

Volume 13 Number 2 Summer 2000

# Electric Boat **NEWS**

The Journal of the Electric Boat Association



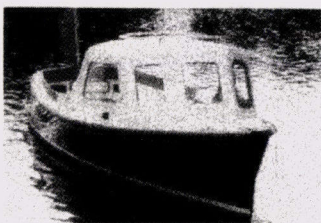
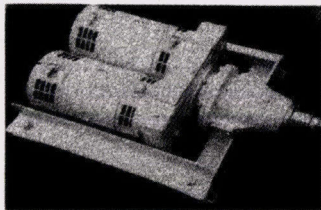


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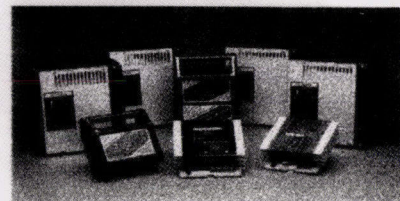
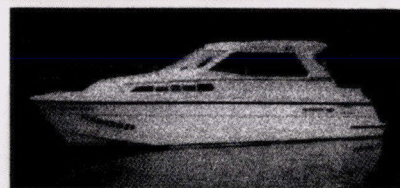


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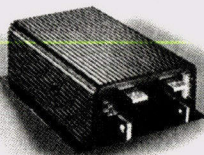
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# EBA CALENDAR

## July

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- 15th**      **EBA Event**      EBA Fenland Event  
*Hertford Marina, Huntingdon*
- 22nd & 23rd** **EBA Presence** River & Launch Weekend  
*Shrewsbury*
- 28th-30th**   **EBA Interest**   Inland Waterways Festival 2000  
*Birmingham NIA*

## August

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- 25th – 28th** **EBA Presence** IWA National Waterways Festival  
*Waltham Abbey – See us at Stand 09*

## September

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- 2nd**      **EBA Event**      Electric Boat Rally  
*UTSC Bourne End*
- 16th & 17th** **EBA Presence** Silent Sensations  
*South Walsham Broad, Norfolk*

## October

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- 23rd**      **EBA Event**      Laying-up Supper

For details on any event contact **Barbara Penniall**

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**Cover Picture: Cedric Lynch arriving for the Thames Rally  
in his solar powered canoe**

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### **Electric Boat Association**

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# CONTENTS & EDITORIAL

## Contents

- Page 2**    **Electric Boat at Westminster**  
*An insight into the work of the Association at Westminster*
- Page 3**    **Letter to Global Atmosphere Division**
- Page 3**    **Boat Safety Scheme**  
*Letter from the BSS updating practice on renewal safety certificates*
- Page 4**    **Committee Report**  
*Report of the meeting held on 10th May*
- Page 5**    **Eco-boat 2000**  
*Conference report*
- Page 6**    **Thames Rally**  
*EBA on the hottest day of the year*
- Page 7**    **Penniall's Page**  
*A missive from our illustrious secretary*
- Page 8**    **Boats On Show**  
*Report from Beale Park*
- Page 10**    **The World's Fastest Electric Boat**  
*An antipodean report and challenge*
- Page 12**    **Overseas News**
- Page 14**    **Home News**
- Page 15**    **Letter Page**
- Page 15**    **Product report**

## Copy Deadlines:

Material to be considered for inclusion in Electric Boat News should be sent to the Editor by the following dates:

|        |          |        |               |
|--------|----------|--------|---------------|
| Spring | Mid Dec  | Summer | Mid March     |
| Autumn | Mid June | Winter | Mid September |

## Editorial

### Imagine...

...a warm summers day in England. A waterside setting, river or lake, it doesn't matter which. A group of friends coming together in their boats. The quietness of the boats indicates that they are electric boats. The people disembark and enjoy a picnic, discussing a range of items to do with boats

and motors and batteries and wine and food, the meaning of life and the price of fish!

Such an event could well have been organised by the Electric Boat Association. Many are, and although this is an important part of the work of the association, it is by no means the most important part of our work.

The Association reflects and shapes the views of its members, be they users or trade members. It then represents those views where it matters. And it probably matters most when the Association is lobbying on your behalf with the Government. It is your voice.

However, a vital part of this process is missing, or at least not functioning as well as it could be. How do we know what you think or what you want? We listen, but sometimes it is difficult to hear. To use our chairman, Jim Keating's phrase, 'I hear the mumbling'. But it would be better if your views, ideas, suggestions and concerns are presented in a more formal way, with supporting arguments to back them up. In this context, please read and respond to Jim's request on page 2.

Changing subject, the revamp seems to have been popular with you and I would like to thank those of you who wrote, e-mailed, spoke to me or, perhaps most frustrating for those concerned, left a message on my answerphone, with comments, all positive, on the layout. All that remains now is to achieve publication on the announced dates!

*Bruce James*



# ELECTRIC BOAT AT WESTMINSTER

For a considerable time the Electric Boat Association has participated in the Parliamentary Waterways Group. This group is essentially a lobbying group, organised by the Department of the Environment, Transport and the Regions. An MP, representing the current Government, chairs it. It meets approximately every other month, achieving five meetings a year.

The Waterways Group has 86 associate members, representing all aspects of waterways users, from organisations like British Waterways, the British Marine Industries Federation, the Broads Authority through to the organisation that represents residential boat people. Any elected or appointed member of either chamber of Parliament who has a special interest in boating can attend on either a regular or occasional basis. Currently, there are 38 MPs and 10 Peers in the group. Typically 60 or more attend each meeting.

At a meeting there will normally be a presentation on a subject relevant to the group, followed by an opportunity to ask questions and raise issues either on the particular topic, or on other items of more general interest.

From the point of view of the Electric Boat Association, our involvement with the Waterways Group is of prime importance. It gives us an opportunity to hear the views of other interested parties on boating issues and to have a voice at a formative stage of legislation. Our current representative is our chairman, Jim Keating, who has been involved for more than five years, joining the group when he was the Association's Technical Officer.

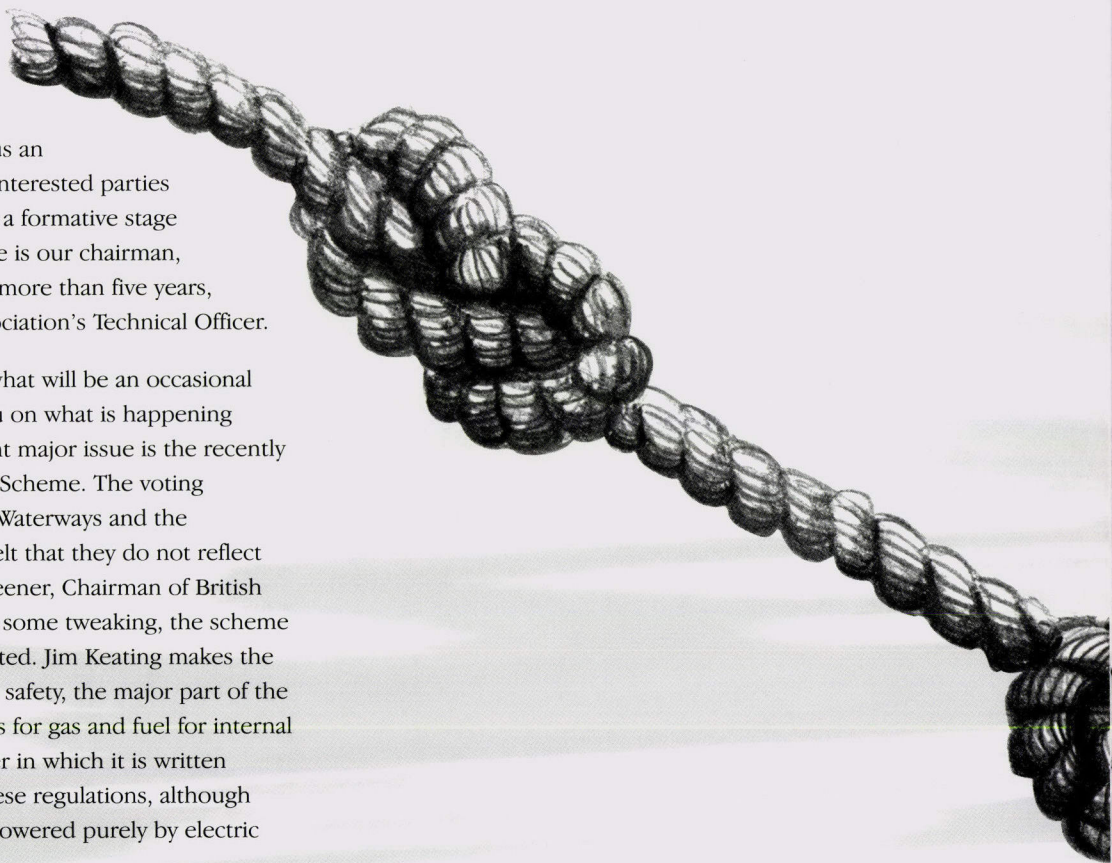
The above preamble is background to what will be an occasional series of articles designed to update you on what is happening within the Waterways group. The current major issue is the recently formed review body for the Boat Safety Scheme. The voting members on this body are from British Waterways and the Environment Agency and the meeting felt that they do not reflect the diversity of interests. Sir George Greener, Chairman of British Waterways, commented that, except for some tweaking, the scheme was a good thing and should be supported. Jim Keating makes the point that whilst we are all interested in safety, the major part of the BSS Manual deals with the requirements for gas and fuel for internal combustion powered boats. The manner in which it is written suggests that we have to conform to these regulations, although they are not relevant to boats that are powered purely by electric

and have neither gas nor fossil fuel on board. What is required is an additional section in the manual that is less ambiguous in its interpretation and more specific to the electric propelled pleasure dayboat.

This discussion will continue. Jim Keating writes,

*'I would ask for constructive comments from members who have had experience of the Boat Safety Scheme, so that these can be collated and put forward to the review body. I can hear the mumbling, but unless we can convey our views, they will not be considered'.*

Please write with your experiences or your views on the BSS either to Jim, or to Barbara Penniell, both of whom can be contacted as shown on the inside front cover of this magazine.





Jim Keating wrote the following letter to the Global Atmosphere Division, responding to a draft publication in which they appear to have lost sight of the ball! I include it in EB news to illustrate some of the behind the scenes work of the Association.

Dear Sirs,

Response to the Draft UK Climate Change Programme  
– 4th June 2000

There is no mention anywhere in chapter 5 of cargo transport by inland waterways. In spite of the statement in para.42 of that chapter 'shipping produces less pollution/tonne carried than any other forms of transport'. To make any headway with pollution reduction requires thinking from first principles. Due to their low friction, speed and virtual freedom from gravity, boats require less power than any other form of transport. (One horse can tow a 30 tonne barge at 6kph but would fail to move a 30 tonne HGV on level ground).

Currently there is not enough capacity on the railways to allow commercial organisations to use rail rather than road transport. By making greater use of the inland waterways (which played a big part in the industrial revolution) heavyweight low value cargo could be transferred from the railway. This would leave capacity to transfer cargo from the roads, hence reducing pollution and congestion.

The low power requirement of boats means they could be electric/hybrid powered off a high efficiency diesel engined genset operating at a constant optimum speed. Investment in the canal system could allow these barges to operate 24 hours a day hence speeding up deliveries.

Yours sincerely,

Jim Keating  
Chairman, Electric Boat Association

## Boat Safety Scheme

John Hustwick has received the following letter from Boat Safety Scheme clarifying time scales around retesting of boats under the scheme.

Dear John,

As a result of correspondence between BW and NABO a request to permit the forward dating of renewal Boat Safety Certificates by two calendar months was considered at the last Advisory Group meeting.

Currently, an examiner is permitted to issue a certificate one month early in order to encourage boaters to plan ahead. The examiner is entitled to make up the Certificate valid until four years on from the renewal date of the original certificate (i.e. a maximum of 49 months). (This is in accordance with "Guidance for issuing of BSS Pass Certificates: Item 4 CERTIFICATE DATING").

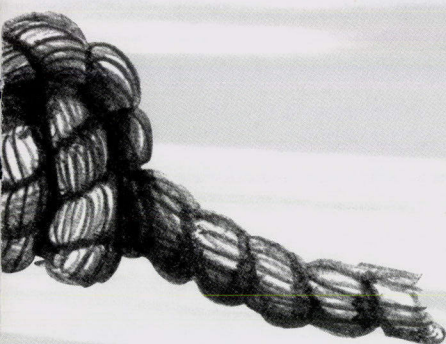
The Advisory Group agreed to the request to extend the existing allowance to two months before the expiry date of the Boat Safety Certificate – with the same extra validity – (i.e. 50 months).

This should assist any of your members who are now looking to obtain a renewal Boat Safety Certificate in the coming months. If they have the renewal inspection done two months prior to the existing certificate's expiry and the craft passes the examination they will not lose the two months overlap time; while those who receive a failure certificate will be given some time to rectify any faults found.

The BSS registered Examiners and Surveyors have now all been informed of this change through the recently forwarded BSS newsletter. We would appreciate it if you could circulate this information to your members so they may, if they want, book their renewal examinations early.

Yours sincerely,

David Allison  
General Manager,  
Boat Safety Scheme





# COMMITTEE REPORT

Since the last edition of Electric Boat News the only committee due to have met is the Executive Committee and that took place on 10th May 2000.

## Update on items in progress.

### CHARGING POINTS.

Information from British Waterways on charging points is still awaited. During a recent conversation between Barbara and Ian White from BW it was confirmed that the information would be available soon.

### SPONSORSHIP

Responses to our sponsorship appeals have been disappointing. Although no one was surprised at this it was felt worthwhile to continue our efforts. A possible new potential sponsor is the UK College of Environment and Transport. Barbara will write to them.

### EB NEWS

The Technical Tips item held over from the last edition of EB News will be published in a future edition and Technical Tips will become a regular item.

### TRAVELLING EXPENSES FOR MEETINGS

These will be paid if requested, but not encouraged. For car travel 20p per mile agreed and for public transport the cheapest available fare would be applied.

### WEB SITE

The website update in hand and to be completed as soon as possible. New address is: [www.electric-boat-association.org.uk](http://www.electric-boat-association.org.uk)

### NATIONAL COUNCIL

The next meeting of the National Council was confirmed as 2pm Wednesday, 13th September 2000 at the Electricity Association.

### CHAIRMAN'S REPORT

A meeting has taken place between Lord Whitty, Minister for Waterways and Jim Keating, EBA, Howard Pridding, BMIF, David Fletcher, BW, Ian Rutter and Emrhys Barrell. The purpose of the meeting was continuing the discussions started with Alan Meale, Lord Whitty's

predecessor, on electric boating in the Lake District. Lord Whitty expressed his interest in our views and we are trying to arrange a date for him to experience electric boating.

### EB News

Concern was expressed that the April deadline had been missed. Whilst some of the responsibility was accepted by the editor the situation had been exacerbated by the change of printers. Tony Ellis has expressed a willingness to resume the role of editor. It was agreed that Bruce James should continue as editor at least for the next two editions. It was stressed that the content of the magazine had to show an improvement on the winter 1999 edition and future production deadlines met.

### SCHOOLS CHALLENGE

Olden & Co are unable to continue handling the PR for the Challenge. They have recommended another company and a meeting is to be arranged with them.

### ADVERTISING IN EB NEWS

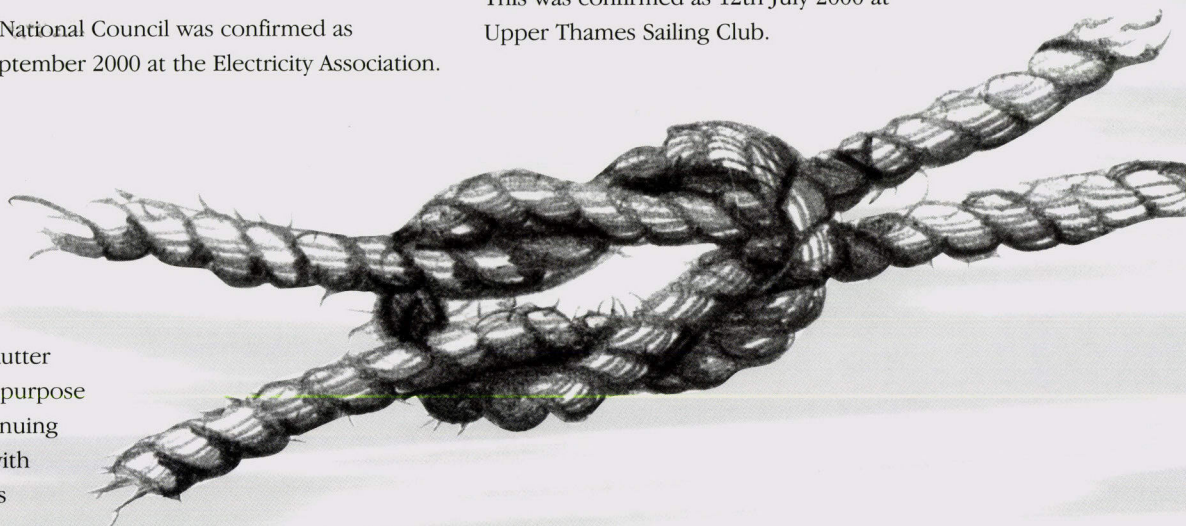
Whilst recognising that there has been no increase in the cost of advertising for some years it was agreed to accept a suggestion from Barbara to hold prices for the time being. This issue will be reconsidered in the future.

### LAYING UP SUPPER

The date for the above was set as 23rd October 2000 and the preferred venue Maidenhead Rowing Club. Barbara will liase with Brian Smith from the rowing club and if possible book the venue.

### DATE OF NEXT MEETING

This was confirmed as 12th July 2000 at Upper Thames Sailing Club.





# ECO BOATS 2000

## – Boating for the Future

Following their very successful event in 1997, the Broads Authority again hosted a one-day conference on 5th May to promote environmentally friendly boating. The day was an opportunity to share information and expertise and acted as a showcase for new technology, developments and improvements in the boating industry.

Our Chairman, Jim Keating, prepared a paper entitled Electric Boating – the Quiet Revolution, which was included in the delegates' packs. The paper presented the current policy of the Association and our aims for the future.

The Rt. Hon The Viscountess Knollys, Chairman of the Broads Authority, welcomed delegates confirming that the exhibition was aimed at those concerned with the use and care of our waterways.

The Conference initially covered Boating in the Environment, and speakers included Rob Lucking from the RSPB talking about Managing Waterways and the Environment under the Habitats Directive and Dr David Viner on Climatic Change and the Impacts on Boating. Eileen McKeever, Environment Agency gave a paper entitled The Great Outdoors – Understand, Appreciate and Enjoy.

Papers given under the heading New Technology, included Noise Policy – Progress, Constraints and Hopes by Brian Ross from the European Commission, and then attention was directed to Solar Boating by Prof. Christian Schaffrin from the Institut Für Angew Forschung.

The next delegate was our very own Kevin Desmond, past President of the EBA and now Editor of the International Electric Boat, who gave an extremely comprehensive and interesting report entitled Electric Boating – a Worldwide Industry. Kevin covered the expansion of the electric boat industry throughout the world under the heading 'The End of the Beginning', and gave particular credit to the work of the EBA in the UK and pioneers Cedric Lynch, Rupert Latham and record holders such as Wagtail V's 24 hour Endurance Test and Malcolm Moss' Collinda solar powered Channel crossing.

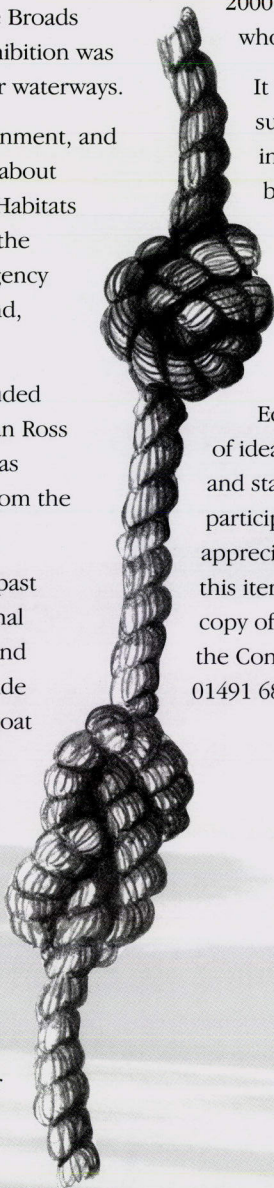
Ed Young from Perkins Engines spoke on Improvements in Diesel Engines, but then attention again reverted to Solar Powered Boating. Dr Herbert Stark from Bodensee Solarboot KG described the solar ferry concept on Lake Constance.

The afternoon conference addressed Waterspace Management when Martin Norris from the Lake District National Park Authority spoke about the Management and Regulation of Navigation within the Lake District. This was followed by a paper on Aspects of the Sustainable Management of Canals by Jonathan Briggs and Glenn Millar, both of British Waterways.

Electric boating as the ecological answer, with or without solar power, was a recurring theme throughout the day, and particularly noticeable when opportunities were given for questions from the floor. It was generally agreed that a Conference such as Eco Boat 2000 was a helpful forum for the industry, but it was the public who needed to be involved and informed.

It was acknowledged that it was essential that greater support should be given by the navigation authorities to put in place the infrastructure necessary to support electric boating. A representative from British Waterways confirmed that the provision of hook up points on their waterways would be addressed. The idea of high profile Challenges for speed or endurance was to be encouraged as this would increase the public's awareness of electric boating.

Eco Boat 2000 was a very constructive exchange of ideas and technology. It was well supported by the range and standard of papers presented and the number of delegates participating in the question and answer sessions. As readers will appreciate, to report on each paper in greater detail would make this item too long for the EB News, but if anyone would like a copy of any of the papers presented by the individual speakers to the Conference, please contact Barbara Penniall, Secretary EBA, 01491 681449.





# HOTTEST DAY OF YEAR FOR THE THAMES RALLY



*Hosts Eve & Robin Bentham*

Robin and Eve Bentham once more offered EBA members hospitality for the afternoon and we enjoyed fantastic temperatures in their beautiful river garden. Twenty eight members and guests took advantage of the shade as we wined and dined, enjoying a pleasant afternoon in great company.

Sadly Bluebottle was not in the official line up of boats. She had been stolen two days before and although Robin and Eve had been

fortunate enough to regain possession, she was not in any condition to come to the party.

However, we welcomed St Osyth with new member Peter Stothard at the helm, Stephanie and Ronnie Thomas in The Vital Spark and the Leeson family in Pike.



*Guests - Thames Rally 2000 June*

Cedric Lynch arrived in great style, this year not on his electric bike but in a solar powered canoe. The motor was a prototype outboard, LEM130, designed by Cedric, directly powered with solar panels and no battery. Travelling smartly at 4mph the little canoe drew everyone's attention on the river.

In deference to Bluebottle being unable to come to the Ball, none of the boats arrived with the traditional decorations, but during the course of the afternoon, Eve very generously provided Alice and Rose Leeson with some festive garlands for Pike. Jim Keating presented the



*St. Osyth arriving*



*Stephanie & Ronnie Thomas arriving in The Vital Spark*

Wargrave

Trophy to Pike, much to the girls' delight.

Jim also presented Eve with a bouquet and Robin a bottle of port to thank them for letting us continue with the arrangements for the Rally in what had turned out to be a traumatic weekend for them.



*Cedric Lynch's Solar Powered Canoe*



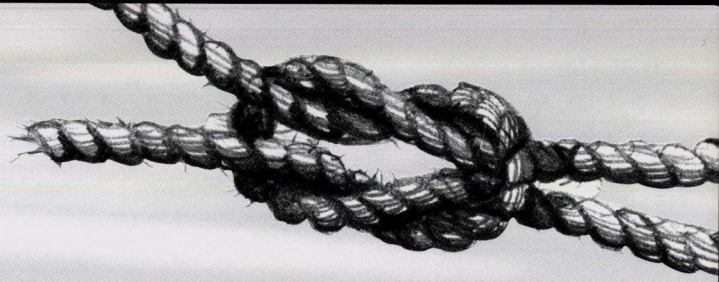
We hope that Bluebottle will soon be back on the water looking as smart and shipshape as ever.



*Ronnie Thomas - owner of The Vital Spark talking to Jim Keating*



# PENNIALL'S PAGE



*I suppose it had to happen. The Editor's patience has finally expired. I usually nag – don't forget this and please mention that – so to keep me quiet I have been given this blank space to fill with all those little reminders I need to convey to you.*

 Firstly, we have some events fast approaching on our boating horizon. The Shrewsbury Trailboat Rally on 22nd and 23rd July promises to be a very interesting weekend and we would hope to encourage as many electric boaters as possible to take their craft. This is an event primarily aimed at steam and electric boats. Both launching facilities and safe trailer storage have been arranged, so please do come along and support this new Rally.

 The EBA will be heading east to Waltham Abbey for the Inland Waterways Festival over the Bank Holiday, 25th – 28th August. Please do come and see us on Stand 09, when as we say, there will be experts on hand to answer all your questions concerning environmentally friendly boating.

 Saturday, 2nd September is a date for your diaries. The EBA has for many years supported the Cookham Regatta and provided a parade of electric boats, whilst combining the event with a social picnic and get-together of members. Last year we had 19 boats in the parade, but unfortunately the mooring at the Regatta site is very limited. Crews were unable to land, which marred the social side of the event. This year we have arranged to meet a few yards away at the Upper Thames Sailing Club, where the facilities are excellent and we can enjoy our own e-boat rally. Our boats will still form a parade for the benefit of the Regatta and so the tradition of EBA support will be maintained.

 Finally, the Laying Up Supper will be at the Maidenhead Rowing Club on Monday 23rd October, and those who came to the Launching Supper in April will know that the venue is splendid with an excellent meal and a perfect way to finish the Season.

And now to other matters. The very beautiful Emsworth Trophy, a carved representation of our grebe, is awarded annually to the member who has covered the longest distance under electric power during the preceding year. As you will see from the National Council minutes, the rules for the trophy will be changed as from this year and awarded under a points system. However, I am still awaiting nominations for last year's journeys – so please get in touch.

 I have had a very happy response to the first attempt at a Members Directory, and am very grateful for the many letters and postcards telling me you appreciated receiving it. It did occur to me that the 'crew' might like a mention in the boating list. Let me have any details you would like included in future versions, particularly your boat names.

 Pennants and ties. Both very tasteful (may be viewed if necessary, sale or return) at a cost of £9.50 and £10 respectively, inc p&p. Ladies, I feel we are being left out, so I am trying to find a source for scarves to match the ties and (something I would *really* like) a grebe brooch. Has anyone seen something like this anywhere?

 Are you aware we have arranged an insurance policy with Navigators & General, specifically written for electric boats? There is a 10% discount on the premium offered to EBA members, and for each policy taken out, the Association receives a small commission. Please do ask for a quote and don't forget to mention you are a member. Their number is 01273 863420.

 I have started a For Sale and Wanted column in the magazine – classified advertisements are free to private members. If you are thinking of buying a second hand electric boat, or upgrading, then why not put in a 'Wanted' ad, and someone else might just be contemplating upgrading their boat.

 John Hustwick, our Technical Liaison Officer, has asked me to mention that he would be only too pleased to provide further technical articles (see Boat Safety Scheme – Spring 2000). Perhaps members would like to contact John direct on 01621 742367 or email: [john@mhustwick.freemove.co.uk](mailto:john@mhustwick.freemove.co.uk) with suggestions for articles of technical interest.

 I seem to have completely filled my allotted space, so I would like to conclude by saying that if there is *anything* you can think of to improve the service the EBA offers to members, please do tell me. I really do enjoy hearing from you, or putting faces to names at the Shows we attend. In the meantime, have a very good summer's boating.

*Barbara Penniall.*



# BOATS ON SHOW

Beale Park, Pangbourne, was, for the second time, the location for boat show that superseded the Greenwich Wooden Boat Show. Known last year as Boats '99, the organisers and the name changed, but the event retained the two key elements that made its predecessor stand out, affordable boats and the opportunity to have a go.

Boats On Show took place from 18th to 21st May. For the first two days the weather was, to say the least, not kind, but it did improve a bit for Saturday and Sunday.

Beale Park, with its lake and proximity to the River Thames, provided opportunities for boats to be exhibited in their natural element and for visitors to try their hand at boating. Boats not on the water and other exhibitors were accommodated in tents around the lake, giving the event the feel of a Grand Fete or agricultural show! This informality is part of the event's appeal.

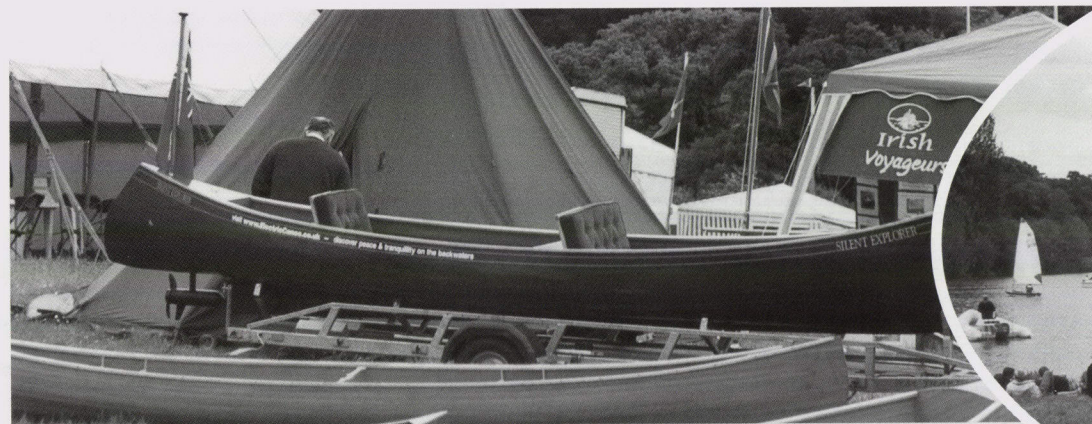
The Electric Boat Association had its stand at the show and the following members also exhibited: Amourelle Products Ltd, Bossoms Boatyard Ltd, Canadian Electric Boat Company, Creative



*Henwood & Dean Boatbuilders*



*Bossom's Boatyard Ltd*



*Silent Explorer*

*The opportunity to 'have a go'*



*Browsing*



*Peter Freebody & Co. Boat Builders*



Marine, Peter Freebody & Co, Henwood & Dean Boatbuilders, Pb Batteries (SE) Ltd, Phoenix Fleet, and the Thames Electric Launch Company.

Bruce James writes, 'I find the informality of this event and its "hands on" approach a refreshing change from the glitz and polish of the Earls Court boat show. All of the exhibiting EBA members that I spoke to, and I spoke to most of them, rated the event from good to brilliant. I suspect that their enthusiasm was tempered by the commercial success up to the time that I saw them! But I was

struck by the fact that none of them thought the event a waste of money or time.

'Some of the areas that caused a bit of frustration last year did not seem to have been corrected, perhaps due to the change of organisers. I hope the show continues and I wish it every success, but I feel that it has to develop from where it is now. It perhaps should continue to avoid the slickness of some of its bigger rivals, but could usefully add some of their professionalism.'



Pb Batteries



Electric Boat Association



Wheelchair accessible



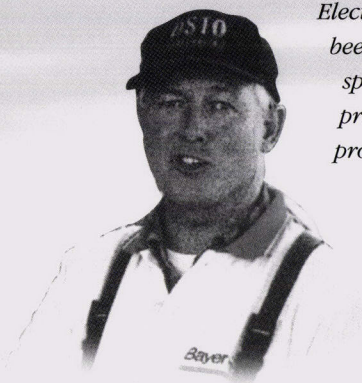
Creative Marine





# "WORLDS FASTEST AND MOST SOP"

A Special Feature from International Electric Boat



Commander Murray Baker

*Electric boating has for too long been urgently looking for a speedboat. One Australian prototype is on the way to providing an exciting solution.*

Commander Murray Baker, a Weapons Electrical Engineering Officer in the Royal Australian Navy is employed as a trials officer in the Defence Science and Technology Organisation (DSTO). Since 1996, the

Commander has been guiding a small team of enthusiastic colleagues and associates to develop and race a brace of solar/battery electric powered boats in the five hour Australian Science Festival's Bayer Solar and Advanced Technology Boat Race (BSATBR).

In 1997 Commander Baker's 5.5 metre "stretched Coleman Scanoer" won the commercial class in this event. That same year, the Commander saw the potential of a discarded and gutted 12metre coxless four rowing shell. It was designed for speed but in need of "recycling". After donation the fragile old wooden hull, with its keel broken in several places, was very carefully transported home for a thorough clean, material condition assessment, measurement, restoration, modification and beautification.

The Commander then enlisted the after working hours interest and support of his professional colleagues in Defence, DSTO, the University of New South Wales as well as several commercial sponsors nationwide. To start with, RAN Naval architect and hydrodynamic specialist Martin Grimm, "crunched the numbers in a computer" and re-designed the structure for "oarless" electric propulsion before declaring that "yes - it was do-able". Alongside hull mods such as stabilizing pontoons, a fabric spray cover and two large rudders, a new highly efficient 3.95 kW brushless three-phase electric motor was acquired from inventor Paul Lillington of T-FLUX Pty Ltd in Sydney. It was coupled directly to a restored and modified outboard motor leg, inserted through the keel at the after end of the hull crew section. Power was supplied by ten Century deep cycle 89T, 130 Ah lead acid

batteries producing 120 Volts.

Its screw was also innovative: One, 2 bladed carbon fibre, model aircraft propeller with a reduced diameter, supplied by internationally recognised designer and manufacturer Les "Bolly" of Adelaide, S.A.

The *Sci-Flier* (*Science Flier*), as Murray decided to call this prototype, also benefitted from the loan of a unique prototype Remote Sensing Battery Charge Condition Monitor for some field trials. Developed by DSTO scientist Dr. John Charlesworth in Melbourne, for large submarine battery banks, the prototype proved invaluable. The monitor displays the instantaneous charge remaining in the batteries. The system includes a microprocessor, which has been pre-programmed with the power profile of the boats batteries, and a multi-sensor probe, that is inserted through a hole drilled in one of the vent caps, with the tip immersed in the electrolyte. The system displays the electrolyte specific gravity (SG) and temperature, and a bar graph displays the usage patterns and energy remaining. This is leading edge Australian technology that was recently licensed for commercial production.

The former rowing shell was also given two electric bilge pumps and electronic instrumentation and controls before it was certified structurally sound, able to float, stable and potentially competitive, – well in calm water at least!

1998 was the first time that *Sci-Flier* entered the Advanced Technology Boat Races on Lake Burley Griffin. With Commander Baker at the controls, she proved so fast that, despite starting ten minutes behind the first competitors, she completed the first

4.3 km lap ahead of all others, crossing the finished line, with spray over the bow, in front of a somewhat astonished, but cheering crowd. She clocked a new lap speed record of 11.06 knots – despite having achieved a maximum speed of 12.8 knots (23 km/h) in pre-race trials. Unfortunately, flying spray from increasing wind and wave conditions doused the electronics preventing the boat from running for the full five hours.



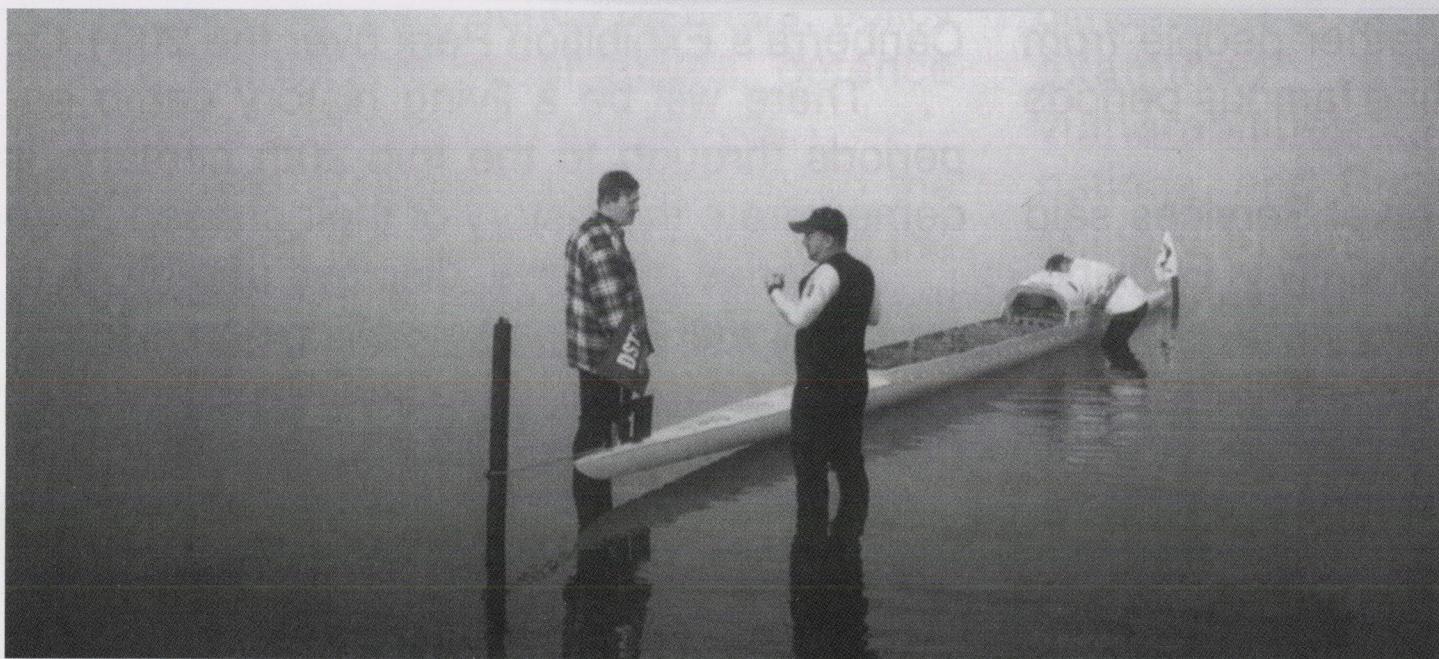
*The abandoned hull of what is now Sci-Flier, getting measured up before transportation to CMDR Baker's patio.*

For the following year, it was decided to add protective glass-fibre cowlings and an electrically powered ventilation system in the motor compartment.

In 1999 the *Sci-Flier* team set an even faster speed record of 11.95 knots but unfortunately new problems forced them to slow down,



# HISTICATED (ROWING) SHELL"



*Sci-Flier at the East Basin of Lake Burley Griffin*

although they managed to continued to circulate slowly to achieve sufficient laps to qualify for both Endurance and Speed Awards.

In March 2000, Murray took *Sci-Flier* out for new trials to check out the effectiveness of the latest enhancements and to identify the optimum propeller and time was set aside for a public sprint race against some manned rowing shells.

*Sci-Flier's* trial times over 1,000 metres, indicated that she was capable of achieving speeds in excess of Olympic Gold Medal rowing times. So after comparing *Sci-Flier's* times with several Australian Capital Territory Rowing Association teams, in a variety of shells over 1000 metres, a public handicap race was organised. "It was all a bit informal and meant to be a fun family day," recalls the Commander." I think the rowers initially didn't believe *Sci-Flier's* speed, until we gave them a brief demonstration on the way to the starting line. Whereupon one rower was overheard to exclaim in desperation to his team (in typical Australian) – "Shit!! I'm go'in 'ome!"

And so it was that *Sci-Flier* lined up against some ACT rowers on 12 March for the inaugural Bayer Technology versus Traditional Power Boat Race. *Sci-Flier*, a former "four", and an "eight" went back to 1000 metres, whilst another "four" and a "quad" positioned themselves at 750 metres. When the starting flag dropped the "eight" got away smartly and led *Sci-Flier* for maybe 20 metres before it was rapidly overtaken, as *Sci-Flier* took off at more than 12.8 knots in silent pursuit of the other two boats. *Sci-flier* soon overtook the quad and had just drawn abreast of the four's stern as its bow crossed the finish line. *Sci-Flier's* time for the 1000 metres was just 2 minutes and 33 Seconds, from a standing start.

Murray said, "I do not know how far behind the eight finished, but in response to their question about my state of exhaustion I advised that " well yes!, my throttle turning fingers were a little tired"

Six weeks later, *Sci-Flier* "swept the board" in what Murray described as 'a dream day at the race track' on Lake Burley Griffin in the BATBR event.

Firstly, they won the Open Class – General Category, Endurance Prize for the most number of laps. After 5 hours, *Sci-Flier* had completed 26 laps around a 2.87 km course (74.62 km in total), finishing 6 laps (17.22 kms) ahead of its nearest rival, a solar powered entry from Lake Tuggeranong College. The onboard GPS recorded a greater distance of 77.6 km, due to the boat's large turning circle around the course marker buoys.

Secondly, they won the Open Class Speed Prize, for the fastest lap in class, after achieving an official average lap speed of 11.24 knots (20.79 km/hr) during the first lap.

Thirdly, they won the Overall Speed Prize across all classes, for an average speed throughout the race of 8.3 knots (15.36 km/hr).

Finally, Murray received with the Maplestone Commemorative Award, presented to the individual who had demonstrated the potential to make a difference in the development of renewable energy technology.

With some further refinements, *Sci-Flier* is expected to be capable of travelling a little faster and further in 2001 to enhance its competitive edge. They would like to see some more international challengers, perhaps some from Europe next year.



# OVERSEAS NEWS

Electric Boat News thanks Kevin Desmond for the items contained in this section. In the last edition, I wrote, 'Kevin is always on the lookout for interesting bits of information about electric boats and boating so if you have any information please contact him – but only after you've sent the information to Electric Boat News first!' This comment produced the following response from Kevin.

*'Dear Bruce,*

*Firstly, many congratulations on the elegance of Volume 13. N°1 complete with the drawings of boating rope. Perhaps you could alternate with electric cables?*

*Information for future IEB's – I like your idea that contributors should send you International information first! Please do not forget that IEB also needs to send British info out to the rest of the world. Given that you can send e-mail to several people simultaneously, perhaps "at the same time", rather than "first"?*

*Take care and keep up the good work*

*Kevin Desmond'*

Thanks, Kevin. I agree so if Electric Boat readers have any information please send it to Kevin at 54, Route de Latresne, 33-360 Carignan, France, E-mail: [desmond.writer@wanadoo.fr](mailto:desmond.writer@wanadoo.fr) at the same time as you contact Electric Boat News!

For the past three years, the Norwegian Electric Boat Association has been drifting. Its founder, Stein Viken remains faithful.

For his new sailboat, a 22ft Columbie 66, Stein decided to instal an Austrian 1.4 kW Aqua Star Delpin. Stein recently received a phonecall from one of the engineers working on the Ford Think electric city car, currently in production Norway. He told Stein that he had been enjoying electric cruising in Norway for almost twenty years.

North of Göteborg, in neighbouring Sweden, between 1913 and 1948, the battery-electric ASEA-engined *Hamnfärjan I* ferried workers from Marstrand island to their shipyard on nearby Koön island. In 1948 the battery-electric *Hamnfärjan II* took over. Popularly known as "the tram", it would continue the ferry service until 1985. Although the local Kungälv municipality planned to scrap "the tram", a conservation society stepped in so that today, *Hamnfärjan II* is the longest-running ferry service in the world.

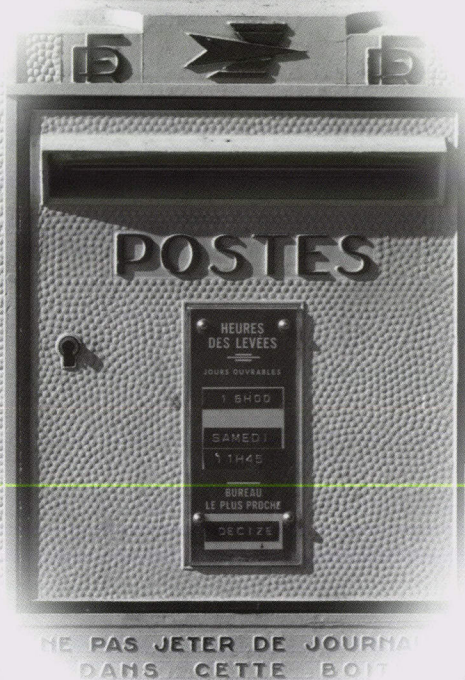
MW-Line of Yverdon le Bains, near Lausanne, Switzerland have further progressed with their fuel cell boat trials. Working with Professor Jean-François

Affolter of the Vaud Engineering School, Messrs Mesple and Würst conceived the fuel-cell boat *Hydroxy 150*. In 1999 they brought out the *Hydroxy 300*, reverse two-seat three-point trimaran (300 watt). They are now working on a 7-metre prototype with a 2kW cell, called the *Hydroxy 2000*, which can either take up to 8 passengers or be used by a couple for weekend cruising.

Elsewhere MW-Line have been electrifying the *Bécassine* (20 tons, 20 km/h, 60 passengers) which has been cruising on Lake Lemman in Geneva since 1935. Trials took place in May 2000.

Their ecoboat catamaran which went into service in Autumn last year is keeping its twelve passengers fit. Although solar-electric, each passenger has seat fitted with an alternator mounted on four pedals and can thus use human-powered to supply energy to the batteries.

Since 1998, the 10.4 metre, stainless steel RA31 solar catamaran has transported almost 4000 passengers and 2,200 bicycles across the Untersee, the western end of Lake Constance/Bodensee. Powered by two 4.8 kW motors, RA31 averages





15 km/h, with a maximum speed of 18 km/h. The 11m<sup>2</sup> roof has a maximum photovoltaic peak power of 1.58 kWp. Because of its success, its builders, the Kopf Company of Sulz-Bergfelden in Germany, assembled the 20-metre stainless steel cat, *RA66*, called *Helio*, capable of carrying 120 passengers which went into service on Lake Constance in May this year. Its photovoltaic generator is shaped like a tunnel, giving shade and protecting passengers from the rain, 52 panels deliver a maximum 4.2 kWp. Kopf's latest production is the *even bigger RA82*, which will go into action in Hamburg.

Another concern with a major involvement in fuel-cell boats is Zemar Ltd. *MV Leipzig* will make her maiden voyage on 1st June at Expo 2000 in Leipzig. She is a 30' LOA vessel powered by a 5kW fuel cell system and will carry tourists around the fair.

Zemar's 70' trad narrowboat is scheduled for completion July/August and will be powered by a 20kW fuel cell system. Interest continues to run at a very high level (orders placed now will be delivered end August earliest) Stuart Laycock of Zemar expects to complete several installations this year. Zemar's new factory, in Cologne, with 5MW capacity will start production Sept. this year. Months 24 to 36 and 36 to 48 will see this output increase to 15 then 25 MW.

Not everything goes well. For example, in California, USA, Captain Joseph Warren of the Newport Beach battery-electric riverboat *Angela Louise* is gradually persuading folk interested in on-board weddings and family events that dining in a fresh breeze is better than the equivalent of a diesel-bus exhaust pipe in your face. However municipal attitudes remain somewhat ambiguous. In November 1999, Captain Warren proposed that his City make tax concessions to those boat operators using alternative energy as their primary means of propulsion. This incentive idea was rejected by members of the City Council.

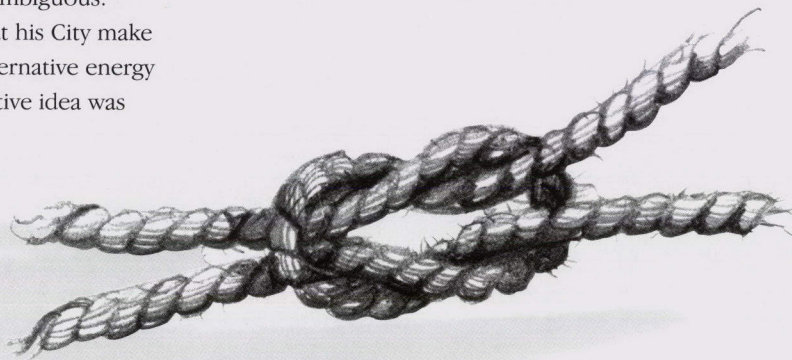
A new world solarboat distance record has been established in Australia. Between January 1st and 13th May, Frank Wheeler was out on Sydney Harbour for a total 105 days and clocked up 4,500 km. This was not a continual run.

On the 3 April 2000, Solar Sailor launched the world first solar and wind powered ferry. The ferry *Solar Sailor II* will operate on Sydney Harbour from June 2000. It is not generally known that *Solar Sailor* is also equipped with an 80 kW LPG genset on the back deck, to charge the batteries if not enough sun or wind. This prototype is therefore a solar/wind/battery/fossil fuel hybrid.

Having produced their two revolutionary outboard engines Ecotools are at present testing out a highly sophisticated diesel-hybrid system in a 1950's wooden hull on Lake Bienne in Switzerland. A 30 kW permanent magnet autosynchronous brushless motor coming from the very latest ev technology belt-drives a semi-immersed SARO lower unit. This is controlled using Pulse Width Modulation / IGBT technology, supplied in DC with 168 V (14 cells at 12 Volts). This unit can be defined depending on the characteristics of the boat. A 4 kW diesel generator equipped with a permanent magnet brushless generator keeps the batteries topped up.

ELCO of Highland, N.Y. continue to provide their elegant-looking electric fantail day launches, such as *Glory* Long Island's only electric powered passenger vessel. Their new 19' Utility, Picnic and Classic 3 hp models have now been on the market for just over a year and the yard number register shows how they are selling about one a month. ELCO has recently finished work on a 33' closed cabin fantail launch which carries 25 passengers for use at a resort on Saranac Lake in the Adirondacks of upstate New York called the Point.

SEV, the Dutch Association organised an e-boat symposium on May 12th in Nieuwkoop. Electric boats can now be rented from as many as 27 different operators across the Netherlands. Owned by Ocean Affairs, the 68ft, 36 passenger *Monne de Miranda* was built in 1938 and has been restored for luxury charter work. Her diesel-hybrid, 12kW motor system enables her to tour within Amsterdam and also elsewhere in the Netherlands. For further details contact Ria Stalman: rstalman@xs4all.nl





# HOME NEWS

## Viscountess Bury Restoration Goes The Whole Hog

The restoration of the Viscountess Bury, Britain's most celebrated Victorian electric launch, is underway at the world's top boat building college on Oulton Broad, Lowestoft. Students at the International Boatbuilding Training College are benefiting from the chance to work on such a unique and challenging historic project.

"It is one of the most of the interesting and inspiring vessels for the students to work on," said John Elliott, the Director of the College. "They don't often get the opportunity to 'take the lines off' such an interesting old boat."

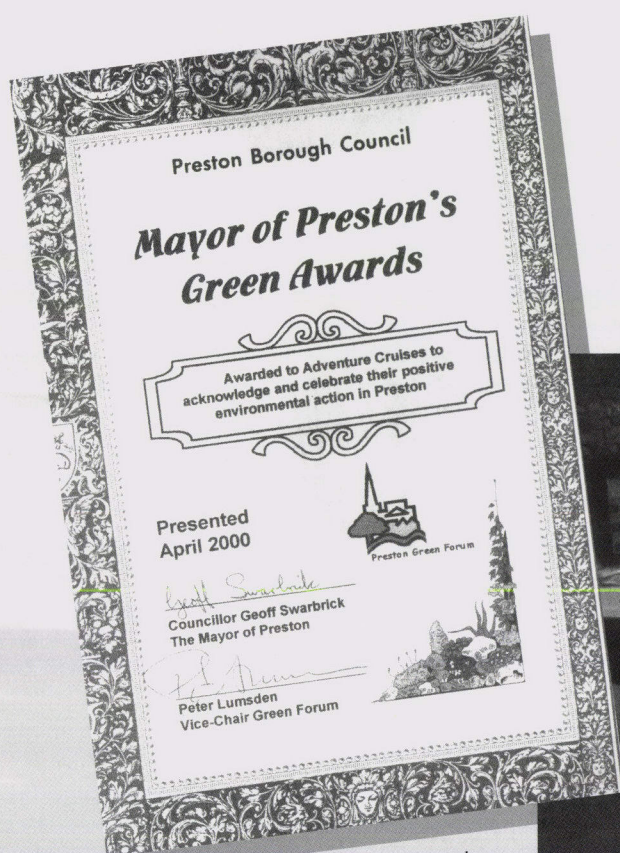
Once it was discovered why the Viscountess has been gradually drooping at the stern, it was decided to undertake a thorough restoration. That meant relaying the backbone of the boat and fitting all the old parts onto the new pieces, called the hog and keel.

'It sounded drastic but it is not unusual to take a boat to pieces in a restoration,' said Linda Ashton, of the Viscountess Bury Trust.

Such a radical restoration would have been easier if the original plans had been available to refer to. But since these have never been located, technicians at Lowestoft had to take a different

approach. By slowly and gently pulling the boat back into shape, they were able to demonstrate the original lines, from which the college's marine architects made their drawings.

Using age-old techniques such as 'lofting' combined with up to the minute computer aided systems, the College is giving the Viscountess Bury the benefit of traditional skills as well as modern techniques and materials. "This is entirely appropriate for a boat that was designed as the flagship of the new electric boating age in 1888 and was 100 years ahead of her time," Mrs. Ashton continued. "Now, with 21st century advances in electric propulsion, we can make her both an historic landmark, and an embodiment of the possibilities of modern, ecologically clean technology.' With highest standard of workmanship the college satisfy Lloyds requirements – the recent advances in labour-saving wood treatments, and if she is properly protected, the Viscountess Bury will be fit for another 100 years – at least!" John Elliott said. "I'm sure the people of Ely will be as proud of her as we are when she returns and will provide the good, safe home she deserves."



Mayor of Preston's Green Awards

### Award for Jollyroger Boat Centre.

EBA member Jollyroger Boat Centre has recently been awarded a Mayor of Preston's Green Award. The award is given to acknowledge and celebrate positive environmental work carried out in Preston. Peter Morgan at Jollyroger says that they received their award partially for introducing electric boats to their day-boat hire fleet, but also in recognition of the environmental way in which they run their business on a day to day basis. Congratulations to all concerned!



Jolly Roger's electric day-boat



## NEW BOAT FROM AMOURELLE PRODUCTS

Silent Explorer is the latest boat to be introduced by Amourelle Products Ltd. She is a 19ft Canadian canoe. Built by Tyrone Boats and fitted out by Amourelle Products, the canoe is varnished inside and out, painted on the outside and fitted with a Minn-Kota Maxxum 74T motor, two Sonnenschien deep-cycle gel batteries, automatic charger, upholstered cushions covered in washable velour and buoyancy tanks both fore and aft. It is a complete sail-away package.

*Silent Explorer*



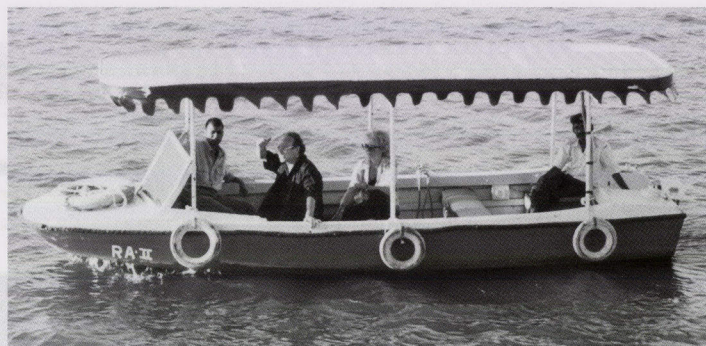
The outboard motor has been split, with motor is fitted to the stern of the vessel and the tiller and controls set inside, conveniently situated for the helmsman. The two elements are connected through a pair of quadrants, giving the marine equivalent of power assisted steering!

The package is priced in the region of £5,500. For more details visit website: [www.ElectricCanoe.co.uk](http://www.ElectricCanoe.co.uk), or contact Amourelle Products Ltd, 8, Ambleside Close, Woodley, Berkshire. Phone 0118 969 4657, fax 0118 962 8682, e-mail [mail@ElectricCanoe.co.uk](mailto:mail@ElectricCanoe.co.uk)

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## LETTERS

I received the letter set out below from Mr John Pitchers of Coltishall, in Norfolk shortly after working on Sylvia Rutter's article in the last edition, but before it was published, so John was unaware of it! Thanks for the letter, John, particularly as I feel that we are



RA-11

almost neighbours, having lived in Horstead for 10 years before I moved to High Wycombe. I hope Sylvia's article answers your concerns about the boats moving slowly and looking tired – unless you saw them after Ian's visit!

*Dear Mr. James,*

*I thought you might like to consider the following for inclusion in the E.B.A. News. In March of this year I was on holiday in India and visited Udiapur in Rajahstan, staying at the Lake Palace Hotel.*

*The hotel occupies an island in the middle of the large artificial Lake Pichola – on which there is a large amount of boat activity, mainly powered by outboard motors. Another hotel we visited is part of the Maharana of Udiapur's Palace. I noticed in the foyer a board advertising lake trips on His Highness Arvind Singh Mewar, Marahana of Udiapur's solar powered electric boat RA II. I recognised this as the boat built by (I can't remember the name) for the Maharana, and which, I seem to remember, was demonstrated at a 'Silent Sensations' day on South Walsham Broad a year or two ago, shortly before being shipped to India.*

*There wasn't time to take a trip on RA-11, but I did speak to the very proud Indian skipper, who told me how ecologically friendly the boat was and how it produced no pollution. He said that it was in use all day, every day, including evenings, and that the batteries did not need any charging other than via the solar panels.*

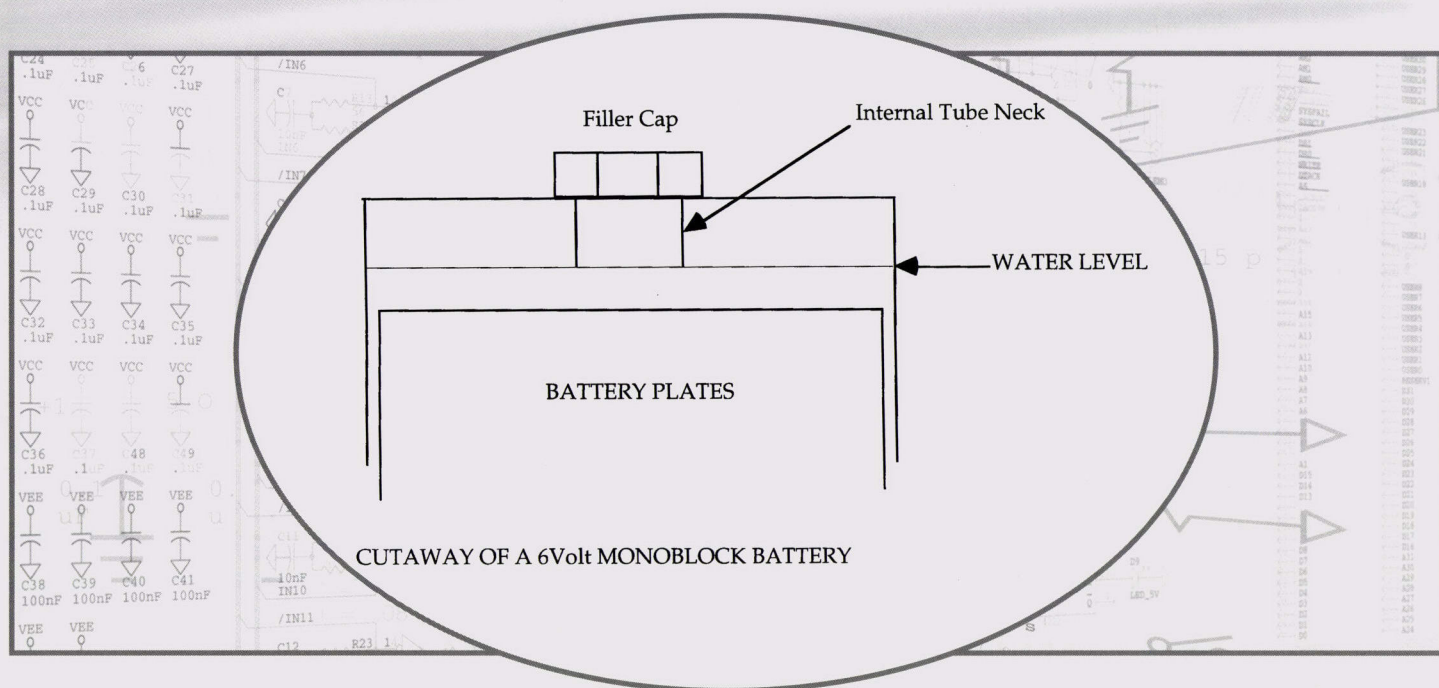
*RA-II looks rather "well used" now and it has to be said that, despite the cloudless sky, it did always look to be travelling very slowly – 2 to 3 knots, I should guess. Whether this is to preserve the batteries for the evening trips or whether it is getting a bit tired I don't know, but it would be interesting to know if this imaginative venture has produced any more orders.*

*Yours sincerely,*

*John Pitchers*



# TECHNICAL TIPS



This is a new section in EB News intended to give some hints and tips to maintain both your electric boat and most important the battery in tip top condition. Any readers with a tip they think would be useful please write in and we can include it here.

This issue's tip concerns filling the battery to the correct level. I have found that many people fill so the water is just over the level of the plates. Although correct, it means that the battery has to be constantly topped up. Not a fun job. If you do fill it to the new level shown this messy chore will only be needed to be done 2 to 3 times a year.

This information is for the popular 6 volt Chloride Monoblock Traction Battery or similar 6 volt battery. DO NOT FILL TO THIS LEVEL WITH THE INDIVIDUAL 2 VOLT CELLS AS YOU WILL GET BATTERY ACID SPILLAGE DURING CHARGING. When charging, the tall thin 2 volt cells act a bit like opening a bottle of fizzy pop so the level of water should only reach just above the plates to the level indicator inside the cell.



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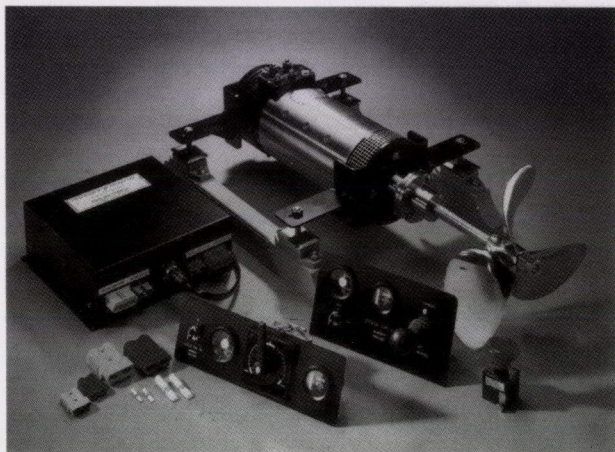
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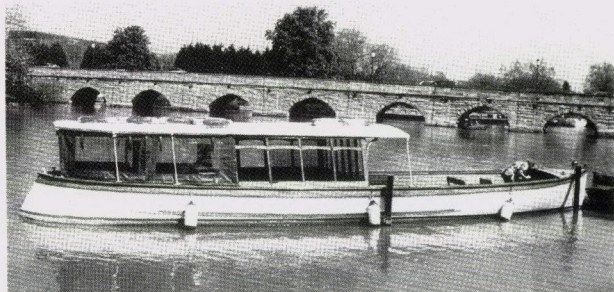
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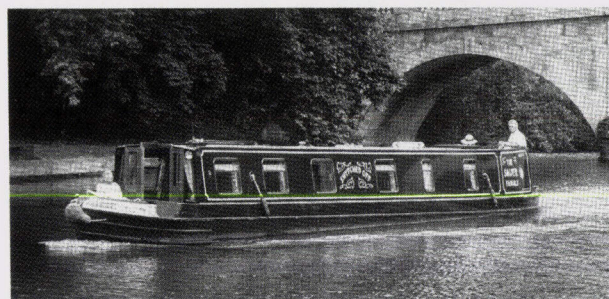
*Mayflower, Stratford upon Avon, 1999*

#### **Some recent achievements:**

World Waterspeed Record, 1989  
Trip Boat, Castle Howard, Yorkshire  
Sail Auxiliaries, Camelot Craft and S.A. Knights,  
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Dayboat Fleet, Redon, France  
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*Reading Marine, hybrid narrow boat, 1999*



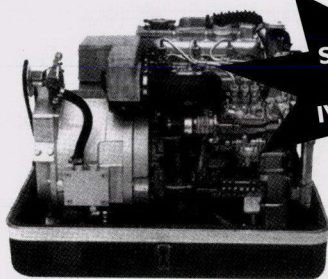
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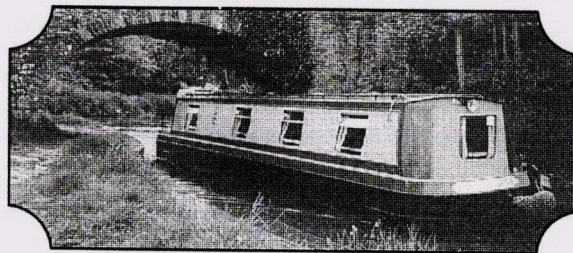
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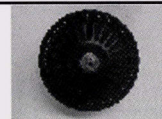
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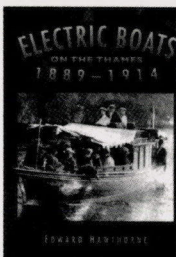
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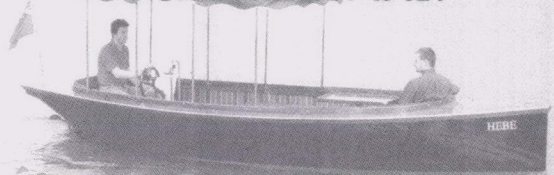
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