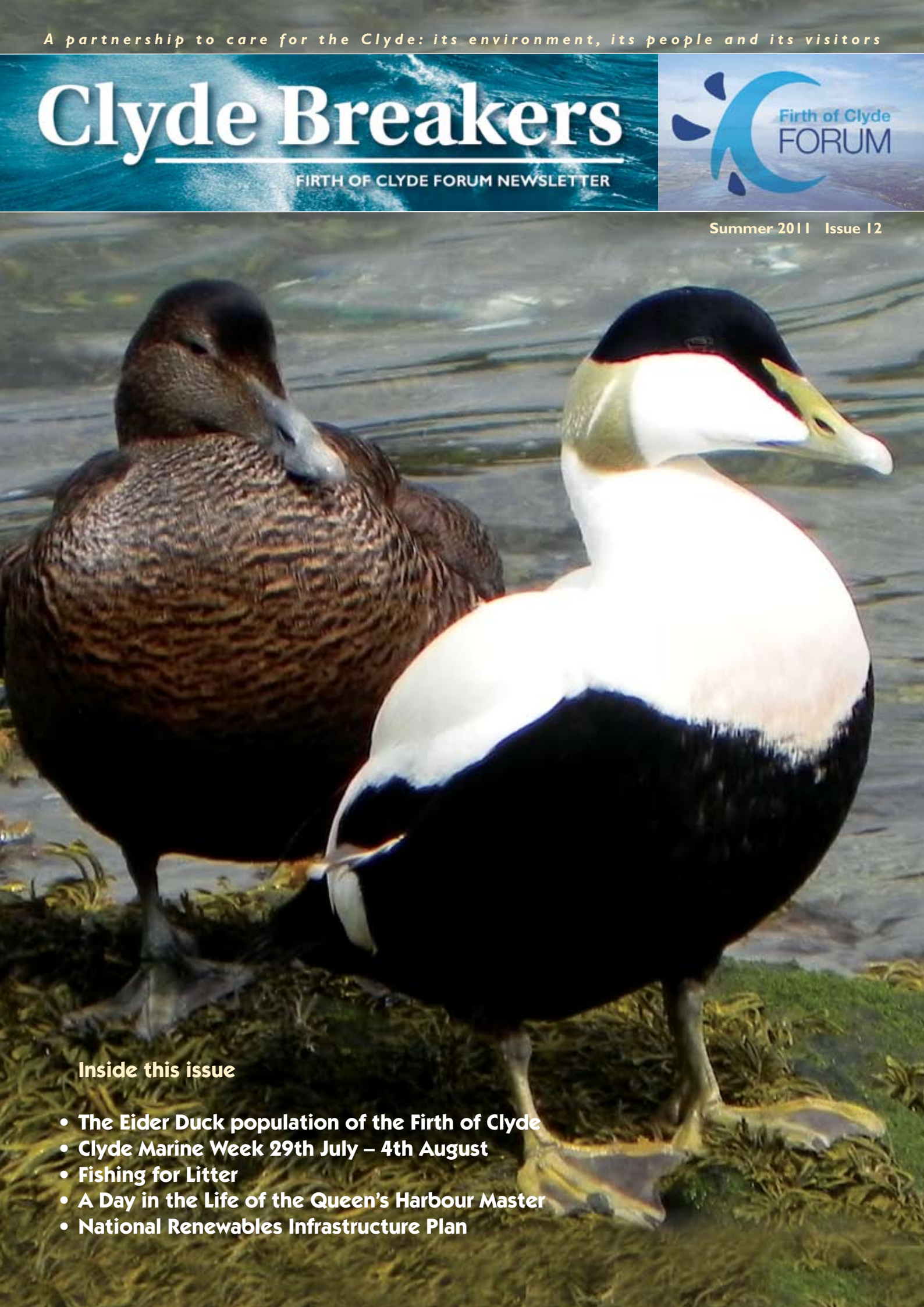
A partnership to care for the Clyde: its environment, its people and its visitors

Clyde Breakers

FIRTH OF CLYDE FORUM NEWSLETTER

Firth of Clyde FORUM

Summer 2011 Issue 12



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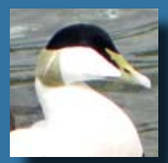
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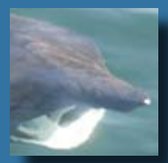
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Front cover photograph: Eider at Gareloch © Chris Waltho

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Firth of Clyde Forum Update

Welcome to the summer 2011 edition of Clyde Breakers! We hope that you are able to make the most of the summer to get out and about on the Firth of Clyde this year …

Back in the office, there have been further changes to personnel for the Forum as Kirstie Dyson has been joined by Fiona Mills who has returned from maternity leave. Kirstie and Fiona are now job sharing 3 days a week each.

Since publication of the Firth of Clyde Marine Spatial Plan last year, the attention of the Forum has turned to the implementation of various projects from the Action Plan. The first stage of our Marine Litter Strategy, a "status quo" report, has been completed (see page 9) and work has also begun on the Biosecurity Plan – see Conference details opposite. We are currently looking to secure funding for a Seascape/ Landscape assessment. Many of the projects from the Action Plan are at the forefront of marine planning both at a Scottish and European level and require a collaborative approach involving many different organisations.

The Forum website has also been refreshed, so for any of the latest news items or reports on the Firth of Clyde, please visit us at www.clydeforum.com.

We hope you enjoy the range of articles in this issue of Clyde Breakers.

Best wishes,

Isabel Glasgow

Firth of Clyde Forum Chair and

Kirstie Dyson

Fiona Mills

Firth of Clyde Forum Project Managers

Events Focus

Firth of Clyde FORUM

INVASIVE SPECIES MEETING

Towards a Biosecurity Plan for the Firth of Clyde

20th September 2011
Largs Sailing Club

The issue of marine Invasive Non-Native Species (INNS) is a hot topic. The Firth of Clyde is now known to be home to nine invasive species including Wireweed, the Japanese Skeleton Shrimp and the more recently arrived Carpet Sea Squirt. What are the impacts of these uninvited guests and what can be done about it? What is national policy and advice? How does the recent Wildlife and Natural Environment (Scotland) Act impact those people who potentially come into contact with invasive species?

The Firth of Clyde Forum is developing a Biosecurity Plan targeted at individuals and organisations that are in a position to prevent and/or monitor the spread of INNS in the marine environment. This meeting will inform participants of the latest position on INNS and also invite them to highlight solutions and issues within their area of interest through facilitated workshops.

Use the enclosed booking form to reserve your place and/or see www.clydeforum.com for details from July.



Carpet Sea Squirt © Scottish Association for Marine Science/SNH



Skeleton Shrimp © Paul Kay/SNH



Wireweed © Suzanne Henderson/SNH

Clyde Marine Week

A first for the Marine Conservation Society

Supported by the Firth of Clyde Forum

The Firth of Clyde, regarded as one of Britain's most beautiful coastlines, with its mix of sea lochs, islands, small towns and changing weather will be the focus of a week-long festival this summer, dedicated to its biodiversity, natural heritage and recreational opportunities.

Clyde Marine Week is the brainchild of Anne Saunders, Marine Conservation Society (MCS) Scottish Projects Officer who's based in Edinburgh. Anne is a regular visitor to the Clyde both for work and pleasure. Here she tells us what people can expect from this inaugural celebration of the Firth, and how YOU can get involved.



Where did the idea for Clyde Marine Week (CMW) come from?

Anne: My job is to promote all MCS conservation projects throughout the whole of Scotland and enthuse people about our work and the marine environment. The idea for CMW was inspired by the work I have done in the area, and a desire to highlight the unique wildlife and fantastic natural heritage the area has on offer.

You mentioned all that the area has to offer – what makes it so special?

Anne: The Firth of Clyde is home to an amazing abundance of wildlife and there is something different to see no matter where you are in the Clyde. Rockpool rambles and jellyfish spotting on the beach; nesting gannets on Ailsa Craig in the outer Clyde and wintering waders along the coast; Arran is a hotspot for basking sharks, which can even be seen from the ferry and for divers there are spectacular flameshell reefs, fireworks anemones and beds of a coral-like seaweed called maerl.

How important is the Clyde and the Firth to Scotland?

Anne: The Clyde was, and still is, really important to the surrounding area and the people who live there. In the past it enabled trade with faraway countries in items such as tobacco and cotton, provided a valuable source of food through fish and shellfish, and allowed the expansion of industry such as paper and cotton milling. The Clyde has provided jobs for many in shipbuilding (although now much reduced), in Royal Naval defence, and in power generation. These days the Clyde is best known for tourism, recreation and yachting.



Arran © CalumDuncan MCS

So what can people expect from Clyde Marine Week?

Anne: It's going to encompass wildlife and natural heritage, outdoor recreation, leisure and sailing. There will be a really diverse set of events on offer from a wide range of organisations including guided walks, rockpool rambles, boat trips, beach litter art events, film screenings, sea shore safaris, guided snorkelling adventures, and a chance to try out some sea sports. Events will take place across the region from Seamill to Stranraer and Inveraray to Erskine.

What's the aim of the event?

Anne: To inspire both locals and visitors about the wildlife in and around the Firth of Clyde and encourage them to get out there and enjoy it. However, we also want to get people thinking about how we affect our wildlife and environment through such things as beach litter and pollution, unsustainable fishing methods, and by disturbing wildlife and their habitats. We want people to see that they can be part of the solutions by joining MCS beach litter projects, following our advice on fish to eat and fish to avoid, or by becoming an MCS member.

What sort of reaction are you getting already to the event?

Anne: There has been a fantastic reaction so far from both the public and from organisations who have registered to take part. There are many other wildlife festivals that have been held around the country, such as those on Arran and Mull, and I'm hoping CMW can emulate the success those have achieved. We have over 30 events registered so far, with more soon to be added. Another piece of good news is that most of the events are free!

How can people book?

Anne: There are two main ways to find out about the events taking place and deciding which you want to book. See the leaflet that was enclosed with your copy of Clyde Breakers, and visit www.mcsuk.org/clydemarineweek for the full list of events and booking details. Leaflets will also be available from numerous locations around the Clyde. Although many of the events are free you still need to book as places are limited.

Clyde Marine Week organised by MCS takes place on Friday 29th July – Thursday 4th August 2011.

Clyde Marine Week is being made possible by funding from Scottish Natural Heritage, and is being run in collaboration with the Firth of Clyde Forum.

Interview by Claire Fisher, Marine Conservation Society



Cumbrae Ferry © Calum Duncan/MCS

Dates for the Diary 2011

9 – 12 July	**Tall Ships, Greenock**	www.tallshipsracesgreenock.com
16 July	**Riverside Regatta (free event)** *Riverside Museum*	
21-24 July	**Merchant City Festival**	www.merchantcityfestival.com
29 July – 5 August	**Clyde Marine Week** *See article page 4*	www.mcsuk.org/clydemarineweek
30 July 11am – 4pm	**Water's Edge Event** *Ardentinny Beach, near Dunoon, Argyll & Bute*	
4-6 August	**Big on the Beach** *South Beach, Ardrossan*	www.irvinebay.co.uk/events/45_big-on-the-beach
21 August	**Rat Race** – *10km walk/run along banks of Clyde interspersed with adventure activities*	www.ratraceadventure.com/glasgow
26 August	**Deadline for Nature of Scotland Awards nominations**	
17, 18 September	**Beachwatch Big Weekend** *Beach cleaning events around the Firth of Clyde*	www.mcsuk.org
20 September	**Firth of Clyde Forum** **Invasive Non-native Species**	www.clydeforum.com
26 – 30 September	**Stakeholder Meeting** **World Conference on Marine Biodiversity**, *Aberdeen*	www.marine-biodiversity.org
13 October	**SNH Sharing Good Practice** *Invasive Non-Native Species*	www.snh.gov.uk
3 November	**SNH Sharing Good Practice** *Marine Renewables*	www.snh.gov.uk
29 November	**SNH Sharing Good Practice** *Aquaculture in the landscape*	www.snh.gov.uk



RSPB Scotland is launching a new Nature of Scotland awards. These annual awards will celebrate excellence in conservation of Scotland's beautiful landscapes and wildlife.

Scotland is renowned worldwide for its incredible nature and it is important to recognise projects and people who have worked hard to maintain this. There are six different award categories which will celebrate a wide range of outstanding achievements in the preservation or restoration of our precious natural heritage. These include marine conservation, innovation, sustainable development, outstanding contribution, politician of the year and rspb species champion.

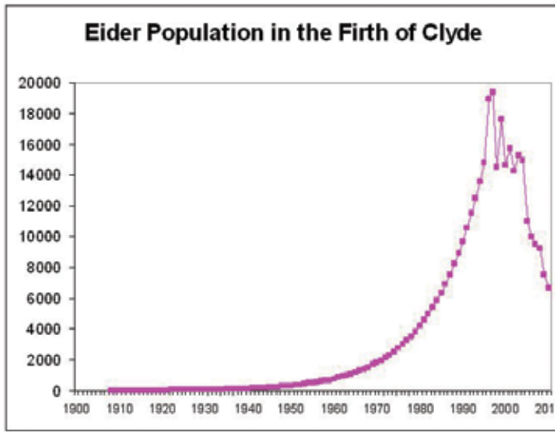
If you feel you work with, or know of, an organisation, group or individual who has participated in activity that has aided Scottish nature conservation, we would like to hear from you. Nominations for the awards are open from 2nd May until 26th August 2011.

For more information about the awards and details on who is eligible to enter, please visit the awards website at www.rspb.org.uk/natureofscotland

What has happened to our Eider?



Eider at Gareloch © Chris Waltho



Growth and decline of the Eider population in the Firth of Clyde. 90 years of boom followed by 10 years of bust. The growth is modelled as a smooth curve, but the decline is based on the actual survey data

In the last 100 years the Eider *Somateria mollissima* has become a widespread and common species in the Firth of Clyde.

This has not always been the case here. In 1909 it was still a very rare sight, when a small flock of young birds spent the winter at Skipness in Kintyre. These are now considered to be the forerunners of a dramatic range expansion and colonisation of the Firth of Clyde. Over the next 90 years, eider spread to all parts of the Firth, with nesting taking place on many islands and islets. They eventually reached up the estuary almost to the Erskine Bridge, even nesting at the former Bowling oil terminal. As a result, the bird had become familiar to many residents and visitors, being a constant feature of any part of the Clyde coast.

15 years ago a monitoring programme was established, engaging a network of local birdwatchers who were recruited to count the eider along a stretch of the coastline each September. Every year, up to 35 volunteers count most of the 1000 km coastline. (This is a fantastic example of environmental volunteering contributing to citizen science - 2011 is international year of volunteering). Many observers have now taken part in all 15 surveys, and there have been some tremendous efforts, including circumnavigating the Isle of Bute in a variety of boats. However, we are always keen to encourage new counters to help. Anyone who is interested in helping should contact me (details below).

These counts demonstrated that by 1997, the population of eider in the Firth was nearly 20,000 birds. As a result, the Firth of Clyde was recognised as the largest UK population, home to almost 1 in 4 of all eider in the British Isles. The population had grown by more than 8% each year for 90 years.

At the Firth of Clyde Forum conference *Ecology and Management of the Firth of Clyde* held at Millport in 2000, we pondered when the population would start to level off and stabilise, at what scale, and what limiting factors would eventually cause this. However, we were not prepared for what has happened in the decade since then. Rather than the population levelling off, we have watched it crash in a dramatic way.

The latest counts show that there are now less than 7000 birds in the firth. This represents a rapid decline of more than 60% in 10 years. This recent decline has been widely noticed and commented on by many individuals and communities across the Firth.

What has happened to all our Eider? This is a widely asked question. Although easy to ask, it is proving a difficult question to answer.

What do we currently know?

- Declines have been found across the entire Firth.
- Nowhere have we seen an increase during this time.
- We have no evidence of birds simply moving elsewhere, either within or outside of the Firth.
- We have no evidence of mass mortality events, such as major oil spill, or disease, washing many corpses ashore. Our data suggests a steady but rapid decline.

What do we still need to need to know?

Are there problems (dramatic change) with one or more of the following factors?

- food supply?
- predation of eider?
- survival rate of breeding adults?
- production of young birds?
- disease(s)?
- pollution?
- Human disturbance?

These are currently being investigated by a number of interested eider researchers, from a variety of organisations, including the Clyde Ringing Group, Scottish Ornithologists' Club, British Trust for Ornithology and University of Glasgow.

This research is ongoing, although clear results have yet to be determined. We hope to report on our findings in a future edition of *Clyde Breakers*.

Chris Waltho

email chris.waltho@eider.org.uk

Fishing for Litter Scotland (FFL) is an environmental project, undertaken by KIMO UK, designed to improve waste management practices in the fishing industry and reduce the amount of marine litter in our seas by physically removing it.

Fishing for litter is a simple idea. Participating vessels are given hardwearing bags to collect marine litter that is caught in their nets as part of their normal fishing activities. Full bags are deposited on the quayside where the bag is moved by harbour staff to a dedicated skip for disposal.

The project provides the bags and covers the waste costs and the fishermen and harbour staff volunteer their time. The project is co-ordinated by KIMO UK an organisation of local authorities who tackle marine pollution.

Marine litter is defined as "any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment. Marine litter consists of items that have been made or used by people and deliberately discarded into the sea or rivers or on beaches; brought indirectly to the sea with rivers, sewage, storm water or winds; accidentally lost, including material lost at sea in bad weather (fishing gear, cargo); or deliberately left by people on beaches and shores." (UNEP 2005: 3)

It affects many sectors and the fishing fleet is both a recognised source of marine litter and a victim of the increasing amounts in our seas. The KIMO report on the Economic Impacts of Marine Litter (Mouat, Lopez Lozano and Bateson, 2010) found that rubbish costs the Scottish fishing fleet approximately £11.5 million each year. Dumped catch, repairs to gear and lost fishing time due to marine litter costs each vessel in the Scottish fleet between £15,000 and £17,000 each year.

In addition to this huge amounts of litter wash up as an eyesore on our coastline every year that costs local authorities



Fishing for litter © Karen Murray

money to clear up, ultimately costing us more in taxes.

The removal of marine litter from the seabed will have a large benefit to wildlife. Plastic, the predominate type of marine litter, can cause entanglement or be ingested by marine mammals and birds. A recent study by Murray & Cowie (2011) has found that 83% of Nephrops caught in the Clyde contained plastics in their stomachs.

The project has a network of participating harbours around Scotland, they are Lerwick, Cullivoe, Scalloway, Fraserburgh, Peterhead, Eyemouth, Kirkcudbright, Troon, Campbeltown, Rothesay, Tarbert (East and West Loch), Mallaig, Ullapool, Kinlochbervie, Stornoway and Scrabster.

Monitoring only took place in a small number of harbours and therefore the data can only give a good indication of the types of rubbish that can be found on our sea bed. The monitoring data, collected by volunteering harbour staff, was entered into an Excel database that was used to analyse the data. The monitoring was never a main focus of the project but it was worthwhile to give an idea of the types of rubbish that pollute our seas.

There were two aspects of the monitoring, 1) a running total of all marine litter landed as part of the project was kept, all skips were weighed as they were delivered to licensed waste disposal sites and this data was collected through waste invoices. So far more than 360 tonnes of marine litter has been removed from our seas by Scottish fishermen taking part in the scheme and boats registered at participating ports in the Clyde (Tarbert, Campbeltown, Rothesay and Troon) have removed over 40 tonnes.

The first chart shows the quarterly tonnage of waste landed by the project and the trend shows a gradually increasing amount as the project grows and becomes normal practice in the fishing fleet.

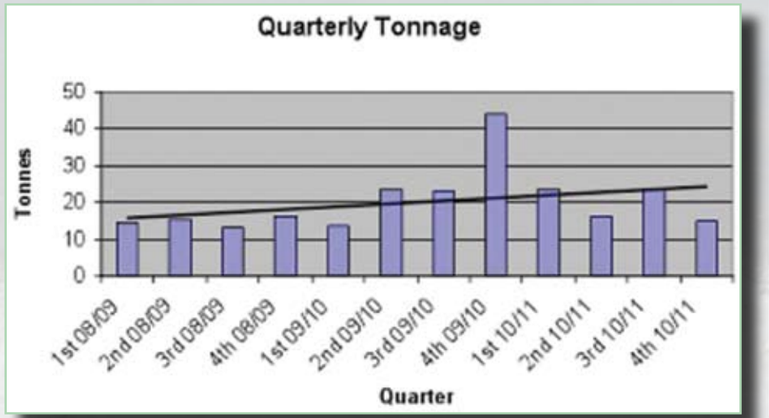
2) In some harbours staff volunteered their time to analyses the bags and record the composition of the litter landed.

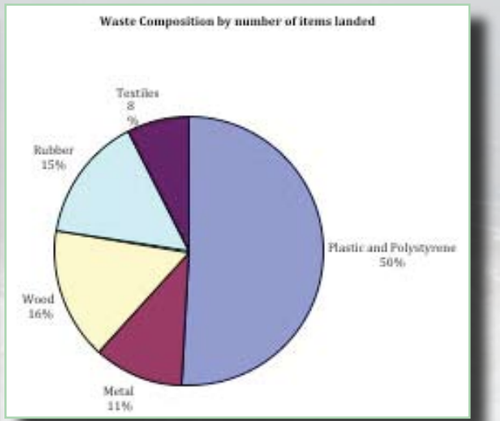
The monitoring data was analysed to try and identify the types of waste landed. Figure 2 shows the composition of the marine litter landed by material type.

The second chart clearly shows that plastic is the most abundant type of litter landed by the number of items. This is in line with other marine litter surveys. The amount of heavy metal objects is higher than beach monitoring but this would be expected as these items are more likely to sink than be washed up on a beach.

Based on the success of the pioneering Scottish project, OSPAR Ministers approved a Recommendation (2010/19) encouraging participating member states to facilitate Fishing For Litter initiatives in their own fishing ports.

The scheme is also being discussed by European governments as a method help to achieve Good Environmental Status (descriptor 10) as part of the Marine Strategy Framework Directive where they must ensure that the amount of







Litter on the beach © Claire Pescod

marine litter in the marine environment does not cause harm.

The project is also being considered by the Scottish Government as a tool to help tackle marine litter as part if its marine litter strategy (currently in development).

The project has successfully secured funding to continue for another three years (2011-14) and the project will focus on 1) Increasing the number of boats involved in the project, 2) Increasing the education activities of the project and 3) to identify waste treatment options that may divert the waste from landfill.

Article courtesy of Tom Piper, KIMO UK Co-ordinator

A Marine Litter Strategy for the Firth of Clyde: Step 1 Defining the Status Quo

It was recognised in the Firth of Clyde Marine Spatial Plan, that marine and beach litter is a significant issue at UK, Scottish and Firth of Clyde levels. It is also acknowledged that no agency in Scotland has overall responsibility for coordinating efforts to tackle marine litter. This has resulted in little being know of the extent and composition of beach litter around the Firth of Clyde as a whole as no systematic monitoring programme is in place. The current lack of understanding of litter in the marine environment, contributes to a continued lack of coordination and impetus to organise a coherent strategy to deal with the issue.

The report written by the Firth of Clyde Forum "Marine Litter Strategy for the Firth of Clyde: Step 1 Defining the Status Quo" begins to tackle the marine litter issue by building a baseline of current beach cleaning activities taking place by the various Local Authorities, Charities and voluntary groups in the Firth. Data gathered from all these sources have been collated to determine what beaches are being cleaned and how often, and the methods used for beach cleaning. Data provided by the Marine Conservation Society (MCS) has been used to determine where the dirtiest areas are and what the main sources of litter are.

From the limited data that was available it appeared that West Dunbartonshire is the dirtiest area having almost 10 times the amount of litter surveyed than any other Local Authority. The main source of litter in this area (between Helensburgh and Dumbarton) is sewage related debris; this differs from the rest of the Clyde where plastic is the major source of marine litter. The report highlights the need to encourage more beach litter surveys to improve our knowledge base and to find out where the majority of litter is coming from so these specific groups/industries can be targeted.

The next step is to establish a partnership with all groups involved in marine litter and beach cleaning activities to develop a coordinated strategy for tackling marine litter across the Firth of Clyde. The strategy will be based on the recommendations from the "Marine Litter Strategy for the Firth of Clyde: Step 1 Defining the Status Quo" report.

Update by Kirstie Dyson, Firth of Clyde Forum Project Manager



Wind Turbine © Scottish Enterprise

National Renewables Infrastructure Plan and Fund

Scotland has Europe's most diverse and vibrant energy sector, from the mature North Sea oil and gas fields to word-leading research in offshore wind, marine energy, and clean coal and fuel cell technologies.

Some of the biggest economic opportunities in the future will be from developing a globally competitive industry based on renewable and low carbon energy resources. Offshore wind is a key element of this opportunity.

Offshore wind developers and equipment suppliers are looking at Scotland as a potential manufacturing location for UK and European offshore wind projects. It has been estimated that supply chain provision for manufacturing offshore wind turbines and related components could help deliver an estimated 28,000 jobs and £7.1 billion in value to Scotland's economy over the coming decade.

Infrastructure development, sites that meet the needs of the emerging industry, is an obvious fundamental to the successful attraction of potential investors. This industry requires sites with access to port facilities to load out the components for installation.

The National Renewable Infrastructure Plan prepared by Scottish Enterprise and Highland and Island Enterprise was a major first step in identifying the locations across Scotland which offer the biggest potential for developers to base their operations. It identified Leith, Dundee, Nigg, Energy Park at Methil, Hunterston, Aberdeen, Arnish, Campbeltown/Machrihanish, Ardersier, Kishorn and Peterhead, with the latest phase of the report recommending the sites be developed into three regional manufacturing clusters that would support the fabrication of offshore wind components and tap into the wealth of subsea expertise that already exists in Scotland. There is also recognition that a range of other locations could play a role in supporting the industry

To support the development of sites for the industry a £70million investment fund was announced in 2010 covering the SE area and potential support available from HIE in their area. Support from this fund will be made available where a strong business case is made and there is strong market interest in manufacturing or test and demonstration use of the location. Potential support from this funding is not limited to the locations identified in the Infrastructure Plan.

There was a strong response to the first round of expressions of interest to the £70m National Renewables Infrastructure Fund with applications from a wide range of port operators and consortia looking to upgrade facilities to provide essential manufacturing, test and demonstration infrastructure for offshore wind supply chain. . Scottish Enterprise is now working through individual proposals.

Glasgow and the West has much to offer the fast growing renewables sector and has already claimed a place on the renewables map attracting energy heavyweights and pioneers in the offshore wind sector such as Scottish and Southern Energy, Iberdrola and Gamesa. Energy engineering giant Doosan Power and neighbouring company, Steel Engineering have both also recently announced plans to invest significantly in their renewables businesses at Westway in Renfrew.

Article courtesy of Aileen Hotchkiss, Scottish Enterprise.

For more information, visit the Energy section of Business Sectors on www.scottish-enterprise.com



Sustainable Glasgow

Glasgow has launched an innovative partnership which is helping to make the city cleaner, greener and healthier.

Under the Sustainable Glasgow banner, the city has set its sights on being a European leader in environmental, social and economic sustainability.

Sustainable Glasgow, which is led by Glasgow City Council, has brought together partners from the public and private sectors to work with citizens, communities and businesses.

Every one living, working or visiting Glasgow has a role to play in helping the city reach its target of reducing our carbon emissions by 30% within 10 years.

This unparalleled strategic approach taken by Glasgow will also help to create jobs and boost the economy; tackle social issues including fuel poverty and regenerate the city by making it a more sustainable place to live, work and enjoy.

Councillor Gordon Matheson, chair of Sustainable Glasgow partnership and Leader of Glasgow City Council, said: "Sustainable Glasgow is an exciting project to focus all our city's efforts to make a major difference to tackling climate change.

"But the partnership's work will also deliver tangible benefits in the day to day lives of all Glaswegians especially in the area of fuel poverty and health.

"We are delighted that so many of our citizens, communities, businesses, schools and universities have gotten behind this initiative and are all now playing their part to help cut our city's carbon emissions and be greener. But we would also challenge every Glaswegian to play their part in making our city greener."

It is estimated the green energy projects will bring in £1.5billion of new investment into the city over the next 10 years.

There is a range of themes being looked at by Sustainable Glasgow including transport, energy, resource management, planning and built environment, as well as, education and awareness.

The primary focus of Sustainable Glasgow has been on the city's carbon emissions; the energy systems and energy consumption related to those emissions, and closely related issues such as the attitudes and behaviour of citizens and organisations – and opportunities related to these issues.

Under transport for example, lowering the city's carbon emissions is a major factor and prioritising walking, cycling and public transport including river boats, over car use will have a major role to play.

Work being done by some of the Sustainable Glasgow partners has also seen a significant progress in improving the water quality in the city.

In the River Clyde, for example, in recent years improvements in water quality has seen the return of salmon, sea trout and other wildlife. Fish numbers are a good indicator of the 'health' of a river and many other fish species also flourish in the Clyde including Brown Trout, Roach, Brook Lamprey, Flounders, Mullet, Sea Lamprey and Silver Eels.

The Sustainable Glasgow partnership includes Glasgow City Council, the University of Strathclyde, Clyde Gateway, Strathclyde Partnership for Transport, Glasgow Housing Association, Scottish Enterprise, Greater Glasgow and Clyde Health Board, IBM, BT, ScottishPower, Scottish & Southern Energy, Scottish Water, Honeywell and the City of Glasgow College.

Article courtesy of Geoff Duke, Sustainable Glasgow.

For more information visit www.sustainableglasgow.org.uk

River © Ian Boyter

Marine Scotland - towards marine planning in Scotland

Work continues apace after the May election to implement the Marine (Scotland) Act and develop marine planning for Scottish waters. The key points outlined below will be major milestones over the next few months but the timings may be subject to change:

- **July 2011- August 2011:** Revision of the pre-consultation draft National Marine Plan in response to comments made during the pre-consultation exercise and the Sustainability Assessment (SA)/ Strategic Environmental Assessment (SEA) pre-consultation
- **Autumn/winter 2011:** Formal Consultation on the Draft National Marine Plan (12 weeks) taking place alongside the formal Consultation on the SA and SEA (12 weeks)
- **Early 2012:** Revision of the Draft National Plan in response to comments made during the Plan consultation and the SA/SEA consultation periods
- **Spring/summer 2012:** Laying draft National Marine Plan before Parliament and Parliamentary consideration of the proposed National Marine Plan: Final considerations, adoption and publication of the National Marine Plan.
- **Spring/summer 2012:** Publication of the SEA Post-Adoption Statement

A Statement of Public Participation for the Scottish National Marine Plan was agreed by Ministers earlier in 2011 and has been published on the Marine Scotland webpages at www.scotland.gov.uk/Topics/marine/seamanagement/national/spp. It is designed to assist stakeholders and will be updated to reflect any changes in the timetable for producing the National Marine Plan.

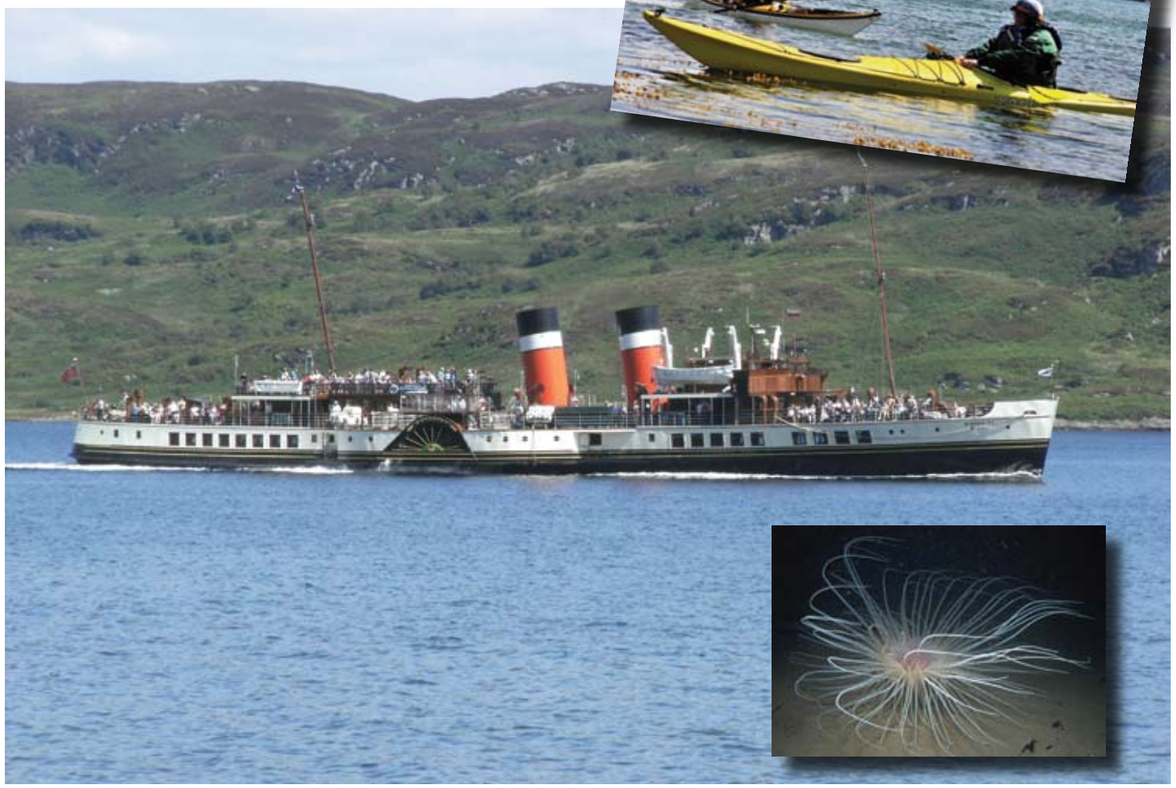
Consideration of Scottish Marine Regions continues alongside this work. The analysis of the responses to the SMR consultation exercise from early 2011 is almost complete and will inform further work to determine the number of Marine Regions and their boundaries. These should be confirmed by the end of the year and work will begin to establish the first of the Scottish Marine Regions by spring/summer 2012.

For further information, keep an eye on the Marine Scotland webpages.

Update provided by Rhona Fairgrieve, Scottish Coastal Forum.



Sea kayaking © Lorne Gill/SNH



Waverley, Kyles of Bute © Martin Allan

Fireworks Anemone © Sue Scott/SNH

A Day oot as Riverside Glasgow is Launched on 21 June 2011



Riverside Glasgow © Ethel May Abel

Already before its opening, the plaudits had started to roll in for the Riverside, Scotland's Museum of Transport and Travel, and Zahad Hadids first public building to open in the UK.

Despite its battleship bulk, the Riverside, has already made itself at home on the site of a former shipyard. The steel and zinc roof zig zag profile is compared with a "heart beat on a monitor or tightly lapping waves" (www.guardian.com/arttanddesign/2011/June). From the inside these zig zags look like the keels of ships, cutting through the vast pillar less space, now home to 3,000 objects from trains, cars, locomotives, motor bikes, a tube train, a glider, ships, skateboards, prams, shoes and pretty much anything that ever helped people to move about. The museum owns 788 model ships, some of which are displayed, while many along with other items are stored to view in the open archive museum on the south side. The aim of the Riverside is to appeal to all ages through hands on displays and interactive activity with a continuous reference to the riverside beyond the expansive windows. www.glasgowmuseums.com or telephone 0141 287 2720.

Whilst the scale of this steel structure is awe inspiring, quietly bobbing in the water is the tall ship Glenlee. She will encourage visitors to step out and enjoy the waters of the Clyde, without which, Glasgow would have a pale transport history. Ready to greet all river arrivals to the new slip and pontoon harbour alongside, will be the ship manager of the Glenlee. www.thetallship.com or telephone 0141 222 2513. On the upstream side of the tall ship will be a new City pontoon at Yorkhill providing accommodation for visiting craft and services. www.glasgow.gov.uk/pontoon. Glasgow Life is offering a year round co-ordinated programme of events starting with Clydewaterfront regatta on the 16 July and a Rat Race on the 21 August 2011. See Clydeforum diary or contact Claire.McCauley@cs.glasgow.gov.uk; and www.seeglasgow.com GIANT are also hosting the Forgotten Island, as a place to go to for fun filled family activities. www.theforgottenisland.com. Govan is also getting set to present its historical past through Govan Old Parish; the reopening of Fairfields shipyard office and new proposed art centre at The House of an Art Lover, Bellahouston Park.

Arrive at the Riverside Glasgow, 100 Pointhouse Place G3 2RS and make it a day oot. See the seaplane splash down -www.lochlomondseaplanes.com, and watch the Waverley, paddle steamer, on its daily excursions- www.waverleyexcursions.co.uk. Arrive by the new river service operating every 20 minutes between Govan waterfront and the Riverside for 360 days a year from 1000 to 1700 or from Broomielaw from 11.00am to Yorkhill - www.clydeclippers.com. The Riverside is also within walking distance of Partick rail and underground station; easy to get to by cycling along NCR75; or depart by tour public bus from George Square. There is also parking accommodation, with a set charge of £1, available on site.

Article courtesy of Glasgow City Council.



Biking © Richard Learoyd SNH

On Yer Bike!

If you have a free evening or day at the weekend, why not consider getting out and about on your bike on one of the many routes on the National Cycle Network or other regional routes around the Firth of Clyde.

Often the routes include large sections of traffic free cycling. What could be better than a healthy breath of sea air? Many of the routes are also rail connected so you can cycle one way and then catch the train back, although it's always best to check in advance (national rail enquiries 08457 484950). Ideas for your route that include 'Clydeside' sections are shown below.

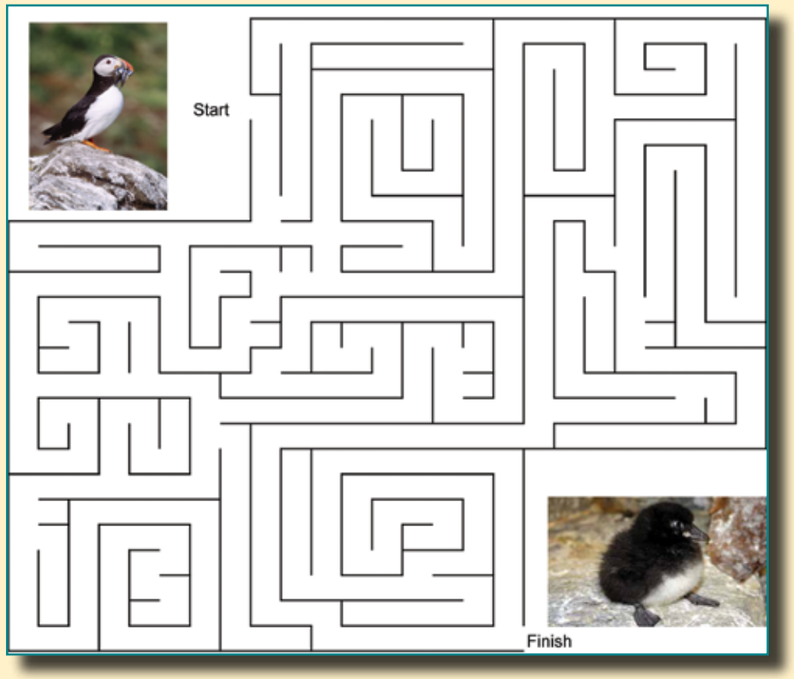
To download a map for free, visit www.sustrans.org.uk/assets/files/scotland/Sustrans_glasgow_mapguide_Jan09.pdf. These maps provide all the information you will need on the route itself, places to stop for refreshments and places of interest along the way.

The route summaries indicated below are courtesy of Sustrans which is a UK charity encouraging people to travel by foot, bike or public transport for more of the journeys made every day.

Location	Category	Distance	Time	Gradient	Surface
Glasgow Bell's Bridge to Bowling	Urban, riverside and canal cycle path	11 miles	1 hour 40	Flat	Mainly Tarmac
Bowling to Dumbarton and on to Balloch	Urban, cycle path	10 miles	1 hour 30	Flat	Tarmac
Paisley to Gourock	Mainly rural with urban section, railway path, onroad sections	21 miles	3 hours	Steady but easy incline from Linwood to above Port Glasgow. Two steep descents and difficult Devol Glen section	Tarmac
Irvine to Alloway	Rural and urban, coastal, roadside paths, woodland paths, promenades, local roads	22 miles	3 hours	Flat	Tarmac
West Kilbride to Irvine	Coastal, rural and urban, on and off-road sections	13 miles	1 hour 50	Flat	Tarmac

As this edition of Clyde Breakers has been published during the summer holidays, we have included this special page for any younger readers.

Can you help this puffin find his chick?



Marine Word Search - Find the ten words listed in the search box below. Remember, the words can go backwards too!

E	N	O	M	E	N	A	P	S	Q
V	T	P	L	A	I	C	E	H	T
G	L	O	U	S	P	B	F	E	E
B	A	R	N	A	C	L	E	L	N
A	O	P	K	G	L	O	H	L	N
R	S	O	F	S	A	B	E	F	A
C	R	I	T	R	M	S	D	J	G
M	S	S	D	H	S	T	N	L	O
H	C	E	S	U	P	E	W	S	M
A	P	N	M	E	T	R	O	I	Y

BARNACLE
FISH
LOBSTER
GANNET
PORPOISE
ANEMONE
MUSSEL
PLAICE
SHELL
CLAM

Species Focus

The Basking Shark is the second-largest fish in the world, after the Whale Shark. It can reach up to 12m in length and 7 tonnes in weight, so it's as big as a bus! But harmless to humans. Basking Sharks feed on plankton (drifting, tiny plant and animal life) by straining water through large comb-like structures in their gills called gill rakers. You can often spot them when they are feeding, as they swim slowly along at the surface of the water with their huge mouths wide open. Often there may be 4 or 5 together in a group.



Basking Shark © Colin Speedie/SNH

Look out for them when you are on the ferry or walking along a high point by the sea.
There used to be many of them in the Clyde area and all along the West coast of Scotland during the summer season when plankton is abundant in Scottish waters. For many years they were harvested by harpoon for their oil and their numbers declined, but now they are seen more often again in the Clyde.

A day in the life...

... of the Queen's Harbour Master Clyde



Commander David Lightfoot on HMS Talent ©

Commander David Lightfoot took over as the Queen's Harbour Master for the Dockyard Ports of Gareloch and Loch Long in March 2011; as a seasoned submariner David has served in and commanded both conventional and nuclear submarines over the last 28 years. Having lived around the Helensburgh area over that period he is familiar with all reaches of the River Clyde both from sea and land with a variety of experiences ranging from the stunning scenery to following the Glasgow Sewerage Barge out of the Cumbrae Gap!

A small group of military, civil service and civilian personnel make up the team, who plan, arrange and implement the variety of vessel moves in and out of the Dockyard Ports which extend northwards from Lower Loch Long Buoy up Loch Long, and from the vicinity of Roseneath up past Helensburgh and into the Gareloch. Whilst many of the vessel movements are military, there is an increasing amount of both commercial and leisure traffic; making sure that all moves are conducted safely and de-conflicted with one another is the primary function of the Harbour Master. Outside of the daily routine of running the port there are a variety of tasks which keep the services running; everything from monitoring and maintaining navigation marks and lights, surveying the shipping channels and liaising with a wide variety of other groups and individuals who share the use of the waters of the Clyde. Within the port a regular dialogue goes on 24hrs a day, every day of the year to ensure that berths are available and fit for purpose and that tug support is available when required; QHM Clyde's responsibilities also stretch beyond the Dockyard Ports to where MoD facilities exist that require ships and submarines to come and go, this includes locations as far flung as Loch Ewe, Kyle of Lochalsh, Campbeltown and Loch Striven.

Every day is different, whether it is arranging the upgrade of the Ports' radar surveillance system, co-ordinating a week's work experience for 2 pupils from a local school, organising an oil spill exercise at Greenock Great Harbour or removing storm debris from the foreshore of the Gareloch; never a dull moment!

The Forum would like to thank Commander Ken Clark, the previous Queen's Harbour Master, for his contribution to our work over a number of years.

Tell Us What You Think...

Clyde Breakers is your newsletter; tell us what you think of this issue and what you would like to see in the future. Many thanks to those of you who contributed to this edition.

If you would like to become involved in the Forum and its work, contact us at the address below.

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The Firth of Clyde Forum has a broad membership base with representatives from industry, local authorities, community groups and charities. The opinions expressed by members within this issue are not necessarily the opinions of the Forum or its Core Group.

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marine scotland

Scottish Natural Heritage
All of nature for all of Scotland

GLASGOW and the CLYDE VALLEY strategic development planning authority

CLYDEPORT

THE CROWN ESTATE