

**Progress report:
Marine Environmental Education
for Cardigan Bay and Environs, 2003-06**

Helen Bates



The Cetacean Monitoring Unit
SEA WATCH
· foundation ·

December 2005

Over the past year, we have been developing our education and interpretation initiatives to help raise the awareness and understanding of the rich diversity of marine life found within Cardigan Bay and its environs, the habitats supporting them, and local conservation issues. This year we have extended our school education program and conducted some new awareness raising initiatives to get the information across to a wider audience and across a wider area. We have had a very productive and successful year in our new offices in New Quay, and, with the help of a great team of volunteers we have managed to have many different education and research projects running throughout the year.

Volunteers and Students

Throughout the summer season, 15 volunteers, four school work experience, and four Masters' students have worked with us. They have been involved in various research and education projects throughout the season with long-term volunteers specialising in specific projects. Volunteers were encouraged to be involved in all aspects of the work and received training in all aspects of the education and research work. They were further encouraged to attend talks being given throughout the season, to get involved with awareness raising, and to participate in the Sea Watch Foundation training courses. Between March and December, volunteers have put in a total of 1192 person days (1 person day = 8 hours) on the main education and research work (See Appendix 1).



School Education Program

School Visits

Marine Aware Discovery sessions have been run throughout the year from February to the end of July, with the favoured period for schools being the school summer term. The education program has so far been aimed at primary schools throughout the Ceredigion region to encourage the use of the local marine environment within the national curriculum. The discovery sessions aim to raise awareness and understanding of the marine wildlife and conservation issues within Cardigan Bay, and in particular

to make children aware of the rich diversity of life in their local marine environment. This has been fulfilled using talks, group discussion, direct observation, and games and activities to investigate the variety and importance of life within local marine habitats, and to consider conservation issues. Sessions are conducted both in school and as beach-based field trips and are tailored for specific key stages (KS1, KS2 lower & KS2 upper) and ability levels.

Infants & Key stage 1 (Age 3-7)



This year additional sessions have been developed focusing on younger pupils (Key Stage 1) involving more hands-on explorative learning and arts and drama-based activities.

Key stage 2 (Age 7-11)



A special session was designed for Wales Biodiversity Week to focus on the impacts of litter on the marine environment, and to investigate in more detail particular conservation issues and threats within Cardigan Bay. This was received very well with the schools, as it encouraged the children to think about how they and their actions can impact on others and the environment around them, and what they can do to help.



Multiple visits to 35 schools have been conducted so far, consisting of half day and full day classroom sessions and beach field trips. The sessions focus upon three main areas of the science and geography curriculum: “Living things in their environment”; “Our local environment”; and “Life processes”, but they also incorporate mathematics, English, citizenship, art and drama (See Appendix 2 for schools leaflet).

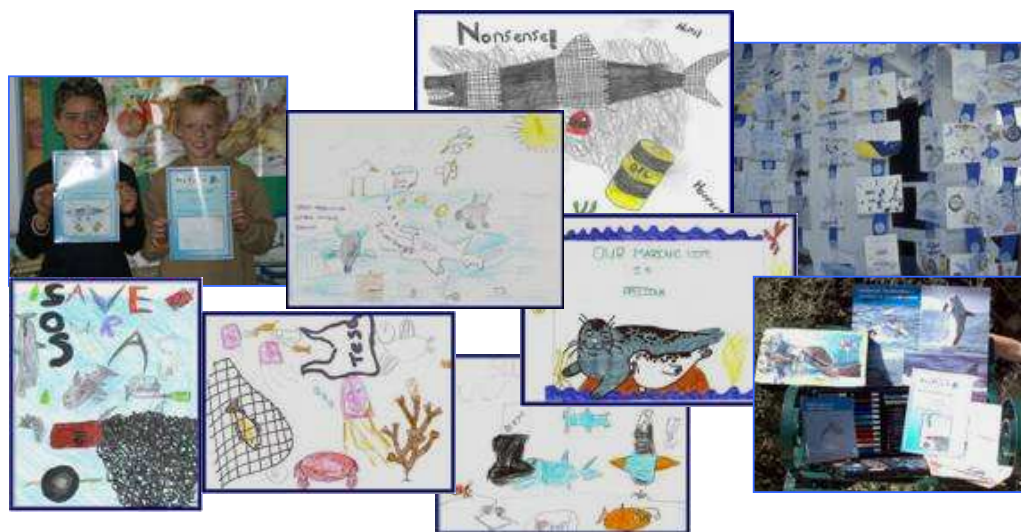
Children, aged three to twelve years of age, have been involved in the sessions, along with several teachers that have actively participated. The total audience for the 35 schools was 1,114 children and 101 teachers (this figure is the total number of different people involved and does not double count those groups which have had several sessions).

Special Projects

In addition to the normal programme being offered to schools, we further initiated some special projects this year.

1. *Marine Litter Poster Competition*

In conjunction with the sessions on the impacts of marine litter, we ran a marine litter poster competition with interested schools. In total, 200 posters were produced by children aged 4-11 years, highlighting the problems of litter in the marine environment. These posters were displayed in the bandstand on Aberystwyth promenade during a “Marine Day” event held for Wales Biodiversity Week. Throughout the course of the day, people attending the event could vote on their favourite posters, and at the same time learn about the issues concerning marine litter. Prizes were presented to the winners and a press release went out containing the winning posters.



2. *SAC Calendar*

Once again, we worked in conjunction with Ceredigion County Council on the production of an SAC calendar. As the children had produced such wonderful and thought provoking posters for the marine litter competition, it was decided to use these as the basis of this year's calendar and continue the theme of marine litter. Selected posters were chosen for the front cover and each month of the calendar, and

these have been accompanied by facts about the impacts of litter in the marine environment.

3. *Shark Trust Event*

During Wales Biodiversity Week, we teamed up with the Shark Trust and ran a special shark education day in New Quay. Schools were invited down to New Quay harbour to participate in hour long workshops given by the Shark Trust, followed by a beach session given by Sea Watch Foundation. The Event was also open to the public to learn about the variety of shark species that inhabit Welsh waters, and to learn about different species that wash up in the strandline.



Resources

Some additional worksheets have been produced to accompany the discovery sessions, in particular the beach-based fieldwork (see Appendix 3) and materials for young children are being developed such as a giant dolphin jigsaw puzzle.



NB. To be completed: the jigsaw will be accurately painted to look like a bottlenose dolphin

Interpretation & Awareness Raising

Summer Roadshow

Throughout the summer, we travelled around Wales with an educational marine roadshow to raise awareness about the biodiversity of marine life in Cardigan Bay, the work of Sea Watch, and what people can do to help conserve the area for future generations. The roadshow consisted of displays and activities, and talks were given about the variety of marine life in Cardigan Bay focusing on particular species and issues depending on people's interests at each event. In all, we went to nine events around the region, six of which were pre-existing events which we joined and three were purpose-made wildlife events with which we were specifically invited to become involved, these being: the "Marine Day" held in Aberystwyth as part of Wales Biodiversity Week events; and the other being the "BBC Really Wild Show Roadshow" held at the Wildfowl & Wetlands centre in Llanelli, South Wales.

Event	Place	Approx. visitor no.'s to SWF display		
		Adults	Children	Total
Wales Biodiversity Week – Marine Day	Aberystwyth	250	285	535
Wales Biodiversity Week – Shark Day	New Quay	86	130	216
Cardigan Agricultural Show	Cardigan	375	210	585
Newport Parrog Beach Day	Newport, Pembs	73	138	211
Aberporth Carnival	Aberporth	88	76	164
Cardigan River and Food Festival	Cardigan	306	150	456
BBC Really Wild Show	Llanelli	260	390	650
Aberaeron Ponies and Cobs Festival	Aberaeron	246	248	494
	Total	1684	1627	3311

The roadshow proved to be a great success and everyone that visited our stand had lots of questions, and spent quite a bit of time reading the displays and participating in the activities.

Displays

- Sea Watch Foundation – who we are, what we do, details of specific research projects, how to get involved, and information on the main marine mammal species in the area, including how to identify them
- Bottlenose dolphin photo-ID, and “name a dolphin” competition
- Marine litter – impacts, problems, what they can do to help plus “How long does it take to degrade?” game
- “What’s in a strandline?” exhibit with species and information, plus talks given about how to identify particular species when alive and when washed ashore, and special adaptations of marine life
- Whose bones are these? – skull identification game and display
- “Match the fin” photo-identification game
- How big am I? game – size relationship activities
- Seashore Code game (kindly donated by Marine Awareness North Wales)

Summer Roadshow



Interpretational materials

Various displays have been produced throughout the year to be used with the roadshow (see above). Background research for three large banner interpretation boards on: “The history of fishing in Cardigan Bay, and changes in usage over the years”; “Recreational activities in Cardigan Bay”; and “Land-based watching & how

to get involved” has been carried out, and the panels are in the process of being written and designed.

Two leaflets have been produced in-house, for use over the summer, and these have been distributed throughout the summer at the roadshow and other public events. These leaflets concern the work of the Sea Watch Foundation, who we are and what we do, and information on the Special Area of Conservation and the diversity of marine wildlife in area, focusing on how to identify the three principal marine mammal species found in central Cardigan Bay, namely: bottlenose dolphin, harbour porpoise and Atlantic grey seal (see Appendix 4).

A catalogue of named bottlenose dolphins in Cardigan Bay has been developed so that people can read about individual dolphins (see Appendix 5). This was developed for educational purposes and has been on display at all public events throughout the summer. As the “name a dolphin” competition progressed, we added to the catalogue. This turned out to be a nice way to get people involved, and to discover what can be accomplished by photographing dolphins. At present, this booklet contains only those dolphins with names, but we will be expanding this to include all of the dolphins in our photo-identification catalogue. This will then be distributed to all interested parties.

Further information regarding all aspects of our work, and about the area and its wildlife, has been distributed in response to public enquiries, and in particular school children requesting species information for school projects.

Other Outreach Education & Public Talks

Various talks have been given to interested parties, school groups, and the general public.

Wales Biodiversity Week

An hour-long talk on “Marine Biodiversity in Cardigan Bay” was given at the Ceredigion Museum in Aberystwyth. This was one of a series of events held throughout the week to encourage people to learn more about the diversity of life throughout Ceredigion and its surrounding areas.

Roadshow

Very many short talks were given at the various roadshow events throughout the summer about the marine species in the area; the habitats found within Cardigan Bay; the work of Sea Watch, and the SAC and conservation issues in the area.

Talks for interested groups

Hour-long talks concerning the work of Sea Watch, the SAC, the marine wildlife in the area and how to identify them, were given to specific groups such as WDCS “Out of the Blue” participants, the Cardigan Bay Watersports Centre, the Ceredigion Biodiversity group and for the Sea Watch regional coordinator’s meeting.

Sea Watch Foundation/Mammal Society Training Courses

Two training courses were conducted this year for members of the general public. A variety of lectures were given at each course (see separate report on project SC8211),

and training was provided involving both land- and boat-based observation and research techniques, with practical experience.

Pier Information Point

Throughout the summer months, an Information Point was set up at the end of the harbour wall in New Quay where the land-based study was conducted. Volunteers gave out leaflets and talked to the public about the research work being conducted in the area, and the species they were looking for. They further told people about the SAC, the species they could find in the area and how to identify them, and in particular, information was given about how to tell the difference between bottlenose dolphins and harbour porpoises. *Ad hoc* education was also carried out on the beach and at Mwnt, where another research project was taking place.

Press Releases, Articles & Media Coverage

Several press releases have gone out throughout the year relating to the school education work, special projects, the roadshow and our events for Wales Biodiversity Week (see Appendix 6 for main press releases). A radio interview was given on 'Radio Ceredigion' about the work of Sea Watch and marine mammals in the area, and also to promote the forthcoming events. This interview was part of a series of wildlife interviews given during Wales Biodiversity Week, and accompanied a Ceredigion Biodiversity radio quiz made up of questions from each organisation involved. Our quiz questions concerned information about Welsh marine wildlife. Prizes included boat trips from New Quay and Skomer Island (Pembrokeshire).

An article was written for Quay Notes about the Marine Day events (see Appendix 7), and an article about sunfish was written for Dolphin Watch magazine (see Appendix 8).

Regular sightings updates were published in the Whale and Dolphin magazine, Sea Watch newsletters, NewQuay.com website, Sea Watch Foundation online sightings database and sightings pages, and sent to CBMWC for display in their Centre and on their website.

Interviews were given to BBC Wales, BBC Really Wild Show, and BBC Radio One, regarding the marine wildlife in the region, specific sightings made throughout the summer, and concerning the research work that Sea Watch is conducting in the area. An interview was also given for a Masters project from Carmarthen College on environmental education provision in the area and the sustainable development of the area.

Working in Collaboration with others & Meetings

Throughout the year we have worked in conjunction with various bodies on particular projects:

Ceredigion County Council/SAC - various projects including:

- Arts Project for Llangranog Shelter, biodiversity events and SAC calendar



- Dolphin Watch land-based study: regional coordinator for New Quay harbour
- The Boat Place: advised on possible displays, information and touchy-feely exhibits for new information centre on New Quay pier

Swansea University – Dr John Houghton’s Leatherback Turtle Project

We have conducted jellyfish surveys throughout the year during our boat and land-based surveys, and have also carried out beach surveys for stranded jellyfish. These data were entered into a database, and sent on to John for his project.

The Shark Trust

We collaborated on an event for Wales Biodiversity Week and, throughout the year, we have conducted beach surveys for dogfish, skate and ray eggcases. These data were entered into a database and sent on to the Shark Trust for their ongoing skate and ray project.

Meetings have been held with the Cardigan Bay SAC Officer, Ceredigion County Council (CCC), Ceredigion Biodiversity Group, Environment Wales, Cardigan Bay Marine Wildlife Centre, Countryside Council for Wales, Environment Wales, Careers Wales, The Shark Trust, Cei Dev, WDCS, Cardigan Bay Watersports Centre, CCC Dolphin Watch Group, Welsh Cetacean Group, Marine Awareness North Wales, Friends of Cardigan Bay, various schools in Ceredigion, SWF Regional Coordinators & Trustees, SWF associated education providers, Cardiff Museum, Carmarthen College, and University of Wales, Bangor.

Finally, I completed a training course on Participative Training Techniques run by Atlast! Training at Plas Tan y Bwlch, Snowdonia, to improve training techniques and learn new skills to interest and enhance the learning experience, and to encourage more active participants in the training process.

Helen Bates

**Education Officer
Sea Watch Foundation**

Appendix One: Volunteer Hours 2005

Countryside Council for Wales

Donation in Kind - Volunteer Hours Record - 2005

No.	Name	Arrive	Depart	Weeks	Total no. hours
1	Sergi Perez	22-Nov	20-Dec	4	160*
2	Tom Felce	20-Mar	02-Dec	36	1395
3	Danuta Stanczyk	11-Apr	8-Sep	21	565
4	Juliana Castrillon	11-Apr	25-Sep	23	709
5	Eleanor Stone	18-Apr	25-Sep	22	942
6	Kosmas Chatzivasiloglou	2-May	13-Sep	20	650
7	Jo Owen	9-May	4-Sep	17	871
8	Katie Hill	19-May	7-Aug	12	369
9	Lenni Sykes	6-Jun	10-Jul	5	240
10	Eve James	18-Jul	18-Dec	22	724
11	Lydia Green	18-Jul	28-Aug	6	178
12	Matthew Dahill	18-Jul	04-Sep	7	240
13	James Whiteford	25-Jul	14-Aug	3	93
14	Anthony Ribbon	28-Jul	4-Sep	6	168
15	Winnie Courtene-Jones	3-Aug	26-Aug	7	57
	James Whiteford	26-Sep	20-Nov	8	171
Total		22/11/2004	18/12/2005	219	7372

* these hours were not included in the last claim

work experience people

No.	Name	Arrive	Depart	Weeks	Total no. hours
1	Andrew	23-May	27-May	1	37
2	Georgina Curtis	04-Jul	08-Jul	1	37
3	Georgina Hampton-Wale	11-Jul	17-Jul	1	51
4	Rebecca Price	11-Jul	17-Jul	1	51
Total		23-May	17-Jul	4	176

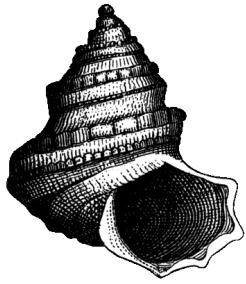
masters students

No.	Name	Arrive	Depart	Weeks	Total no. hours
1	Kate Lewis	03-Jun	22-Sep	16	656
2	Mercedes Reyes-Zamudio	04-Jun	28-Aug	12	703
3	Neal Reay	23-Jun	26-Jul	5	350
4	Ronan Hickey	04-Jun	02-Jul	4	280
Total		03-Jun	22-Sep	37	1989

Grand Total				260	9537
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1 person day = 8 hours

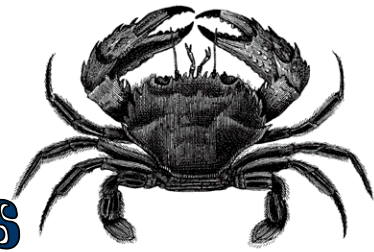
9537 hours = 1192 person days



Marine Aware

Discovery Sessions

- bringing the marine environment into the national curriculum



Marine Aware Discovery sessions aim to raise awareness and understanding of the marine wildlife and conservation issues within Cardigan Bay, and to make children aware of the rich diversity of life in their local marine environment.

Explore and Discover the marine world

These sessions use marine mammals and rockpool animals to explore the marine environment of Cardigan Bay

The marine discovery sessions involve talks, group discussion, direct observation, games and activities to investigate the variety and importance of life within local marine habitats and consider conservation issues.

Sessions can incorporate a variety of topics such as:

- ① Identification of the seashore and sea as home to a variety of different plants and animals
- ② Classification and variation in the marine world
- ③ Adaptations to marine habitats
- ④ Feeding relationships in the marine environment
- ⑤ Senses and the use of sound in the marine world
- ⑥ Conservation issues

All discovery sessions are directly linked to Welsh national curriculum objectives

Make education fun and inspiring as well as significant

The marine environment of Cardigan Bay is an exciting and stimulating resource that can be used to teach across the curriculum and cover significant areas of "Life Processes" and "Living things in their environment", and can further incorporate geography, maths, english, citizenship, art, and drama.

By studying the marine environment students can learn to have a sense of responsibility and respect to themselves, others and the environment around them.

Discovery sessions can be tailored to suit individual needs and tie in with current school topics. Sessions range from a one hour powerpoint talk to whole morning or afternoon sessions. Schools can book one off sessions focusing on a particular topic area or a series of sessions to explore the marine environment further covering a series of topics.

Sessions can consist of indoor and outdoor activities (weather dependent) and can be adapted to suit all ages and levels of ability.

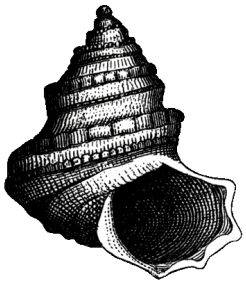
Let us come to you!

We usually liaise with the classroom teacher or group leader well before a visit to establish what topics would like to cover, the age and ability of the children, facilities available and how the teacher would like it to be conducted.

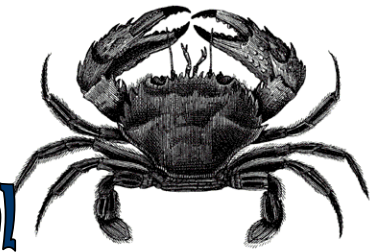
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To discuss or book a session contact: Helen Bates, Marine Education Officer
01545 561227 / helen.bates@seawatchfoundation.org.uk
Sea Wat House, Wellington Place, New Quay, Ceredigion, SA45 9NR



Sesiynau Darganfod Ymwybyddiaeth Forol



- dod â'r amgylchedd morol i mewn i'r Curriculum Cenedlaethol

Y mae Sesiynau Darganfod Ymwybyddiaeth Forol yn amcanu at godi ymwybyddiaeth a dealltwriaeth o fywyd gwylt morol a phynciau llosg cadwraeth Bae Ceredigion, ac at wneud plant yn ymwybodol o amrywiaeth cyfoethog bywyd yn eu hamgylchedd morol lleol.

Archwiliwch a Darganfyddwch y byd morol

Bydd y sesiynau yma'n defnyddio mamaliaid morol ac anifeiliaid pyllau llanws i archwilio amgylchedd morol Bae Ceredigion

Y mae'r sesiynau darganfod morol yn cynnwys sgysrsiau, trafodaethau grŵp, arsylwad uniongyrchol, gemau a gweithgareddau, i archwilio amrywiaeth a phwysigrwydd bywyd y tu mewn i gynefinoedd morol lleol ac i ystyried materion cadwraeth.

Gall sesiynau gynnwys amrywiaeth o bynciau fel:

- Adnabod glannau'r môr a'r môr fel cartref i amrywiaeth o blanhigion ac anifeiliaid gwahanol
- Dosbarthiad ac amrywiad yn y byd morol
- Addasu i gynefinoedd morol
- Perthnasoedd bwydo yn yr amgylchedd morol
- Synhwyrau a defnyddio sŵn yn yr amgylchedd morol
- Pynciau llosg cadwraeth

Cysylltir y sesiynau darganfod i gyd yn uniongyrchol ag amcanion y Cwricwlwm Cenedlaethol.

Gwneuch addysg yn hysyl ac yn ysbrydoledig yn ogystal ag yn arwyddocaol

Mae amgylchedd morol Bae Ceredigion yn adnodd cyffrous ac ysgogol y gellir ei ddefnyddio i ddysgu ar draws y cwricwlwm ac sy'n cwmpasu rhannau pwysig o "Prosesau Bywyd" a "Phethau byw yn eu hamgylchedd". Gall gynnwys hefyd ddaeryddiaeth, mathemateg, saesneg, dinasyddiaeth, celf, a drama.

Trwy astudio'r amgylchedd morol gall myfyrwyr ddysgu synnwyr cyfrifoldeb, hunan-barch a pharch at eraill ac at yr amgylchedd.

Gellir addasu sesiynau darganfod ar gyfer anghenion unigol ac i gyd-fynd â phynciau ysgol cyfredol. Gall sesiynau amrywio o gyflwyniad 'Powerpoint' yn para am awr, i sesiynau sy'n para am fore neu brynawn cyfan. Gall ysgolion archebu un sesiwn yn canolbwyntio ar bwnc arbennig neu gyfres o sesiynau i archwilio'r amgylchedd morol ymhellach gan gynnwys cyfres o bynciau.

Gall sesiynau gynnwys gweithgareddau mewnol ac allanol (yn dibynnu ar y tywydd) ac y gellir eu haddasu ar gyfer pob oedran a gallu.

Gadewch i ni ddod atoch chi!

Rydym fel arfer yn cysylltu ag athro'r dosbarth neu arweinydd y grŵp ymhell cyn ymweliad, er mwyn cadarnhau pa bynciau y dymunant eu cynnwys, oedran a gallu'r plant, y cyfleusterau sydd ar gael a sut y dymuna'r athro/athrawes i ni arwain y sesiwn.

Am ragor o wybodaeth neu i archebu sesiwn, cysylltwch â: Helen Bates, Swyddog Addysg Forol

01545 561227 / helen.bates@seawatchfoundation.org.uk

Sefydliad Môr-wyllo Cymru,

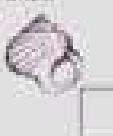



Tŷ Paragon, Maes yr Odyn, Cei Newydd, Ceredigion, SA45 9NR



Appendix Three: Rockpooling worksheet

Can you find these animals in the rockpools?


See how many of these animals you can find in the rockpools, use the guides to help you!
Put a tick in the right box, or if you find more than one write how many you found!

Mussel  <input type="checkbox"/>	Fish  <input type="checkbox"/>	Limpet  <input type="checkbox"/>	Crab  <input type="checkbox"/>	
Seaweed  <input type="checkbox"/>	Anemone  <input type="checkbox"/>	Dog whelk  <input type="checkbox"/>	Starling  <input type="checkbox"/>	Top shell  <input type="checkbox"/>
Flat wrinkle  <input type="checkbox"/>	Hermit crab  <input type="checkbox"/>	Common wrinkle  <input type="checkbox"/>	Barnacle  <input type="checkbox"/>	Starfish  <input type="checkbox"/>

My favourite rockpool animal!

Choose the rockpool animal that you like the most from the ones you have just found!

What is your animal called?

Draw a picture of your animal here.


Write a description of your animal

- What it looks like - colour, size, no. of legs etc.
- What it feels like - is it hard or soft, rough or smooth etc.

Can you find out anything interesting about your animal?

- What does it eat and who eats it?
- How does it survive when the tide is out? (hole under rock/in water, trap water under its shell etc.)
- Which animals live near to your animal?

Appendix Four: Leaflets

(1x A5 back to back leaflet & 1x A5 4 sided folded booklet)

Appendix Five: Example pages from catalogue of named bottlenose dolphins in Cardigan Bay

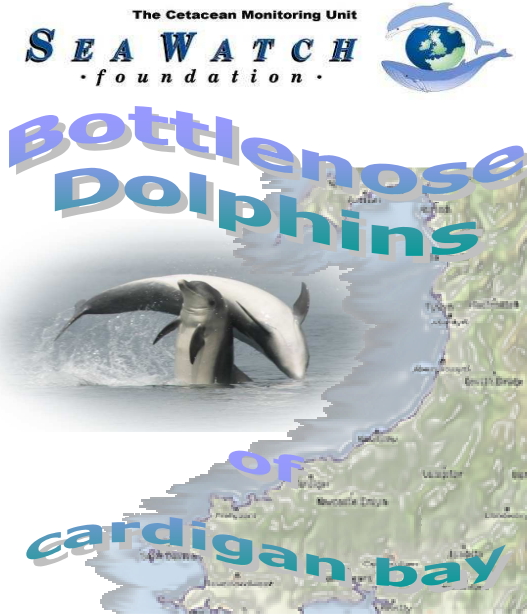


photo-identification of Bottlenose dolphins

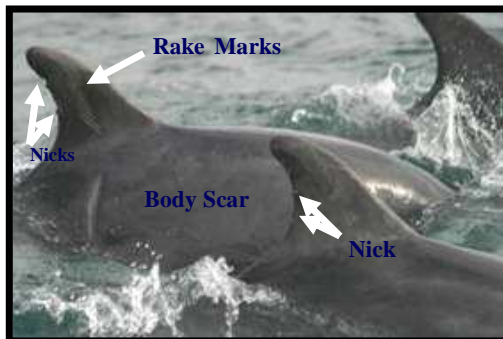


This booklet contains information about the resident population of Bottlenose dolphins found within Cardigan Bay. When each dolphin is identified using a technique called photo-identification they are given a unique number. Through our ongoing "name a dolphin" competition we are giving people the opportunity to name the dolphins that live within Cardigan Bay. This booklet contains information on the dolphins that have been named so far!

Contents:



photo-identification of Bottlenose dolphins



To identify the different dolphins within Cardigan Bay we use a technique called photo-identification. The photo-identification technique is beautifully simple and consists of recognising individuals from photographs of their natural markings. In the case of Bottlenose dolphins we look at the shape of the dorsal fin, distinctive pigmentation patterns or scars, if present, and, more eagerly, at missing parts such as tears, notches or natural deformities evident in the trailing edge of the dorsal fin. By looking at these markings we can identify individual animals, as the markings on a dolphin are as unique as our fingerprints, and so no two dolphins are alike.

We are making three different catalogues of bottlenose dolphins within Cardigan Bay. The first catalogue is called the "Well marked" catalogue and consists of dolphins that can be recognised from either side because they have nicks and deformities on the edges of their dorsal fins. We then also have a catalogue for animals with pigmentation patterns/scarring on the left side and one for animals with pigmentation patterns/scarring on the right side. The same animal can have two names, one for his/her left side and one for the right side. To date, we have identified 105 well marked dolphins (nicks & deformities), 33 left sides and 33 right sides. The well marked animals are the most useful for analysis.

DOLPHIN 53

Burkenzi



Burkenzi is an adult male bottlenose dolphin, which was first sighted in 2001. He has been seen 16 times since, in 2001, 2003 and 2004.



Burkenzi has two distinctive deep nicks lower down on his dorsal fin, which we use to identify him by. There are also clear rake marks on the left hand side of the leading edge of the dorsal fin. He also has rake marks on the left side of his back.

Named By: Rhiannon Critchley

Appendix Six: Examples of press releases

INDEPENDENCE, Level 4 Registered

Enterprise said "All the learners are to be through providing high quality training."

Going back to nature during Wales Biodiversity Week

HUNDREDS of people in Ceredigion had a closer look at nature as they visited some of the area's more stunning places and took part in the many hands-on events during Wales Biodiversity Week.

The week, organised by Ceredigion Biodiversity Partnership, started with an action-packed Marine Day in Aberystwyth. On a hot and sunny Saturday local people and visitors viewed marine displays and took part in games and competitions around the bandstand.

Children helped local artist Pod Clare to create sea creatures from 'rubbish' and at the 'Working for Wildlife' event on Sunday, people made bird boxes to take away to put up in their gardens. They also saw displays by the Wildlife Trust, Coed Cymru, Red Squirrel project, Parc Natur Penglais, the local bat group and many others. The Royal Society for the Protection of Birds also brought along their mobile cinema. Young and old alike enjoyed making music on instruments made from local wood by Mike and Sue Appleton.

Groups involved in Saturday include Friends of Cardigan Bay, Marine Conservation Society, Seawatch and on Sunday Creud, the community group, made a Creative Trail at Pen Dinas & Tanybwch Local Nature Reserve.

On Tuesday 14th there was an open day at Coed Simdde Lwyd, a Wildlife Trust of South and West Wales Nature Reserve, in Cwm Rheidol. Lizzie Wilberforce, the Wildlife Trust Officer, and volunteers gave guided walks around part of the area of sessile oak woodland in the valley. Many birds breed in the woods and wood warblers were heard on the day.

Despite the shaky weather Ermol V was fully packed when it ventured out of New Quay Harbour on Wednesday 15th for a two hour cruise along some of Ceredigion's finest coastline. Guiding the trip was Liz Allan, Conservation Management Officer and Biodiversity Weeks organiser in Ceredigion. Amongst the passengers on board were Lisa Jones from Cross Inn and her friend Kitty Evans. They had won the trip as the second prize of the Biodiversity Quiz that has been running all week on Radio Ceredigion. The first prize, two tickets for a day trip to Skomer Island, was won by Avril Davil from Clogerran.

Also on Wednesday, the Shark Trust held a 'Shark day', at New Quay harbour. Children from Ysgol Ceinewydd and Ysgol Mydrodyn used the shark-o-meter to explore the smallest, flattest and strangest sharks. Then as part of the Great Eggcase Hunt the children learnt about hunting for eggcases and other strandline treasures.

In the evening, Helen Bates from the Seawatch Foundation gave an informative talk on The Marine Biodiversity of Cardigan Bay. Her talk was wonderfully colourful images of underwater marine life including 'deadman's fingers' coral and grazing sea urchins. The audience also learnt how to tell the difference between bottlenose dolphins and harbour porpoises.

On Thursday 16th, Liz Allan led a guided walk along the coastpath to the Cardigan Bay lookout point where the group met one of the Dolphin Watch volunteers. Diving gannets and harbour porpoise sightings were some of the highlights.

That evening an enthusiastic Lesley Cowhig from the RSPB presented 'Aren't Welsh Birds Brilliant!' The RSPB is encouraging farmers in Ceredigion to manage some of their land to benefit declining farmland birds such as the yellowhammer.

On Sunday 19th, Paul Evans from Ceredigion County Council, led a 3 mile circular Butterfly Walk linking Llanrhystud to the coast path. Much of the walk focused on an area of south facing heath/meadow which is an excellent habitat for butterflies and insects in general.

Denmark Farm near Lampeter had its open day on Sunday. There were guided walks and pond dipping in this haven for wildlife as well as crafts displays and stalls and pony rides.

All of the above events were organised by Ceredigion's LBAP (Local Biodiversity Action Plan) Partnership, in association with Friends of Cardigan Bay, Keep Wales Tidy, Seawatch Foundation, Shark Trust, Creud and Coed Cymru.

For further information contact: Sarah Andrews, Biodiversity Officer, Ceredigion County Council on email: saraha@ceredigion.gov.uk or phone: 01545 570881.



TALK: One of the activities during the week's events.

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Something fishy going on...

As part of Wales Biodiversity Week, children from Ceredigion have been getting involved in activities to highlight the problems of litter in the marine environment.

CHILDREN from Llansarllt, Llanfarian, Cwmpadarn and Plasrhyg primary schools have been busy designing posters for Wales Biodiversity Week to highlight the problems of litter in the marine environment.

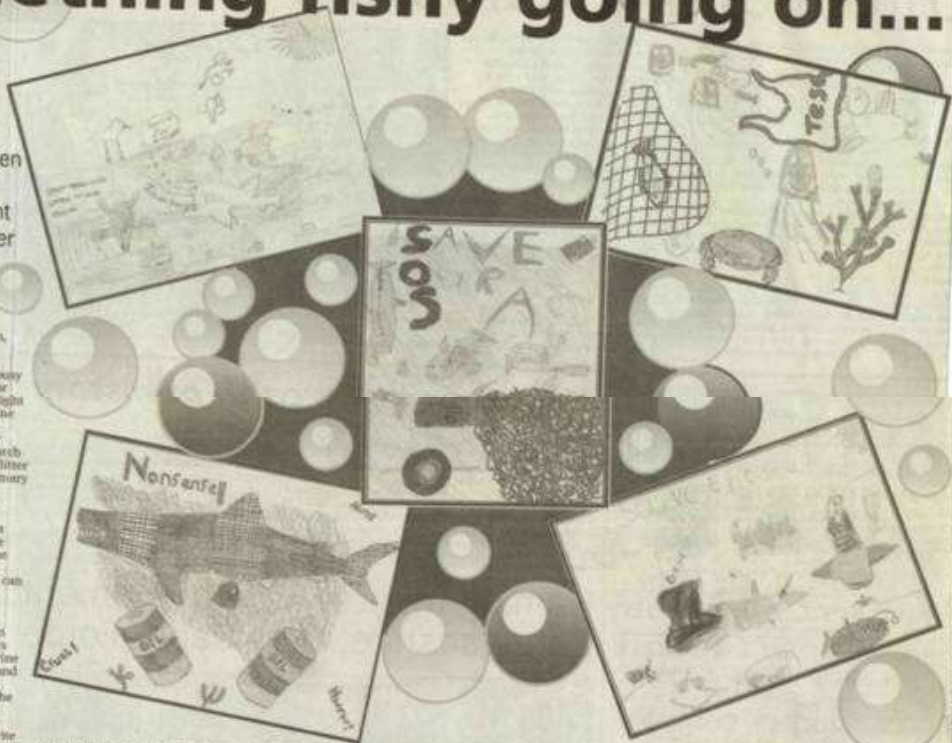
As part of a series of events for Wales Biodiversity Week, Sea Watch Foundation Cymru ran a marine litter poster competition with local primary school children.

Education Officer, Helen Bates spent the week leading up to Biodiversity Week visiting various schools within Ceredigion to raise awareness of the wealth of marine wildlife that Cardigan Bay has to offer and the problems that litter can cause within the marine environment. The children participated in an interactive presentation and group discussion highlighting the impacts that marine litter can have upon the wildlife and habitats within the region.

The posters were displayed at the bandstand in Aberystwyth throughout Marine Day whereby visitors could vote on their favourite poster. The posters did a great job of raising awareness about the impacts that litter can have on the marine environment and really got people thinking about what they can do to help conserve our coastline and its wildlife.

Helen Bates, SWF Cymru's Education Officer said: "The children had a fantastic time learning about the marine wildlife found in the coastal waters of Cardigan Bay and produced posters of such a high standard it was a difficult task for visitors to the event to choose their favourite!"

Prizes were presented this week to the winners of the marine litter poster competition, who were: Llansarllt School: Kerryann Clive (age 11); Llansarllt School: Erin Gruffydd



MAKING A SPLASH: Works by: (top left) Tony Mainwaring; Erin Gruffydd; (centre) Pat Leam; (bottom left) Adam Howard and Rhidian Evans.

(age 6), Pat Leam (age 8); Cwmpadarn School: Rhidian Evans (age 8), Jemma Jones (age 11), Plasrhyg School: Tony Mainwaring (age 9), Adam James Howard (age 9).

The Marine Day got biodiversity week off to a flying start with many activities taking place to inform and entertain visitors. The "Whose bones are these?" quiz provided a gritty fascination as visitors tried to identify bottlenose dolphin, Grey seal, Harbour porpoise and Leatherback turtle skulls, and a photo-identification quiz taxed people with their visual observation skills when trying to find matching dorsal fins.

Without a doubt the biggest success of the day was the Name-a-Dolphin competition. The Sea Watch Foundation have so far identified 140 bottlenose dolphins within the Cardigan Bay area and some are known to have been in the area for over 17 years, but until now these dolphins have been known only by numbers. Helen Bates said: "We are giving people the chance to choose names for the dolphins that live in Cardigan Bay by running this competition. The Marine Day was the first chance for people to do this and we will be running the competition during our summer roadshow where we will be at several events around Ceredigion. Eventually we will have

names for all the dolphins in the catalogue and it is a nice way for local people to get involved."

During the Marine Day suggestions flooded in and a certificate with a picture of the dolphin and its new name will be sent out to each person whose dolphin name was chosen.

The Marine Day proved a great start to a busy week packed with something to please everyone from walks and talks to boat trips and games. Wales Biodiversity week was a huge success and everyone who got involved came away informed, entertained and with a greater awareness of the huge array of plants, animals, fish and birds to be found right on their doorstep.

"The children had a fantastic time learning about the marine wildlife found in the coastal waters of Cardigan Bay and produced posters of such a high standard it was a difficult task for visitors to the event to choose their favourite!"

Helen Bates



MARINE PROJECT: From left: Pat Leam, Erin Gruffydd, Kerryann Clive, Rhidian Evans, Adam Howard and Tony Mainwaring.

Appendix Seven: Article in Quay Notes

SEA WATCH FOUNDATION— MARINE DAY— report by Katie Hill

Any visitors to the Aberystwyth bandstand on Saturday the 11th. June would have been met by a frenzy of marine themed activity - live music, T shirt printing, sculpture making, games and competitions were some of the activities, going on to help kick off Wales Biodiversity Week.

Saturdays event was just the first in a packed week of talks, walks, boat trips and presentations co-ordinated by Ceredigion biodiversity partnership aiming to raise awareness of the variety of wildlife in Wales.

Sea Watch Foundation Cymru, and its band of willing volunteers worked hard preparing for the event and it certainly showed! The Sea Watch stand was surrounded by posters designed by children from Ysgol Cwmpadarn, Llanfarian, Plascrug and Llanarth showing the problems of litter in the marine environment. The standard was incredibly high and visitors had a difficult time deciding which to vote for.

Name a Dolphin competition-Sea Watch have identified around 140

Bottlenose dolphins in Cardigan Bay but until now they have only been known by numbers. On Marine day 18 individuals were put forward and suggestions for names weird, whacky and wonderful, flooded in.

It didn't stop there! There was a slightly grizzly photo ID quiz, "identify the skull" and a not so willing volunteer in a puffin outfit . Visitors were kept entertained and amused but most importantly, informed about the huge array of marine life right on their doorstep!

(The Sea Watch Foundation operates from Paragon House New Quay)



An entry for the poster competition

Aberteifi - Ceinewydd Cardigan - New Quay

EXPLORE
The magnificent coast

Gorffennaf yr Iaif a
Medi'r 24 ain
(dydd Llun i ddydd
Sadwrn)
1st July - 24th Sept.
(Monday to Saturday)

PUBLIC INFORMATION FROM N.Q. SURGERY
Patients wishing to contact a doctor when the surgery is closed should telephone 08708 509508 . Thankyou.

Appendix Eight: Article for Dolphin Watch magazine



With so many sightings of Sunfish (*Mola Mola*) occurring along our coast, we thought it was time to contact Helen Bates of the Sea Watch Foundation Cymru and get the low down on this unusual species of marine life.

MC: What are the common misconceptions surrounding Sunfish sightings?

HB: Usually that the animal is in distress - or a confusion with other species, from injured turtles to small dolphins or sharks. This is mainly due to the unusual shape of the sunfish and the fact that most people believe that such species can't be found in British waters.

MC: Where does the *Mola mola* - or Sunfish derive its name and origin?

HB: Sunfish derive their name from the Latin word 'Mola' meaning millstone, describing the sunfish's distinctive flat oval or circular shape, with the head making up a third of the total body length. They're

usually found in tropical and subtropical waters, but young sunfish are regularly seen in Cardigan Bay and other areas of Britain during late summer.

MC: How about markings or features?

HB: The mouth is small and parrot like fronted by large fused teeth that are skilled at sifting and filtering seafood. Colouration wise, they usually vary from brownish grey to blue, becoming paler towards the belly. The Sunfish seen in UK waters are usually a maximum of 2 meters in length - suggesting that only the young fish are seen here.

MC: How does the species behave? What signs should people be on the look out for when identifying this fish?

HB: Sunfish are often seen swimming close to the surface nearly motionless, basking on their sides, perhaps getting warmed by the sun or soliciting seabirds to pick off parasites. It's not necessarily an indication that they are sick or injured. Whilst swimming at the surface the dorsal fin is clear of the water and it is common for their fins to be mistaken for sharks or giving it the animal in distress look. When swimming properly the sunfish will hold its body upright and move itself through the water using its long dorsal and anal fins.

