Fishing For Litter Scotland

FINAL REPORT
2011 - 2014
Foreword

Fishing for Litter is an ingenious and very effective way to remove litter from the sea and the success of the project is down to the active participation of fishermen and Scottish harbours. The 210 registered vessels taking part in the Fishing for Litter Scotland project have now landed more than 758 tonnes of marine litter at the participating harbours. The project has a real effect in reducing the amount of litter in our waters and in turn reduces the associated economic and environmental costs to us all.

The new Marine Litter Strategy for Scotland, and work to achieve Good Environmental Status through the Marine Strategy Framework Directive, highlight that it is more important than ever that innovative schemes like Fishing for Litter continue to receive support.

I am pleased that the Scottish Government and other funders have been able to continue financial support for KIMO’s work in co-ordinating and promoting this vital initiative. The project is an integral part of the Marine Litter Strategy in reducing marine litter, and I am sure that it will continue to be successful for years to come.

Richard Lochhead
Cabinet Secretary for Rural Affairs, Food and the Environment
Scottish Government
Project Summary

Fishing for Litter Scotland (FFL) is an environmental project, undertaken by KIMO UK, designed to reduce the amount of marine litter in our seas by physically removing it and to highlight the importance of good waste management amongst the fleet.

Fishing for litter is a simple idea. Participating vessels are given hardwearing bags to collect marine litter that is caught in their nets during their normal fishing activities. Full bags are deposited in participating harbours on the quayside where the bag is moved by harbour staff to a dedicated skip for disposal. Operational or galley waste generated on board, and hence the responsibility of the vessel, continues to go through the established harbour waste management system.

The project provides the bags and covers the waste costs, the fishermen and harbour staff volunteer their time. The project is co-ordinated by a part time post holder who manages the day to day running of the project.

KIMO UK

The project was run by KIMO (Local Authorities International Environmental Organisation), an association of coastal local authorities whose goal is to eliminate pollution from Europe’s Seas. The organisation’s members include local authorities in, Denmark, Sweden, the Faeroe Islands, the Netherlands, Belgium, United Kingdom, Republic of Ireland, the Isle of Man and the KIMO Baltic Forum. KIMO UK is the United Kingdom network of the organisation.

For more information see www.kimointernational.org
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Marine Litter

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). Marine litter consists of many slow degrading materials and the continuous input of large quantities of such items from many land and sea based sources results in a gradual build up in the marine and coastal environment.

It affects many sectors and the fishing fleet is both a recognised source of marine litter (13.9% of beach litter attributed to Fishing - Marine Conservation Society 2012 Beach watch results) and is affected by 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 approximately £10,000 per boat on average each year. Each boat is calculated to take 41 hours a year to remove marine debris from its nets, a significant amount of a boats days at sea allocation. It is therefore essential that continued action be taken to reduce what is currently a significant marine pollution problem.

In addition to this huge amounts of litter wash up as an eyesore on our coastline every year the problem costs local authorities money to clear up, ultimately costing us more in taxes. It is in everyone’s interest to ensure that there is as little marine litter as possible.

Marine litter is a global problem which can be a threat to ecosystems, has socio-economic costs and can also pose a threat to human health. In addition, marine litter threatens the realisation of a Scottish vision for ‘clean, healthy, safe, productive, biologically diverse marine and coastal environments, managed to meet the long term needs of nature and people’ and may also impact upon Scotland’s Strategic Objectives, most notably the drive to become a Greener, Wealthier & Fairer, Safer & Stronger and Healthier Scotland.
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Project Aims

The aims of the Fishing for Litter project are:

- The physical removal of marine litter from the seabed (275 tonnes –2011-2014).
- To encourage the fishing community to think about the sources and impacts of marine litter and reduce its impacts.
- To create a marine litter education resource for fishing vessel crews.
- To cooperate with fisheries training organisations on marine litter issues.
- To engage school aged children in participating areas on the impacts and sources of marine litter.
- To enhance the monitoring programme of the marine litter coming ashore to establish the origin of the litter, policy makers can then target the sources of marine litter.
- To maintain coverage in the 17 harbours
- To include 300 boats in the scheme

Project Funders

[Image of logos of project funders]
Project Timing

The three year project ran from the 1st of April 2011 until 31st of March 2014.

History

The Fishing for Litter initiative was originally started by the North Sea Directorate of the Dutch Government in co-operation with the Dutch Fisheries Association in March 2000. The aim of the initiative was to clear the North Sea of litter, by providing bags to bring ashore litter that was gathered in the nets as part of fishing activities and disposing of it responsibly on land.

Pilot schemes, operated by KIMO International, were run as part of the Save the North Sea Project in Scotland, Sweden, Netherlands and Denmark until 2005 and the Scottish project has continued this good work since. KIMO also continues to operate Fishing for Litter projects in the Netherlands, the Isle of Man, the Faroe Islands, England and the Baltic Sea. Affiliated pilot projects have also taken place in Milford Haven, Wales and Northern Ireland. Other copycat projects have been started in other locations.

Scottish fishermen have demonstrated how successful the project can be as numbers of participating harbours and vessels have steadily increased as word has spread about how effective and easy to operate the scheme is.

Beneficiaries

Reducing levels of marine litter will benefit fishermen themselves as marine litter currently damages their catches and costs them loss of valuable time at sea. Due to the estimated reduction in litter arriving ashore there will also be a benefit to local authorities that are required to clean amenity beaches in their area and for the public who use them. Other positive impacts will be experienced by various other industries in coastal areas for example, in the aquaculture industry as marine litter can clog and damage cages and nets.

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. Studies show that 95% of fulmars in the North Sea had plastics in their stomachs, with an average of 33 pieces. Studies have also shown the alarming prevalence of microscopic plastic particles in northern seas, which can be taken up by filter feeders.
Harbours

The project aimed to maintain a network of seventeen participating harbours around Scotland but as the project progressed decisions were made to stop operating the project in three harbours, so concluded with fourteen harbours. They were Lerwick, Cullivoe, Scalloway, Fraserburgh, Peterhead, Eyemouth, Kirkcudbright, Isle of Whithorn, Campbeltown, Rothesay, Tarbert, Ullapool, Kinlochbervie, and Scrabster. Mallaig, Troon and Stornoway were the three harbours that were involved in the initial stages of the three year project.

A number of other harbours on North and West Scotland also showed great interest in participating in the project but, due to budget constraints, they could not be included. It is hoped that future budgets will enable them to become part of the project.

Boats

The project aimed to involve 300 trawler boats in the scheme but had to stop recruiting to the scheme at 210 as it became evident that the project budget could not cope with the amount of waste that would be landed by 300 boats.

Because of the simple nature of the project it is also thought that some boats may have been taking part in the project without officially registering and thus the actual number of boats landing marine litter in Scottish harbours maybe higher than 210.
Tonnage/monitoring

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. The data was collected through the issued invoices. 2) In some harbours staff volunteered their time to analyse the bags and record the composition of the litter landed. Data was recorded in Shetland, Scrabster, Kinlochbervie and Tarbert.

A target was set to land 275 tonnes of marine litter. At the end of the three year project 374.55 tonnes had been landed. This brings the total amount of litter removed from Scottish seas by the project to over 733 tonnes (over 470 skips emptied). It should also be noted that the weight of waste from three smaller harbours where local authorities supply 1100 litre bins and empty them as part of their rounds is not recorded and the actual total is therefore higher. There is also anecdotal evidence that large items of waste, such as metal, do not always make it into the projects waste stream as they have a value that can be realised elsewhere.

Figure 1, below, shows that there has been a very slight decrease in the amount of litter landed each month. This could be because less promotion was given to the project to limit costs or it could be that the amount of litter, particularly heavy items that are unlikely to float, found on the seabed in fishing grounds is decreasing. There is certainly anecdotal evidence from skippers that they are collecting fewer large items.
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 was entered into an Excel database that was used to analyse the data.

As monitoring of the bags contents was undertaken by volunteers, guidelines were issued to ensure the Fishing For Litter waste was recorded in a standard manner. It was understood that the methods employed would not meet established scientific criteria but that the data collected would be useful in getting an indicative picture of what was being caught.

The monitoring data were analysed to try and identify the types of waste landed. Figure 2 shows the composition of the marine litter landed by material type. 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.
A pilot project was undertaken between KIMO UK, Seafood Cornwall Seafood Training Limited and Cefas to see if Fishing For Litter could usefully collect more detailed data at sea. While some good data was collected, it was felt that it was still not as accurate as that collected by dedicated scientists as ultimately at sea fishing must take priority unless the data collection was heavily subsidised.

It was hoped that some of the waste could be recycled, it has not been possible to measure this but it is unlikely that a significant amount of the waste is diverted from landfill. Two explanations were given for this 1) Because the material landed had spent time at the bottom of the sea it was often covered in marine growth and therefore considered too contaminated for recycling and 2) Because the participating harbours are located in more peripheral areas of Scotland and the tonnages compared to other waste streams were comparatively low, the waste processors would have only considered recycling if the waste was pre-sorted. It was felt that asking fishermen and/or harbour staff, who volunteer their time to make the project work, to undertake this work would have a negative effect on the number of boats taking part in the project and therefore the amount of litter removed from the marine environment.

The possibility of sending the waste to a waste to energy plant was also investigated but following talks with waste processors it became apparent that the wastes calorific content was too high for the current generation of incinerators. It is thought that the next generation of incinerators may be able to process the waste. If this is possible then it could result in a saving to the project as it is cheaper to process the waste this way rather than send it to landfill with its escalator tax.

Figure 3: Items found by material and description

Figure 3, below, shows the frequency of items found by material type and description. Yet again the most numerous item found on the seabed is plastic bottles, a litter type that can be attributed to all aspects of society. Items related to the fishing industry are frequently found, items such as fish boxes, gloves and pots.
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Financial

The project had a projected budget of £315,450.00 and the actual spend (unaudited for 2013/14) is £263,732.07. The initial project budget had to be revised because one funder did not give the full amount they committed, this in turn tipped the balance with regard to public/private money and then the European Fisheries Fund offer was withdrawn because there was not enough private funding in the pot.

More litter than anticipated was also landed, with 100 additional tonnes collected by the end of the project, as a result less promotional, growth and educational activities were undertaken to save money for the projects primary activities.

Over the course of the last three years approximately £23,865.92 has been spent on paying landfill tax, this equates to over 9% of the project spend. Investigations are being made to reduce this burden on the project.

Promotional Material

The project has produced promotional leaflets that provided information on the scheme. Upon joining the scheme skippers and their crews were given project information, full instructions, waste guidance notes and a window sticker to demonstrate their support of the initiative. Regular newsletters were also distributed to update participants on project activities.

An exhibition banner was created to promote the scheme at a number of meetings and fishing industry events and an information poster created for some events to give more insight to the project.

Promotional Activities

The project exhibited at the Fishing Exhibitions held in Aberdeen in 2012 and 2013, this had two aims. Firstly it is a useful place to meet existing project participants and to sign up new boats to the scheme but it also gave the chance to liaise with other stakeholders and policy makers in an informal setting.

Presentations were also given at local, national and international meetings to encourage backing for the initiative and to share best practice. The project was invited to participate at events in Miami, Woods Hole and Sienna so the project is generating international attention.
Education

Engagement with school aged children has been sporadic, a presentation was given to a primary class in Aberdeenshire, an activity related to marine litter was trailed, and well received in Shetland and it is known that the participating Harbour Masters, who receive numerous class visits organised out with the project always tell children about the good work the scheme, and therefore the fishing community, are doing. It is hoped that going forward with greater resources a more strategic approach to school engagement can be taken.

Press Coverage

The project issued press releases over the three years to highlight project achievements and milestones, they achieved coverage in industry publications, local and national newspapers and on numerous internet sites.

The project featured on a number of local and national radio stations and achieved coverage on BBC television.

Social media was also utilised to spread the word about the project, at the end of March 2014 the project had over 400 followers on Facebook and a smaller number on twitter. As well as project related material, the project shared more general marine litter information to raise awareness on the wider marine litter issue and its impacts. This also had the benefit of ensuring that the Fishing for Litter brand reached a larger audience.
Analysis

While the project had to reign in some of its activities it has collected significantly more litter than anticipated, with Scottish vessels having now landed more than 730 tonnes of marine litter to shore. An achievement that will benefit the health of Scottish seas.

The project has illustrated that personal contact with boat skippers and crews was essential to firstly promote the benefits of the scheme to individuals in the industry and secondly to get their commitment to participate.

Identifying a reuse or recycling route for the waste would be a huge boost to the project both in terms of project finances and in terms of sustainability and going forward this must remain a priority.

The project has been fortunate in receiving high profile publicity, this has not only helped in encouraging the industry to participate but has highlighted the marine litter issue to the general public. The Fishing for Litter brand is well known especially in fishing communities. There are still avenues to explore to enhance and improve the project, in particular to encourage full participation in target harbours.

Fishing For Litter and Policy

Based on the success of KIMO run Fishing For Litter projects, OSPAR Ministers approved a Recommendation (2010/19) encouraging participating member states to facilitate Fishing for Litter initiatives in their own fishing ports and we are now starting to see action made against this recommendation.

The scheme is also being discussed by European governments as a method to achieve Good Environmental Status (descriptor 10). As part of the Marine Strategy Framework Directive where they must ensure that the amount of marine litter in the marine environment does not cause harm by 2020.

The project is also being backed by the Scottish Government as a tool to help tackle marine litter as part of its recently launched marine litter strategy.
Observations

The concept of fishing for litter as an effective method to engage one of the main stakeholders to reduce marine litter at sea has received considerable support within the industry. It has also been able to demonstrate that through a centrally coordinated role the project has been able to apply a consistent and uniform approach nationally, taking into account local conditions. The national network of harbours has enabled registered vessels to actively participate where they were operating in Scotland.

As a concept there are still avenues to explore to enhance and improve the operational aspects of the project and challenges to encourage better participation within the industry and going forward education efforts will become a bigger focus of resources.

Although improvements in regulation and enforcement for litter offences are essential tools in reducing the problem, it is unlikely that it will achieve the behavioural change required alone. It will be important to engage marine industries in a way that they take ownership of the problem and work towards a solution and Fishing for Litter can be an effective tool to facilitate that change in the fishing industry.

The project has demonstrated that it can contribute to changing practices and culture within the fishing sector, provide a mechanism to remove marine litter from the sea and seabed, and raise awareness among the fishing industry, other sectors and the general public.

There is also an opportunity to use sponsors contacts and expertise to maximise the efficiency of the project and to spread the word about the project.
The future

The project has successfully secured funding to continue for another year (2014-15) with partial funding secured for another two years. The project will focus on 1) Increasing the number of boats and harbours 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.

Many thanks to the project sponsors whose funding made the project possible and to those individuals and organisations who supported and promoted the project along the way.