TAY VIEWS

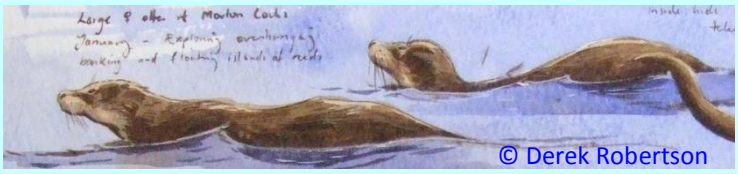
A PUBLICATION BY THE TAY ESTUARY FORUM: PROMOTING THE WISE AND SUSTAINABLE USE OF THE TAY ESTUARY AND ITS ADJACENT COASTLINE

ISSUE 41 Winter 2015/16

Hi all,

2016 marks the 20th anniversary of the Scottish Coastal Forum, celebrating 20 years in coordinating coastal management in Scotland, and linking the Scottish Coastal Partnership network. An event on 10th March will mark the achievement, whilst also exploring opportunities that marine planning will bring, as Scotland's National Marine Plan settles into its implementation phase. A little closer to home, we have been Otter-spotting at an unusual location: Dundee's city quay near the road bridge. One evening in January, at low tide, splashing about in the water, a large otter was seen playing with a fish between its paws for several minutes, completely undisturbed by bridge traffic or passers-by. Seen in Artist Derek Robertson's sketch opposite, if you happen to spot them locally, please get in touch.

Best wishes, Laura (Project Officer)



© Derek Robertson

In this Issue…

1: TEF UPDATE

- Local Coastal Partnership/ Scottish Coastal Forum Meeting at Victoria Quay, Dec '15.
- Next TEF Steering Group meeting: Feb '16 at University of St Andrews. Followed by a Seascape Workshop.
- TEF welcomes Rhiannon Moylan as new Perth & Kinross representative to the Steering Group.

To join the TEF mailing list or to put forward your views, articles or pictures please contact:

Tay Estuary Forum
Project Officer Dr Laura Booth
Room G35, Tower Building
University of Dundee
Dundee
DD1 4HN
E:TayEstuaryForum@dundee.ac.uk
T: 01382 384933
W:www.tayestuary.org.uk/

Scottish Coastal Forum

2. THE GREAT NURDLE HUNT

We are Fidra, a small Scottish Charitable Incorporated Organisation working to raise awareness of a very specific plastic pollution problem in Scottish Seas with our project, The Great Nurdle Hunt.

WHAT ARE NURDLES?

Nurdles are small plastic pellets, about the size of a lentil. They are used as the raw material for virtually all the plastic products we use. Because of their small size and lightweight nature, they are easily lost by accidental spillage when handled or transported by industry. This can happen at any stage of the process of pellet production, transport or use. Once spilt, uncontained nurdles are washed into storm drains and often carried straight out to sea.

Nurdles on a sandy beach. Nurdles are 2-5mm in diameter, often disc- or lentil-shaped. They are usually colourless – yellowish, but can be coloured blue, yellow or black.

NURDLES IN THE MARINE ENVIRONMENT

Once in the sea nurdles disperse quickly and widely. Due to their small size and similarity to fish eggs, marine animals including mammals, birds and fish, have been found to ingest pellets. The pellets get trapped in the stomach stopping them from eating real food and inhibiting appetite[1,2].

Nurdles have also been shown to absorb toxic chemicals (Persistent Bioaccumulating Toxins, PBTs) from the surrounding water, which can concentrate toxins to levels millions of times higher than surrounding water and can be re-released into animals once ingested[3,4]. There is concern for the implications this may have to human health.

[1] Azzarello and Van Vleet (1987) Marine birds and plastic pollution, Marine Ecology – Progress Series Vol 37: 295-303.
[2] Derraik (2002) The Pollution of the marine environment by plastic debris: a review. Marine Pollution Bulletin 44: 842-952
[3] Rochman *et* al (2013) Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress. *Scientific Reports* 3, article number 3263.
[4] Browne *et al* (2013) Microplastic moves pollutants and additives to worms, reducing functions linked to health and biodiversity. *Current Biology 23, 2388-2392*.

WHAT CAN YOU DO TO HELP?

As a visitor to the beach:
Help us raise awareness of the issue by hunting for nurdles next time you're out for a walk on your favourite beach! Submit your findings to us online at www.nurdlehunt.org.uk to populate our Nurdle Map. This helps to highlight pellet pollution hotspots in Scotland - valuable information we use to engage industry to take action and reduce pellet loss.

As an industry representative:
Does your company handle plastic pellets? We would love to hear from you!

At Fidra, we have been actively engaging with industry to encourage sign-up to the Operation Clean Sweep pledge – an initiative created and endorsed by the plastics industry. Anyone handling plastic pellets can sign up to the pledge: producers, manufacturers or transporters. This not only shows your commitment to environmental causes, but could also improve health and safety, and efficiency of resource use for your company.

We would like all companies operating in Scotland to sign the Operation Clean Sweep pledge.

If you are interested in this opportunity and would like to discuss this informally with us, feel free to contact us:

E-mail: info@fidra.org.uk
Tel: 01620 895677

Or find us on Facebook Twitter LinkedIn
Fidra is an SCIO and Scottish Registered Charity SCO43895

FIDRA

Tips for your hunt:

Nurdles are hard to spot! Slow down and get close to the ground.

Note down:

1. ***When you hunted***
2. ***How long you were looking for***
3. ***Roughly how many nurdles you saw (you don't need to collect them)***

If you do pick them up remember to use gloves and/or tweezers, and wash your hands thoroughly afterwards.

Look among seaweed and small pieces of plastic above the tideline. Other places to look are on sheltered paths and amongst vegetation at the top of beach.

It's easier to hunt on sandy beaches.

3. Citizen scientists sought to help survey storm-lashed Scottish coastline

Scottish marine experts are appealing for an army of 'citizen scientists' to help measure the potentially disastrous effects of this winter's severe storms on the nation's coastal creatures.

Heavier rainfall and rough seas, key indicators of climate change, may have severely affected some of Scotland's best known animals and plants on the rocky coast.

Now scientists at the Oban-based Scottish Association for Marine Science (SAMS) want to train volunteers in monitoring and sampling coastal areas as part of Capturing Our Coast (CoCoast), the world's largest ever coastal citizen marine science project.

CoCoast, which launches today (January 12), aims to train more than 3,000 citizen scientists from across the UK to help collect data around key species such as mussels, wading birds and hermit crabs. The results of the data collected will help inform future policy in conservation and marine protection and potentially give a better overall picture into how our climate is changing.

The European edible sea urchin, Echinus esculentus, is a key indicator species that marine scientists in Oban are keen to trace. Picture by Keith Hiscock

SAMS is the only Scottish-based partner in the £1.7m project, which is funded by the Heritage Lottery Fund and led by Newcastle University.

SAMS ecologist Professor Michael Burrows said: "Over the past few winters we have seen increasingly severe and frequent storms that are likely to be associated with rapid climate change. Alongside warming temperatures and ocean acidification, documenting how these changes are affecting our coastal habitats will be key evidence for influencing policy in the near future.

"Vulnerable rocky shoreline species can't escape the weather, and the storms we have seen the last two winters are likely to become more frequent, with greater damaging effects.

"As scientists, we can't be everywhere but people can tell us what's going on in their own back yard and we can collectively gather the evidence to fit into the wider picture."

Those interested in becoming a CoCoast citizen scientist can register at www.capturingourcoast.co.uk to attend training courses around the country where they will learn what to look out for and how to record important data.

Scientists are particularly keen to know how climate change is affecting coastal species that are not often recorded, particularly in remote parts of the country. Increasing ocean temperatures and more acidic seas could affect economically-important species like mussels and oysters, which would have a knock-on effect for iconic Scottish coastal birds, such as Eider ducks, that feed on them.

Dr Hannah Grist, the SAMS-based CoCoast project officer for Scotland, said: “The beauty of this project is that people with no, or little, scientific background can work alongside academics to provide extremely important data for environmentalists and governments, and ultimately play a part in how their local coastline is managed and protected.”

Dr Heather Sugden of Newcastle University, co-principal investigator on CoCoast, said: “This is the first project of its kind and an exciting opportunity for anyone with a fascination for marine life and a desire to make a real impact on our understanding - and ultimately the protection - of our coastal environment.

“What this project aims to do is develop a network of citizen scientists who can help us build an accurate picture of marine life all around the UK - a baseline against which we can better understand the impact of climate change and other environmental and human factors.

“The data we collected will fill key knowledge gaps such as geographic species distributions, movement of warm water species, and occurrences of invasive non-native species.”

Other partners in CoCoast include the universities of Hull, Portsmouth and Bangor, the Marine Biological Association of the UK and the Marine Conservation Society.

The project also involves Earthwatch Institute, the Natural History Museum, Northumberland Wildlife Trust, Cefas, the Coastal Partnerships Network, the Scottish Seabird Centre at North Berwick, Whale and Dolphin Conservation and the Clipperton Project.

For those who are unable to get to the coast, there are other CoCoast projects that require help from budding citizen scientists. See the website for more details.

Dr Hannah Grist, CoCoast project officer for Scotland, surveys the shoreline at SAMS, near Oban

SEA SCOTLAND

Blue Seas Thinking for Marine Planning in Scotland

Save the date
15th – 16th June, 2016
Discovery Point, Dundee

Join 150 delegates for Scotland-focused dialogue and knowledge exchange to support a progressive approach to marine planning.

To register your interest or enquire about sponsorship opportunities, please contact Esther Brooker: esther@scotlink.org

@ScotLINK #SeaScotland

The event will feature:

- Presentations from leading practitioners and experts in the field of marine planning, poster presentations and student 'flash' talks
- A live interactive "Question Time"
- Workshops on cross-cutting marine planning issues, such as co-location
- Networking opportunities, including a drinks reception on board the *RRS Discovery*
- Sponsorship opportunities to showcase your organisation and your work

Supported by: WWF, marine conservation society, rspb giving nature a home With: LINK, Scottish Natural Heritage, University of Aberdeen, University of Dundee, The University of Edinburgh, RTPI Scotland

East Haven (image courtesy of W. Murray)

4. East Haven: The 'Wee Gallery' at the Heritage Point

Last year at the TEF conference we heard from residents in the coastal village of East Haven, Angus. Wendy Murray described how the new charity, East Haven Together, was about to embark on a new Community Partnership with Angus Council to keep their rural public toilets open. The toilets are the only facility in the village with the nearest alternative being in Carnoustie 3 miles away. Residents were concerned that the toilets might be closed at a time when the village was experiencing a significant increase in tourism. National cycle route 1 runs right through the village and up the coast to Arbroath.

The Community Partnership enabled residents to receive a small budget from the Council to manage the toilets on a day to day basis. This was invested in cleaning systems to bring the toilets up to the best level of cleanliness possible. Toiletries, mirrors, hand towels and fresh flowers were also provided for both the ladies and the gents toilets. Whilst residents were confident that they were providing a high quality service they were aware that they would only be able to sustain their efforts if the public supported them by respecting the facility. To encourage this, artists in the community began hanging original paintings in the toilets. Wendy explained that it was a bit of a gamble initially as they didn't know whether the paintings would be stolen or damaged.

However, the response from the public was phenomenal and the toilets quickly became known as the 'wee gallery'. Word spread and the facility has become a tourist attraction in its own right. Consequently, residents are now overwhelmed with donations and messages of support from people all over Scotland, the UK and Europe. Importantly, people respect the facility and help keep it clean and in good order. The experience in East Haven does demonstrate what can be achieved when Local Authorities work with communities to help them take more responsibility for their own environments and facilities. The residents in this coastal community hope that their experience will inspire other Local Authorities and communities to work together to improve and retain Scotland's remaining public toilets.

Anybody interested in obtaining more information about the Community Partnership can contact Wendy Murray for a report evaluating the first year. wendy.m@which.net