

Extraordinary discovery in South Arran MPA by divers

Community researchers find extensive flame shell living reef

by Hugh Boag
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An extensive flame shell bed estimated to be 10,000m² – about the size of 30 tennis courts – has been discovered in the South Arran Marine Protected Area (MPA) by island recreational divers.

As only the second known remaining flame shell bed in the Clyde marine region, this is a significant discovery not just for Arran but for biodiversity interests throughout the whole of Scotland. Seabed habitats are the foundation of a healthy marine environment.

Records show that 70 to 150 years ago, Scotland's seas and the Clyde had a wide array of living seabed habitats; seabeds that were literally alive with habitat-forming species of bivalve molluscs, such as horse mussels and flame shells, and worms like the honeycomb worm and tube-worm serpula.

Of these, the flame shell is a particularly amazing species. Gaining their name from the neon orange flame-like tentacles protruding from their shells, flame shells on their own are beautiful and unusual looking creatures rarely seen or even heard of by the public.

This is despite playing a very important role in the marine ecosystem. By producing thin, strong threads (byssus threads), flame shells literally knit the seabed together to build a nest which supports a large variety of other marine life that lives on and within this mass of seabed material.

As a result, living reefs like this create an important habitat and enhance biodiversity in the area; research on the only other known flame shell reef in the Clyde recorded 265 different animal species within samples of the flame shell bed.

These living reefs are not only biodiversity powerhouses, providing key nursery grounds for juvenile fish and commercially important scallops, they are vital blue carbon stores which can help increase resilience to climate change.

'It is very encouraging to hear of the discovery of an extensive and previously unknown area of flame shell reef in the Clyde,' commented Heriot-Watt University's Dr Dan Harries, whose research focuses on marine benthic communities. 'These reefs support diverse and abundant communities of marine organisms so it is not just about the discovery of the flame shells themselves – it is a discovery of an entire marine community of exceptional biodiversity.'

The true significance of this find in Arran's seas is revealed by understanding what the extent of these living reefs used to be in the Clyde prior to bottom-towed scallop dredging and seabed trawl fisheries.

More than a century ago, the Clyde had at least seven large flame shell reefs, covering many dozens of square kilometres; Sanda-Southend, Skelmorie Bank, Stravanan Bay, Tan Buoy, Great Cumbrae, Inchmarnock, Otter Ferry and Lamlash Bay. Five decades of scallop dredging reduced

these biodiversity hotspots to just one known reef at Otter Ferry in Loch Fyne, and it has only survived due to high power sub-sea electric cables rendering the ground too dangerous to fish.

Professor Jason Hall-Spencer of Plymouth University said the discovery was: 'Absolutely amazing and very welcome news.'

Hall-Spencer spent years researching the biodiversity associations of a flame shell bed while at the Millport Marine Biological research station 20 years ago.

He said: 'This discovery re-ignites the possibility that, with adequate protection, the once widespread Clyde flame shell beds could one day fully recover along with wider marine and fisheries improvements. I cannot commend the community on Arran highly enough for the dogged determination to recover the seas around their island and the wider Firth of Clyde.'

The flame shell bed is within the South Arran MPA, designated following a campaign led by the Community of Arran Seabed Trust (COAST) – a marine conservation charity – supported by the passionate island community.

Although the MPA was designated for other habitats and species, the discovery of this flame shell bed is testament to the importance of the decision in 2016 by the then cabinet secretary, Richard Lochhead, to afford wider protection to the South Arran MPA.

It is an excellent example of why better protection for the marine environment is needed from destructive fishing practices such as bottom trawling and scallop dredging.

COAST's MPA project officer, Lucy Kay, who was one of the divers who found the reef, said: 'Important discoveries like this are helping to improve our collective knowledge of Scotland's seas. This discovery highlights the invaluable contribution of community groups and citizen scientists in helping to survey and monitor the marine environment around our shores, much of which is currently done on a voluntary basis without any financial assistance from Marine Scotland.'



Close up of flame shell. See COAST opinion page 6. Photograph Paul Kay



Flame shell bed biodiversity. Photograph Paul Kay

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Effective protection

COAST opinion

The Community of Arran Seabed Trust is delighted to share the news that community researchers have discovered an extensive flame shell reef in the South Arran Marine Protected Area off Arran, which we estimate to be in excess of 10,000m² (about 30 tennis courts). This is only the second known remaining flame shell bed in the Clyde marine region and is a biodiversity powerhouse.

Most importantly, this discovery is a celebration for folk on Arran as it demonstrates the value of all the work the people here put in to get protection for the seas around the island to help recover marine wildlife. If they hadn't fought for it, would the bed still be there? This is an unanswerable question, but given the fishing that was happening around the island, there is a distinct possibility that the reef could have been damaged if the MPA wasn't in place.

The need to recover our natural world has never been greater. In the sea, as on land, Scotland continues to fail to meet biodiversity targets and take meaningful action to halt biodiversity loss. If we want to pass on a better marine environment – and the social and economic benefits of that – to the next generation, we need decisive action now. This means proper protection and management of our MPAs alongside spatial limits on damaging bottom-towed fishing.

COAST is calling upon the Scottish Government and Marine Scotland to urgently bring in effective protection for Scotland's seas and to better support communities to survey, monitor, research and manage their coastal waters in line with the recent Edinburgh Declaration, which recognises the vital role communities have in taking action to address biodiversity loss.

It is time for the protection and management of our inshore waters to be aspirational and fit for purpose to meet the biodiversity and climate change challenges we now face.

Thought for the week

Jesus looked at them and said: 'With man it is impossible, but not with God. For all things are possible with God.' **Mark 10:27**

Most of us would recognise the efforts CalMac have made to ensure safe travel during the pandemic and the award reported in your columns last week is a testament to the efforts of their staff.

However, no one would expect the temporary arrangements made to become lasting, but that could be the case with meal provision. A customer 'survey' currently being advertised on the MV Caledonian Isles, and available online through the CalMac website, carries an implicit threat that the traditional service of fresh food on china plates from a variety of choices, may be permanently replaced by a cardboard boxed set of fast foods - albeit cooked on board the vessel. This would reduce choice, increase waste in terms of packaging, and reduce staffing - all in order to cut costs.

I would urge your readers to respond to the survey with clear statements that they do not want to eat on board out of cardboard boxes and that they look forward to a return to the previous catering service once the pandemic is over.

Yours,

Colin Turbett, Shiskine.

Make your own choice

Sir,

A few people got in touch with me to show me a letter from last week's Banner. The letter from animal abuse charity Animal Aid and was about reducing the use of turkeys as part of the staple Christmas dinner in exchange for a vegan option.

My problem doesn't lie with there being a vegan option for Christmas. Not at all in fact! I often talk about the fact that there are three reasons why someone would be against the use of animal-based products in their diet and lifestyle – Health, Believing animals shouldn't be used for our benefit, and Environmental impact (the only one I would ever dispute).

Where my problem lies with last week's letter is the fact the writer, Tod Bradbury, offered a 'cruelty-free' Christmas which means they assume turkeys experience a cruel lifestyle. This will happen in places but as the consumer you should care about where you buy your meat. What you can do is source your products from a reputable producer that you know has reared their animals with welfare at the core of their values. Then you can eliminate the possibility of buying a product derived from an animal which has suffered.

If an animal lives and water requirements, freedom from pain while being allowed to live, there is no welfare.

The slaughter process is confusing, but I'll leave it to you as I'm not here to cause a harm?

Think deeply about it, where do you stand for YOU, not someone else?

Yours,

Wallace Currie,

Tickler tragedy

Sir,

I was interested to read the loss in 1862 of the Lochranza in last week's Banner. The gravestone at the cemetery also erected one in 1862 names the son who died rather than Daniel in a number of Scottish families. These two names were common.

Gilbert was married to a woman, and both wives died. Both of them had children. Donald/Daniel was the older son, and also lost his life and died in 1873 of yellow fever. He commanded the ship lying at Rio de Janeiro.

Gilbert's first wife was McMillan was a sister of the mother Catherine of Susan (McMillan) who lived in or around the area.

I first came across the name a number of years ago. In detail I was unaware of the fishing boat he belonged to?

Yours,

Peter Macmillan

A distant death

Sir,

With reference to the graves in Ireland, mentioned in the Banner for a considerable time, I met an elderly Irishman who was over on a