Review of the year: 2020

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JANUARY

The Marine Climate Change Impacts Partnership (MCCIP) Report Card 2020 had input from seven SAMS scientists, one of the largest representations of any UK institute.

The report card includes evidence on 26 topics relating to the seas around the UK and had input from 150 scientists at 50 research organisations.

SAMS scientists contributing to the MCCIP Report Card 2020 were: Prof Michael Burrows (pictured), Dr Thomas Brown, Prof Stuart Cunningham, Prof Keith Davidson, Dr Clive Fox, Prof Bhavani Narayanaswamy and Prof Michele Stanley.
Oban took its place as the seaweed capital of Scotland as optimism and anticipation grew around a new industry.

The town hosted 180 attendees at the fourth annual Scottish Seaweed Industry Association (SSIA) meeting and the following day around 80 delegates attended workshops at SAMS to discuss the future of the industry in Scotland.

As one of the keynote speakers at the SSIA conference, Dr Zalina Dzhatieva of Argyll and Bute Council presented a report compiled by SAMS, entitled Feasibility of Seaweed Farming in Argyll and Bute and Emergent Opportunities.
SAMS scientists published findings on how they used the cover of darkness to expose how ‘light pollution’ is affecting creatures in the Arctic Ocean.

Working during the depths of the constantly dark Arctic winter, the team joined Norwegian collaborators in using a novel strategy of switching off every source of light, plunging themselves into complete darkness, to examine the marine biology of the polar north.

By then using a super sensitive light sensor developed at SAMS and echo sounders to detect the presence of organisms in the Barents Sea, they discovered that marine creatures, from tiny zooplankton to fish, reacted to even the smallest detection of light, often moving away from the source.
While the majority of SAMS staff began working from home as a nationwide lockdown was imposed because of COVID-19, Ceci Rad Menéndez was just one of the key workers who continued working on site.

Part of the Culture Collection of Algae and Protozoa (CCAP) team responsible for more than 3,000 lives, Ceci must help to maintain a near 100-year-old algal ‘library’ of microscopic marine and freshwater creatures.

“If we were to lose this collection it would be a disaster,” says Ceci. “We’ve never closed CCAP and none of the staff would entertain such an idea, even in these worrying times.”
MAY

Professor Bhavani Narayanaswamy, a senior lecturer and head of graduate school at SAMS UHI, was awarded a professorship by the university.

Over the course of her 20-year career, Professor Narayanaswamy has developed an international reputation for her research on deep sea and Arctic ecosystems and, more recently, the distribution and abundance of microplastics in the world’s oceans.

She has helped to attract more than £5.3 million of research funding to SAMS and has collaborated with researchers across the world.
JUNE

For World Oceans Day on June 8, SAMS staff overcame the limitations of lockdown to help inspire thousands of people to rethink what the ocean means to them.

Sixteen staff members filmed themselves reciting a line from a poem 'Why we love the Ocean' by communications and media officer Euan Paterson. Resident filmmaker Andy Crabb edited the video, as well as appearing as a shark to deliver his own line!

Within 24 hours, the video, running to 1m 29s, had attracted more than 5,500 views.
JULY

SAMS launched its new five-year strategy, stressing that there was never a more important time to support marine science research.

Scotland is developing its Blue Economy, a crucial part of the country’s recovery post-lockdown, at the same time as it prepares to host COP21.

The strategy is based on the theme of an ‘Ocean In Balance’, seeking to find the right balance between using and protecting the ocean. This will require a greater understanding of the marine environment than we currently have.
Mauritius-based SAMS scientist Dr Georgina Robinson was among volunteers trying to help stem the impact of the worst oil spill in the island’s history.

The Japanese-registered MV Wakashio collided with a coral reef off Mauritius on July 25 but only started breaking up 13 days later, releasing approximately 1,000 tonnes of oil and diesel into the sea, close to two protected UNESCO sites.

Dr Robinson sought help from the British High Commissioner and the UK Oil Spill Association, as well as liaising with biotech companies to source enzyme and microbial-based products that would accelerate the degradation of the oil and speed up the recovery of impacted coastal zones.

The marine ecologist was last year identified as a rising star of UK research after gaining a prestigious UK Research and Innovation (UKRI) Future Leaders Fellowship.
SAMS took delivery of an electric car as part of a drive to make its Dunstaffnage site more environmentally friendly.

The Nissan Leaf, which replaces a diesel work vehicle, arrived following the award of two internationally recognised standards for environmental management (ISO 14001:2015) and for health and safety (ISO 45001:2018).

The changes are part of SAMS' new environmental management plan to overhaul many of its practises. The institute was also declared a Cycle Friendly Employer this year after opening new shower and changing facilities and a bike repair station.
A team from SAMS braved rough open Atlantic seas in October to retrieve and redeploy underwater sensors, attached to moorings.

Travelling on the RRS Discovery, the team successfully changed over all six moorings and added a seventh to the west of the Rockall Plateau to measure a jet of the North Atlantic Current recently discovered by underwater robotic gliders from SAMS.

On their return to SAMS on October 24, research cruise leader Prof Stuart Cunningham described the data retrieval as ‘exceptional’, as all but one of 125 instruments made continuous measurements over a the 27-month deployment.
An international research team led by SAMS and the British Antarctic Survey (BAS) has revealed the return of critically endangered Antarctic blue whales to the sub-Antarctic island of South Georgia, 50 years after whaling all but wiped them out.

The discovery, based on analysis of 30 years’ worth of sightings, photographs and underwater sound recordings, is crucial evidence in learning how the species is recovering following a ban on commercial whaling in the 1960s.

A 2020 survey in February resulted in 58 blue whale sightings, and numerous acoustic detections.
A training programme offered by SAMS UHI and academic partners to prepare research students for the offshore renewable energy sector has been recognised at the Scottish Green Energy Awards.

Led by the University of Edinburgh, the Industrial Centre for Doctoral Training in Offshore Renewable Energy (IDCORE), won the 'Contribution to Skills Award' at the virtual event.

Since its inception, the IDCORE programme has trained over 60 engineering doctoral students to directly support the offshore renewable energy sector.
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APRIL

Three leading researchers at the Scottish Association for Marine Science (SAMS) UHI, Oban have received academic promotions from the University of the Highlands and Islands.

Michele Stanley and Finlo Cottier each received the title of Professor, while Claire Gachon has been awarded the title of Reader.
Governments from around the world are considering how best to safeguard the rapidly expanding global seaweed industry, following advice from researchers at the Scottish Association for Marine Science (SAMS).

Worth around $5billion annually, the seaweed industry has more than doubled in size globally, from 13.5 million tonnes in 1995 to 30 million tonnes in 2016 but has little biosecurity planning at international level.

Following representation from the SAMS-led GlobalSeaweedSTAR project, the Food and Agriculture Organisation (FAO) now intends to include seaweed alongside marine animals in producing advice on biosecurity, which aims to prevent the spread of disease and pest species.
An annual three-week field course run by SAMS UHI for science students from Coastal Carolina University (CCU), South Carolina resulted in an exchange programme being formalised.

Since 2017 the American university has sent a group of students on the training course in Argyll, where they learn various aspects of oceanography and take in aspects of local history and culture.

This autumn, for the first time, there will also be a student exchange between CCU and the University of the Highlands and Islands, further strengthening the transatlantic link.
Senior UK Government Minister David Lidington MP had a whistle-stop tour of SAMS, as part of a tour of the Scottish Highlands and Islands.

The Minister for the Cabinet Office and de facto Deputy Prime Minister at the time of the visit, he was interested to learn about the world-class marine research at SAMS.

The minister saw the Culture Collection of Algae and Protozoa and the Scottish Marine Robotics Facility, both of which receive funding from the UK’s Natural Environment Research Council.
Researchers sent an underwater robotic vehicle on an Arctic research mission deemed too dangerous for humans in a bid to help scientists understand the true extent of melting from Arctic glaciers.

Prof Mark Inall led the SAMS team, which deployed a small autonomous underwater vehicle (AUV) known as an ecoSUB to the foot of a melting glacier in Arctic Norway. The aim was to learn more about the process called 'calving', which causes huge chunks of ice to break off the glacier edge.

Less than a metre in length and just four kilogrammes in weight, the ecoSUB entered one of the most hostile environments on the planet to take measurements such as temperature and salinity as far down as 100 metres below Kronebreen glacier on Svalbard.