

seasearch

2022 Scotland Report



Cover photo Karen Boswarva

Iain Dixon; Owen Paisley; Karen Boswarva; Paul Kay

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Introduction

Scotland as a whole continues to be ably served by four coordinators: Iain Dixon, Paul Kay, Owen Paisley and Karen Boswarva. One change since last year has been Karen's move up to Orkney, from where she now looks after Seasearchers in Orkney and Shetland in addition to continuing to look after our social media presence.

The year 2022 differed from 2021 in that diving, snorkeling and shore walking activities were not curtailed to nearly such a high degree by restrictions imposed for the Coronavirus pandemic. However, although two Seasearch dive trips in April/May that had been postponed from 2020 were further postponed to 2023, several Seasearch trips did take place later in 2022 in addition to the many diving events organised by individuals and groups around Scotland that yielded records.

Diving activities

Statistics

Dive trips to Skye and Kinlochbervie were amongst those postponed to 2023. Seasearch divers acting on their own initiative had started a trickle of completed form submissions from snorkelling and diving from as early as January 2022. Submissions gathered pace from about April until by the end of the year 277 forms had been submitted (compared to 256 in 2021), the locations of which are shown in Figure 1.

Records were centred on the usual favourite sites accessible to shore divers on the east and west coasts, such as Eyemouth, St Abbs, the Clyde (particularly Lochs Long and Fyne), and lochs up the west coast including Lochs Creran, Duich and Carron. In addition there are the popular sites readily served by charter boats, widening accessibility around Eyemouth, St Abbs, the wider Clyde system (including Arran, Bute, Mull of Kintyre), together with the Sound of Mull and the Oban and Firth of Lorne area. In 2022 the more far-flung locations yielding forms included the Solway Firth, the Ayrshire coast, the Kyles of Bute, the inner Hebrides including Coll, Tiree and the Small Isles, the southern end of the outer Hebrides around Barra and Mingulay, and Orkney.

On the other hand there were no records over the last year from Islay, Jura and Colonsay, the west coasts of Mull or Skye, most of the outer Hebrides, the Scottish north coast, Shetland, the offshore islands, rocks and pinnacles (including St Kilda and North Rona) and there were very few or no forms received from the Moray Firth area and the east coast south to Fife and the Forth.

The submissions total comprised 160 Observer forms, and 117 Surveyor forms. Most of the forms were from divers; some 50 were from snorkelers and nine were submitted by shore walkers, in addition to which five were compiled from dives by remote underwater vehicles (ROVs) and one from baited remote underwater video systems (BRUVs).

Some 155 of the records came from within the boundaries of one or other of the various types of marine protected area (MPA). The MPA with the most Seasearch records in 2022 was the Inner Hebrides and the Minches Special Area of Conservation (SAC), followed by the Berwickshire and North Northumberland Coast SAC. On the west coast the most recorded MPAs were the Sunart SAC and the Loch Creran SAC.

Seasearch Events

Despite the continuing postponement of trips earlier in the year for a variety of reasons, several events went ahead in Scotland in 2022: organised trips to West Loch Tarbert, Loch Hourn, Little Loch Broom, an impromptu week in the Clyde and the Kyles of Bute, plus weekends in the Firth of Clyde and Eyemouth.

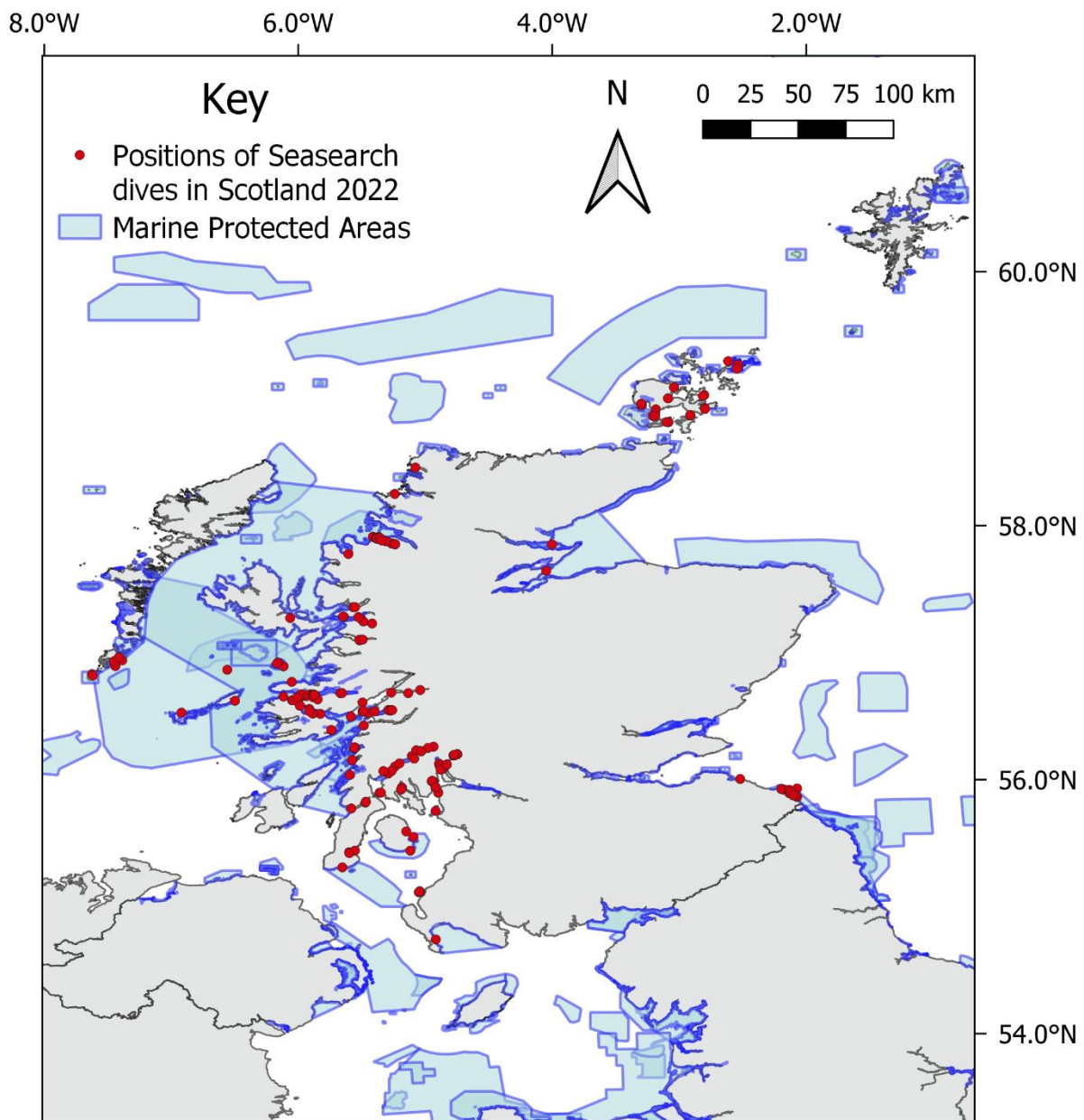


Figure 1 Seasearch survey locations in relation to designated MPAs around Scotland 2022

West Loch Tarbert

A break in the weather allowed three hardy volunteers to carry out a survey at the mouth of West Loch Tarbert in January. There they found some odd looking oysters, possibly Pacific Oysters, *Crassostrea gigas*, firmly cemented to a large boulder. Attached to a rock as they were, this raised the possibility of breeding *Crassostrea*, the first such record obtained from the west coast. In addition, further evidence was found of past serpulid reefs in West Loch Tarbert. Plans are being made with NatureScot to carry out some further sampling here to confirm or refute the tentative Pacific oyster identification in 2023.

Loch Hourn

In early March a small snorkeling expedition was mounted to Loch Hourn at the request of a local community group. A successful survey was carried out despite some inclement weather and several new records obtained.

Little Loch Broom

At the request of a local community group plans were laid by Owen Paisley for a Seasearch survey at Little Loch Broom, within the Wester Ross Nature Conservation MPA, in March. Unfortunately Owen had to pull out at short notice and the trip was led instead by Iain and Karen. In truly magnificent warm winter sunshine over March 20th – 26th, a mixed dive and snorkeling team arrived at Little Loch Broom with two RIBs and a compressor for gas fills very kindly provided by Lothian Divers sub aqua club and Graeme Bruce. We were very grateful to be comfortably accommodated and provided for by the Dundonnell estate, and ably assisted and guided by Sue Pomeroy. The core team of six was supplemented on different days through the week by enthusiastic local snorkelers.

Through the week a total of 18 dives/snorkels/aqua-scopes (essentially a glass-bottomed bucket used to view shallow areas from the boat) was completed, yielding 27 completed Observer and Surveyor forms. Site selection was guided by earlier published literature from the Loch, together with the aim to cover as much as possible of the different habitats and features there; luckily there were no limitations imposed by weather or sea conditions. Highlights from this week included contrasting dives at Ardross Rock, a submerged pinnacle at the entrance to Little Loch Broom, and at Conger Stack, a similar feature almost at the head of the Loch. At Ardross Rock, exposed kelp forest/park communities were present, along with bedrock slopes covered in hydroids, brittle star beds, feather stars, anemones and bryozoan turf with pink encrusting calcareous alga. The seabed around the pinnacle was of waved shelly gravel and maerl with tube-dwelling polychaetes. Conger Stack at the head of the Loch supported very sheltered kelp communities, along with edible crabs, various spider crabs, sea squirts and lots of seemingly bare silty bedrock (and patches of pink encrusting calcareous alga).

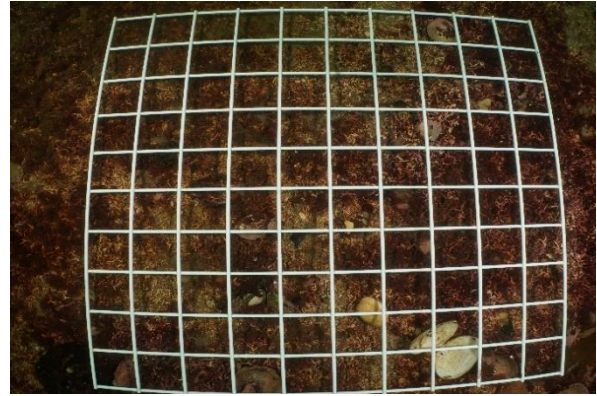
Snorkel dives were conducted along the north and south shores of the outer basin to investigate reported occurrences of seagrass beds (a priority conservation feature). No seagrass or seagrass beds were seen along the north shore, but patchy occurrences of *Zostera marina* were noted along the south shore in the vicinity of Badluarach.

The deeper soft mud habitats (another priority marine feature) of the two inner basins were also investigated, with all three species of sea pen observed (slender sea-pens *Virgularia mirabilis*, phosphorescent sea-pens *Pennatula phosphorea*, and tall sea-pens *Funiculina quadrangularis*) together with the associated burrowing crustaceans *Nephrops norvegicus*. In addition, three photographic transects were completed across the known maerl bed in the outer basin; these showed that the maerl bed still existed and that it appeared to be in good condition with plenty of live maerl and a diverse associated fauna and flora still present over its extent.

The survey culminated in a presentation to the local community in the village hall at Badcall which was well received.



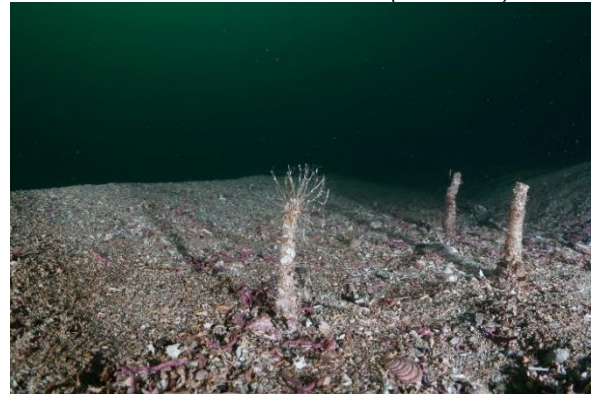
Some of the survey team enjoying the sunshine in Little Loch Broom (Iain Dixon)



One of the quadrat photographs taken during transect dives on the Badluarach maerl bed (Iain Dixon)



The hydroid *Nemertesia antennina* with nudibranch *Antiopella cristata*, Ardross Rock (Claire Simpson)



Sediment waves of shelly gravel and maerl with tubes of the polychaete *Lanice conchilega*, Ardross Rock (Iain Dixon)



Red cushion star *Porania pulvillus* and sea squirts *Ciona intestinalis*, Conger Stack (Sally Walsh)



Tall sea-pen *Funiculina quadrangularis*, inner basin (Iain Dixon)



Snorkelers at Durnamuck Garden site (Angeles Fernandez Pena)



Seagrass plants *Zostera marina*, by Badluarach Pier (Iain Dixon)

Clyde Scenic Week

Jason Coles of Wreckspeditions was offering a 'scenic week' as part of the Wreckspeditions calendar of events, as an encouragement for divers to explore new sites throughout the Clyde system other than the famous wrecks. This happened over the week April 18th – 22nd and, coincidentally, all of the divers signing up for this were Seasearchers or would-be Seasearchers.

The diving activities started in Loch Goil, where five very sheltered sites were visited and coffee and cake was consumed at the wonderful Boat Shed café. The forecast was kinder for day 2, and Jason took the Starfish Enterprise around to Tighnabruaich in the Kyles of Bute whilst we drove around to meet him there; here, we dived at two sites, one in Loch Riddon (also known as Loch Ruel) and the other at the Maids of Bute near the gloriously named Buttock Point. Although the weather was good, the visibility was not great. This theme continued on day 3 in the Firth of Clyde, where we dived amongst the pier piles at Inverkip pier and also at the Gantocks reef. Finally, on the fourth day and worsening forecast, Jason took us to the excellent site in Loch Long known as Anemone Gardens, after which the second dive of the day took place at the CD wreck in the Holy Loch (the wreck of a converted fishing trawler named after some of the items that were found there on a recurring basis when first dived). The final day was cancelled due to weather. All in all though, despite the weather and chilly conditions, we all had a great time which culminated in a noisy meal out for the group on the final evening.



Loch Ruel and Kyles of Bute (Iain Dixon)



Survey team, Wreckspeditions base, Holy Loch (Iain Dixon)



Tube-dwelling polychaete Myxicola sp, Loch Long (Iain Dixon)



Devonshire cup coral Caryophyllia smithii, Kyles of Bute (Iain Dixon)

Upper Loch Fyne

A small expedition was mounted to a site in upper Loch Fyne during July and just over 100 native oysters recorded. Strangely many of these were of enormous size, >15 cm, but no small oysters or spat were recorded. Plans are afoot to return to the location and search for a possible settlement site with young oysters in 2023.

Eyemouth weekend

Over the weekend of July 30th – 31st, ten Seasearchers joined Marine Quest's Sea Skye, skippered by Jim Easingwood, hoping for two days of diving, marine life recording and photography. Those present included a good mix of new as well as experienced Seasearchers, which presented opportunities for mentoring, both during the dives and afterwards when filling in forms. The aim was to dive at sites not normally visited. In the end, due to weather, diving only took place on the Saturday; however Jim foresaw this and offered us a third dive on Saturday in compensation for missing out the following day. Therefore three sites were dived: Offshore from Mawcar Stells, and Off Lumsdaine Hurker, both midway between St Abbs and Fastcastle Heads, and in Scout Cave to the north of Burnmouth. The excellent facilities at Marine Quest in Eyemouth, including café and lounge areas for post-dive coffees and chats, were invaluable to everyone for reviewing photographs and form filling.

Clyde weekend

Eight Seasearchers assembled at the Holy Loch marina for diving, fun and recording over the weekend of October 15th – 16th. Unusually this was at times a little limited by weather - Borne away on Wreckspedition's Starfish Enterprise, the first day's diving was within the Holy Loch, diving on the three landing craft and the wreck of a fishing vessel. On the Sunday, the weather had improved slightly, allowing us to visit the Anemone Gardens site in Loch Long and at the Gantocks reef in the Firth of Clyde.



The survey team on Marine Quest Sea Skye, St Abbs (Iain Dixon)



Off Lumsdaine Hurker, north of St Abbs Head (Iain Dixon)



*Classic St Abbs area reef scene with dead men's fingers *Alcyonium digitatum* dominating (Iain Dixon)*



Cave wall community with sponge and cnidarian turf (Iain Dixon)

Species of interest

Of course there is much interest in garnering records of rare species, first records for a region, range extension records etc, but the importance of recording the continuing presence of common species cannot be emphasised highly enough. As in 2021, the most frequently recorded taxa through 2021 were the various kelp species, the common starfish *Asterias rubens*, encrusting pink calcareous algae, the common sea urchin *Echinus esculentus* and the tubeworm *Spirobranchus* sp. All of the benthic species most abundantly characteristic of Scottish coastal waters were also well represented, including dead men's fingers *Alcyonium digitatum*, sea loch anemones *Protanthea simplex*, the long-clawed squat lobster *Munida rugosa*, solitary sea squirts (especially *Ascidia mentula*, *A. virginea*, *Ascidiella aspersa* and *Ciona intestinalis*) and feather stars (mainly *Antedon* spp.).

There was a continuing focus on shallow snorkelling surveys during 2022, particularly on the west coast, which resulted in an increase in reports of some rarely recorded oyster species. As already outlined in the diving activities above, this included the possible Pacific oyster, *Crassostrea gigas* in West Loch Tarbert and native oysters *Ostrea edulis* in Loch Fyne. In addition, there was the evidence found of former reefs formed by the serpulid *Serpula vermicularis*, which are otherwise only known from a very few sites on the Scottish west coast.

An interesting record obtained early in 2022 was of the fireworks anemone *Pachycerianthus multiplicatus* found east of Tarbert in Loch Fyne. The anemone was at a depth of 60m and recorded using an ROV, an item of equipment increasingly becoming available for data gathering by researchers, Seasearchers and community groups. This record extends the known occurrence of these anemones in Loch Fyne considerably, with the next closest record being off Furnace some 20 miles to the north.



Some of the very large native oysters found in Loch Fyne (Owen Paisley)



Snorkelers played a prominent part in Seasearch West Scotland surveys (Owen Paisley)



Evidence of past serpulid reefs in West Loch Tarbert (Owen Paisley)



A Loch Fyne fireworks anemone (Owen Paisley)

Other activities

Courses

Five Observer courses were run in Scotland through 2022, four of which were conducted online using the Zoom platform, attended by a total of 83 students (up from 39 in 2021). One was led by Seasearch Orkney and Shetland (Karen), two by Seasearch West Scotland (Owen) and two by Seasearch Scotland (Iain) and the tutors included Owen, Iain, Karen and Sarah Bowen. Seasearch Scotland ran a face to face course in Eyemouth in June, catering mainly for snorkellers and linking to the excellent Eyemouth-based snorkel guiding facility provided by Genine Keogh of Snorkel Wild. Iain also assisted on a Surveyor course run by Seasearch Northern Ireland region.

Community Engagement

Orkney and Shetland

RSPB Rock-pooling Event: Karen supported the 2022 RSPB-led annual rock pooling event at Brough of Birsay in May, as part of the Orkney Nature Festival.

Stromness Museum Shoreside Ramble: Then, in July, Seasearch Orkney and Shetland teamed up with the Stromness Museum and Kraken Diving to provide a day of informative snorkelling activities. Participants were given a tour of the museum's natural history collection and a short talk about Seasearch and marine nature in Orkney seas before donning drysuits and snorkels to look themselves. Each participant was given a spotting sheet of key intertidal and shallow subtidal species so they could record what they saw underwater. Karen was on the surface with identification guides and to help with any questions. All the presence data from the day was collated into a single Seasearch Observer form so that participants could see their sightings records making a difference.

Orkney Nature Youth Collective (ONYC): In August, Karen supported the ONYC-led event at Birsay Bay by providing ID guides and information on the species found by rock-pooling and snorkelling volunteers. Specimens were collected and placed in tanks for the public to view and learn more about. This was a popular event run as part of the yearly Orkney Nature Festival, it was a fantastic opportunity to talk about Seasearch with the local community and tourists.

Orkney Skate Trust: Seasearch Orkney and Shetland is assisting The Orkney Skate Trust with their citizen science led research activities throughout Orkney by collecting Seasearch data from SCUBA dives, Baited Remote Underwater Cameras (BRUVs) and drop camera surveys conducted around Orkney's waters looking for evidence of flapper skate and flapper skate egg laying habitat. This is an ongoing project that will run throughout 2023.

DNA Divers: Seasearch, in collaboration with Halton Charters, is assisting DNA divers with the collection of eDNA data around Orkney by conducting dives and snorkels in various locations so that eDNA data can be compared with data obtained on Seasearch forms. Researchers from Liverpool John Moore's University travelled to Orkney to train the Seasearch coordinator and crew of the Clasina in how to collect and process the eDNA data. This is an ongoing project that will run throughout 2023. The aim is to conduct repeat surveys over several key areas throughout Orkney.



Snorkelers in action, Orkney (Karen Boswarva)



Shore walk survey training, Orkney (Karen Boswarva)

Seasearch West Scotland

Owen attended a series of online meetings held with the Roslin Institute, Fish Health Scotland and Friends of the West Loch to discuss Seasearch volunteers helping with *Bonamia* research and an oyster restoration project. This bore fruit later when volunteers collected native oysters from four sites with the presence of *Bonamia* confirmed at two sites.

Highlands and Islands Green MSP Ariane Burgess visited in August and was briefed on the *Bonamia* project work being carried out in West Loch Tarbert with Seasearch help.

A number of mentoring days were organised through July to September at West Loch Tarbert, Loch Craignish and Loch Long. These were open to anyone wishing to improve their form-filling and over the three days 12 people attended.

Seasearch Scotland

Paul has continued supplying Seasearch related stories and articles to Scottish Diver which is published bi-monthly.

As part of the WWF-led Restoration Forth project, Iain has a role to coordinate local volunteers in the Forth area in gathering data on the presence/absence of oysters and their shell remains in and around the former commercially dredged oyster beds. Through late 2022 and early 2023, Iain has assisted in two or three local Restoration Forth shoreline meetings designed to engage local interest. To date, a local volunteer contact list has been built up, comprising divers, snorkelers and shore walkers, most without Seasearch training and, through meetings

and discussion, it is planned to encourage those who can to come out and participate in data gathering dives/snorkels/low tide walks through 2023.

Social Media

Seasearch Orkney and Shetland: The Orkney and Shetland Facebook group currently has 280 members. The page has seen a steady increase in members and participation throughout the year. Since March 2022 there have been 68 posts which have received a good level of participation.

Seasearch West Scotland: Under the capable management of Karen, the West of Scotland Facebook page continued to inform and entertain. Over the year the page was viewed over 6,000 times and attracted 18 new members. The most popular posts were either requests for identification or notifications of forthcoming dive trips.

Seasearch Scotland: The Seasearch Scotland Facebook group currently has 626 members, up from 531 members for last year (Figure 2). Coordinator Karen took over the running of the group when she moved up to Orkney. The page has seen a steady increase in members and participation throughout the year. Since March 2022 there have been 192 posts, with 2,944 reactions and 723 comments.

Thanks to Karen, Seasearch Scotland also has a presence on Instagram, which over the last year attracted 729 followers, featured 12 posts, and reached 4,430 followers.

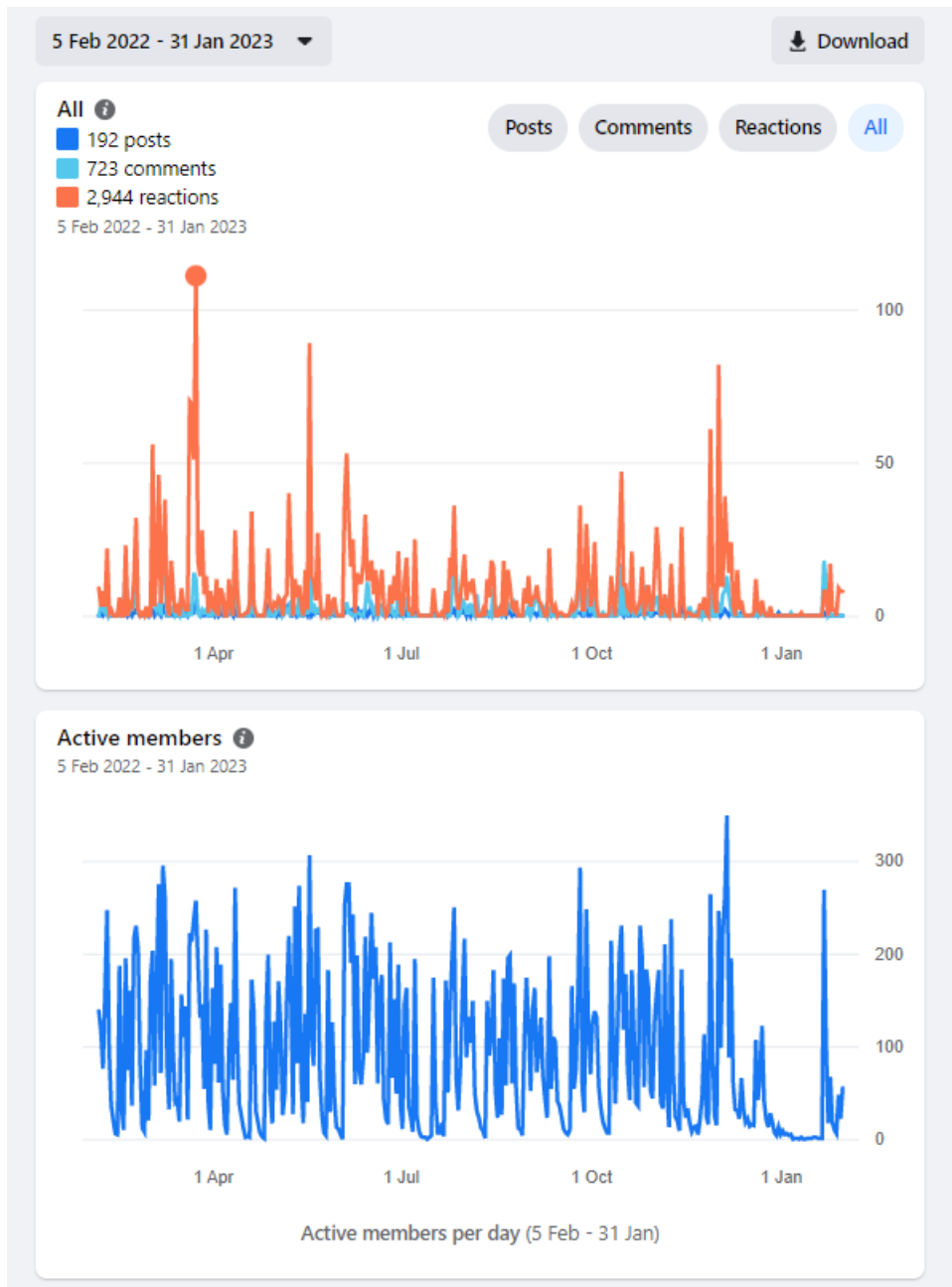


Figure 2 Seasearch Scotland Social Media reach summary Feb 2022 – Jan 2023

Acknowledgements

Seasearch in Scotland gratefully acknowledges the financial support provided by NatureScot in 2022.

A huge thank you to all the volunteers who have contributed to the 2022 dataset and participated in the training and events over the last year.

They were: Aine Purcell-Milton, Alain Karmitz, Alex Higgs, Alex von Lunen, Alice Fisher, Andrew Pearce, Angela Brown, Angeles Fernandez Pena, Berthia Pearson, Cath Lee, Catharine Webb, Chloe Dowell, Chloe Hall, Chris Rickard, Claire Hallybone, Claire Simpson, Daniel Wise, David Tompkins, Douglas Macdonald, Duncan Scott, Eric Holden, Frank Melvin, Fraser Durie, Graeme Bruce, Helen Porter, Helene Corrieu, Iain Dixon, Jamie Leslie, Jamie Moloney, Jason Guthrie, Joanne Caffrey, Joanne Porter, Joe Richards, Karen Boswarva, Katherine Knight, Kathryn Fowler, Katy Firth, Katy Waring, Keith Adam, Lauren Smith, Lin

Baldock, Louise Reeve, Lucy Kay, Mike Markey, Michael Payne, Murray Stewart, Nathan Messer, Nicandro Porcelli, Nicola Faulks, Oliver Wagner, Owen Paisley, Peggy Henery, Peter Bardsley, Peter Petrie, Rachel Horsburgh, Rebecca McHugh, Rich Carlin, Richard Core, Rie Pors, Robin Graham, Rohan Holt, Ruth Sharratt, Sally Walsh, Sarah Bowen, Sharon Brown, Steve McLaughlin, Steven Benjamins, Terry Middleton, Theodore Bennison, Valeska Andrews and Vanessa Charles.

We would also like to thank all skippers and crews of the many charter vessels working around the Scottish coast who have managed to take divers out safely and happily under the pandemic conditions prevalent through 2022.

We gratefully acknowledge the permission granted by several Seasearcher photographers to reproduce the images shown in this report. They retain the copyright over their images.

Appendices

Data normally published annually on the Priority Marine Species and Biotopes recorded will be added as appendices once the 2022 dataset is entered and finalised.