Maritime Ireland / Wales
INTERREG 1994 – 1999

Clean Coasts/Clean Seas

December 2001

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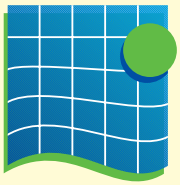
Maritime Ireland / Wales INTERREG Report No.11
Measure 1.3: Protection of the Marine and Coastal Environment and Marine Emergency Planning



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Maritime (Ireland / Wales) INTERREG Programme- Building Bridges.

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Maritime Ireland/Wales INTERREG Report No. 11.

This project (Contract EU/557/14/001) is supported under Measure 1.3. Protection of the Marine and Coastal Environment of the Maritime (Ireland-Wales) INTERREG Programme (1994-1999) administered by the Marine Institute (Ireland) and the National Assembly for Wales and is part funded by the European Union's Regional Development Fund.

ISSN: 1393-9025

Maritime (Ireland/Wales) INTERREG Programme 1994 – 1999

The EU Maritime (Ireland/Wales) INTERREG II Programme (1994-1999) was established to:

1. promote the creation and development of networks of co-operation across the common maritime border.
2. assist the eligible border region of Wales and Ireland to overcome development problems which arise from its relative isolation within the European Union.

These aims are to be achieved through the upgrading of major transport and other economic linkages in a way that will benefit the constituent populations and in a manner compatible with the protection and sustainability of the environment. The Maritime INTERREG area includes the coastline counties of Meath, Dublin, Wicklow, Wexford and Waterford on the Irish side and Gwynedd, Ceredigion, Pembrokeshire and Carmarthenshire on the Welsh side and the sea area in between.

In order to achieve its strategic objectives the programme is divided into two Areas:

Sub-Programme 1: **Maritime Development:** transport, environment and related infrastructure (€59 million)

Sub-Programme 2: **General Economic Development:** Economic growth, tourism, culture, human resource development (€24.9 million)

The Marine and Coastal Environment Protection and Marine Emergency Planning Measure (1.3) has a total budget of €5.33 million of which €3.395 million is provided under the European Development Fund. EU aid rates are 75% (Ireland) and 50% (Wales).

The specific aims of Sub-Programme 1.3 are:

- to promote the transfer of information between the designated areas
- to establish an in-depth profile of marine/coastal areas for conservation of habitat/species
- to explore, survey, investigate, chart the marine resource to provide a management framework
- to develop an integrated coastal zone management system
- to improve marine environmental contacts and co-operation
- to promote the sustainable development of the region
- to improve nature conservation

Joint Working Group

The Joint Working Group, established to oversee the implementation of the Measure, consists of 5 Irish and 5 Welsh representatives.

Irish representation: Department of the Marine & Natural Resources, Department of the Environment & Local Government, Department of Transport, Energy & Communications, Local Authority and Marine Institute.

Welsh representation: National Assembly for Wales, Countryside Council for Wales, National Trust, Local Authority (Dyfed), Local Authority (Gwynedd).

This Report series is designed to provide information on the results of projects funded under Measure 1.3. Protection of the Marine & Coastal Environment and Marine Emergency Planning.

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1.0 EXECUTIVE SUMMARY

Clean Seas/Clean Coasts was an INTERREG IIA partnership project between Keep Wales Tidy and Coastwatch Ireland. The ultimate aim of the project was to reduce the input of marine litter and oil to the Irish Sea and onto the shores of the West Coast of Wales and the East Coast of Ireland. This was to be achieved by litter awareness raising events, collecting of marine litter/ oil data and disseminating information on impacts of marine pollution, as well as legislation on marine waste management and best practice prevention. In this context, partners jointly focussed on port waste plans and facilities.

Project partners undertook a range of joint work, supported by governments in Wales and Ireland as follows:

(1) Organising awareness raising events, including seminars and workshops on the issue of marine litter and oil;
(2) Production of informative leaflets and literature;
(3) Producing or assisting the design of port waste plans;
(4) Networking with complementary organisations;
(5) Demonstrating best practice and giving advice on waste minimisation to recreational boat users, commercial fishermen, harbour users and harbour authorities.

Coastwatch Ireland provided a traditional Irish Hooker 'Green Boat' (Plate 1) for much of the joint work. This boat (*Cliona na Toinne*) visited small ports and harbours on both sides of the Irish Sea, as a travelling 'sea show', raising awareness of marine pollution and giving practical demonstrations of waste minimisation techniques.

Plate 1: Cliona na Toinne in Skerries, Ireland

Apart from joint work, both partners carried out separate initiatives specially focussed on the legal and administrative issues in each country. Much of this complementary work would show the way forward beyond the present project.

Due to the Foot and Mouth outbreak (2001), the final phase of the project had to be adapted to cut out planned joint meetings. However, the earlier close cooperation and personal contacts paid off, and partners continued to benefit from comment on results and exchange of information by phone calls and emails.

Products

A number of products were developed and used in the course of this project and as stepping stones for future work. Products are listed below:-

- **The *Cliona na Toinne* was refurbished for the project as a Green Boat**, with exemplary waste management on board. The boat spent the summer months traversing the Irish Sea to attend major maritime events.
- A **database of all small ports and harbours was established** for the West coast of Wales and the East coast of Ireland.
- **Leaflets were produced to highlight the problems of marine pollution** and to give some possible solutions. These leaflets were distributed to boat users, harbour authorities, boating associations and other organisations working in the marine environment all over Wales and Ireland during summer awareness raising visits.
- **Exhibition boards** showing the environmental, economic and social effects of marine litter and possible solutions to the problems were produced by the Welsh partner and displayed at numerous events in Ireland and Wales.
- An **overhead series,** to complement the exhibition panels, was produced by the Coastwatch partner and used in conjunction with the panels and to illustrate talks.
- A **guide to producing port waste plans** was redrafted by Keep Wales Tidy partner and distributed to Welsh harbour authorities upon request.
- A **Port Waste Management Plan was written and approved** by MCA for Solva, Pembrokeshire.
- **Model Waste Management was established in one Irish Harbour**. The Welsh guide was used as template and adapted to Irish conditions in drafting model waste management facilities for Dunmore East, Co. Waterford. The plan was then implemented. All work was planned and carried out jointly by a specially formed harbour group consisting of all users: the Department of the Marine, Waterford County Council and Coastwatch.
- **The Coastwatch whole coast survey** was carried out with special focus on the Irish Sea coast, coupled with an extra harbour questionnaire. Reports were published**.**
- A **detailed harbour eco-audit** was drafted and tested on the Irish side. This was then used by trained personnel to collect data, and local groups to self-assess strengths and weaknesses, particularly in relation to cleanliness and waste reception facilities.
- An '**Inventory of Waste Reception Facilities'** was produced and published for the whole INTERREG Area.
- An **eco-audit news-sheet** was produced ranking the 38 harbours by cleanliness, nature, facilities, information for users and management. The guide was also put on the web.
- **A legal review brochure** – print ready, to guide the public and harbour users as to law, responsibilities and contacts on the Irish side. This complements existing government produced information on the Welsh side.

Indicators of work done:

- Number of harbours visited by boat on both sides of the Irish Sea 21
- Number of fishermen contacted approx 500
- Number of recreational boat users contacted approx 900
- Number of Harbour Authorities contacted within the INTERREG area all
- Number of port waste plans written (Wales) 1
- Number of Model harbours – Ireland 1
- Number of improved harbour waste reception facilities[1] 21

[1] Some improvements may well have occurred without the project, or were simply facilitated by awareness raising efforts. However on the Irish side, it was noted that as the eco-audit was starting, serious attention was being paid to improvements and requests by authorities and/or user groups to return and repeat the audit. This suggests that the eco-audit was the strongest impetus for change.

2.0 INTRODUCTION

2.1. Aims and Objectives

The aim of the Clean Seas/Clean Coasts project was to help reduce the quantity of litter and oil illegally dumped or accidentally lost at sea or in harbours. Partners agreed to:-

(i) Establish a database of ports, harbours and jetties (installations) currently operating in the South Irish Sea INTERREG IIA area.

(ii) Gather information and raise awareness on: law and law enforcement; degree of littering and oil pollution; and best local practice.

(iii) Provide advice, support and guidance to encourage sound waste management on boats and in harbours. Special focus was placed on small harbours and boats.

As a core joint initiative, the Coastwatch "green boat" a Galway Hooker - *Clionna na Toinne* - was to crisscross the Irish Sea visiting locations as a travelling sea show. Equipped with the latest waste minimisation equipment, she was to host events and back up awareness raising workshops for local fishermen, recreational boat users and harbour authorities.

2.2. The Problem.

Many of the shores in the INTERREG IIA area are covered with marine litter and in certain hot spot areas, coastal waters are awash with debris. When beaches are cleaned, the next storm re-litters the strand line.

Plate 2: Fishing debris on a beach near Skerries, Dublin.

There are a range of land based and marine sources of marine litter and oil. Relative contribution of a given source (in weight, volume or quality) will vary with geographic position, season and even wind direction. In the Clean Seas project, the harbour and boat sources were focussed upon.

Despite international and national legislation, some commercial ships, fishing vessels and recreational craft still continue to illegally dump waste at sea. Harbours are areas where goods are handled close to the water's edge and extra care is needed, yet we have seen in the course of this project, workers cleaning the day's ration of net ends and papers, straight into the water. The reasons for accidental loss and wilful discharge are different, but the results the same.

The Marine Conservation Society's Beachwatch beach-clean and survey takes place annually every September since 1994. A total of 150 UK beaches, covering 104 km of coastline were cleaned and surveyed by volunteers in 2000. In total, 185,482 items of debris were recorded, weighing approximately 5.3 metric tonnes. In Beachwatch 1999, Wales had the highest overall litter density (with a mean of 2,860 items per km), the highest levels of fishing debris (with 437.4 items per km.) and the highest levels of shipping waste (77.7 items per km.).

Three main sources were identified as contributing to over half of the beach litter load:

Direct littering by recreational beach users	(35.1%)
Fishing activities and shipping	(14.6%)
Sewage outfalls	(6.5%)

The remaining items were not attributed to any particular source.

Surveys that examine the whole shore, rather than focussing on beaches, tend to produce results with a smaller contribution from direct littering by recreational users.

In the Coastwatch Europe surveys, which have been run annually in October since 1989, fishing and boat related waste was identified as an important litter load contributor in all countries (23 countries). In over 10,000 survey sites/annum, one or more pieces of fishing/ angling gear are found in 56% of survey sites. National and regional levels vary greatly, but Ireland and the UK have persistently ranked among the top third of littered countries, but bottom third for oil pollution in most years.

The Netherlands Coastwatch has undertaken extra source identification work for litter and found that approximately half of their litter load originated from vessels at sea or in harbours for the three consecutive years 1998-2000. The country lies in the path of major shipping lanes, but also boasts good waste reception facilities and strict waste management in harbours.

A typical chart of small litter items encountered on the shore is shown in Figure 1. In 2000 the Republic of Ireland litter chart of just 14 categories could be augmented by drinks containers (> 90% of shores) and plastic shopping bags (> 20% of shores).

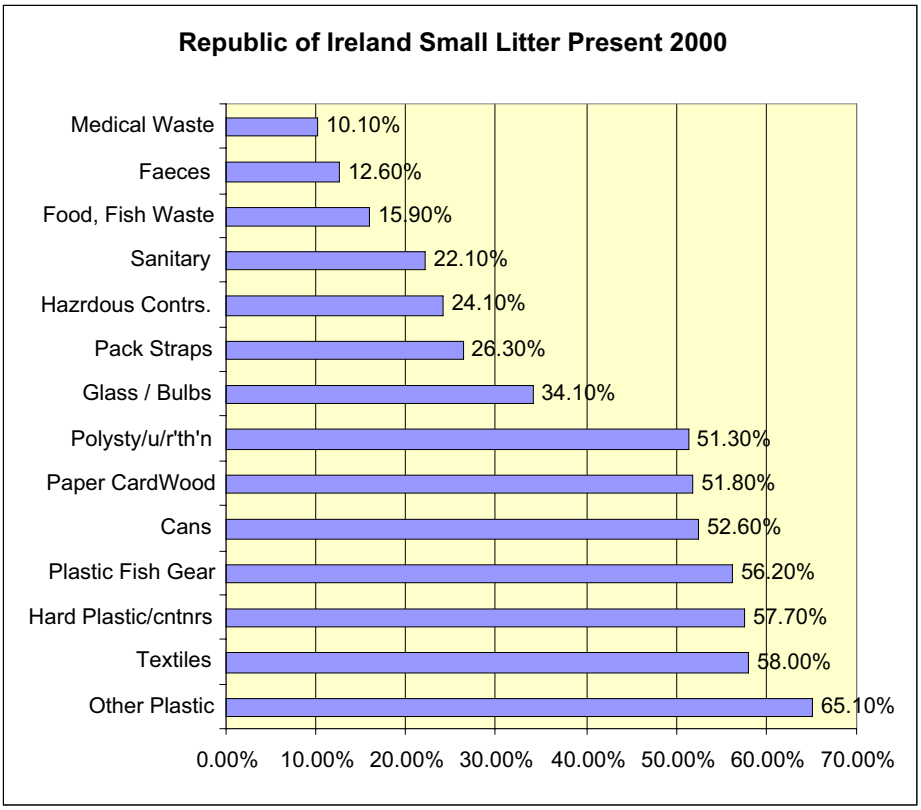


Figure 1: Percentage of survey sites with different categories of small litter recorded on the shore at time of survey (autumn 2000).

After the Coastwatch Ireland survey 2000, a twelve-year review of fishing/angling gear on the shore was undertaken. Figure 2 shows that lost/dumped fishing litter became more widespread through most of the 1990's. While a few promising reductions occurred near the end of the Millennium, overall littering from this source is now more than double that recorded 12 years ago. The trend is similar for oilcans and polystyrene/blown polyurethane. It is not thought likely that the individual is littering more per hour spent at sea, but rather, that we are witnessing a build up of non degradable marine litter from this source, combined with an increase in near shore fishing and angling effort. Added to that, small harbours have become busier, but harbour waste management is still very deficient.

In an extra question introduced in this 2000 survey, volunteers were asked for their opinion on where the fishing gear may have come from. While the majority did not respond or indicated that they did not know, for the 372 s.u. where there is an answer, boats at sea were most frequently implicated (81% of the time).

Some marine litter, such as drinks containers, have also increased significantly, but many sources are likely to be responsible. Others yet again, like balloons, come almost exclusively from land and are totally avoidable waste.

During a period of study 1/1/1997 to 31/12/1998 in the southern Irish Sea, 580 incidents were reported to the Maritime & Coastguard Agency concerning rescues by the emergency services of fishing craft. Of these 126 (21.8%) were fouled propellers. *(Data obtained from Racer Project, Hazard Analysis, Department of Maritime Studies, Cardiff University-December 1999).*

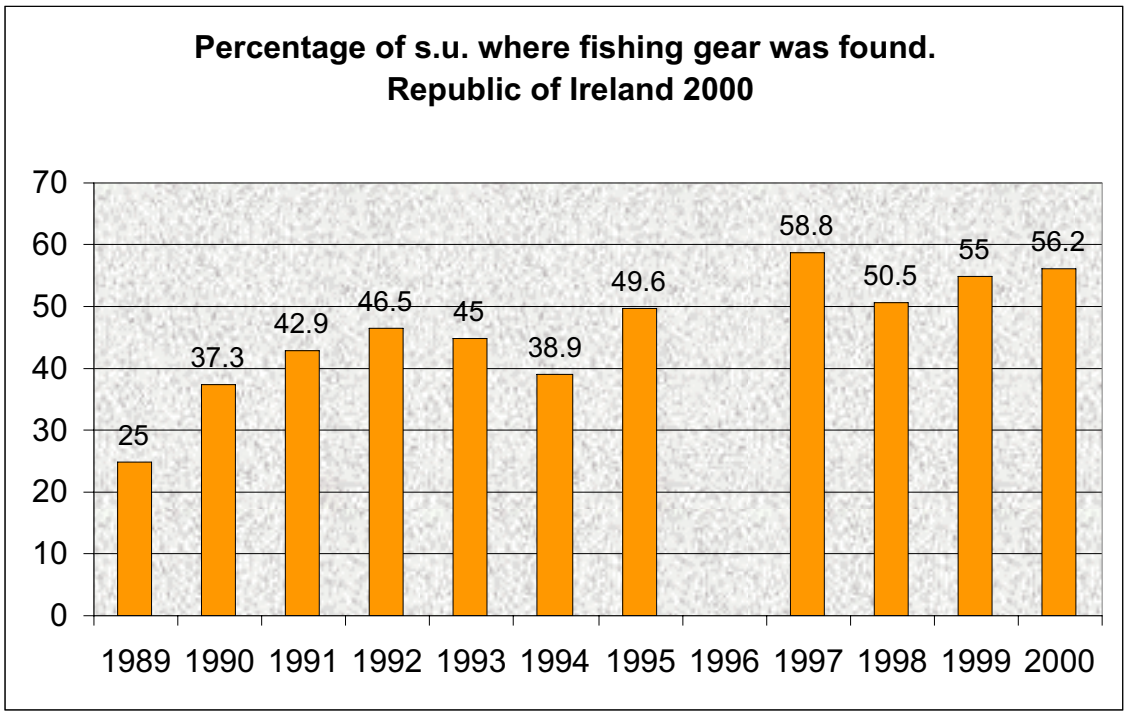


Figure 2: Percentage of survey sites with fishing gear recorded on the shore at time of survey. A comparison of annual results in the Republic of Ireland.

As Plate 3 demonstrates, it is wildlife that pays the ultimate price for a lost or carelessly discarded piece of trawl netting. Similarly, a boat's propeller can become entangled by discarded nets resulting in: a disabling of the vessel; mechanical damage; and potential loss of the vessel with disastrous results such as the drowning of the crew.

Plate 3: Grey Atlantic seal entangled in discarded/lost trawl netting. A portion of net was lodged in the animal's throat, and it choked to death. (Photograph courtesy of Rod Penrose, Environmental Monitoring)

Plate 4 shows the propeller of a fishing vessel that was towed into harbour by the local lifeboat after being disabled by some discarded rope, luckily there was no loss of life. The

gearbox was damaged beyond repair. The boat had to be craned out of the water and the engine removed before repairs could begin. This resulted in lost fishing time of three weeks, with a final financial loss of over £11,500 (Irish punts).

Plate 4: Fishing boat disabled by a discarded floating rope.

Marine litter is not just an aesthetic problem. Wildlife and boat propellers get entangled at sea, people and animals can step on sharp waste objects and get hurt, coastal communities that rely on fishing and tourism continue to lose revenue and local authorities pay millions every year in clean-up costs.

In the UK, the Marine Conservation Society has issued the following recommendations for a reduction of pollution from shipping:

- Effective development of comprehensive port waste management plans under the Merchant Shipping (Port Waste Reception Facilities) Regulations 1997.

- Introduction and enforcement of ship waste management plans and Garbage Record Books under the Merchant Shipping (Prevention of Pollution by Garbage) Regulations 1998.

- Introduction of minimum penalties for illegal dumping of wastes at sea as a deterrent to polluters.

- Implementation of a public register of legal notices, offences and fines relating to pollution of the marine environment from shipping.

- Further education and training of ship owners, ship operators, crews, port users, fishermen and recreational boat users, with regard to their responsibility in preventing marine pollution.

2.3. The Project Area

Altogether the project area in Wales included 67 ports, harbours and piers (Figures 3, 4 and 5), while in the Republic of Ireland the area included 40 such facilities (Figure 6).

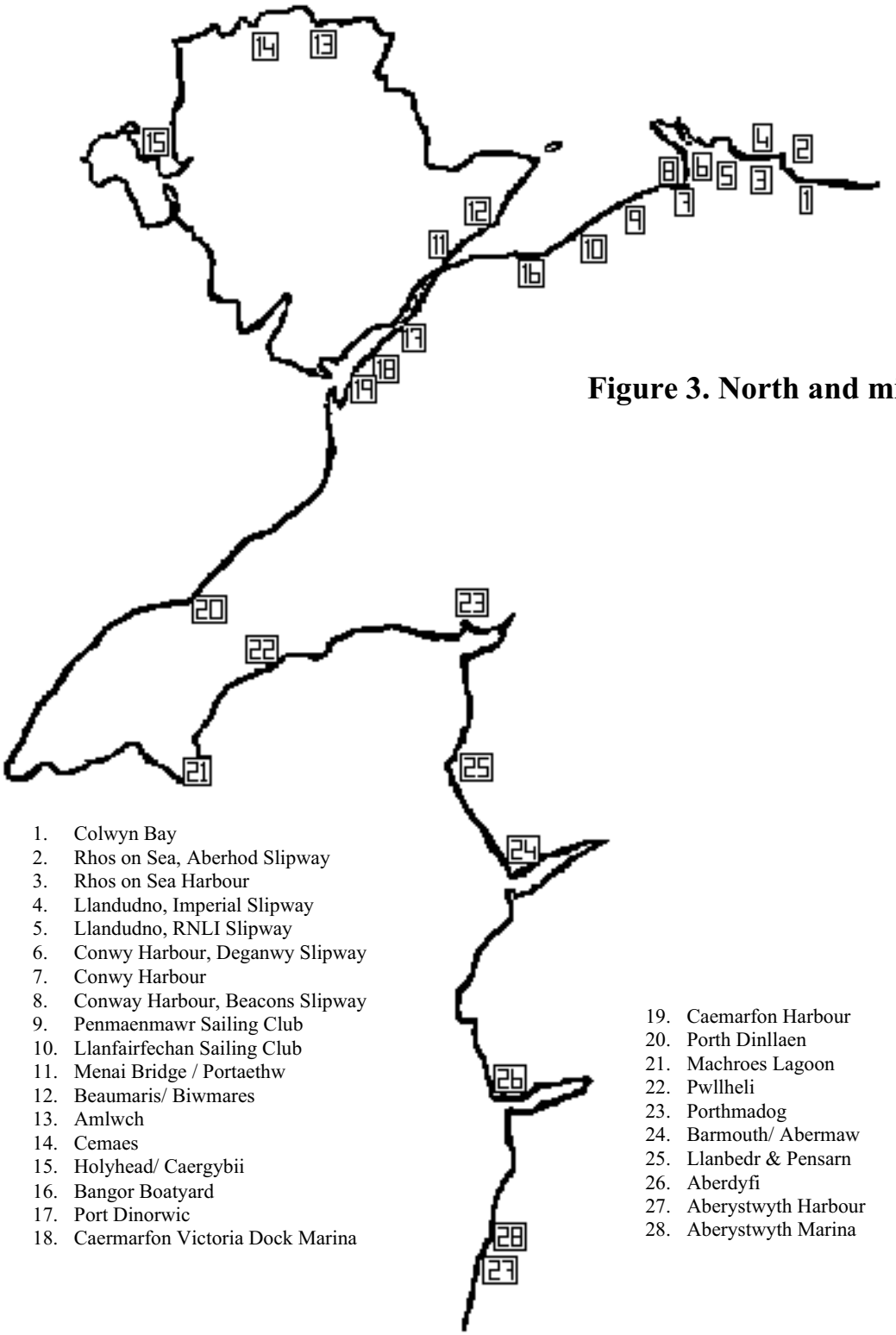
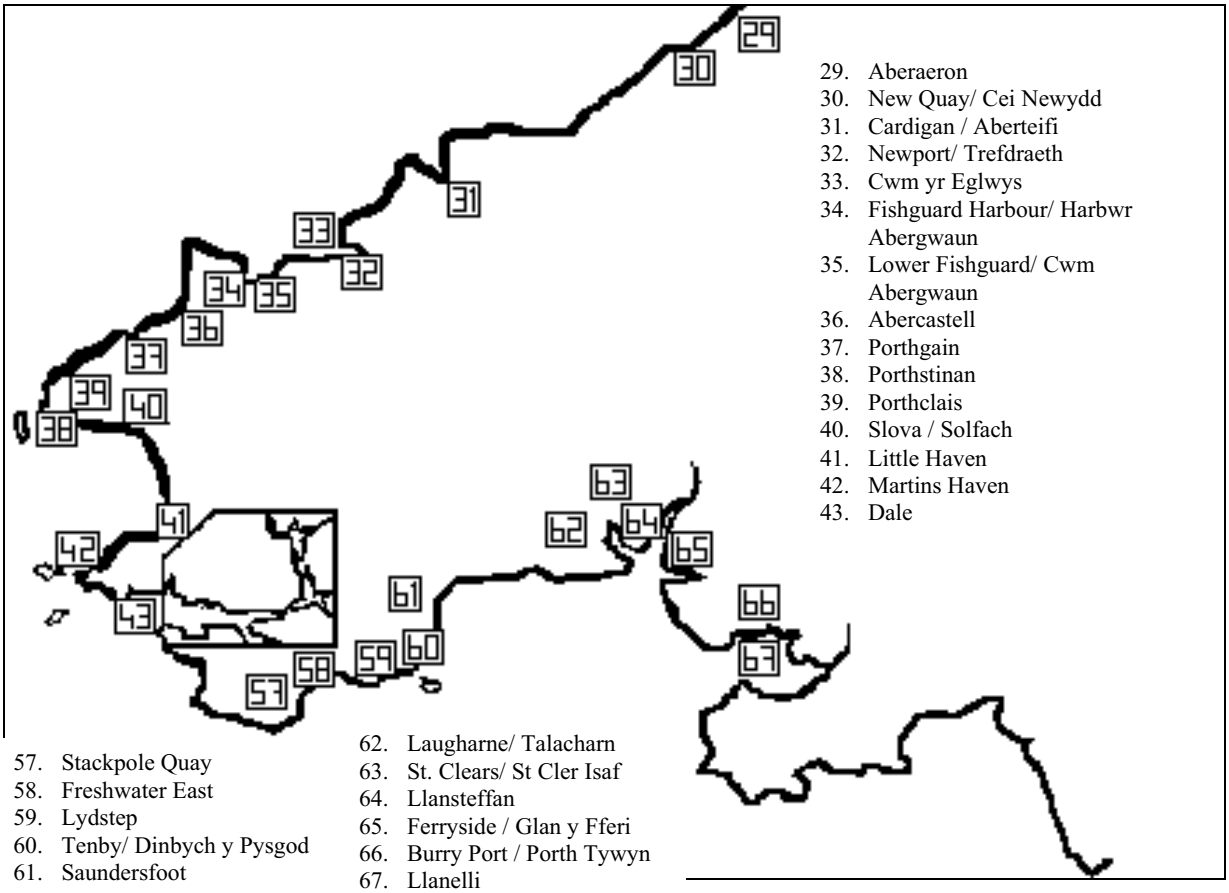


Figure 3. North and mid Wales

1. Colwyn Bay
2. Rhos on Sea, Aberhod Slipway
3. Rhos on Sea Harbour
4. Llandudno, Imperial Slipway
5. Llandudno, RNLI Slipway
6. Conwy Harbour, Deganwy Slipway
7. Conwy Harbour
8. Conway Harbour, Beacons Slipway
9. Penmaenmawr Sailing Club
10. Llanfairfechan Sailing Club
11. Menai Bridge / Portaethw
12. Beaumaris/ Biwmares
13. Amlwch
14. Cemaes
15. Holyhead/ Caergybii
16. Bangor Boatyard
17. Port Dinorwic
18. Caermarfon Victoria Dock Marina
19. Caemarfon Harbour
20. Porth Dinllaen
21. Machroes Lagoon
22. Pwllheli
23. Porthmadog
24. Barmouth/ Abermaw
25. Llanbedr & Pensarn
26. Aberdyfi
27. Aberystwyth Harbour
28. Aberystwyth Marina

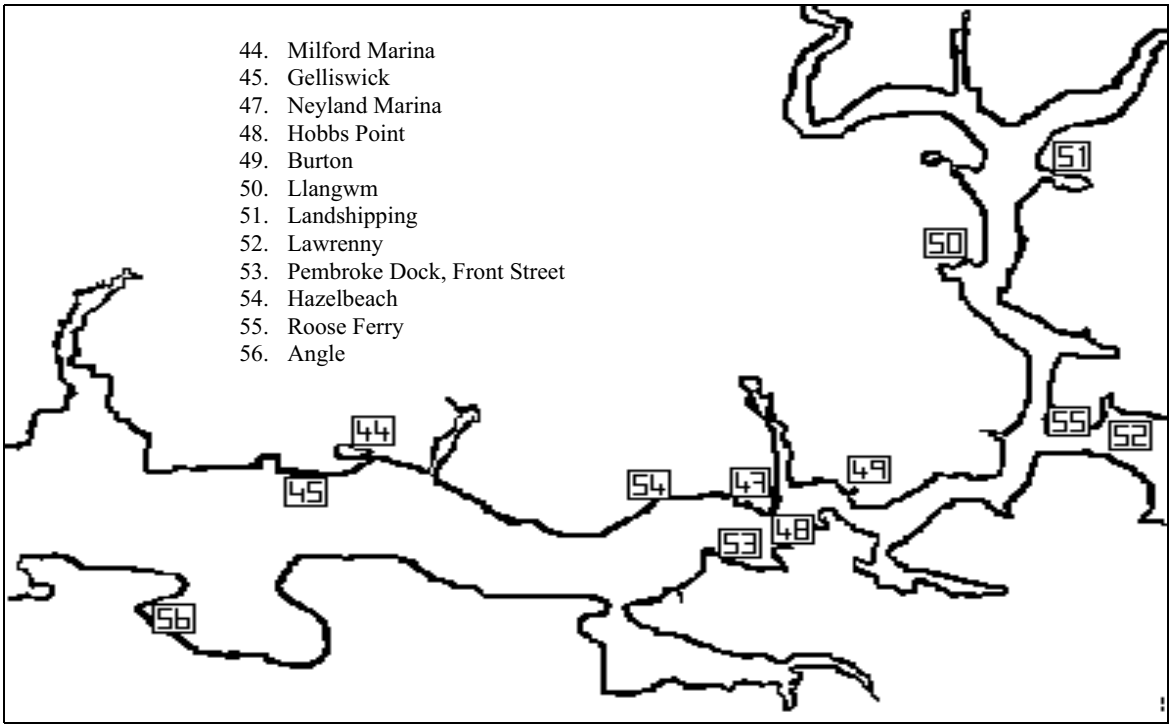
Figure 4. South Wales excluding Milford Haven



29. Aberaeron
30. New Quay/ Cei Newydd
31. Cardigan / Aberteifi
32. Newport/ Trefdraeth
33. Cwm yr Eglwys
34. Fishguard Harbour/ Harbwr Abergwaun
35. Lower Fishguard/ Cwm Abergwaun
36. Abercastell
37. Porthgain
38. Porthstinan
39. Porthclais
40. Slova / Solfach
41. Little Haven
42. Martins Haven
43. Dale

57. Stackpole Quay
58. Freshwater East
59. Lydstep
60. Tenby/ Dinbych y Pysgod
61. Saundersfoot
62. Laugharne/ Talacharn
63. St. Clears/ St Cler Isaf
64. Llansteffan
65. Ferryside / Glan y Fferi
66. Burry Port / Porth Tywyn
67. Llanelli

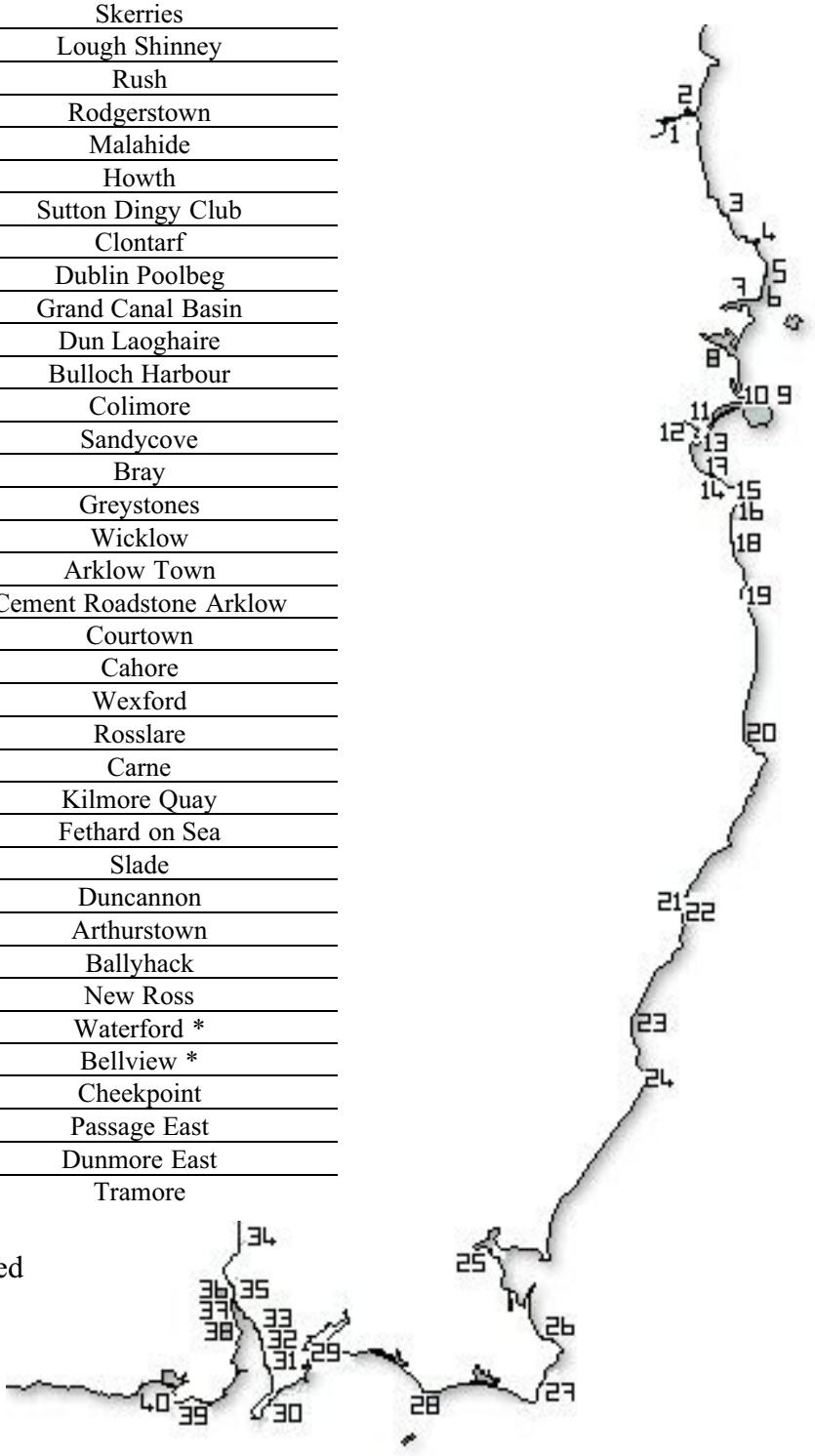
Figure 5 Milford Haven



44. Milford Marina
45. Gelliswick
47. Neyland Marina
48. Hobbs Point
49. Burton
50. Llangwm
51. Landshipping
52. Lawrenny
53. Pembroke Dock, Front Street
54. Hazelbeach
55. Roose Ferry
56. Angle

Figure 6. Map of Irish project area from the river Boyne, Co Meath, to Tramore Co Waterford.

1	Drogheda Port
2	The Fishmeal factory
3	Balbriggan
4	Skerries
5	Lough Shinney
6	Rush
7	Rodgerstown
8	Malahide
9	Howth
10	Sutton Dingy Club
11	Clontarf
12	Dublin Poolbeg
13	Grand Canal Basin
14	Dun Laoghaire
15	Bulloch Harbour
16	Colimore
17	Sandycove
18	Bray
19	Greystones
20	Wicklow
21	Arklow Town
22	Cement Roadstone Arklow
23	Courtown
24	Cahore
25	Wexford
26	Rosslare
27	Carne
28	Kilmore Quay
29	Fethard on Sea
30	Slade
31	Duncannon
32	Arthurstown
33	Ballyhack
34	New Ross
35	Waterford *
36	Bellview *
37	Cheekpoint
38	Passage East
39	Dunmore East
40	Tramore



* Harbours not surveyed

2.4. The Partners

The INTERREG IIA Clean Seas Project is run by Keep Wales Tidy Campaign and Coastwatch Ireland.

The Keep Wales Tidy Campaign (KWTC) is an independent National Voluntary organisation with Charity status working for the improvement of the local environment. Central to it's work is: dealing with the problem of litter; quality of local environments; and contributing to National Assembly for Wales schemes and strategies. In parallel with other UK Environmental Campaign companies its Mission is "*To create effective action by targeted groups for litter free sustainable Welsh environments*"

Coastwatch Ireland, also known as Irish Coastal Environment Group, is an all Ireland environmental group with headquarters in Dublin. The group is part of Coastwatch Europe, an environmental and educational network with special concern for coastal zone management issues. Since its foundation in 1989 it has run the well known 'Coastwatch surveys' where volunteers walk the shore undertaking a basic eco-audit, including littering. Results have been used for inclusion in the European Environmental Agency (EEA) annual 'State of the Environment' reports.

For the Clean Seas Project, three Steering groups were established - one in Wales, one in Ireland (Appendix 2), and one joint group including relevant government officials on both sides. The joint group met quarterly.

Joint Welsh / Irish Steering Group members

- Ged Davies, Team Leader, Environmental Protection, Environment Agency Wales
- Dr Clare Eno, Senior Maritime Policy Officer, Countryside Council for Wales
- Louise Tambini, Projects Director, Keep Wales Tidy Campaign
- Tonia Forsyth, Projects Manager, Keep Wales Tidy Campaign
- Nic Davies, Coastal Projects Officer, Keep Wales Tidy Campaign
- Karin Dubsky, International Co-ordinator, Coastwatch Ireland
- Barry Jones, Skipper/Owner *Cliona na Toinne,* Coastwatch Ireland
- Geoffrey O'Sullivan, Marine Institute, Dublin
- Carwyn McDonald, Marine Institute, Dublin
- Helen Condon, Dept. of the Marine and Natural Resources, Dublin
- Kevin O'Rourke, Dept. of the Marine and Natural Resources, Dublin
- Peadar Ward, Dept. of the Marine and Natural Resources, Dublin
- Capt. Geoff Livingstone, Marine Emergency Services, Dublin
- Tom Bray, Dunmore East Harbour Users Association, Dunmore East

3.0 RESULTS

3.1. The Galway Hooker and awareness raising events

The Galway Hooker, *Cliona na Toinne,* owned and skippered by Barry Jones of Coastwatch, was outfitted as Coastwatch's Green Boat. This included fitting: a toilet holding tank; oil gauge; and segregated waste reception facilities. In addition there was purchase/production of: a small on-board reference library; a computer to input and display data; INTERREG sails and display boards; and painting the boat with different types of non TBT anti-fouling paints to compare rate of fouling by marine organisms.

The boat then left its home moorings on the North Dublin coast of Ballbriggan and sailed down the coast and across to Wales. While under sail, the INTERREG logo and message raised the project profile; while moored in harbours boards, with the same Clean Seas INTERREG message, replaced the sail.

Cliona na Toinne undertook three extended trips from Ireland to Wales during the course of the project. Each Welsh visit was associated with a major awareness raising event or seminar. While back on the Irish side, a mix of events were arranged including: simple harbour visits announced on local radio; informal discussions with local user groups; land and sea anti-litter events for children; back up of on-land launches and seminars. In all, 21 harbours were visited and active boat presences on sea or in harbour came to over 7 months.

The arrival of the boat was always a great attraction and photo opportunity. Also, once ashore, fishermen and traditional boat users were able to come for discussions or to raise queries on the boat. It was very useful to have the facilities in-situ, particularly when raising issues such as oil or paint residue, and it was the high point of children's events.

However, on the down side, the boat is weather dependent and a series of mishaps struck it, including propeller fouling and gear box damage due to marine litter en route to the first launch. Finally, serious storm damage in the autumn of 2000 meant that continuation of the boat journey part of the project was in doubt. An outbreak of Foot and Mouth Disease in 2001 signalled the end of visible joint small harbour boat events in Wales or Ireland.

On the Welsh side, the project was due to end in Spring 2001, while the contract on the Irish side ended in July 2001. Over the winter months, the Welsh partner completed outstanding national work on the data base, while on the Irish side, the final phase of the project from January to July 2001 was redrafted around an eco-audit to ensure information and awareness raising goals were met without the boat. Information exchange and feedback on questionnaire drafts produced by the Coastwatch side helped continue the direct partner contacts.

Joint public events are detailed in Section 5. All joint events were considered a full success and hugely benefited from the expertise and enthusiasm of the Joint Steering Group. Some members of the Group were turned into marathon advisors and speakers as interest on how to tackle problems of law enforcement, in particular, seemed never ending.

3.2. Databases

One of the initial tasks of the Clean Coasts project was the establishment of a database of small ports and harbours in the INTERREG IIA area. These small ports and harbours are identified on the maps in Section 2.3. All harbours, regardless of their facilities need a system of managing the marine wastes that are produced.

The first working database on both sides of the Irish Sea contained basic information: address, size, contact authority, number of vessels using the installation and contact waste facilities available. On the Welsh side most of the information was acquired from the Maritime Officers of the Local Authorities, who have local knowledge for their own particular area. In Ireland, it was based on Coastwatch central coordination and volunteer surveys. The harbours that emerged as probably in greatest need of waste management, were then prioritised for awareness raising campaigns to encourage the implementation of waste plans and facilities and best practice in dealing with the waste that is produced.

After a mid term review with the Joint Steering Group, the databases were expanded to include information on the presence of: segregated waste reception facilities – oil, oily filters, paints, glass, drinks cans, nets, batteries, fish offal, and sewage pump-out facilities.

On the Welsh side, it additionally included information as to whether the legally binding harbour waste management plans were in place. On the Irish side, where there is no equivalent law at this stage, more emphases was put on actual cleanliness and waste/oil pollution seen on detailed examination of the harbour.

The final databases show at a glance which Welsh harbours did not have waste management plans, and those with few or no facilities at the time (Appendix 1). The Irish Harbour Waste Management Database is published under separate cover (*Dubsky & Tierney* (2001) "Clean Seas Project Harbour Survey Report (Ireland)" Maritime Ireland/ Wales INTERREG Report No. 10, 64pp.

4.0 COMPLEMENTARY WORK BY BOTH PARTNERS

4.1. Advisory Manual - Wales

In 1988, The UK Department of the Environment, Transport and the Regions (DETR) produced a booklet on port waste planning. It specified the minimum content of a plan: "**Port Waste Planning – How to do it"**, January 1998.

To follow this and explain the procedure more fully, Keep Wales Tidy Campaign, produced an advisory manual, "**Developing a Port Waste Management System"**, (June 1998) financed in partnership by the Environment Agency, Countryside Council for Wales and Keep Wales Tidy. This advisory manual was produced to assist harbour authorities with the preparation of Port Waste Management Plans for large commercial installations. The manual is in two parts; the first part contains a framework for the establishment and maintenance of a port waste management system. The second part is a worked example (Milford Docks) that has been generated using the framework. This has been developed in conjunction with the Maritime and Coastguard Agency. The purpose of the framework is to assist a port manager in the development of a waste management system. The framework provides instructions on how to address each part of the management system, which is formulated from a holistic and integrated approach. The result is a coherent systems structure within which a manager can work effectively and efficiently. The example of Milford Docks acts as a template that can be modified to suit the needs and circumstances of different ports.

It soon became clear that the manual produced in June 1998 was considered too complicated, so a simplified version was produced by Keep Wales Tidy in 1999, entitled "**Port Waste Management Planning"**. This guide contains simple step by step information for completing port waste plans that comply with the Merchant Shipping Regulations 1997.

<u>Information included:</u>
- Consultation with interested parties
- Assessment of quantities of waste
- Type and capacity of waste reception facilities
- Location and ease of use
- Cost of facilities
- Informing users

The larger commercial ports in Wales had already completed Port Waste Management Plans. The Clean Coasts project was therefore focused on the smaller harbours that did not have port plans and those ports that had plans and facilities in place but were not being utilised to their potential.

In Pembrokeshire for example, the Milford Haven Port Authority had completed plans for Milford Docks, Port of Pembroke and the oil terminal jetties. Whereas the smaller recreational harbours such as Dale, Angle and Burton had no plans at all. The large professionally run marinas at Neyland and Milford Haven had Port Waste Management

Plans and excellent waste facilities, whilst Dale, with in excess of 200 moorings, had no waste facilities at all.

The Maritime and Coastguard Agency have for some years been writing to such harbour authorities as Solva, Porthgain and Porthclais asking them to produce plans, but to no avail. It is harbours such as these that the smaller simplified guide for producing a plan was created. Some harbours, such as Porthclais near St. Davids, have 70 vessels but no mooring fees; this is because volunteers run it. There is therefore no income generated and subsequently none available to pay for Port Waste Management Plans and the fees charged by the Maritime and Coastguard Agency (Minimum £60 Sterling).

Keep Wales Tidy Campaign was able to help these smaller harbours by either completing the management plan or by giving advice and assistance. Keep Wales Tidy produced the Port Waste Management Plan for Solva Harbour, Pembrokeshire, which was passed and accepted by The Maritime and Coastguard Agency in April 2000.

The situation is completely different in the Republic of Ireland, where on starting the project there was no equivalent legislation to produce waste management plans and even today, the majority of harbours (those in Local Authority control) are not covered by a clear obligation to produce such plans. On the other hand, the EU requirements for all harbours to comply with the new Port Waste Management Plan Directive do apply and waste management plans are thus inevitable. The Clean Seas INTERREG project is a useful source of information and guidance for planning the implementation of the EU Directive and enforcement on the ground.

Coastwatch Ireland have used both of the Keep Wales Tidy Campaign manuals to assist Irish harbour users and management in considering waste management plans and setting up waste facilities.

4.2. Legal Position Paper and Brochure (Wales and Ireland)

When it comes to the coastal zone, a range of different waste legislation applies, with different authorities in charge of monitoring and control.

If someone observes an oil slick coming down a stream, a different authority has to be called than if it is in a harbour, or dripping down out of a pipe from land, or reaching the shore from an unknown marine source. Often a concerned citizen gives up trying to identify the real actor somewhere en route to reaching that key office.

Welsh Partner: A position paper on the MARPOL Convention and laws relating to port waste management plans and waste management was prepared as reference material in Wales.

In Ireland a draft brochure was prepared providing an overview of international waste legislation – especially the MARPOL Convention and EC Directives (e.g. on oil pollution control and emergencies)- as a layman's guide to relevant national law.

The brochure content was subject of a Conference in the European Parliament offices in Ireland and included papers on international aspects, as well as the Welsh position from Joint Steering Group committee members especially Ged Davies. After input from various Departments a final draft copy was produced. The paper together with photos and cartoons produced by a fisherman for Coastwatch have been used in presentations and left in some harbours for comment.

4.3. Coastwatch surveys

The autumn Coastwatch survey 1999 and 2000 were carried out by an array of volunteers right around the coast. Those in the INTERREG area were asked to complete extra harbour and oil pollution source questions and in 1999 were also given extra nitrate test kits to check nutrient enrichment of small inflows. Data for over 1000 survey sites each year was inputted to the database,with over 400 sites coming from the INTERREG area.

The data gathered highlighted the chronic litter problem in our coastal zone. Copies of the survey results were handed out together with cloth bags printed with the INTERREG and Clean Seas message as harbours were visited or events held. The results- launches, newspaper, TV and radio coverage- gave a pulse of extra litter awareness. Because our oil pollution levels identified on the shore are relatively low and little was thought to have come from identifiable sea or harbour sources, the survey did not prove useful in tackling poor oil pollution control seen on many small boats and harbours.

It had been hoped to register a small reduction in boat and fishing related waste in the INTERREG IIA area compared to the rest of the country in 2000. But results showed no significant difference. Even if the fishermen in the SE did handle their waste more carefully on board and in harbours, there is enough long lived plastic gear around to possibly take a few years to record a reduction. Also mixing and movement in the Irish Sea would allow waste from a larger area to enter.

4.4. Coastwatch INTERREG website

A website for the Clean Seas project was created in early 2000. Initially it just carried information on the project aims, partners and INTERREG funding. Later the site was expanded and updated as events occurred and survey results became available. It can be viewed at : http://www.coastwatcheurope.org/harbour/

4.5. Eco-audit model for Irish harbours

A form, and point allocation system, for baseline waste management data in harbours was designed by the Coastwatch Team. A first draft was sent to the Welsh Partners' harbour users, fishing and recreational groups for comment.

A redraft was then produced, based on feed-back and pilot tests in the field. Two main additions were included:

- A section on water quality and sewage, with faecal indicators of water pollution. The concern over presence and control of this pollution was much higher than litter data and was highest on the user group requests.
- A new section on important habitats and designations. This arose first in relation to dredge spoil disposal, and then in relation to the gradual expansion of many harbours with waste often used as in-fill.

A final form was produced. It had six sections under which a harbour is judged:

1. Visible cleanliness of harbour - land and water
2. Water quality as measured by microbiological sewage indicators
3. Waste Management Facilities
4. Information for Users
5. General Management and State of Repair
6. Nature and care for nature

This form and guide notes provide authorities or independent agencies a means of reporting on small harbour waste management and state of cleanliness in a transparent reproducible manner, which stands up to independent scrutiny. It is also useful as a self-assessment tool and for following improvements over time – just as the "Tidy Towns Competition" score would.

4.6. Pilot Eco-audit results for 40 Irish harbours

The Eco-audit form developed was used to report on unannounced methodical checks of the 40 harbours on the Irish Side of the INTERREG IIA project area.

A small team of surveyors underwent joint training and later fine tuning of point allocation. Harbours were then visited – usually in teams of two – and each section of the form completed. Water samples from 3 to 4 sites per harbour were collected and stored in sterile containers. Samples were kept on ice in cool boxes and brought to the Microbiology Laboratory (Trinity College Dublin) for analyses under the supervision of Dr. Ronnie Russell, senior microbiologist. Faecal strep and E. Coli. concentrations in both seawater and small accessible inflows were determined.

While visits were unannounced and press coverage was forgone until after the visits, the Coastwatch team's arrival would generally be noticed quickly in a given small harbour. Towards the end of the audit period it was likely that certain clean ups would have taken place in some of the harbours visited.

The results presented on the Coastwatch web page, show a wide range in quality and facilities. While the cleanliness range was expected from previous outline results seen in the Coastwatch surveys, the range in waste management facilities has widened during and because of the INTERREG project with definite improvements in several harbours.

4.7. Model Waste Reception Facilities

An initial project objective was the establishment of two or three model waste facilities in different harbours on the Irish side, while the Welsh partners' objective was to draft a model waste management plan in keeping with UK legislation.

Model waste reception facilities were set up in **Dunmore East,** Co. Waterford, Ireland. This is a medium sized fishing harbour, which also has extensive recreational use with an adventure centre and marina. When the project started, interested parties formed a harbour user group, which was extended to include the Department of the Marine, Waterford County Council, Coastwatch and Earthwatch. A review of current waste sources, quality and quantity was undertaken. Good practice, such as can collection in the Fisherman's Co-op, already existed, but no other waste was segregated and oil pollution was an ongoing problem. All user groups participated in designing a waste management plan, building on the Welsh experience with two visits by Welsh partners. Waste storage license and transport issues were researched and resolved, as a model for all other harbours in the Republic. There was excellent organisation and willingness by all user groups to fully back this initiative, and it proved a great success. It is the first site in Ireland where a comprehensive set of segregated waste facilitates are installed, and a system of maintenance and reliable, legal reuse, recycling and disposal put in place. Like any system though, it requires attention and the occasional boost. This links back to the harbour eco-audit and the benefits of publishing an annual review, or running a competition, to give an extra incentive.

The attempts to set up model waste reception facilities in **Lough Shinney**, Co. Dublin could not be overcome, despite great local interest, an extensive search for outside funding, and FAS participation in setting up locally led oil and waste management and collection. The continued limbo of ownership and responsibilities put Skerries and Bulloch harbour, where there had also been initial interest, out of reach.

Towards the end of the project period, the rejuvenation and cleanliness of Wicklow Harbour made it a good contender for any follow up project, while the amazing dedication and knowledge of Arklow Harbour users and management, coupled with the large sea scout group, auger well for that port.

5.0 Joint Events

This chapter outlines the various awareness raising activities undertaken by the project team during the year 2000.

February 2000.

- **Assistance in producing a PWMP - Solva Boatowners Association,**

Questionnaires were handed out to establish the requirements of the harbour users and the type and quantities of waste produced. The resulting Port Waste Management Plan was produced by Keep Wales Tidy Campaign and subsequently approved by the Maritime & Coastguard Agency on 21st March 2000.

Plate 5: Waste accumulating on Solva quay, Pembrokeshire, prior to waste plan being implemented

- **First Quarterly Welsh Steering Group Meeting**

Key points addressed and discussed included: venues for events; displays and workshops to include *Cliona na Toinne*.

- **Official launch of project in Ireland**

Plate 6: Clean Seas launch in Dublin.
Steering group members involved in clean up in canal in city centre.

The government-owned "River Exhibition Centre" in Grand Canal Basin, Dublin, was kindly provided by the OPW as a Joint Welsh – Irish project launch venue. Apart from project partners and their steering groups, a range of Government and non-government organisations, including representatives from ports, sea scouts, Coastwatch regional coordination and fishermen participated. After introductions, Welsh partners gave presentations on Port Waste Management in Wales.

The *Cliona na Toinne* was due to be at this launch. However, while crossing Dublin Bay, she fouled her propeller in floating marine plastic debris and was forced to head for the safety of the nearest harbour, illustrating in a most poignant manner the problem faced by boat users by such wastes at sea.

With media interest and a number of strong arms in the audience, the Clean Seas partners decided to replace the Green Boat photo launch by hands on action to remove litter from the Grand Canal Basin (Plate 6).

March 2000

- **Presentation on Welsh experiences to Fishermans' Association**

Skerries in Ireland is a busy fishing harbour, but with no waste reception facilities. Coastwatch Ireland organised a seminar in the local sailing club for fishermen, recreational boat users and harbour authorities to discuss the provision of waste receptacles.

Nic Davies, the Keep Wales Tidy project officer, addressed the workshop with an illustrated talk, outlining the common waste handling problems faced by fishermen and authorities in small harbours. He described the Welsh port waste management systems and some practical solutions to handling marine debris and oil on boats. The workshop was hosted by the Skerries Yacht Club and attended by a large number of fishermen from other North Dublin Harbours as well as Tidy Towns committee representatives and the local Green Party TD, Trevor Sargent. The local Sea Scout troop also attended and organised a litter clean-up in the harbour.

Plate 7: Government officials, Coastwatch Ireland representative and local fisherman examining marine litter on a Skerries beach.

Local fishermen proposed that they would undertake a major clean-up of waste, which had been dropped or dumped in the harbour, assuming that the Port Authority – Dublin Port – would look after disposal of the collected material. After long negotiations, the Port Authority agreed and on Good Friday and Saturday the first major clean up for several years was organised and executed. The results were noteworthy. Sadly, it did not lead to the provision of waste reception facilities and the area was pre-destined to become riddled with waste again.

It is hoped, however, that the planned handover of this port and others from the Dublin Port Authority to the relevant Local Authorities will finally be completed and that this hand over will result in harbour waste management facilities being provided.

April 2000

- **Awareness-raising on marine pollution**

The project team attended the AGM of Landshipping Boat Club (Dancledden Estuary, Wales). Problems of marine pollution were highlighted and possible solutions discussed. The audience of 30 included concerned yachtsmen and fishermen from the upper reaches of the Daucleddau Estuary, Wales. Most people were aware of the litter problem at sea as most stated they had suffered fouling of propellers and blocked inlet pipes.

- **Presentation to Dunmore East Fishermen's Association.**

As part of six planning meetings to create model harbour waste reception facilities at Dunmore East, Ireland, the Welsh partners were invited to give a presentation on experiences in Wales on Port Waste Management Plans. This included a survey of the harbour with all user groups and discussion of individual issues as they arose – especially the oil pollution control in the harbour.

- **Awareness-raising on marine pollution in Pembrokeshire**

Coastwatch Ireland became a member of the Nature/Conservation Interest Group for Pembrokeshire Islands candidate Special Area of Conservation and highlighted the amount of marine litter on Pembrokeshire's beaches and floating at sea around the coast.

May 2000

- **First Quarterly Joint Welsh / Irish Steering Group Meeting**

Key points addressed and discussed.

- MARPOL Special Area Status, Annex 1 implications.
- Information for users - leaflets and poster produced and possible links to other INTERREG projects.
- Time and event planning

Plate 8: Untidy accumulation of fishing nets and rubbish in Dunmore East Harbour before model waste facilities were installed.

- **Official launch of Welsh Clean Seas Project. 19th May 2000.**

The Clean Seas Project was launched in Tenby Yacht Club, Pembrokeshire on May 19th 2000 by Sue Essex, AM, Minister for the Environment from the National Assembly of Wales (Plate 9). A variety of speakers discussed aspects of marine pollution in the morning and a seminar/workshop for boat and harbour users was held in the afternoon. Posters and interpretative displays were set up in the club and time was set aside over lunch to enable networking between the 50 delegates and organisations. The *Cliona na Toinne* was berthed in Tenby Harbour and all were invited aboard to view her waste facilities (Plate 10). There was excellent media coverage of the day.

As in all joint events, those visiting found something new for possible application at home. The harbour master noted that all slipways were cleaned with machines brushing away algae, not with chemicals and that this consistency in care for the environment should be common to both boats and harbour.

Plate 9: Rhiannon Bevan, Chairman -Keep Wales Tidy Campaign and Sue Essex, Minister for the Environment- National Assembly for Wales at Tenby Harbour for the launch of Clean Seas project.

Plate 10: Cliona na Toinne in Tenby harbour with steering group members from Environment Agency Wales and Countryside Council for Wales onboard.

- **Pembrokeshire College, Southern Irish Sea Marine Information System**

The project team were invited to attend this initial meeting by the Countryside Council for Wales in order to input the project details into a web site for the Irish Sea.

June 2000

- ***Cliona na Toinne* in Holyhead**

Cliona na Toinne sailed from Wexford and was berthed in Holyhead Fish Dock for an awareness-raising event. The boat flew the Welsh Dragon and the Irish Tricolour. She also had banners with the Clean Seas message and various logos such as; Keep Wales Tidy, Coastwatch Ireland and INTERREG.

An interpretative display on the problems, and some solutions, to marine pollution was set up outside the harbour master's office. Leaflets produced by both Keep Wales Tidy Campaign and Coastwatch Ireland were given out to boat users and fishermen. Flyers were produced and an article in the local press, 'The Mail', gave advance notice of the "sea show".

On the day we recorded some 33 fishermen as having boarded the boat to see the waste minimisation facilities (Plate 11*)*. Also leaflets were given out and the interpretative display board (Plate 12*)* was much studied. Project Officers were on hand to discuss marine pollution, both during the day and through the evening.

Plate 11: Cliona na Toinne in Holyhead. Barry Jones from Coastwatch Ireland discussing marine pollution with fishermen.

Plate 12: Fishermen reading leaflets and studying Clean Seas display during awareness raising visit to Holyhead in Anglesey.

- ***Cliona na Toinne* in Aberystwyth**

Although the Welsh Clean Seas project officer (together with a static interpretative display and leaflets) arrived in Aberystwyth, due to adverse weather *Cliona na Toinne* was forced to seek shelter in Pwllheli. Although *Cliona na Toinne* is 43 foot long, she encountered a force 6 south easterly when rounding the Lleyn Peninsular. This illustrates that land based timetables are thrown into disarray when at sea. It was decided to try again at a later date to hold this awareness-raising event in Aberystwyth. The Keep Wales Tidy project officer spoke to several fishermen and harbour staff and handed out leaflets, many of which were left at the harbour masters office for distribution to boat users.

Plate 13: A light sheen of diesel oil in Aberystwyth Harbour, probably after pumping of boats bilges.

Plate 14: Waste oil and garbage facilities at Aberystwyth Harbour.

- ***Cliona na Toinne* in Pwllheli**

Cliona na Toinne arrived on Friday 16th June at this, the largest marina in North Wales, for their Celtic Weekend of sailing. This was a different type of venue to Holyhead, and a different type of boat user was targeted for awareness-raising. Holyhead Fish Dock is a commercial harbour with a small number of large fishing vessels. Pwllheli, however has some 450 berths for yachts and only about 20 fishing vessels which are smaller than those in Holyhead.

The interpretative display and leaflets was set up in the marina building at the top of the ramp to the pontoon where everybody had to pass to board their boats (Plate 16). *Cliona na Toinne* was moored on a pontoon near to the entrance of Pwllheli Harbour and as usual decked out in flags and bunting to catch the eye of the discerning yachtsmen and arouse interest.

Cliona na Toinne spent three days at Pwllheli and we spoke to hundreds of "yachties", 55 of whom boarded the boat to see the waste minimisation facilities (Plate 15). On Saturday afternoon we rowed around the marina and spoke to some fishermen who were moored on other pontoons as they were unable to come to us. Hundreds of leaflets were handed out. In the evenings we talked to sailors in the yacht club. A number of yachtsmen didn't realise they polluted until we had enlightened them on this. They agreed to put in place waste minimisation systems on board their boats.

Plate 15:Yachtsmen onboard Cliona na Toinne discussing marine pollution in Pwllheli marina.

Plate 16: Yachtsman reading Clean Seas awareness raising display at Pwllheli marina.

Plate 17: Cliona na Toinne berthed in Pwllheli marina, with Barry Jones (skipper) from Coastwatch Ireland.

- **Presentation to Select Committee for the Environment, (National Assembly for Wales)**

The Select Committee for the Environment (NAW) visited Tenby Harbour to see for themselves the work being carried out by the Environment Agency Wales in an attempt to discover why Tenby North was failing the Bathing Quality Standards for a Blue Flag Award. As part of this, we were asked to give a presentation on the Clean Seas Project. The display was set up in the harbour port waste facility and leaflets were distributed.

Plate 18: Awareness raising display in Tenby harbour for Select Committee to the National Assembly of Wales (Environment Division). Tenby Harbourmaster participating in the discussion outside of Tenby's waste facility for harbour users.

- **Coastal Management for Sustainability, London**

Trip to London to participate in National Aquatic Litter Group meeting. The main task was to formulate an identification guide for marine litter that could be directly sourced to shipping. Our specialist knowledge of marine litter on beaches was invaluable to this meeting. We took the opportunity to hand out leaflets on Clean Seas Project as other Steering Group members were not from Wales, a good opportunity to network.

- **Pembrokeshire cSAC, Display Pembrokeshire College,**

Attended the second annual public meeting of the Pembrokeshire Islands candidate Special Area of Conservation. Good opportunity to raise awareness of the problems associated with marine litter, so a display and a range of leaflets was set up in the main foyer. Dozens of people were spoken to during the course of the evening on this subject.

July 2000

- **Second Welsh Steering Group Meeting**

Key points addressed and discussed.

- A change in focus of awareness raising away from the formal event of Tenby to the more informal approach.
- Identification of who is responsible for port waste plans in very small harbours where no formal administration is set up.

- **Pembrokeshire Fish Week, Milford Haven**

Pembrokeshire County Council and Humberside are the only Local Authorities in the UK to appoint Fisheries Project Officers, to promote fisheries in their counties. Saturday 8th July was the launch of Pembrokeshire Fish Week.

Plate 19: Clean Seas display in Milford Haven Docks for the launch of Pembrokeshire's Fish Week

The Clean Coast Project display was set up on the Fish Docks in Milford Haven (Plates 19 and 20), where hundreds of people gathered for the day's festivities. As an awareness raising event it was very successful with hundreds of people viewing the display, reading leaflets and becoming involved in discussions on marine pollution.

Plate 20: Local Sea Cadets viewing Clean Seas display during Pembrokeshire Fish Week at Milford Haven.

- **Coastal Management for Sustainability (CMS) – Freshwater West**

Project Officers were involved with CMS in Freshwater West in a practical session to trial the identification guide to source marine litter directly to shipping.

Plate 21: Keep Wales Tidy Campaign staff involved with beach survey work at Freshwater West in Pembrokeshire.

- **Pembrokeshire cSAC meeting, Port Authority, Milford Haven**

All issues that effect the marine environment around the coast of Pembrokeshire were discussed, including:

- Litter on beaches
- Marine debris around the coast

- **Launch of Model Waste Facilities in Dunmore East.**

Welsh Coastal Project Officers in Dunmore East for launch.

Plate 22: Launch of model waste facilities at Dunmore East Harbour in Ireland.

Plate 23: New harbour waste facilities in Dunmore East.

- ***Cliona na Toinne* in Aberystwyth**

The *Cliona na Toinne* made a second attempt to reach Aberystwyth, but once again was beaten by the weather. The skipper was forced to change his plans and head for the shelter of Holyhead. Our apologies to the Harbour Master at Aberystwyth who was on standby all weekend and had prepared a berth for the boat.

August 2000

- ***Cliona na Toinne* in Conwy**

Cliona na Toinne once again crosses the Irish Sea from Ballrigan to Conwy. She was in Conwy for regatta week. This venue was different to previous ones as we had to moor on a pontoon that was inaccessible from land but accessible via water taxis provided by the yacht club. Nevertheless it was especially successful for awareness-raising with 97 boat users visiting the Galway Hooker to view her onboard waste minimisation facilities. The display was set up ashore on the first day and then on the pontoon the following day. The marine-related businesses on the quay were given leaflets and discussions were held on marine pollution. In the evenings we discussed marine pollution in the informal atmosphere of the yacht club. This was a very successful event**.**

Plate 24: Cliona na Toinne in Conwy for awareness raising on marine litter.

Plate 25: Yachtsmen and women reading Clean Seas leaflets during visit to Cliona na Toinne in Conwy Harbour.

- **Display at National Eisteddfod, Llanelli**

The INTERREG Clean Seas project Interpretative Display was set up at the National Eisteddfod (attendance 200,000 people). We had displays of all the coastal projects *(plate 27)* together with leaflets set up during the whole of Eisteddfod week in the Environment Agency tent. Outside of the tent, we had a dinghy full of marine litter *(plate 26)* so as to arouse interest and tempt people inside to see more. Through the week many thousands of people saw the displays and read the leaflets. As an awareness-raising event it was a great success.

- **Visit of Cumbria Marine Litter Project Officer**

Rachel Yanik is the Cumbria Marine Litter Project officer based in Whitehaven. Rachel spent two days in Pembrokeshire to gain from our experience on Port Waste Management Plans. We showed her the work that had been accomplished and the port waste facilities at Tenby, Milford Haven and Solva.

Our work on this project has stimulated much interest from other areas of the UK. We have had enquiries from Cornwall and Scotland as well as Cumbria.

- ***Cliona na Toinne* in Courtown**

Coastwatch Ireland joined artist, Katherine O Shea, and the Life Boat crew from Courtown, Co Wexford to organise a public information day with a number of events centred around Courtown harbour and adjacent shores. Over 60 children participated with events including: trips on the *Cliona na Toinne*; trials of different nets; games and information from the Life Boat; beach material collection; and creation of sculptures and litter displays. The final wrap-up and presentations to families were concluded on the beach.

Plate 26: Crowds flock to see the awareness display at The National Eisteddfod in Llanelli.

Plate 27: Angling litter being examined by a fisherman at the display in Llanelli.

September 2000

- **Cahore Harbour and angling waste**

The Courtown project was repeated as a Sunday event in Cahore harbour, but this time the event was for families and had a dual focus on habitat species diversity and vulnerability to waste and oil. The Cahore lagoon opens to the sea via a sluice in the harbour. Many species use the lagoon as a nursery area and Cahore harbour is like a giant aquarium hosting lush sea weeds, including *Laminaria* beds, and several species of periwinkle and fish. As a very popular angling spot, angling waste (ranging from line and weights to bait containers and picnic remains) makes up a significant portion of pier waste. Anglers, who happened to be fishing on the day and thus attended the event, had different opinions on waste collections. The supply of bins can trigger long arguments. If bins are supplied, they also need to be emptied – who empties these and how is it financed? They argued that bins tend to attract litter and have an aura of waste around them.

This is a very important consideration for small harbours without a harbour master. Domestic charges for waste collection are rising rapidly and can be either levied by the bag, or as annual bin charge. It was concluded that, in the short term, awareness raising, including notice reminders to take litter home, coupled with an incentive to return bait containers such as introduced by one shop, are all that can be achieved. There is much potential for using this harbour for education and educational tourism, which, in turn, leads to better litter control.

Plate 28: Algae on the rocks in Cahore Harbour

October 2000

- **Irish Sea Conference, Isle of Man**

Coastal projects officers from Keep Wales Tidy Campaign and Coastwatch attended this important Conference on the Irish Sea and undertook Clean Seas project update discussions during evenings and breaks.

November 2000

- **Coastal Management for Sustainability, London**.

We attended a meeting for an assessment protocol and classification scheme concerning litter pollution from shipping.

6.0 CONCLUSIONS

The awareness-raising visits to selected Welsh and Irish ports using the green boat, *Cliona na Toinne,* can be judged a great success in terms of media and local interest. Partners became more and more expert on the problems, possible solutions (as in merits of alternative paints, different oil gauges etc.) related harbour user concerns and the need to address these. In the course of the project, the range and quality of information coming from the project partners widened and became more useful to harbour authorities and boat owners. In the annual Coastwatch survey the special harbour focus was extended to the whole of Ireland. The number of queries addressed to project partners regarding ports and harbours, rose steadily and continued after the project ended.

The Interpretative Display boards produced were requested by a wide range of organisations and can be seen now up in harbour offices, fishermen huts and sailing clubs. From harbour user feed back, the eco-audit and competition initiated in the last phase in Ireland, added greatly to the project and would be a sound way to continue the project.

It must be remembered that it is much easier to throw overboard, or dump in a harbour corner than to save, collect, get rid of carefully. So just like government and local authority litter campaigns, the reminder to be careful to avoid waste, what to do in case of spills, and the need for good waste management on board and in harbours - must all be repeated and refreshed to make sure they are not neglected.

Awareness raising and information were identified as key elements of tackling our marine litter and oil problems. However these are only two elements of a whole waste control strategy which needs to be developed and enforced jointly by government, local and harbour authorities and user groups. While most harbours have inadequate reception facilities for waste, including oil, users can be forgiven for believing that authorities don't really take marine litter and small-scale oil pollution seriously.

As EU waste legislation and requirements to segregate waste become more onerous, both partner countries must look at how to achieve this in the economically and environmentally best manner. The Clean Seas project raised some of these issues and included them in the Dunmore East Model Harbour. The personal effort on all sides – Department of the Marine and local partners - ensured that it worked.

This is only a start. The databases produced by both partners show that in many harbours there are no, or grossly inadequate, waste reception facilities. A lot of effort will be required to bring these up to required EU Port Waste Management Directive Standards by January 2003.

A number of lessons were learned. Initially, the Welsh and Irish partners held a formal workshop for yachtsmen, fishermen and harbour authorities on the subject of marine pollution. The harbour authorities, if salaried, were present, but fishermen were conspicuous by their absence. In Wales, the yacht and boatmen could be seen on the quay below the yacht club overhauling their boats, but did not attend because of the glorious weather. Fishermen were out at sea earning their living and could not be expected to give up a day's pay without any incentive to do so. The timing of subsequent Welsh seminars was changed to accommodate those working at sea during the day. Evening awareness

events were held, but by the time the fishermen returned to shore were too tired/dirty to attend a formal seminar.

It was decided the underlying reason was that people are not willing to enter into what they fear may be a talk shop, or something that looks like an invitation to "change your ways". There has to be a better incentive.

The incentive may be the feeling that "you can really make a difference". Your voice, experience, willingness to contribute counts in a visible way. There was a full turn out at all planning meetings for the Dunmore East Harbour. The Skerries Fishermen went out of their way to attend, and were willing to put a huge effort into a major harbour clean up as they hoped that this would help bring about proper management of their harbour. The Skerries, Lough Shinney, Bulloch and Ballbriggan fishermen were in a similar position. However, their hopes were disappointed- the potential for having a whole series of waste management plans and initiatives were not realised.

It was also the experience of both project partners that fishermen who would not attend a formal event, could be approached informally, by approach in the harbour, or via the *Cliona na Toinne*. The green boat aroused much interest amongst commercial fishermen and leisure yachtsmen, because boats like this were used for fishing, and are now used for sailing. We found that people approached us, asking about the boat and what we were doing in the harbour and they became very interested in the project, and then became keen to discuss other, including waste, problems. On the down side, the approaches are generally in harbour, but as the boat is slow and the events scheduled well apart, *Cliona na Toinne* probably spent more time criss-crossing the Irish Sea than she spent in harbour awareness raising events.

Much of the marine litter found is long lived and a reduction of input may not bring noticeable improvements for many years to come. This may be disheartening for those who do make an effort to avoid loss of litter at sea.

7.0 RECOMMENDATIONS

1. The Clean Seas message needs to be continued and reinforced, not left as a once-off exercise.

2. The INTERREG project structure, with Steering Committees and direct government involvement, proved very useful because of the real commitment and expertise of the Steering Group members. A similar support and back up would be a significant benefit in future projects.

3. There is still an ambivalent attitude to small-scale oil pollution by both the authorities and sea users. Most marine users dread oil slicks or major oil pollution incidents, but appear to think that a little often does no harm. This is serious and requires a lot more attention. Boat and harbour audits should improve the situation.

4. Harbour waste management plans and adequate segregated facilities should be installed in all harbours as a matter of urgency. It is very difficult to sell a message of no litter or waste oil in areas where there are grossly inadequate waste reception facilities.

5. The Irish Sea should be declared a Special Area under MARPOL Annex V, like all the other regional seas in Europe. As it stands, it is still legal to dump various types of waste once sufficiently far off shore.

ANNEX 1. WELSH HARBOUR DATABASE

Conwy Database: 2000

	Authority	Official Contact	No of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling Batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W1	Colwyn Bay	County Council	50	V									V	recycling
W2	Rhos on Sea, Aberhod Slipway	County Council	20	V									V	recycling
W3	Rhos on Sea, Harbour	County Council	39	V					V				V	recycling
W4	Llandudno, Imperial Slipway	County Council	40	V									V	recycling
W5	Llandudno, RNLI Slipway	RNLI	0	V									V	
W6	Conwy Harbour, Deganwy Slipway	Harbour Master	0	V									V	
W7	Conwy Harbour, Conwy Quay	Harbour Master	362	V	V	V			V				V	recycling
W8	Conwy Harbour, Beacons Slipway	Harbour Master	40	V									V	recycling
W9	Penmaenmawr, sailing club	Sailing Club	20	V									V	recycling
W10	Llanfaifechan	Sailing Club	20	V									V	recycling

Note: The equivalent Irish database is published separately
Dubsky K., and Tierney, A. (2001) *Clean Seas Projects, Harbour Survey Report (Ireland)*

Anglesey database: 2000

	Authority	Official Contact	No. of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W11	Porthaethwy	Harbour Master	18	V	V								V	recycling
W12	Biwmares	Harbour Master	25	V	V								V	recycling
W13	Amlwch	Harbour Master	100	V	V								V	recycling
W14	Cemaes	Sailing Club	50	V										Recycling, port waste plan
W15	Caergybi	Harbour Master	80	V	V								V	recycling

Gwynedd database: 2000

code	Authority	Official Contact	No. of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling Batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W16	Bangor	Boatyard	0	V	V									Port waste plan, recycling
W17	Port Dinorwic	Harbour Master	70	V	V				V				V	recycling
W18	Doc Victoria	Harbour Master	46	V	V	V			V				V	recycling
W19	Caenarfon	Harbour Master	200	V	V									Pot waste plan, recycling
W20	Porthdinllaen	National Trust	50											Port waste plan & waste facilities, recycling
W21	Machros Lagoon	Yacht Club	70	V										Port waste plan, recycling
W22	Pwllheli	County Council	730	V	V	V			V				V	recycling
W23	Porthmadog	County Council	335	V	V				V					Port. waste plan, recycling
W24	Abermaw	County Council	124	V	V				V					Port. waste plan, recycling
W25	Llanbedr & Pensarn	Yacht Club	70	V										Port. waste plan, recycling
W26	Aberdyfi	County Council	124	V	V				V					Port. waste plan, recycling

Ceredigion database: 2000

Code	Authority	Official Contact	No. of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling Batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W27	Aberystwyth Harbour	County Council	196	V	V								V	recycling
W28	Aberystwyth Marina	Harbour Master	70	V		V							V	recycling
W29	Aberaeron	County Council	107	V	V								V	recycling
W30	Cei Newydd	County Council	129	V	V								V	recycling

Pembrokeshire database: 2000

Code	Authority	Official Contact	No of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling Batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W31	Aberteifi	County Council	220	V										Responsible authority
W32	Trefdraeth	County Council, PCNP	172	V										Port waste plan, recycling
W33	Cwm yr Eglwys	County Council	7	V										Port waste plan, recycling
W34	Abergwaun	Stena Line	20	V	V								V	recycling
W35	Cwm Abergwaun	County Council	147	V									V	recycling
W36	Abercastell	Boat Owners & PCNP	30											Port waste plan, recycling
W37	Porthgain	National Park	15											Port waste plan, recycling
W38	Porthstinan	Boat Owners	30											Port waste plan, recycling
W39	Porthclais	Boat Owners &PCNP	65											Port waste plan, recycling
W40	Solfach	Boat Owners & PCNP	111	V									V	recycling
W41	Little Haven	Boat Owners & PCNP	20	V										Port waste plan, recycling
W42	Martins Haven	CCW	7											Port waste plan, recycling

Pembrokeshire database contd.: 2000

W43	Dale	Yacht Club MHPA	210											Port waste plan, recycling
W44	Milford Marina	Coastal Marina MHPA	230	V	V		V		V				V	recycling
W45	Gelliswick	Yacht Club MHPA	29	V										Port waste plan, recycling
W46	Castle Pill	Boat Club MHPA	70											Port waste plan, recycling
W47	Neyland Marina	Yacht Havens Ltd. MHPA	380	V	V	V	V		V				V	recycling
W48	Hobbs Point	Yacht Club MHPA	100											Port waste plan & facilities, recycling
W49	Burton	Boat Club MHPA	38											Port waste plan & facilities, recycling
W50	Llangwm	Boat Club MHPA	142											Port waste plan & facilities, recycling
W51	Lland-shipping	Boat Club MHPA	30	V										Port waste plan, recycling
W52	Lawrenny	Yacht Station MHPA	120	V										Port waste plan, recycling

Pembrokeshire database contd.: 2000

W53	Pembroke, Front Street	Yacht Club MHPA	20	V										Port waste plan, recycling
W54	Hazelbeach	Boat Club MHPA	45											Port waste plan & facilities, recycling
W55	Roose Ferry	Boat Club MHPA	38											Port waste plan & facilities, recycling
W56	Angle	Boat Club MHPA	140											Port waste plan & facilities, recycling
W57	Stackpole Quay	National Trust	2											Port waste plan & facilities, recycling
W58	Freshwater East	Boat Club PCNP	25	V										Port waste plan & facilities, recycling
W59	Lydstep	Holiday Park	15	V										Port waste plan, recycling
W60	Dinbych y Pysgod	County Council	186	V	V		V		V				V	recycling
W61	Saundersfoot	County Council	190	V									V	More facilities, recycling

Carmarthenshire database: 2000

Code	Authority	Official Contact	No. of Vessels	Garbage	Oil	Sewage	Oil Filters	Glass	Recycling Batteries	Other	Paints & Solvents	Fish Offal	Pwmp	Needs
W62	Lacharn	County Council	25	V										Port waste plan, recycling
W63	San Cler Isaf	County Council	20	V									V	recycling
W64	Llanstefan	County Council	18	V										Port waste plan, recycling
W65	Glan y Fferi	County Council	25	V	V		V		V					Port waste plan, recycling
W66	Porth Tywyn	County Council	225	V	V		V		V				V	recycling
W67	Llanelli	County Council	30										V	recycling

ANNEX 2. STEERING GROUPS

Welsh Steering Group members

- Alison Smith, Environment Manager, Welsh Development Agency
- Ged Davies, Team Leader, Environmental Protection, Environment Agency Wales
- Dr Clare Eno, Senior Maritime Policy Officer, Countryside Council for Wales
- Capt. Clive Wickens, Principle Marine Surveyor, Maritime & Coastguard Agency
- Charles Mathieson, Recreation & Communications Manager, Pembrokeshire Coast National Park
- Carl Evans, Tenby Harbourmaster, Pembrokeshire County Council
- Elwyn Hughes, Tourism & Countryside Manager, Carmarthenshire County Council
- Nick Oakes, Waste Management Engineer, Ceredigion County Council
- Barry Davies, Maritime Officer, Gwynedd County Council
- Tony Mead, Principle Harbour & Maritime Officer, Conwy County Council
- Mike Mothersol, Maritime Officer, Isle of Anglesey County Council
- Louise Tambini, Projects Director, Keep Wales Tidy Campaign
- Tonia Forsyth, Project Manager, Keep Wales Tidy Campaign
- Nic Davies, Coastal Projects Officer, Keep Wales Tidy Campaign

Joint Welsh / Irish Steering Group members

- Ged Davies, Team Leader, Environmental Protection, Environment Agency Wales
- Dr Clare Eno, Senior Maritime Policy Officer, Countryside Council for Wales
- Louise Tambini, Projects Director, Keep Wales Tidy Campaign
- Tonia Forsyth, Projects Manager, Keep Wales Tidy Campaign
- Nic Davies, Coastal Projects Officer, Keep Wales Tidy Campaign
- Karin Dubsky, International Co-ordinator, Coastwatch Ireland
- Barry Jones, Skipper/Owner *Cliona na Toinne,* Coastwatch Ireland
- Geoffrey O'Sullivan, Marine Institute, Dublin
- Carwyn McDonald, Marine Institute, Dublin
- Helen Condon, Dept. of the Marine and Natural Resources, Dublin
- Kevin O'Rourke, Dept. of the Marine and Natural Resources, Dublin
- Peadar Ward, Dept. of the Marine and Natural Resources, Dublin
- Capt. Geoff Livingstone, Marine Emergency Services, Dublin
- Tom Bray, Dunmore East Harbour Users Association, Dunmore East

ANNEX 3. Maritime INTERREG Projects

The following co-operative projects and networks are supported under Measure 1.3 "Protection of the Marine and Coastal Environment and Marine Emergency Planning", of the Maritime (Ireland/Wales) INTERREG Programme (1994 – 1999):

Co-operative Projects

1. **Roseate Terns - The Natural Connection - A Conservation and Research Project linking Wales and Ireland**
   Irish Wildbird Conservancy / North Wales Wildlife Trust.
2. **Marine Mammal Strandings - A Collaborative Study for the Irish Sea**.
   National University of Ireland, Cork / Countryside Council for Wales.
3. **South West Irish Sea Survey (SWISS).**
   Trinity College Dublin / National Museum of Wales, Cardiff.
4. **The Fate of Nutrients in Estuarine Plumes.**
   National University of Ireland, Galway / University of Wales, Bangor.
5. **Water Quality and Circulation in the Southern Irish Sea**
   National University of Ireland, Galway / University of Wales, Bangor.
6. **Grey Seals: Status and Monitoring in the Irish and Celtic Seas.**
   National University of Ireland, Cork / Dyfed Wildlife Trust.
7. **Sensitivity and Mapping of inshore marine biotopes in the Southern Irish Sea (SensMap).**
   Ecological Consultancy Services (Dublin), Dúchas / Countryside Council for Wales.
8. **Marine Information System: Scoping Study (Phase I).**
   Marine Institute, National Marine Data Centre/ Countryside Council for Wales.
9. **Achieving EU Standards in Recreational Waters**.
   National University of Ireland, Dublin / University of Wales, Aberystwyth.
10. **Irish Sea Southern Boundary Study**
    Marine Informatics Ltd (Dublin) / University of Wales, Bangor.
11. **Marine Information System: Demonstration (Phase II).**
    Marine Institute, National Marine Data Centre / Countryside Council for Wales.
12. **Emergency Response Information System (ERIS)**
    Enterprise Ireland, Compass Informatics, IMES / University of Wales, Bangor.
13. **Risk Assessment and Collaborative Emergency Response in the Irish Sea (RACER)**
    Nautical Enterprise Centre (Cork), National University of Ireland, Cork, University of Wales, Cardiff.
14. **Critical assessment of human activity for the sustainable management of the coastal zone.**
    National University of Ireland, Cork / University of Wales, Aberystwyth.
15. **SeaScapes – Developing a method of seascape evaluation**
    Brady Shipman Martin, National University of Ireland, Dublin / University of Wales, Aberystwyth.
16. **Ardfodir Glan – Clean Coasts/Clean Seas**
    CoastWatch Ireland / Keep Wales Tidy Campaign.

Co-operative Networks

17. **Irish Sea Hydrodynamic Modelling Network**
    Trinity College Dublin / University of Wales, Bangor.
18. **CoAST - Co-operative Action - Sustainability Network**
    Dublin Regional Authority / Isle of Anglesey County Council.
19. **ECONET - Erosion Control Network**
    Enterprise Ireland / Conwyn County Council.
20. **Navigate with Nature**
    Irish Sailing Association/Centre for Economic and Environmental Development- UK.
21. **"Land Dividing - Sea Uniting" Irish Seas Exhibition**
    Irish Seal Sanctuary, ENFO / National Assembly for Wales.
22. **From Seawaves to Airwaves**
    West Dublin Community Radio / Radio Ceredigion CYF.
23. **BENSIS – Benthic Ecology Network**
    Trinity College Dublin / National Museum of Wales, Cardiff.
24. **Remote Sensing of Suspended Sediment Load in the Coastal Zone**
    National University of Ireland, Galway / University of Wales, Bangor.
25. **Paving the Information Highway**
    Ecological Consultancy Services (Dublin) / Irish Sea Forum, University of Wales, Bangor.
26. **Inland, Coastal and Estuarine (ICE) Journal**
    National University of Ireland, Dublin / Centre for Economic and Environmental Development (UK).

Maritime Ireland/Wales *INTERREG* Report Series (ISSN: 1393 – 9025):

1. Raine, R. and LeB Williams, P.J. (2000) *–The fate of Nutrients in Estuarine Plumes*.
2. Newton, S.F. and O. Crowe (2000) *Roseate Terns – The Natural Connection*. 66pp.
3. Kiely, O, Ligard, D., McKibben, M., Connolly, N., & M. Barnes (2000) *Grey Seals: status and monitoring in the Irish and Celtic Seas*.
4. White, M., Gaffney, S., Bowers, D., and P. Bowyer (2000) *Water Quality in the Southern Irish Sea*.
5. Hill, M., Briggs, J., Minto, P., Bagnall, D., Foley, K. & A. Williams. (2001). *Guide to Best Practice in Seascape Assessment*.
6. Bruen, M.P., Crowther, J., Kay, D., Masterson, B.F., O'Connor, P.E., Thorp, M.B & M.D. Wyer (2001). *Achieving EU Standards in Recreational Waters*.
7. Feighery, L., White, M., Bowers, D., Kelly, S., O'Riain, G & P.Bowyer (2001). *Feasibility study of the use of digital cameras for water quality monitoring in the coastal zone*.
8. Rogan, E., Penrose, R., Gassner, I., Mackey, M.J. & P. Clayton (2001). *Marine Mammal Strandings: A Collaborative Study of the Irish Sea.* 53pp.
9. Connolly, C., Buchanan, C., O'Connell, M., Cronin, M., O'Mahony, C., Sealy, H., Kay, D. & S. Buckley (2001). *Assessment of Human Activities in the Coastal Zone: A research project linking Ireland and Wales*.
10. Dubsky, K. & Tierney, A. *Clean Seas Project Harbour Survey Report (Ireland).*
11. Dubsky, K. & Tambini, L. *Clean Coasts/Clean Seas.*

Other *INTERREG-II* Publications

Wilson, J.G., Mackie, A.S.Y., O'Connor, B.D.S., Rees, E.I.S. & T. Darbyshire (2001). Benthic Biodiversity in the Southern Irish Sea 2: The South-West Irish Sea Survey - *Studies in Marine Biodiversity and Systematics from the National Museum of Wales*. BIOMÔR Reports 2 (1): 1-143.

For further information on the Maritime Ireland/Wales INTERREG-II Programme see
www.marine.ie

ANNEX 4. ACKNOWLEDGEMENTS

Keep Wales Tidy and Coastwatch Ireland want to express their special thanks to all involved with the Clean Seas project over nearly two years. The number who contributed was too large to list here, so we are bound to omit half. It ranged from harbour authorities, to various user groups, to local Coastwatchers and to those drafted into the Project core team.

Principle contributors to each project product have been acknowledged on that product.

The Steering group – as listed in Appendix 2 – was something we viewed with a little unease at first and grew to appreciate as a huge benefit in terms of information, expertise and advice generously given. A very special thanks to Gwed Davies, the Steeering Group leader, for the vision, time and superb lectures given at several seminars. Equally a very special thanks to Geoffrey O'Sullivan who apart from Steering group support took a real interest as Marine Institute project manager and skilfully linked different INTERREG projects.

In Wales, a special thanks to Harbour Authorities who, without exception, waived berthing fees and provided the boat with every available facility. In Ireland, that applied to most harbours.

A special thanks also to fishermen on both sides, who were the focus of our awareness raising campaigns. Their willingness: to consider shore reception facilities for waste; to actively participate in audits; and to plan better facilities and practices was far beyond our expectations.

In Ireland we wish to highlight one group of fishermen and other users, especially – the Dunmore East harbour group- who formed themselves into a local management group. Also, Paul Daly of Skerries, not only as a fisherman, but also as a cartoonist and later for designing a whole North Dublin harbour waste reception scheme which is presently being considered for grant aid.

Harbour survey work and advice are acknowledged separately in the 'Clean Seas Project Harbour Survey Report (2001).

This project (Contract EU 557/14/001) is supported under Measure 1.3 Protection of the Marine and Coastal Environment of the Maritime (Ireland-Wales) of the INTERREG Programme (1994 – 1999) administered by the Marine Institute (Ireland) and the National Assembly for Wales (Wales) and is part funded by the European Union's Regional Development Fund.

Marine Institute
Foras na Mara

ISSN: 1393-9025