HELFORD
Voluntary Marine Conservation Area

Newsletter No. 31 Autumn 2005

Helford Native Oysters

The collection of native oysters for food has long been recorded from coastal and inland archeological sites even as far back as the Iron Age. Near Eastern traders and Roman settlers were familiar with oysters from their Mediterranean use and Turkish pirates were reputed to target succulent Cornish oysters! By the 16th century oysters became marketable here and with an increase in value, ownership rights were established and cultivation techniques evolved. Historically the main British industry developed on the coasts of Kent, Essex, Isle of Wight, Devon and the now abandoned beds in Scotland, whilst in mainland Europe it was chiefly in France and Holland. Until the mid 19th century, oysters were a 'poor man's food' and huge quantities were sold. Now they are regarded as a luxury item!

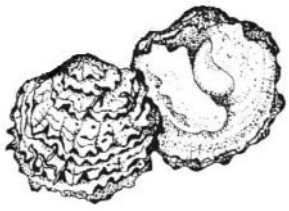
The Helford River beds came under private ownership through church lands and royalty. Early in the 20th Century MacFisheries and subsequently the Hodges family leased the rights from the Duchy of Cornwall. Some four generations of the family have managed the oyster beds but now, in 2005, changes are taking place with a transfer of the lease to Ben Wright who has experience of marketing oysters in both France and England. (Ben will have more to add in the next newsletter.) Ben aims to regenerate the Duchy Oyster Farm beds whilst respecting conservation issues within a Special Area of Conservation and VMCA and following the advice of bodies such as English Nature, the Environment Agency and the National Trust.

His long-term project is to produce the high quality Native or flat oyster *Ostrea edulis* and his first job is to test the stock, rake and clean all the beds and identify the most favourable areas for bottom cultivation where the visual impact would be minimal. Motor powered dredgers will be used but, by buying in stock from the Fal, the historic oyster sailboats will also be supported in some measure.

A secondary project will probably include mussels and the Pacific oyster *Crassostrea gigas* after consultation with English Nature.

Problems with the *Bonamia* disease in Native oysters, which caused devastation some 25 years ago should be avoided by good husbandry, namely by removing all stock at the end of each year. Pacifics were less affected and would be useful to fill the market demand all year round.

Extremes of temperature, and storms which can cause silting, are natural hazards, whilst physical disturbance of the beds by pleasure boats or water sports enthusiasts cause concern. Accidental pollution of the water is an ever-present and serious threat to this long-established industry and everyone using the river and its shores needs to be extra careful with fuels, sewage and all chemicals.



The high quality of water so essential to the successful growth of the Helford oysters is a factor that is also important for the marine wildlife in all its diversity - truly "Commerce, Conservation and Community" in action.

Pamela E Tompsett

Aim: **To safeguard the marine life of the Helford River by any appropriate means within its status as a Voluntary Marine Conservation Area, to increase the diversity of its intertidal community and raise awareness of its marine interest and importance.**

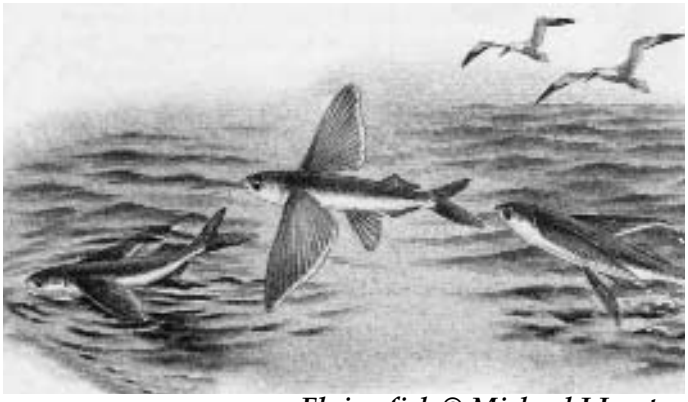
For further information relating to the Helford Voluntary Marine Conservation Area please contact the *HVMCA Group Co-ordinator*: PE Tompsett, Awelon, Colborne Avenue, Illogan, Redruth, TR16 4EB. Tel: 01209 842316

***Chairman*: David Muirhead *Co-ordinator*: Pamela Tompsett**

***Design*: Sheila McCann, Cornwall Wildlife Trust *Illustration*: Sarah McCartney, Cornwall Wildlife Trust**

Alwyne Wheeler and the Flying Fishes

One or more species of flying fish occasionally stray from southern warm waters into the north-east Atlantic. Few of these have been examined critically, and in the 19th and early 20th century they were all assumed to be *Exocoetus volitans*, a small species only 19 cm (7.5″) long. It is well-described as a 'two-winged flying fish', because of the short pelvic fins.



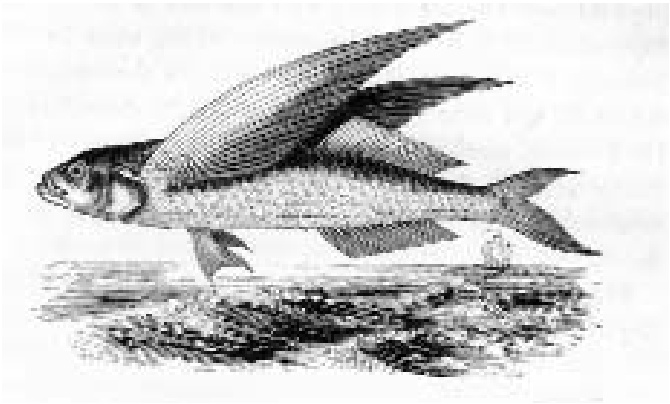
Flying fish © Michael J Loates

However, in his annotated list of British fish, published by the British Fish Society in 1992, Alwyne Wheeler states that probably all early records refer to the Greater Flying Fish, *Cheilopogon heterurus* also known as the Atlantic Flying Fish. This species reaches a length of 30cm (12″) according to the same author in *The Fishes of the British Isles and North-West Europe*, 1969.

Of the very few Cornish specimens, one was found in the early 19th century, still alive, in the Helford VMCA. Jonathan Couch writes about this in volume 4 of his *A History of the Fishes of the British Isles*, but more details appear in a manuscript that William Yarrell received from Jonathan Couch himself and which Yarrell reproduces in his *A History of British Fishes* 2nd edition (1841). Here is the extract:

The flying fish "threw itself on shore on the sandy margin of the Helford River near Falmouth at full two miles from the open sea, where it was found while yet living. I was informed by Mr John Fox, of Plymouth, in whose collection this specimen was in 1828, that it measured sixteen inches in extreme length, and that the pectoral fin was eight and a half inches long …"

So what species was our HVMCA specimen? There is only one in the right size range: this is the largest of the flying fish in the Atlantic - *Cheilopogon pinnatibarbartus* Alwyne Wheeler writes (in his 1968 book) that one was found in a basket of Herring landed at Hull, and although we do not know where the Herring were caught, "the flying fish was believed to be of British origin", so we suggest that we can record the Helford specimen as probably *C. pinnatibarbatus.*

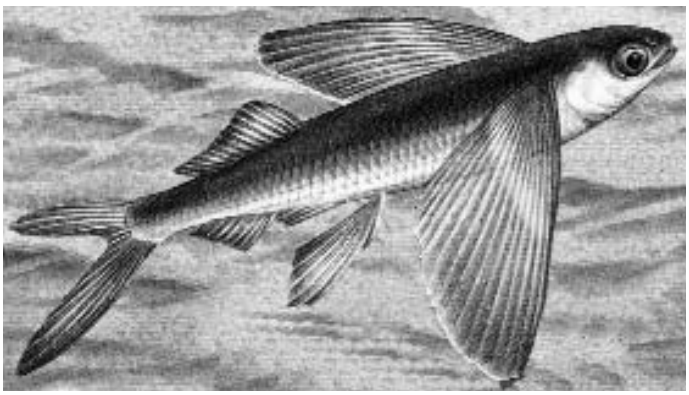


Two winged flying fish © W. Yarrell

Meantime one of us (PAG) has seen a specimen, 26cm long, that was captured 20 miles WSW of the Eddystone in July this year (2005). It is definitely a species of *Cheilopogon*, and it appears to be *C. heterurus* which has been identified in the N. E. Atlantic, although not yet authenticated in British waters. It had been provisionally identified as this species by Douglas Herdson, Information Officer at the National Marine Aquarium, from a picture in the Western Morning News for 15 July 2005.

Sadly, Alwyne Wheeler who would certainly have been consulted, died on 19th June 2005. His working life in the Fish Section of the Natural History Museum brought him in touch with fish experts throughout the world. Apart from the few publications that we have mentioned, he wrote other books and many scientific papers. His very last publication appeared recently. It was completed by two colleagues, Neil Merrett and Declan Quigley and it is a fitting memorial since it is entitled *Additional records and notes for Wheeler's (1992) list of the common and scientific names of fishes of the British Isles*, and was produced as the Fish Society of the British Isles. The importance of the 'frontier' waters of the far south-west is well shown by the many species new to the British list that have been caught off Devon and Cornwall.

Paul Gainey and Stella Turk



Atlantic flying fish* Cheilopogon heterurus © *Michael J Loates

New geological sites (RIGS)

The rocks surrounding the Helford have a complex history dating back 300-400 million years (nothing compared with the NHS or other government budgets in terms of numbers!!). The oldest rocks were formed in an ocean basin, quite unlike those of the same Devonian age in the rest of Britain, which were laid down under Sahara desert conditions. This is why they have been long recognised as of national importance, and designated Sites of Special Scientific Interest (SSSI), giving them statutory protection. These SSSIs, surrounding the Outer Helford, stretch from Rosemullion Head through Gillan to Porthallow and beyond. There are other sites which although not meriting national status, have regional significance in the understanding of how Southwest Britain developed after that ocean was bulldozed close to and piled onto Cornwall. The Helford area is surprisingly rich in such Regionally Important Geological Sites (RIGS) or County Geological Sites.

2) Landslip by lamprophyre

Four sites have already been identified and designated. Two concern the events associated with the emplacement of Cornwall's famous granites. The lamprophyre rock at the western end of Prisk Beach is a precursor to the great granite intrusions. In the winter of 2004/5 the rocks adjacent to it were involved in a landslip, emphasising its importance as a local navigation landmark (Fig 2). This event highlights an important difference between the rocks on either side of the Helford. On the north side the rocks dip into the Helford and can easily slip into its waters down the bedding planes, whereas on the south side they slope into the hillsides, and erosion has a harder time of it.

At last year's HVMCA event at Goongillings Farm, some interesting old surficial mine workings, associated with the iron-rich lode which was formed subsequent to the granite and exploited by the Brogden Mine on the other side of Polwheveral Creek, were explored. These workings are in remarkable condition

1) Raised beach and Head, Nelly's Cove, Porthallow

and have been designated as an important conservation site. Lesser horseshoe bats have also found them of interest as hibernation sites (hibernacula). Access is therefore strictly controlled and by permission of the owner.

The other two sites concern processes that happened after the Helford River itself was incised into the underlying rocks. The section at Nelly's Cove, just north of Porthallow, is a classic locality for understanding the development of the cliffs around the Helford River. Here you can see from the Coastal Footpath a former raised beach and cliff buried by Ice Age Head (Fig 1), a very common occurrence around the Helford. The importance of this site was recognised and sketched as early as 1839 by Henry De La Beche who went on to become the first Director of the British Geological Survey.

The stonework of the Old Schoolhouse and Quay Cottage, Durgan, shows significant erosion due to salt weathering (Fig 3) and has also been designated to highlight a little-recognised process that affects our coasts and estuaries. Importantly, because the cottages are known to have been built in 1876, the rate of salt weathering can be measured. This would make an ideal hands-on project for National Science Week next year. Any takers?

Peter Ealey

3) Salt weathering at Durgan

Annual Report October 2004 to September 2005

Forging strong links between "Community, Commerce and Conservation" continues to be a significant aim of the Helford VMCA Group in order to improve the marine wildlife and biodiversity of the Helford River. The sustainable use of this sensitive environment has been the main topic for discussion amongst an average of 18 members and associates at each quarterly meeting. In particular, representatives of statutory and related organisations welcome the opportunity to seek the views of local river users and focus on areas of mutual concern. Specialist speakers have come to exchange valuable ideas through informal discussion on relevant topics such as protective anti-oil pollution booming, shellfish water quality, sediment sampling, new scallop dredging bylaws, maerl extraction, cockle collection, proposals for dredging in nearby Fal Docks and Ship to Ship oil transfer whilst not forgetting a plan to extract of sea salt commercially.

The geology of the Helford River, a ria, has received special attention and further RIGS designations (Regionally Important Geological/Geophysical Site) are being considered.

An input into wider national issues such as the content of the promised Marine Bill and inshore fisheries has been made possible through our chairman David Muirhead who is also a government consultee and chairman of the National Association of Sea Fisheries Committees.

Members have been pleased to meet Ben Wright, the prospective tenant of the Duchy Oyster Farm and have been involved in discussions on the revision of the moorings in relation to the historic oyster beds.

The HVMCA Group continues to have an input to Planning Applications which could have an impact on the marine wildlife of the river such as the Helford Community Quay and other private proposals. Major concerns have been aired in respect of the unauthorised use of the foreshore in some creeks and support expressed for a KDC water bailiff scheme and the Helford Ferry water taxi service.

Links with other VMCAs and various marine projects has continued, in particular the Cetacean Stranding project and the Seasearch divers' recording scheme. The VMCA designation arose from the concerns of marine biologists and marine recording wherever possible has been warmly welcomed.

Measuring Sea bass

Derek Goodwin's Helford juvenile bass investigation begun in 1994 has been scaled down but he was able to report that 2005 hatchlings were present again, although in small numbers, and the exceptional 2002 year group were thriving.

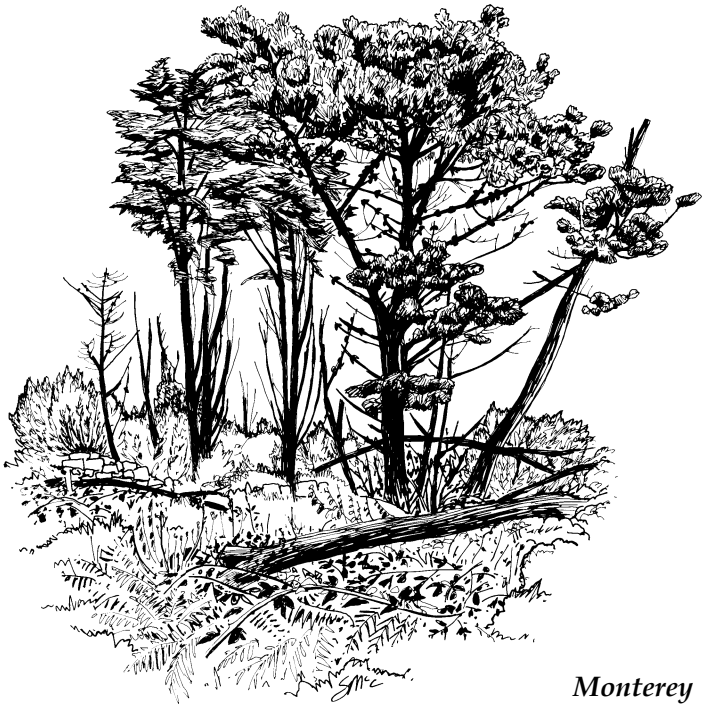
There was a national Biodiversity Action Plan protecting the sensitive eelgrass bed habitat. The associated species of fish, anemones, molluscs, worms and cuttlefish were observed by diving members to be in good condition and warning buoys had deterred most visiting boats from anchoring and causing damage.

A major European initiative, the Cycleau project (water cycle) was taking place in the South West and, along with other water catchments in Cornwall, Brittany and Ireland, the whole Helford River complex was under scrutiny targeting water quality and sediment movement. Small grants were available to encourage farmers to improve any input from their land, etc. The project specifically included the involvement of specialist groups such as the HVMCA Group and cultural activities throughout the wider community.

Continued on last page.

A Botanical walk in May

An enthusiastic group met Keith Spurgin at the quarry near the head of Gillan Creek, in fitful sunshine where Keith said that he was not expecting to see any especially rare plants but there was a good opportunity to become familiar with some woodland and wayside species. Soon the walkers were enjoying the vista of the creek at low tide complete with nesting swans. Pam Tompsett pointed out the brown seaweed *Fucus ceranoides* found in the upper, less saline creeks. Following the narrow road to St. Anthony's Church, the group was soon seeing members of two plant families in particular, the umbellifers and the crucifers. Amongst the former, Alexanders, the Roman pot-herb, was tasted without any ill effects and we also saw Hemlock Water-dropwort, a very poisonous plant, true Hemlock with its purple blotched stems, Cow Parsley and the feathery-leaved Pignut. The crucifer or Cabbage family was well represented by Radish, Scurvy-grass and Swine's-cress, the latter well-grown and very acrid.



Monterey cypress

Stopping at a very shady, damp area of woodland some garden escapes were seen: Garden Archangel with its silver-spotted leaves, Skunk Cabbage (fortunately not in flower) and a pink-flowered *Persicaria, P. campanulata*. Orange-tip butterflies were flying and one travelled the length of the group as it set off again along the narrow lane.

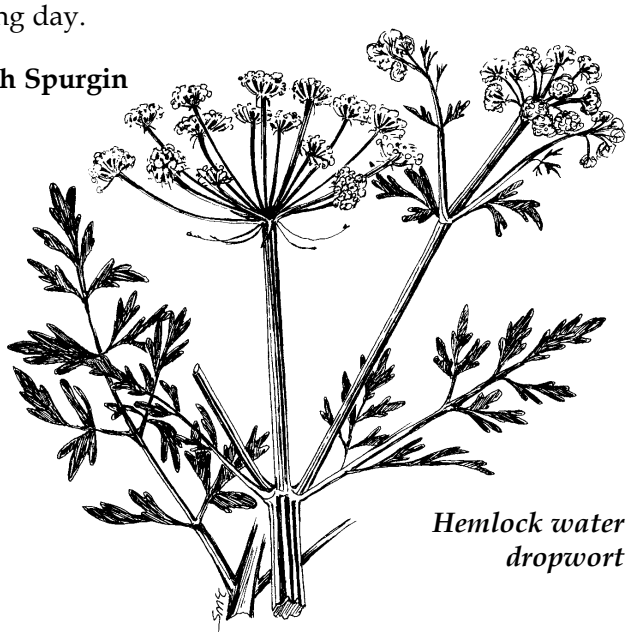
On the National Trust footpath between the road and the creek, the party admired some large trees, provisionally named by Keith: Monterey Pine and Monterey Cypress. Some interesting facts included the growth rate of some conifers (up to 2.5 metres a year) and that some pines kept their cones on the branch for 80 years. Growing among these giants of the creekside was a single Sweet Chestnut sapling, not particularly common in Cornwall. We were shown the differences between Three-cornered Leek, a 'bulbfield parvenu' according to Keith, and native Ramsons, its alternative name 'Broad-leaved Garlic' being one way of telling them apart. A wide spreading carpet of Lesser Periwinkle was the largest colony Keith had seen in Cornwall.

Back in the lane, the black, hard, shiny fungus King Alfred's Cakes grew in some quantity on old trees. An apparently self-sown Myrtle (always an escape in the British Isles) was a rare find. By the time the path down to the creek was reached, the tide had risen and the tree-lined waterside shone in the sunshine. On the small beach by some wooden caravans there was a range of quite different plants including Fat Hen and Couch Grass. An unexpected rarity, although clearly another escape from cultivation, was a single plant of Garden Rocket.

Two species of Fumitory were seen, one the Common Ramping-fumitory, on the beach, and the other, White Ramping-fumitory, in some abundance on the laneside bank, which also yielded Honesty as we walked towards the churchyard. The party climbed to the top steps and, following the back lane, reached the marina car park gate. Here on a gravel pile, there were enough plants for an afternoon's botanising, including a tall Brome-grass, which Keith compared with a specimen of Barren Brome to show the differences - while botanist Matt Stribley took photos of a fine group of fumitories.

About 35 of us enjoyed the delights of Gillan Creek, the church with its low stone tower and the opportunity to botanise on a fine spring day.

Keith Spurgin



Hemlock water dropwort

A cormorant and pipefish prey

One of us (JM) has a favourite fishing spot on the Helford River. In September of this year (2005) he noted that it was also favoured by a Cormorant that 'patrolled' quite a small stretch of coast - about 100 metres. He observed that the bird had become skilled in locating and catching pipefish, as on three separate visits he saw it swallow a total of no less than 10 of these fish.

Greater pipefish **Syngnathys acus © *Tony Sutton***

This led us to speculate on which species was being caught - and indeed if more than one species was involved. There are six species of pipefish in British waters, 5 of which have been found in the HVMCA.

Manoeuvring these slim fish into the gullet is quite a performance, giving JM time to assess the size. This varied from a minimum of 15cm to a maximum of 30cm, and judging by the frequency of occurrence and size, it seems likely that the species being consumed by the Cormorant, were the Greater Pipefish and the Worm Pipefish.

These elegant, slender fish are described as pipe-like due to their similarity in shape to the clay pipes that were smoked in the 18th century. Instead of scales the pipefish have jointed bone-like rings from head to tail. They usually swim with an eel-like motion, although when feeding they can swim in a vertical position similar to the closely related two British species of sea-horses. The males of pipefish and sea-horses have a special brood-pouch in which the eggs, produced by the larger female, develop and eventually hatch.. Since there are no teeth in their small tubular mouths they capture their minute prey by suction.

SPECIES OF PIPEFISH IN BRITISH WATERS		**Maximum size**		
Common name	Scientific name	Female	Male	Status HVMCA
Worm Pipefish	*Nerophis lumbriciformis*	15 cm (6")		Common
Straight-nosed Pipefish	*Nerophis ophidion*	30cm(12")	20 cm (8")	Five records
Greater Pipefish	*Syngnathus acus*	46cm(18")	30cm(12")	Fairly common
Nilsson's or Lesser Pipefish	*Syngnathus rostellatus*	17cm (ca. 7")	10cm (4")	One record
Deep-snouted or Broad-nosed Pipefish	*Syngnathus typhle*	30cm (12")	12cm (ca. 5")	Two records
Snake or Ocean Pipefish	*Entelurus aequoreus*	Very large and almost entirely oceanic		None

Thanks to Joan Carr and Treve Opie for help in preparation of this note.

John Munday and Stella Turk

Helford Events 2006

There is a full programme of events planned for 2006 starting Sat. 7th January – pick up leaflets now for you and your friends.

Flora Day Special for our former Educational Ranger

Everyone will be pleased to know that Ruth Williams had little boy on the 8th May 2005. Our very best wishes to Ruth, Jeremy and Joseph Edwin

Farm Pollution advice in the Helford Catchment

As a Farm Conservation Adviser with FWAG (Farming and Wildlife Advisory Group), I am used to working with farmers from all over West Cornwall. What is so nice about the Cycleau Project on the Helford is that I get the chance to work in one river catchment with one group of farmers. My role within the Cycleau Project is to visit farmers across the Helford Catchment, to look at their farm business with them and ascertain whether there is anything else that they could be doing to minimise diffuse pollution.

Farm pollution comes from a variety of sources - soil particles carrying phosphate; surface runoff following applications of manure, slurry, or dirty water; or from leaching of nitrate through the soil. The problems for the farmer are complex and finding a solution is usually a case of looking at technical issues such as soil fertility levels and soil structural problems, combined with finding economic help from Government environmental grant schemes. The types of solution can vary from leaving buffer strips alongside watercourses to increasing storage for slurry on dairy farms so that the farmer can avoid spreading at the most vulnerable times of the year.

Specifically under Cycleau on the Helford, there is a pot of funding available for capital changes to farms that will help with reducing diffuse pollution and protecting watercourses. Several grants have been agreed, including fencing streams to prevent livestock access, moving gateways to prevent soil washing into watercourses, and increasing slurry storage on a dairy farm. Although small scale and localised, such changes can positively impact on water quality in tributaries, as well as helping us understand the value of such a grant scheme. In addition to the capital grant, Cycleau is providing funding to enable me to carry out a few soil samples on the most intensive farms, as well as analysis of slurry and manure. Used in conjunction with each other, these figures enable the farmer to more accurately quantify the amount of fertiliser being applied through livestock manures, enabling him or her to pare down artificial fertiliser applications to the minimum required for crop growth.

I have so far had a very warm welcome from all of the farmers I have visited and look forward to seeing many more over the next few months. If any farmers in the catchment would like a visit, please feel free to give me a call.

Annabel Keast
Please do not hesitate to contact Sangeeta Taylor, Cycleau Facilitator – Fal & Helford
staylor1@cornwall.gov.uk Mobile – 07973 813557 or Annabel Keast, FWAG office 01872 224005

Helford River Drawing Competition 2006

Do you enjoy creating pictures with pens, pencils or computers?

If so, enter our drawing competition using the Helford River as your inspiration.

Further details can be obtained from
Margaret Burford, Chyvandour, St Martin-in-Meneage
Helston TR12 6DF Tel: 01326 221 632 or *www.helfordmarineconservation.co.uk*

Please send stamped addressed envelope for entry form
A) Monochrome drawing in conventional media (pens, pencils, etc) or B) Digital art

Categories for A & B:

1) Children age - as at 1st Sept. 2006
   8 years and under
   16 years and under
2) Adults

Entries should be sent to the above address by 31st Dec 2006.
Results will be announced at the 2007 Annual General Meeting to be held in Gweek Village Hall, March 2007

Continued from page 4

Events

The damp weather conditions in October favoured the fungi which proliferated in the Merthen Woods reaching down to the Quay and attracted 30+ foray enthusiasts. In November Dr Nick Tregenza gave a fascinating talk on the dolphins and related cetaceans seen on our Cornish shores and the efforts being made to prevent their demise in fishing nets. There was a full house of 70+ at this meeting which incorporated an AGM and social. Another full house greeted John Boyle in February who showed some amazing film of shark tracking and strange deep water creatures. At the annual meeting of the Helford Marine Conservation Society in March Derek Carter spoke on local history and aspects of the river. In the absence of Ruth Williams, Joana Doyle and Pamela Tompsett led an April seashore safari at Bar Beach during which some 50 adults and children enjoyed the delights of the marine life revealed on a low tide. The May walk is described elsewhere.

In June Joana had fun with a mixed age group at Treath constructing strange monsters and mermaids from strandline material. The popular Annual Conservation Cruise (the 16th since 1993!) was fully booked and blest with glorious weather yet again! Spectacular views across Fal Bay at the mouth of the Helford River on the way to the sheltered Gillan inlet contrasted with gleaming sinuous creeks upstream. The brilliant white plumage of the Little Egrets flashed amongst Grey Herons in the trees along the wooded shores confirming their resident status. On board, children and grownups alike came face to face with crabs, worms and molluscs with the help of National Trust volunteers and their carefully prepared sea water tanks. Other fascinating aspects of this sheltered marine environment and the way in which the waterway was being used were described. Members of the Group were on hand to relate items of historical interest and also draw attention to the efforts being made to ensure good water quality for people and wildlife.

Later in the month stormy weather made the beachcombing and art day at Durgan beach with Robin Paris, assisted by Pamela, something of an endurance test. Nevertheless 20+ people scoured the beach for interesting items to be converted into artistically decorated boxes or framed pictures and the event was much enjoyed. Both the August and the September events were located at Prisk near Rosemullion Head in warm sunshine. Joana led a very successful rockpool ramble with nearly 50 people present, all searching diligently for colourful fish, shells and seaweed in the extensive reefs. More recently an enthusiastic group (25) joined Alan Bromley to learn about the special geological features of the Helford River area.

Altogether the events programme has attracted nearly 550 participants who were able to enjoy and learn about this very special place, the Helford VMCA!

The Future

The group aims to continue the networking and public awareness role with support coming from various sources such as local businesses, user organisations and statutory bodies. A significant recent input from the Cornwall Area of Outstanding Natural Beauty Sustainable Development Fund is gratefully acknowledged.

This means that the efforts of the existing members and the many volunteers who have given so generously of their time and expertise will be strengthened for the foreseeable future for good of the whole Helford VMCA and its important marine wildlife.

Pamela E Tompsett
Helford VMCA Group Co-ordinator

HVMCA Group website

The website has been well used and some updating is being planned in the near future thanks to a volunteer and the good offices of Jayne Herbert our website manager.
www.helfordmarineconservation.co.uk and
www.helfordvmca.co.uk