak/paddleboard hire and beach warden huts. Conversations and training sessions with boat operators and harbourmasters means lots of these people are now implementing biosecurity.
- The biosecurity officers gave talks to more than 3,400 island residents, conservation staff and bird survey groups, who are often the only visitors to islands.
- Officers also spoke with over 2,200 people at public events such as boat shows, agricultural shows, conservation conferences and family conservation days.
- Over 280 people from lighthouse maintenance crews and tour boat operators were trained in boat and island predator check procedures.
- 106 schoolchildren and young people from island or coastal communities co-designed an [education pack](#). The games and lessons were used by more than 3,200 schoolchildren across the UK during the project and continue to be freely available through the website.



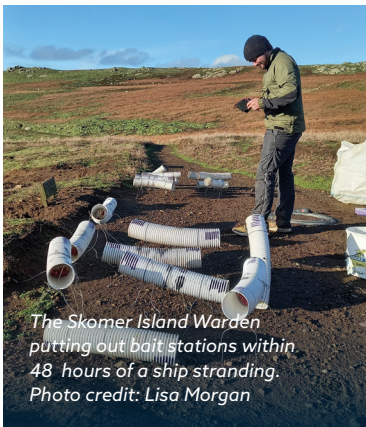
Visitors can pick up an Explorer Backpack from the weatherproof box on Mousa. Photo credit: Holly Paget-Brown



A Biosecurity Officer giving a talk at the Shetland Bird Group meeting. Photo credit: Jaclyn Pearson

- Biosecurity officers supported three demonstration islands to design and install “Explorer Backpacks” and trails to engage visiting families with biosecurity.

Multiple ways of communicating about biosecurity meant people had multiple chances to hear about biosecurity and it kept people engaged. The project has produced a [report](#) “Raising awareness of biosecurity - how to help everyone save our seabirds” detailing the campaign.



The Skomer Island Warden putting out bait stations within 48 hours of a ship stranding. Photo credit: Lisa Morgan

ORGANISATIONS CREATED RAPID RESPONSE SYSTEMS TO KEEP ISLANDS FREE FROM INVASIVE MAMMALIAN PREDATORS

When a mammalian predator is seen on an island, best practice is to take immediate action, preferably within 48 hours, to try and catch the animal. Newly arriving animals can cover a lot of ground in a short space of time, so the chances of intercepting it can reduce, especially on larger islands, if too much time elapses. It requires a lot of equipment and effort to survey an island to locate an animal.

Seven "Rapid IncurSION Response Hubs" have been established and equipped around the UK. Local people, led by island management staff and biosecurity officers, have volunteered, mobilising at short notice to find and remove invasive predators from islands if they are suspected to have arrived there.



BENEFITS

The Project brought key people together around a common cause, catalysed innovative solutions, and provided tools and infrastructure. As a result, the UK's (and the EU's) biosecurity practices have measurably improved.

- Biosecurity has become more visible.
- People and organisations are taking responsibility for biosecurity.
- People responded positively to the "Save our Seabirds" campaign.
- People are now collaborating to deliver biosecurity.
- Island owners, communities and managers on 95% of the 42 SPA islands now have the resources to manage biosecurity effectively.
- Innovative tools are enabling better biosecurity across the UK and Europe.

BIOSECURITY HAS BECOME MORE VISIBLE

Biosecurity officers talking with people at events, talks and training has helped to raise awareness of biosecurity with key people. The scale of the physical visibility of biosecurity messages at all SPA island departure points, and additional harbours, ferry ports, and marinas, plus on islands through information boards and visitor trails, continues to raise awareness and keeps people vigilant and engaged in protecting seabird islands.

Boat operators to Skomer and Mousa now make an announcement on every sailing, asking visitors to check their bags and explaining the importance of this simple step. This is keeping the biosecurity conversation active.

“ Biosecurity Officer



People who have seen the interpretation signs at departure points have started conversations with me and were interested in learning more about biosecurity.

“ Biosecurity Officer

A wider campaign has also made biosecurity visible to a large audience, who may respond positively in the future to biosecurity messages when visiting islands.

1,000+

social media followers

10M+

people to date have viewed press articles

15,000

people have engaged with the website, a third of whom have looked at the project's resources

PEOPLE RESPONDED POSITIVELY TO THE "SAVE OUR SEABIRDS" CAMPAIGN

People were keen to help and took action to save seabirds.

The design of the training and online materials made the subject simple and engaging. Schoolchildren were involved in developing the [educational resources](#). This co-design approach made the subject even more accessible for others. Participating children were able to describe what else they could go on to do to help nature.

Some people really committed to saving seabirds. When the Lothian Sea Kayak Club (LSKC) spotted signs of a rat on The Lamb (an island in the Firth of Forth), they were put in touch with the project team for help to ensure the safety of the breeding cormorants and puffins. With encouragement, advice and equipment from the project, and support from the Scottish Seabird Centre and others, three volunteer kayakers undertook biosecurity training. They visited the island more than 20 times over two winters to set up surveillance equipment, enlisted the help of 10 more kayakers and ensured the rat was captured so the island could keep its rat-free status.

It's an excellent, comprehensive resource that will highly engage and motivate children in relation to an important environmental issue and which makes planning and delivery easy and enjoyable for teachers. You can really sense the involvement of the children in its creation. It feels very child-led and other children will love that it's been created by their peers.

“ Primary School Teacher



Volunteers from the Lothian Sea Kayak Club respond to an incursion on The Lamb. Photo credit: John Hunt

It's been great to see people really engage with biosecurity and want to protect seabirds. This was especially the case with communities who live on these islands and who care for their native species. Following a talk with Fetlar's residents, almost everyone took away a surveillance box and continue to check them for signs of invasive predators.

“ Biosecurity Officer



The schoolchildren of St Agnes school, Isles of Scilly, learn how to identify rodent footprints. Photo credit: Paul St Pierre

ISLAND OWNERS, COMMUNITIES AND MANAGERS ON 95% OF THE 42 SPA ISLANDS NOW HAVE THE RESOURCES TO MANAGE BIOSECURITY EFFECTIVELY

Only 25% of seabird SPA islands had a biosecurity plan in place at the beginning of the project, and most were not implementing effective practices or had unused surveillance equipment. Through the process of creating bespoke plans with biosecurity officers, island owners, communities and managers identified the training, support and equipment they needed. People also began to understand the importance of continued vigilance even if no signs of invasive predators were ever found.



A Biosecurity Officer training land managers on Annet Island.
Photo credit: Jaclyn Pearson

Biosecurity officers spent time working alongside people, training them in surveying methods and how to report and respond if a mammalian predator was suspected. Private landowners and communities were given abbreviated and accessible plans to ensure they could do something positive within their time and resource. Now almost all UK seabird SPA islands have the skills, equipment and systems to manage biosecurity effectively.

Furthermore, the project developed a reporting and response system, giving the UK a new ability to be able to react to suspected sightings. The reporting system has been put to use 24 times, and in 22 cases, interventions have ensured islands remained free from invasive predators. In two cases, early on in the project, the biosecurity response determined that rat populations were already firmly established across the island, necessitating a different approach. Eradication or management programmes are now in place to protect seabird colonies on these islands.

We've had great support from the project, by way of resources, training, and advice. We have had teaching sessions during staff inductions and posters and leaflets to interest and educate the public. Visitors have responded well. They are curious as to how we manage these remote places.

Across the site we have wax blocks inside monitoring stations, which are checked regularly, and camera traps to capture potential rodent activity. We've also taken steps to inform and include the harbour community and the boats that transport visitors, which means that they can start monitoring their boats for rodents. All this meant that when a dead rat was found outside of the breeding season, we followed a plan to monitor the island until we were sure it was a one-off discovery. The project has instilled good practice, provided resources, and raised awareness to help protect the Farne Islands.

“ **Farne Islands Ranger,**
National Trust

PEOPLE AND ORGANISATIONS ARE TAKING RESPONSIBILITY FOR BIOSECURITY

As described above, islands have implemented their biosecurity plans. Owners, managers, lighthouse boards and residents on 93% of SPA islands are now taking time to check for invasive predators.

Furthermore, biosecurity has been pushed up the agenda within the UK Government and devolved administrations and is now being talked about as something that needs to happen rather than an optional extra. It has now been included in seabird and marine strategies. This is a clear sign that the UK governments now recognise their role and responsibility in protecting the UK's important seabird islands.

Prior to the project, the island had no real Biosecurity Management Plan, with only a cursory glance at regular biosecurity monitoring. Since the start of the project, we now have written and implemented the Biosecurity Management Plan, which details what monitoring should be done on a monthly basis, as well as additional checks and action plans to put into place if an incursion is suspected or confirmed. To complement this incursion plan, an incursion hub nearby on the mainland, supported by Biosecurity for LIFE, enables us to implement such plans at the drop of a hat.

“ **Warden**

It [the biosecurity plan] is comprehensive and well written ... None of us would want to see our unique and nationally important bird life affected in any way.

“ **Resident, Fetlar**

Following initial training, including an introductory visit to Papa Stour in August 2021, I have been visiting this island regularly to monitor the biosecurity stations. Involvement in this project has enabled me to feel that I am making a small contribution to the survival of the highly important seabird populations on Shetland.

“ **Volunteer, Papa Stour**

PEOPLE ARE NOW COLLABORATING TO DELIVER BIOSECURITY

Biosecurity cannot be delivered by any one person, business or organisation alone. It needs people to work with each other. The project has brought many of these groups on a biosecurity journey, listened to them and in return made biosecurity as easy as possible for them to implement. People are working together well for a common cause.

There has been an increased awareness, not just of staff on the island but also of contractors (boat operators and builders etc...) coming to the island, which is arguably the activity that carries the greatest risk for Skomer. This has been purely down to the project. Being part of the Biosecurity for LIFE network has also enabled us to make connections with other SPAs as well as draw upon expertise of the team running Biosecurity for LIFE.

“ Warden, Skomer



Getting people talking at a community consultation event at the Scottish Seabird Centre. Photo credit: Jaclyn Pearson

INNOVATIVE TOOLS ARE ENABLING BETTER BIOSECURITY ACROSS THE UK AND EUROPE

Several new biosecurity systems and standards have now been introduced to the UK and EU.

- A European Advisory Group is in place and able to support a European-wide network of biosecurity professionals into the future.



Team checking for signs of rats using bait tunnels and the conservation detection dog. Photo credit: Dave Astins

- A surveillance App has streamlined the process of record keeping for island managers and surveillance teams.
- A UK reporting and response system for mammalian predator sightings has been developed and tested 24 times, preventing the establishment of breeding populations.
- The project has improved industry standards and trained the UK's first rodent conservation detection dog and handlers, who have assisted in surveillance and cargo checks. Particularly valued was the confirmation of rat absence following a shipwreck event near Skomer Island, home to a globally significant colony of Manx Shearwaters, as well as Puffins, Storm Petrels, Guillemots and Razorbills.



Team ready to carry out checks following a shipwreck. Photo credit: Lisa Morgan

The fact that we can utilise a biosecurity trained detection dog to search all our vessels is incredible and very much needed. We could not do as good a job as the detection dog.

“ Manager,
Boat Tour Operator

Having a conservation detection dog...has been a biosecurity game-changer for our internationally important seabird islands...We have been able to call on their services to check deliveries of building materials going by boat to Skomer and Skokholm Islands and to help during a rapid incursion response following a shipwreck on Skomer. Together with our existing biosecurity surveillance methods, the dog has given Wildlife Trust staff the additional assurance that our Special Protection Areas (SPAs) remain free of invasive non-native ground predators like rats.

“ Head of Islands and Marine Conservation, Wildlife Trust of South and West Wales



Guillemot, Farne Islands. Photo credit Sarah Lawrence.

Effective biosecurity needs collaboration, time and money. This project's insights can help inform the future deployment of these resources to continue to develop the UK and EU's biosecurity practices.

LESSONS LEARNT AND FEEDBACK

WHERE WE WERE SUCCESSFUL



- A simple and well designed communications strategy engaged and empowered a variety of key people. Furthermore, most people wanted to play their part in biosecurity.
- Implementation of biosecurity was higher on accessible islands, where conservation organisations were involved in management, and where owners and managers had time. An owner/manager's appreciation both of their unique responsibility and of the relative ease of preventative biosecurity compared to carrying out an incursion response to eradicate predators, also fostered biosecurity implementation.
- Regular, ongoing support from biosecurity experts has been key to people collaborating and taking responsibility for biosecurity. Their expertise has given confidence to island owners and managers to respond to sightings of invasive predators. The biosecurity officers' regular communications and encouragement have been vital to maintaining momentum.
- When biosecurity was talked about as a part of island management rather than something separate, it was more successfully formalised into "business as usual". Several conservation organisations have now included biosecurity checks into their warden workplans. Future biosecurity dialogue needs this nuance to encourage similar actions being adopted into organisations' operational systems.

WHERE WE NEED TO INVEST



- The measures implemented in this project were cost-effective and straightforward for people to implement. However, time remains an issue for many. Investment into technologies and tools such as conservation detection dogs, technology to detect invasive predators remotely, software recognition for rodents, and drones will make biosecurity easier for Island owners, communities and managers.



Grassholm Island.
Photo credit: rspb-images.com



Coming together to learn about boat checks. Photo credit: Jaclyn Pearson


CONCLUSION:

TURNING BIOSECURITY FOR LIFE INTO BIOSECURITY — FOR LIFE

The Biosecurity for LIFE project has unlocked people power to protect seabirds from invasive non-native mammalian predators. People are better informed. Island and coastal communities and visitors have responded, supported by the expertise, resources and networks that have developed over the five year project.

The project's online resource centre ensures everyone can find the advice and resources to continue to protect seabird islands. Project partners will continue to work together to find the support, funding and expertise into the future. The future looks brighter for seabirds.

95%



**SOLID FOUNDATIONS
HAVE BEEN LAID.**

It is a massive achievement to go from 25% of SPA island communities implementing under-resourced biosecurity to 95% now having tools and support.



 @biosecurityLIFE  @biosecuritylife

Find out more at biosecurityforlife.org.uk

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