

Volume 14 Number 4 Winter 2001/2002

# Electric Boat **NEWS**

The Journal of the Electric Boat Association



**Waterways Minister hears all about electrics • Guinness Record? – 137 miles in 30 hours: Part II  
Solar Flair – a solar solution: Part II • Electric boating at the London Show**



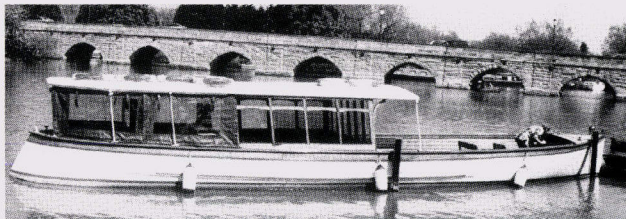
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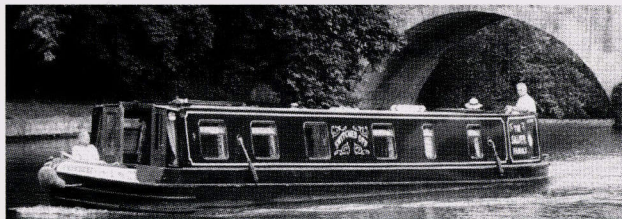
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# CONTENTS & EDITORIAL

## Contents

- Page 2 Annual Report for 2001
- Page 6 Electric Boat Endurance Record
- Page 7 Solar Flair  
*an experiment in solar boating*
- Page 8 News from Home & Away
- Page 10 Waterways Minister  
*bears all about electrics*
- Page 12 Beauchamp  
*the floating electric classroom*
- Page 13 Cookham Regatta
- Page 14 London International Boat Show
- Page 17 Book review
- Page 18 Business News  
*Southampton Boat Show*
- Page 19 Technical News
- Page 20 Notice Board

## On the current.....

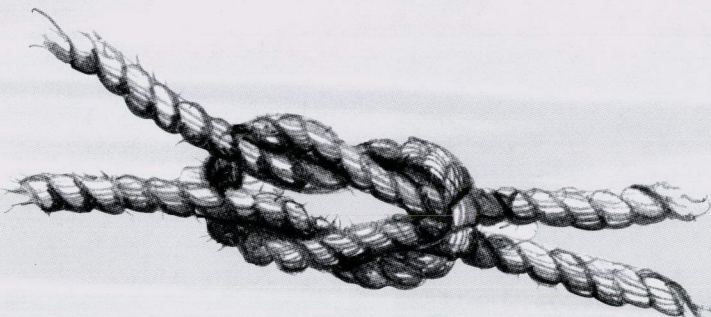
**In the last edition I was referring to the Foot & Mouth crisis which impacted heavily on so many of our members who have some involvement, either for business or pleasure, in the countryside; a countryside which all but closed down for much of the first half of the year. And then came September 11th.....**

These major pressures on economic activity appear to fall hardest on innovative industries, with investors steering away from the new and running for cover in the tried and tested formula. The news concerning the troubles facing ZeTek (see Business news) is just one example of the uphill struggle facing the imaginative exploitation of new power sources.

Nevertheless, those boatbuilders and equipment suppliers represented at the London International Boat Show were expressing continued optimism – and were generally able to point to order books with craft in build. Indeed, John Salter of Salter Bros reported a considerable growth of activity during 2001 on the various 'steamers' that they operate on the Thames. This doesn't necessarily have any direct impact on electric boating but it may be indicative of a renewed interest in our own 'home' waters and the charm and value of the English countryside.

The key report in this issue is the visit by Lord Whitty to the EBA to learn all about the world of electric boating. This growth in official interest, and the relatively new decision by Environment Agency and British Waterways to join as Business members, is encouraging and may indicate greater things to come. We are active and committed to the promotion of electric boating, but try as we may, it will take many years to achieve our objectives if we act alone. Partnership is the theme for the early years of the 21st century and close co-operation with government and public agencies may offer a way ahead.

As I finished putting the magazine to bed, it was with great sadness that I heard of the death of our former president, Rear Admiral Percy Gick. An obituary will appear in the next issue.



Tony Ellis

Editor

## Copy Deadlines:

Material to be considered for inclusion in the next edition of Electric Boat News should be sent to the Editor (preferably as a full e-mail – no attachments) by the following date:

Spring Friday 1st March 2002 Summer Monday 3rd June 2002

# ANNUAL REPORT FOR 2001

## The Chairman's summary of the activities of the Electric Boat Association during 2001

As with many other businesses and organisations the Electric boat Association suffered the consequences of the Foot and Mouth epidemic, and we were unable to be as active this year as originally planned. However, the same amount of energy and enthusiasm was given to those events we could attend, as we continued to promote electric boating. Although activities were reduced we still managed to go to Crick, Littlehampton, Ranworth, Ware, Henley, Caversham, Milton Keynes, Cookham and Stalham.

### MINISTERIAL VISIT

A major step forward in bringing the voice of electric boating to the attention of the Government finally took place a year later than originally planned. Lord Whitty, Minister for Food, Farming & the Waterways, had accepted our invitation to attend a presentation. However, he was also the Government Minister charged with handling the effects of the Foot and Mouth Crisis and it was only in November that he was able to accommodate us in his busy schedule. The presentation, also attended by senior representatives of the Environment Agency, British Waterways, the Broads Authority and British Marine Federation was to make the government aware of the long term environmental benefits of electric boating. It was also to emphasise that there is already a well established industry producing and supporting electric boats.

The fact that the EBA could attract very senior figures from the country's three biggest navigation authorities and the organisation which represents the whole of the UK boatbuilding industry emphasised that the EBA has become a professional and respected authority for the promotion of electric boating. A number of important issues were discussed during the presentation and it is hoped that these may be taken further, with support from the government and navigation authorities.

### MEMBERSHIP

Membership in both private and business sectors has increased this year, partly due to the EBA's new website at [www.electric-boat-association.org.uk](http://www.electric-boat-association.org.uk). Closely following the Environment Agency becoming EBA members, British Waterways also formally joined us at the beginning of 2001. BW have been active this year with electrically propelled vessels, including the commissioning of three electric tugs for the Standedge Tunnel, opened earlier this year and *Beauchamp*, the floating classroom in London.

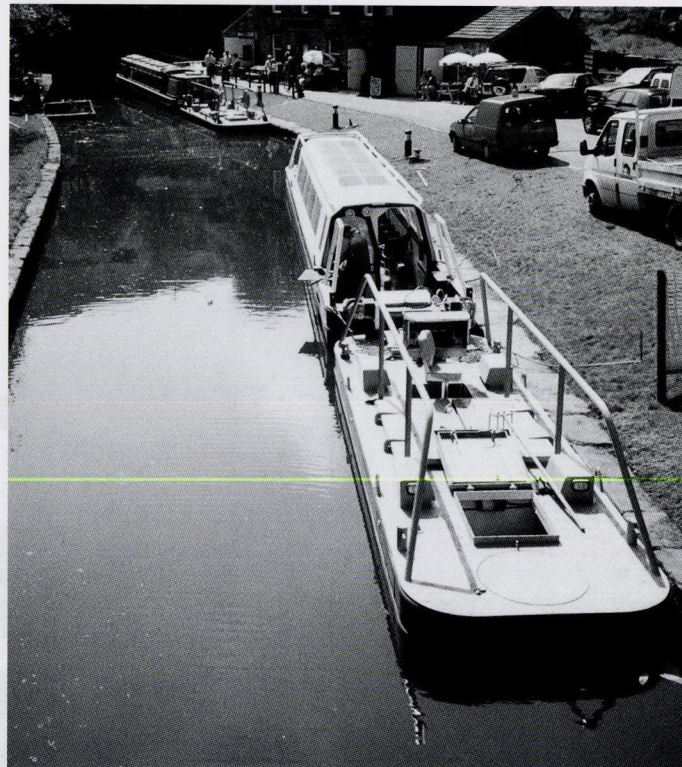
### SHOWS

Five electric launches were shown at the 2001 London Boat Show and, we were pleased to see that this year the electric boat exhibitors had been placed in close proximity: Bossoms Boatyard, Creative Marine, the Canadian Electric Boat Company and Salter Bros were grouped together. Navigators & General had a prominent position in the main aisle, while Fischer Panda demonstrated a range of their generators on the first floor.

Although we were not formally represented at the Crick Boat Show in May, Heather Duncan took BW's community launch, *Roman* to the Show and demonstrated the benefits of silent cruising. The next show at which the EBA was able to present electric boating was the Thames Trad Boat Rally where a very successful

weekend attracted new members and much interest in electric boating. EBA exhibitors were Peter Freebody, Henwood & Dean and Stelco Yachttechnik (UK).

Two shows were held in Norfolk supported by the Association. Ranworth was a small one day show in June, followed by Silent Sensations in September. The EBA attended both shows to support its Norfolk business members and promote electric boating in the area. This year Silent Sensations was held at John Williams' boatyard but the social side of the event involved an afternoon cruise from Stalham, around Barton Broad and up to Wayford Bridge. Dinner had been organised at an hotel enabling others to join those who had come by boat



*Electric tugs and passenger boats at the entrance to the Standedge Tunnel*  
Photo: Rupert Latham

and the evening concluded with a delightful moonlit cruise.

The Inland Waterways Festival was held this year at Milton Keynes during the August Bank Holiday. Although the EBA was not officially represented, our Technical Officer, Bob Ellis and his wife Hilary, flew the flag by taking along their electric launch *Snow Goose*.

### SOCIAL GATHERINGS AND EVENTS

The first social event of the year was the Fitting Out Supper held in April at the Maidenhead Rowing Club. Both this event, and the Laying Up Supper in October were very well attended.

In May, Cedric Lynch, together with a team of pupils from both Harwich and Belmont Schools – the latter being supported by Malcolm Moss whose younger son is a pupil there – competed in a solar powered race on a municipal boating lake at Littlehampton. It was a very good humoured event, undertaken in a light hearted manner and Belmont School won, having completed the most laps in the allotted time.

We were invited by EBA member Anthony Oliver, to attend the Ware Carnival and Boat Festival which had been organised by the Lee and Stort branch of the Inland Waterways Association. This took place in July on the River Lee where Anthony represented electric boating with his electric powered skiff and Cedric also gave support with his solar powered canoe.

Robin and Eve Bentham again extended their hospitality to us by offering their splendid riverside garden for a picnic rally. It was held in August and once again the weather was hot and sunny. Nearly thirty members wined and dined and then went for a gentle cruise to Caversham and back.

A new Endurance Record was set on the River Thames this summer when EBA members Richard and Ann Leeson's launch *Pike* travelled under electric power for 137 miles in 30 hours. The record attempt was monitored by the EBA and has been entered for the Guinness Book of Records.

The Association was once again asked to provide a parade of electric boats for the Cookham Regatta in early

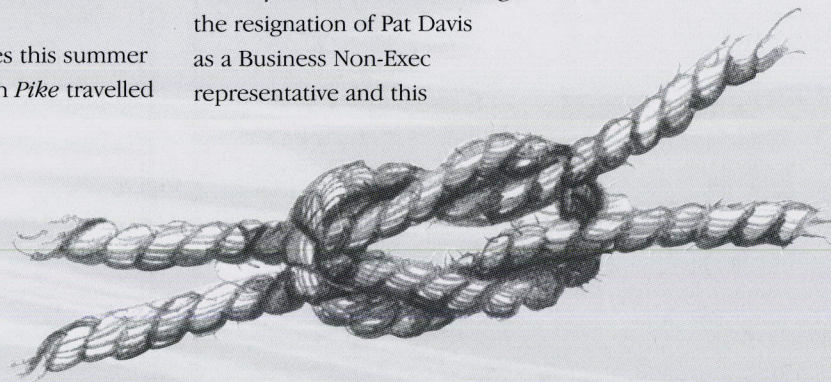


*Boys from Belmont Schools celebrating the award of a trophy at the solar powered boat race at Littlehampton  
Photo: Barbara Penniall*

September. However, this year, rather than a formal parade it was decided to cruise past the regatta site on our way to a picnic in a backwater by Cookham Weir. Here we were able to moor together and enjoy a very relaxing couple of hours before cruising back to the Upper Thames Sailing Club for afternoon tea.

### COMMITTEE MATTERS

2001 saw some major changes in the Committee structure of the EBA. The Biennial General Meeting in July welcomed the appointment of a new President, Prof. Aitken Clark (former Chief Executive of the Broads Authority). Our previous President of many years, Rear Admiral Percy Gick, had to stand down because of deteriorating health. Jim Keating resigned as Chairman and I was honoured to succeed him. This left a vacancy for Technical Officer, which was filled by Bob Ellis. Other changes included the resignation of Pat Davis as a Business Non-Exec representative and this

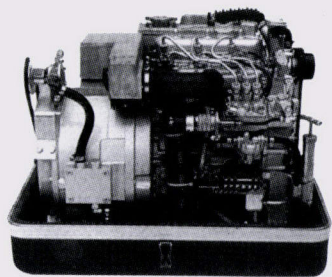


*continued on page 5*



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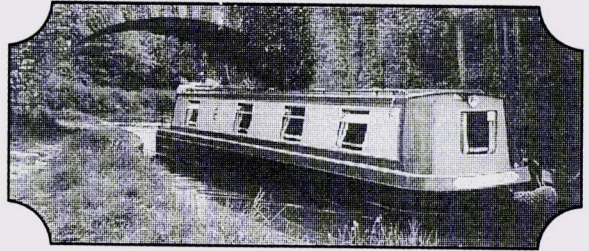
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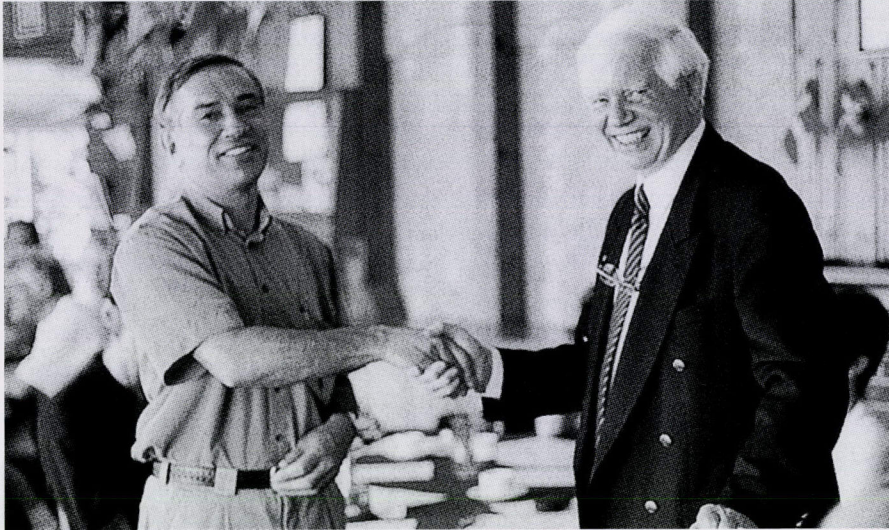
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*John Hustwick, EBA Chairman (left) shaking hands with his predecessor, Jim Keating at the Biennial General Meeting on 28 July*  
Photo: Tony Ellis

position was filled by Nick Goldring of Amourelle Products. Malcolm Moss was co-opted as User Non-Executive and Derek Chamberlain agreed to represent the EBA during his visits to America.

Paul Bennett also resigned as PR Officer and this position is still vacant. Earlier in the year, Heather Duncan from British Waterways had agreed to be our contact for the Midland Region and we were pleased to welcome Gill Sauer, as Advertising Officer for the EB News.

We were delighted to announce that the Broads Authority confirmed their support for the work of the Association by offering a contribution towards the cost of producing the magazine for the next three years. However, we are still actively seeking sponsorship to help provide the additional funds required to continue the level of promotion for electric boating that the EBA strives to achieve.

The EBA continues to be represented at the Parliamentary Waterways Group, and is always at the forefront of any relevant debate, so hopefully we will have a further opportunity to remind the government about the importance of electric boating on our inland waterways. Indeed, Lord Whitty will be the guest speaker at the next meeting in February 2002. We want to capitalise on the success of our presentation to the Minister and maintain the momentum with the government and navigation authorities.

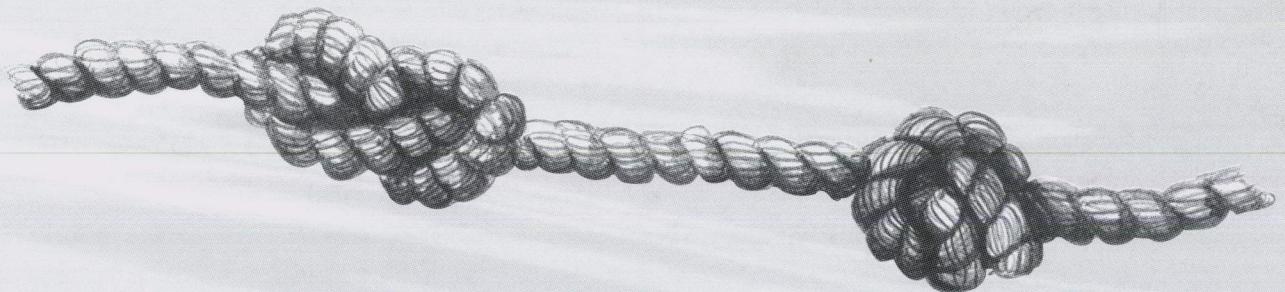
In conclusion, I would welcome any suggestions regarding how the Association can best serve the interests of its members and electric boating in the future.

**JOHN HUSTWICK**  
Chairman

We are confident that in the near future we will be in a position to provide a comprehensive list of charging points for electric boats on our inland waterways and are hoping to increase the number of information sheets available.

As ever, the coming year will be busy for our small but committed team. Although we have received support from members through-out the past year, this has been from the usual band of familiar faces. If we are to promote electric boating in a way that will make it grow substantially we must have support from more members. Although the committee has considerable energy and enthusiasm, there is a limit to the amount that can be done by so few people in the time available.

The coming months will see further consolidation of the effort we have contributed over the past few years in our endeavours to bring the advantages of electric boating to the attention of government and the public.



# ELECTRIC BOAT ENDURANCE RECORD

## Guinness is good for you – Electric Boat endurance record II

**Emrhys Barrell completes his report on the latest  
endurance record 137 miles in 30 hours – sponsored  
by Thames Electric Launch Co**

### RATIFICATION BY GUINNESS

To observe and ratify the event, Guinness required two officials. One has to be technically qualified in the field, and for this we went to Brian Pickess, EBA Treasurer, and himself an electric boat owner. For the second we went to Richard Howard of Whitchurch. Richard is the Senior Trustee of the Beale Wildlife Park at Pangbourne, also an electric boat owner and a keen river man.

### PROMOTION

As predicted, the press had their own agenda, and frantic phone calls were needed to co-ordinate it all. The Wallingford Herald wanted a picture of the boat passing under their bridge. Meridian Television's cameraman announced at the last minute that his equipment was not insured on the water. Radio Berkshire sent a reporter called Rachel Bonham Carter, and most of us were agog to know if she was related to the famous film-star (she was).

Other papers and magazines that covered the story include the Reading Chronicle, Henley Standard, Motorboats Monthly, Motor Boat & Yachting, Canal Boat, Classic Boat, Watercraft, and the Daily



*Ian Rutter and David Rendel, MP for Newbury during Pike's record cruise  
Photo: Emrhys Barrell*

Telegraph. Local MP David Rendel attended, and was impressed by the bid, and the plans to promote the river. The Environment Agency's new Thames River Manager, Eileen McKeever also found time in her hectic schedule to join us on one of the legs.

### AND THE ATTEMPT?

Well, amidst the panics, it all went remarkably smoothly. The course was a measured distance of 4.5 miles from the Goring Sailing Club to a point just short of Wallingford. The length was measured from large-scale Ordnance Survey maps, verified with a hand-held GPS. The crews for *Pike* included TELCO's engineer Ian Rutter, Keith Langridge, Linda Barrell, Anne Leeson and her daughters Alice and Rose, and Pat and Paul Wagstaffe, whose boat *Wagtail V* we had used to set the original record four years before.

For the night-time legs, we had the services of Chris Coburn, inland navigator of some repute, and the Chairman of the Thames Boating Trades Association. Also on board through the night was Ian Smith, keeper of the nearby Cleeve Lock, whose local knowledge of the river in the pitch dark moonless night proved invaluable.

And where was the proud owner? Competing in the Rally of Chile, six thousand miles away, though he did manage a phone call at four in the morning, just to keep the night-watch on their toes.

And at the end of our 30 hours we had completed just over 15 laps of the 9-mile circuit, 137 miles in total, at an average speed of 4.57mph. In all a credit to the equipment, and to everyone who took part. Now we are just waiting for our call from Guinness to celebrate. For more information on the bid or the boat, contact TELCO on 01491 873126.



*The invigilators, Brian Pickess (left) and Richard Howard (right) consulting  
with Emrhys*

# SOLAR FLAIR: an experiment in solar boating

Paul Lynn completes his story on the building and operation of his experimental solar-powered craft. Here he tells us of *Solar Flair's* performance.

## PERFORMANCE

My wife and I trailed the boat to Lechlade last summer and spent several days on sea trials, running the boat up and down the Thames many times over the 1km stretch between the marina and the Round House. We measured the relationship between electrical power delivered to the motors and boat speed for four different modes of operation, with the following results:

- (a) Batteries to motors in series-120W, 4.9 kph
- (b) PV to motors in series, strong sunshine-240W, 6.8 kph
- (c) Batteries to one motor, PV to other motor in strong sunshine - 390W, 8.7 kph
- (d) Batteries to motors in parallel-440W, 9.2 kph

These figures may not be very accurate because we could not measure the distance precisely and we didn't use a stopwatch – but they give us hope.

*Mode (a) is for gentle 'pottering' and is very economical on battery power.*

*Mode (b) shows that Solar Flair moves convincingly on strong sunshine alone.*

*We also found mode (c) very attractive with its mix of about 220W of battery power and 170W of PV, giving a nice sensation of speed sitting so close to the water!*

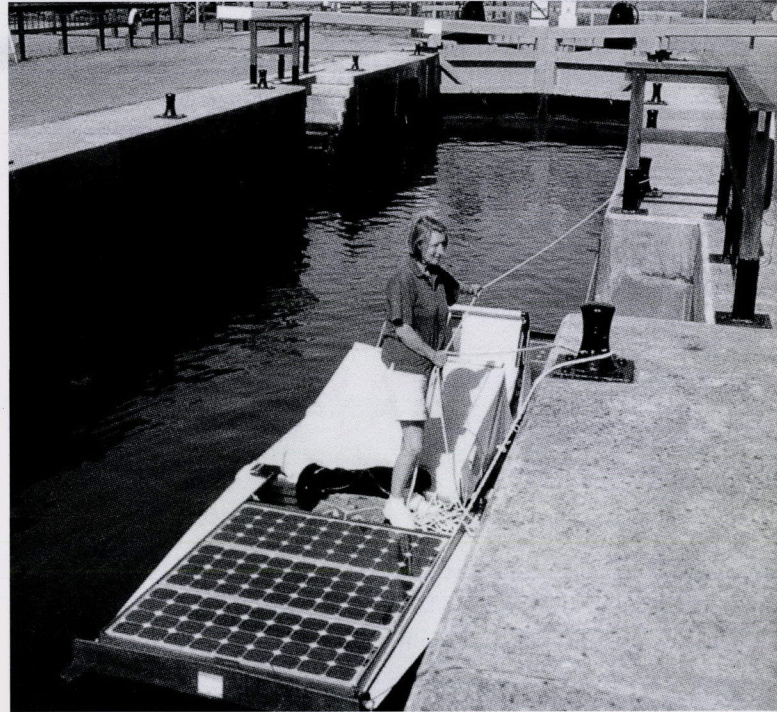
*Mode (d) is what we call GHQ (Get Home Quick) – rather expensive on stored energy but perhaps useful in a crisis after dark.*

Needless to say there are some problems. From the skipper's point of view the most serious is that *Solar Flair* is hard to turn. Steering by swivelling the motors proved to be fine for gentle adjustments, but we could only turn right round on the Thames using paddles – hardly a good advertisement for solar boating. I doubt whether a stern-mounted rudder would help greatly, so a bow-thruster which doubles as a spare propulsion motor may be the answer.

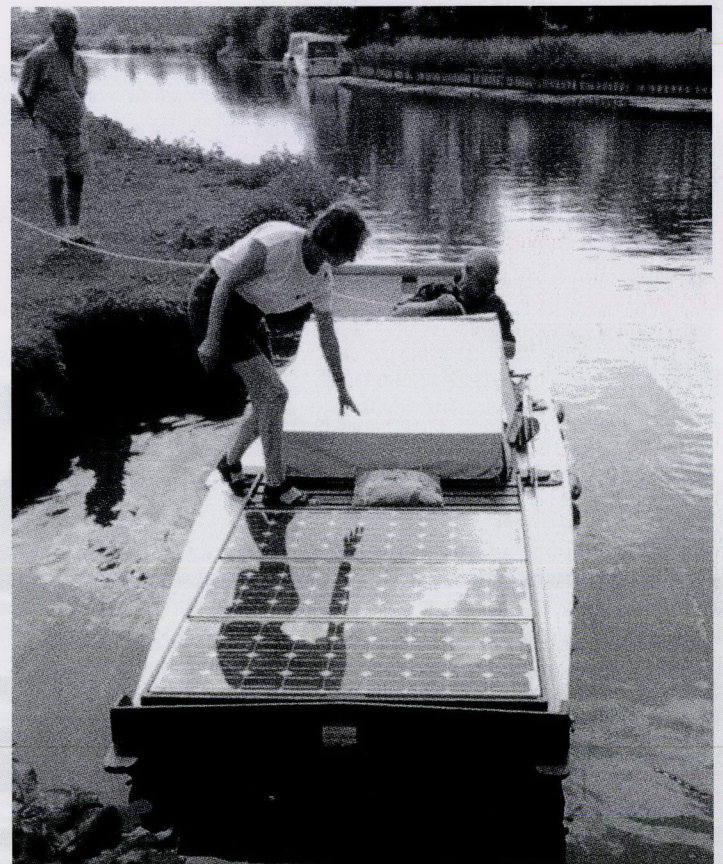
There is also a question mark over the propellers. The T2200 is a trolling motor designed to give high thrust at low boat speeds and its propeller has a pitch-diameter ratio of about 0.5. A ratio close to unity would almost certainly be better. Our garage is already booked for winter modifications.

Our most enjoyable summer trip took us from Lechlade through two Thames locks to a mooring beside Kelmscott Manor. We arrived there almost entirely on solar photons. Visiting the house, I liked

*continued on page 8*

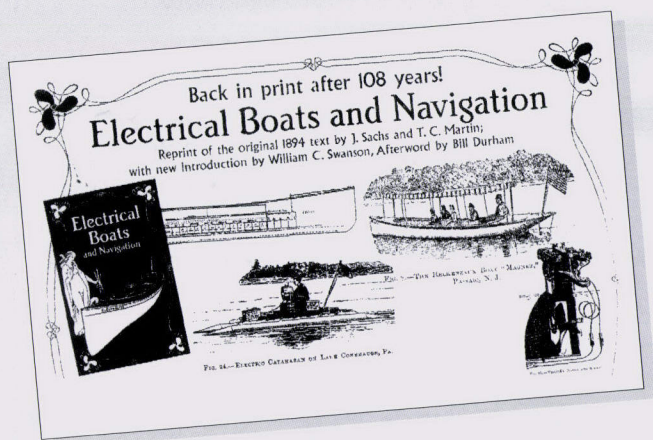


*Solar Flair passes through a lock on the Upper Thames*



*Solar Flair on the Thames at Lechlade. Source: Paul Lynn*

# NEWS FROM HOME & AWAY



Back in print after 108 years – *Electrical Boats and Navigation*

## Electrical Boats & Navigation – ‘new’ book from Boat House ISBN: 0-9641204-1-0

The Boat House, based at Portland, Oregon in the USA has announced the re-printing of the 105 page book *Electrical Boats & Navigation* – first published 108 years ago, with only one original copy now held in the Library of Congress.

Boat House describe this book as the foundation text on electric personal watercraft, steam-electric boats, submarines, canal boats, rental fleet operations, charging motors and storage batteries. Information is provided on early French, German and English electric boats, as well as details of the original Electric Boat Company’s boats on show at the World Columbian Exposition. The book also includes drawings of original electric launches, rowboats, catamarans, paddle wheelers, submarines, dirigible torpedoes, and canal boats. The text and illustrations provide excellent examples of the earliest motors, controllers, batteries, accessories and other artifacts.

For further information, Boat House has a website: [www.steamlaunch.com](http://www.steamlaunch.com). A book review and details of how to get this publication from the EBA will appear in the next issue.

## THE RIVER THAMES BOAT SHOW 2003

The Trustees of the Child-Beale Trust – who manage Beale Park, the former venue for Boats on Show – announce that they are planning to launch a new event to be called The River Thames Boat Show in 2003.

The decision to prepare this new event is in response to the disappointment expressed by exhibitors and visitors at the decision to move Boats on Show down river this year.

Further information on the proposed new show can be obtained from Richard Howard on 0118 984 5207 or email [bealepark@bun.com](mailto:bealepark@bun.com)

## HRH THE PRINCE OF WALES ENJOYS THE STANDEGE EXPERIENCE

On 3 September 2001, His Royal Highness The Prince of Wales officially declared the restored Huddersfield Narrow Canal open, while visiting the Standedge Visitor Centre at Marsden. The royal visit included a guided boat trip aboard the *Pennine Pride* into the restored Standedge Tunnel (see ‘The Standedge Experience – Electric Tugs on the Huddersfield Narrow Canal’, *Electric Boat News*, Summer 2001).



## ELECTRIC BOAT ASSOCIATION OF THE AMERICAS (EBAA)

In a recent edition of the EBAA Journal, we learn that researchers with Las Vegas, NV-based Power Technology, Inc (PTI) have developed a foam structure for standard lead-acid batteries that will reduce lead content by 90% and make the battery twice as powerful. PTI say that the battery will be practical for use in electric vehicles

Further information on the current activities of the EBAA can be obtained from the Association website: [www.electricboat.com](http://www.electricboat.com). The site provides access to the EBAA bookstore and the electric boat discussion group. To gain access, go to the home page and scroll down. Click on NEWS AND NEWSROOM. Scroll down again, click the moving sign and you are ready to join in the e-boat talk.



## SOLAR FLAIR *continued from page 7*

to think that the great designer William Morris, an enthusiast of appropriate and human-scale technology, would have approved of our means of transport. Silent, undisturbing of the wildlife on the river which he loved so much, and as unpolluting as his own arrival in a rowing boat from Hammersmith more than a century ago.

errata: Paul was described as Paul Flynn in the Autumn edition. Editorial apologies



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3. **ELECTRIFYING YOUR BOAT** by Hawthorne & Wagstaffe
4. **HULL DESIGN FOR ELECTRIC BOATS**  
by Andrew N Wolstenholme
5. **LEAD ACID BATTERIES – OPERATION & MAINTENANCE**  
by CMP Batteries
6. **HIGH SPEED ELECTRIC BOATS** by Lorne Campbell
7. **HYBRID POWER** by John Hustwick

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# WATERWAYS MINISTER HEARS ALL

Emrhys Barrell reports on a major conference called by the Electric Boat Association

**November 22nd 2001 marked a major event in the history of the Electric Boat Association, when it hosted a presentation to Lord Whitty, Minister for Food, Farming and the Waterways. Delegates who attended the meeting included senior representatives from the three major navigation authorities, the electric boat industry, and EBA members.**

The aim of the presentation was to bring Lord Whitty up to date on the state of the electric boat market, and to press the Government to introduce positive measures to encourage more use of electric boats. The event was a follow up to a meeting at Westminster 18 months ago between Lord Whitty and a small group of electric boat personnel. It was originally intended to use the latest opportunity to show him a range of electric boats presently in operation, but postponements, due to the Minister's other commitments, meant that most available craft were out of the water for the winter. However the Environment Agency were able to bring

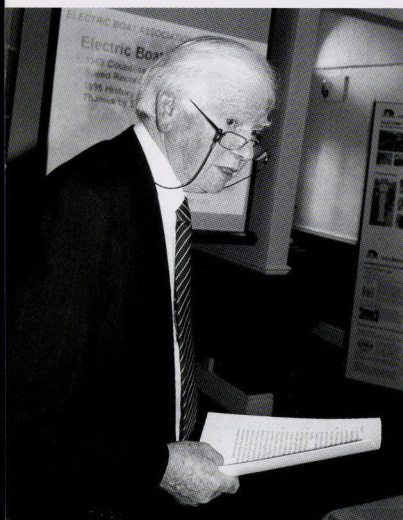
EBA presses the Government to introduce positive measures to encourage electric boating

## ELECTRIC BOAT ASSOCIATION

For the EBA, former Chairman Jim Keating gave the background to the electric boating movement. He described how the first electric boats date back to 1882 with the launch of the 26ft *Electricity* on the River Thames in London, followed by *Volta*, which crossed the Channel from Dover to Calais in 1886.

The heyday of electric boating was the beginning of the 20th Century, but by 1914, the petrol engine had become light, powerful and reliable, and rapidly took over. The resurgence of modern electric boating started in the early 1980s, and in 1982, Viscount St Davids founded the Electric Boat Association. Successful production electric boats were developed through the 1980s, with large numbers in use, particularly on the River Thames.

In 1989, the Countess of Arran set a World Electric Speed Record of 51mph. In 1997, *Wagtail V* set a world endurance record of 116 miles



Former Chairman, Jim Keating, gives the opening presentation



John Redmond gives a presentation on behalf of the Environment Agency



EBA President, Aitken Clark (left) and Stephen Hames of British Waterways

their electric patrol launch *Colne* to the venue at the Riviera Hotel, Maidenhead, to show him an example of an electric craft that has been in successful operation for the past six years.

The format of the meeting consisted of presentations by the EBA and navigation authorities, followed by a lively discussion from the floor on the way forward for electric boating. Lord Whitty himself made highly pertinent contributions, and showed he was well appraised with the current situation and future possibilities.

Photos: David Mansell, courtesy of Thames Electric Launch Company

on one charge on the Thames, and *SB Collinda* made a solar-powered Channel crossing.

The benefits of electric power and its drawbacks were outlined, and the need for vigorous promotion of electric boats was stressed.

## ENVIRONMENT AGENCY

John Redmond of the Environment Agency, outlined the EA's commitment to electric boating. The River Thames alone had 440 registered electric boats in 2001, with a further 22 on the Medway, Nene and Ouse. The EA's own patrol boat *Colne* has a hybrid diesel/electric power system, and has been operating successfully

# ABOUT ELECTRICS



Lord Whitty (centre) in discussion with Edward Hawthorne (right), former EBA Vice Chairman and EBA Chairman John Hustwick



The Minister makes his point in a lively debate, while Eileen McKeever, the Environment Agency's Waterways Manager for the Thames, looks on

for six years, including a 135 miles trip down the whole length of the river and up the River Lea.

Twelve public charging points have been installed at strategic locks on the Thames, and the Agency is in discussion with local authorities to set up further points in riverside towns. The River Nene has a solar-powered lock, and more are planned. Over the next five years, whenever new waterside facilities were installed, these would include electric pillars with card readers as well as toilet pumpouts and water points.

## BRITISH WATERWAYS

Stephen Hames described the current BW projects. *Roman* is an electric launch that is taken round the country promoting the canals, particularly to school children. It was funded jointly through Landfill Tax, and the Tarmac Group.

The restored three-mile long Standedge Tunnel on the Huddersfield Canal has a fleet of electric tugs that tow convoys of narrowboats under the Pennines.

The *Beauchamp* is a 60ft electrically powered floating classroom used on the waterways of London.

BW is also conducting a major research programme into alternative power systems for inland waterway craft, including the ZeTek power cell, Selectric hybrid diesel/electric system, novel energy storage systems, and electric tugs for coal barges. BW is setting up a register of charging points at boatyards and marinas, to encourage wider use of the system. Where distances between these points are large, waterway managers would look at the feasibility of installing electric pillars with card readers at strategic points. These would serve both



Edward Hawthorne talks to Paul Wagstaffe, EBA member and Customer Relations Manager for British Waterways

Zero licences fees for electric boats for the next five years would be a major incentive

years, and zero VAT on new craft or equipment would be a start. Navigation authorities should give the lead by progressively converting their workboats and patrol craft to electric power. Charging points need to be supplied by authorities, as they will rarely recoup their costs by the sale of electricity.

Worldwide, electric boats are seen as the way forward for inland use. Ever stricter emission controls for internal combustion engines are coming into force. Many countries have electric-only waterways, including all the lakes in Austria and Switzerland, and whole networks in Holland. Many lakes and rivers in the UK are drinking water supplies, yet it is unbelievable that thousands of diesel-powered boats are still allowed to discharge their exhaust into these.

electric powered boats, and other craft with onboard electric systems. These pillars would have 32 amp outlets as well as the more common 16 amp, to allow craft with larger banks of batteries to recharge. He also made the point that BW are willing to lend their technical support to people with potential electric boat projects.

## BROADS AUTHORITY

Dr John Packman, Chief Executive, Broads Authority, spoke of the electric boats on the Broads, including the solar-powered electric passenger boat *Ra*. He said that if hire-boats are to be persuaded to convert to electric power, the public purse has to assist private industry.

## BRITISH MARINE FEDERATION

Howard Pridding, Executive Director of the BMF said that electric boats were presently a niche sector of the market, but were still a serious section of the industry, and one with a much greater potential. For the numbers to increase, navigation authorities need to improve the infrastructure, to make it more practical for people to own and use electric craft.

## EBA BUSINESS MEMBERS

Speaking on behalf of EBA Business members, Emrhys Barrell of Thames Electric Launch Company said that there needed to be major incentives for people to convert to electric power. Zero licence fees for five

*continued on page 16*



Top Left: *Beauchamp* in the stop lock at Little Venice for her official launch

Bottom Left: A teacher and some of the schoolchildren who will learn aboard the *Beauchamp*, talk to John Craven (left) who performed the launching ceremony

Right: Another view of *Beauchamp* showing the picture windows which provide a clear view of the canal from the floating classroom

Photos: John Hustwick



# BEAUCHAMP – the floating electric classroom

## John Hustwick reports on the launch of an exciting new electric project for London's Canals

The *Beauchamp* is the first floating classroom in London for more than 40 years, and it is hoped this will be the first of many. The project has cost £300,000 and is the result of a partnership between British Waterways – London, The Waterways Trust and Beauchamp Lodge Settlement with additional support and funding from London's Waterway Partnership, Paddington Basin Developments Ltd, Cleanaway Ltd, New Life of Paddington and Timeplan Educational Group Ltd.

The official launch took place in autumn sunshine on 16 October last year at Little Venice, with the well known BBC television presenter John Craven, of Newsround and Country File fame, cutting the ribbon. He was assisted by a small group of local children whose school will be one of the first to use the classroom. Prior to the ribbon cutting ceremony, there were brief speeches by Dave Fletcher, Chief Executive of British Waterways, Roger Hanbury, Chief Executive of The Waterways Trust, Ellenor Anwyl Director of the Beauchamp Lodge Settlement and John Craven.

*Beauchamp* is 22m long with a beam of 4.2m, which means she can comfortably cruise the canals of London. The vessel can carry

35 children plus teaching staff and will have state-of-the-art educational facilities including the latest computers, video, DVD and CD equipment. There is even a well so that children can take water samples for analysis. Propulsive power comes from a 22kW 400V 3 phase AC electric motor fed through a solid state drive unit from 100 6V batteries connected in series. This provides 600V DC, which is then inverted to give AC power. The AC power is necessary for all the teaching equipment and it allows other items to be brought on board without any special power supply. It is anticipated that *Beauchamp* will be able to cruise for 6 hours which is sufficient for a typical school trip. She will then be recharged overnight. Having been on board while under way, I can confirm that *Beauchamp* has a very quiet propulsion system.

The floating classroom will allow schoolchildren to experience the canals all year round, letting them see how the changing seasons affect the wildlife and environment in and around the waterways. It is also hoped that it will teach the children a sense of responsibility about protecting their local environment. For some children the classroom will be their first experience of setting foot on a boat. Let us hope that they will enjoy a great day out.



Top Left: *Montmorency*, decorated for the regatta, *Estel* and Cedric Lynch in his solar canoe. Bottom Left: *Estel* visits the Cookham Regatta

Photos: Barbara Penniall



Top Right: From the left, *Silver Sail*, (Fraser and Ann Brown), *Cedric Lynch* and canoe, *Festival 23* (John & Sandy Williams), *Terrapin* (David Williams) Group picture: Left, John Hustwick, Andrew Wolstenholme and Cedric Lynch. Right: John and Sandy Williams

# FROM THE THAMES TO THE BROADS

**In 2001 the EBA was represented at venues as far afield as Cookham Regatta and Silent Sensations in Norfolk: Barbara Penniall reports**

## COOKHAM REGATTA

An Electric Boat Association Rally was organised last September to coincide with the Cookham Regatta. EBA members who had arrived at the Upper Thames Sailing Club by car were invited on board and the electric boats then formed a parade for Regatta spectators.

The commentator gave a splendid description of each boat as she passed: noting that Cedric Lynch's electric canoe was powered by solar panels, identifying *Wagtail V* and *Shiel Water* and spotting *Irene's* unusual combination of steam and electric power. The splendid new 36ft *Frolic*, *Estel* and the gaily decorated *Montmorency* also raised comment. However, *Stima* was not identified – presumably thought of as a conventionally powered river cruiser.

Simon Read and Roy Lawson of Creative Marine had just launched *Estel* the latest addition to their fleet (see Trade News, Autumn 2001 edition of EB news). The owner, Chris Taylor, was unable to join us, but Simon and Roy were happy to display their 36ft *Frolic* which drew everyone's attention. The gold upholstery positively shimmered in the sunshine as *Estel* silently cruised upriver followed by Terry and Pam Gilbert's streamer clad *Montmorency* which was later awarded the Hawthorne silver rose bowl for the best decorated boat.

The flotilla cruised to the backwater by Cookham weir, where the boats moored and we enjoyed a sociable picnic, swopping wine and anecdotes. Everyone relaxed in the sunshine and we eventually cruised back to the Sailing Club. Edward Hawthorne joined us in *Mystere* and we completed a successful afternoon with tea and scones.

## SILENT SENSATIONS

EBA members gathered at Stalham, Norfolk last September and enjoyed an evening cruise to a riverside restaurant for dinner. Returning in starlight on the darkened rivers was a magical experience, made perfect by the sight of a shooting star crossing the bows of the silent boats. Silent Sensations, the trade event held on the following day was unfortunately marred by heavy rain but John and Sandy Williams offered hospitality for the EBA stand to be erected inside their boatshed. The committee was kept busy answering enquiries about electric boating from everyone visiting the event, whilst offering some respite from the inclement weather.

John Hustwick was there with *Rhapsody*, David Williams with *Terrapin*, Cedric Lynch's solar powered canoe and Ann and Fraser Brown with *Silver Sail*, their gaily decorated electric narrowboat. Tony Fogarty proudly showed his cruiser recently converted to electric power. John and Sandy exhibited one of their *Festivals* on the water and David Cartwright displayed the *Reuban Bleu* range inside the boatshed.

# LONDON INTERNATIONAL BOAT



## Tony Ellis reports on electric boating at the London showcase

Once again, the 48th London International Boat Show at Earls Court in January saw a gathering of five electrically powered launches, all in close proximity on the ground floor.

### CREATIVE MARINE

Julia Lawson was busy promoting one of Creative Marine's 21ft *Frolics*. With a colour scheme of deep pastel blue hull and light blue decks and interior, this open-plan craft was fitted with aft side-wheel steering. David Millin of Pb Batteries was also available for consultation on matters electric.



Further information  
tel: 01263 570100;  
website: [www.creative-marine.co.uk](http://www.creative-marine.co.uk)  
email: [creative.marine@talk21.com](mailto:creative.marine@talk21.com)

Pb Batteries:  
tel: 01206 792449  
email: [pbbatts@FSBDial.co.uk](mailto:pbbatts@FSBDial.co.uk),  
website: [www.pbbatteries.com](http://www.pbbatteries.com)

*Sleek lines on the Creative Marine Stand (I mean the boat of course!).  
Julia Lawson busy promoting the company's products*

*David Millin of Pb Batteries with the Frolic 21 on the Creative Marine stand*



### SALTER BROS LTD

Once again, Salter Bros were displaying the *Topic 13* grp motor boat, built specially for hire on boating pools and inland waterways (although it is also available to the private purchaser). This small 13ft by 5ft runabout has a Lynch Permanent Magnet 1kW engine with a 36 volt, 200 amp battery pack and on-board charger. Running time is reported to be 7 hours at approximately 4 to 5 knots, leaving a reserve of 20%.

Further information  
tel: 018695 243421



*John Salter and Salter Bros electric launch Topic*

### SILETTE-SONIC LTD

A range of through-hull, electrically-powered saildrives were on display from Silette-Sonic Ltd on the first floor balcony. The package on offer is intended for use with a 36V supply, although 24 and 48 Volt are also available, giving a potential of between 3 and 8 Kw. Performance levels are expected to match what you would expect from a marine diesel of 10 to 25hp.

This product received a certificate of commendation at the METS Boatshow in Amsterdam in November last year.

Further information  
tel: 020 8715 0100,  
website:  
[www.sillette.co.uk](http://www.sillette.co.uk)

*Glen Print of Silette-Sonic Ltd, demonstrating their electric sail drive systems*



# SHOW



The business end of Bossoms new economy Oyster 14 on display at the show



The Classic 15.5 launch from the Canadian Electric Boat Company



Steve Chapman of Nauticalia Boats and the Euro 500

## BOSSOMS BOATYARD

Alongside their luxury electric launch, *Maud*, Bossoms were showing a new economy version of the *Oyster 14*. Instead of an inboard engine, this craft had an outboard frame, fitted with a Mercury T48 Thruster. With a price of £6,000 plus VAT it is expected that we may soon see more of these trailable craft on the water. Sales Manager, Jeremy Freeland also told me of a new *Patricia 32* electric launch which is currently in-build at Bossoms for a private customer.

Further information from: Bossoms Boatyard tel: 01865 247780; email: [info@bossoms.co.uk](mailto:info@bossoms.co.uk); website : [www.bossoms.co.uk](http://www.bossoms.co.uk)

## THE CANADIAN ELECTRIC BOAT COMPANY

On stand 81C, the Canadian Electric Boat Company were promoting their *Classic 15.5* electric launch. The motor has been upgraded for 2002 and the price has been reduced to £8,950 – including VAT.

Further information:  
tel: 01628 621770; e-mail: [electric-boats@btconnect.com](mailto:electric-boats@btconnect.com)

## NAUTICALIA BOATS

Steve Chapman of Nauticalia was busy with the *Mayland Euro 500* which they normally supply with a Mariner 43 electric outboard. However, Nauticalia sold all their stock of electric outboards three weeks before the show opened. Further stocks were still

awaited – so the craft on show had a standard outboard on the back – for now.

Further information:  
tel: 01932 254844; e-mail: [sales@www.pushtheboatout.com](mailto:sales@www.pushtheboatout.com)

## NAVIGATORS & GENERAL

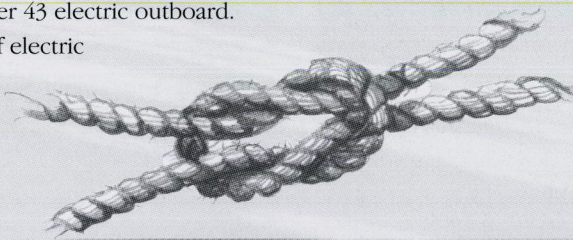
In a prominent position on the main 'drag' between the entrance and the Pool was the extensive stand run by the insurers Navigators & General. Members will be aware that N&G give a useful discount for the insurance of electric boats owned by EBA members

Further information from the Secretary

## FISCHER PANDA

Upstairs, I talked with the Fischer Panda team and studied their range of high-output small generators – up to 12kW – particularly suitable for electric boats. I also discovered that their new electric propulsion system (see the Summer 2001 edition of EB News) is expected to be fitted to a new vessel being built by Catalina Yachts Inc of the USA – with the possibility of it being launched at the Miami Boat Show in February.

Further information:  
tel: 01202 820840;  
fax: 01202 828688



Photos: Tony Ellis

## AITKEN CLARK

New EBA President Aitken Clark said that there was a perceptible change in attitude from users towards electric craft, and that the Government should get behind this change of attitude. In Germany the Government gives cash for users and builders of solar-powered boats.

Many navigations are also sources of drinking water, yet thousands of diesel-powered boats are allowed to discharge their exhausts into them

## LORD WHITTY

Replying to these points, the Minister asked firstly what the opposition to increasing use of electric power was. Was it prejudice, or economic reasons? Why did hire-boat operators still prefer boats with diesel engines to nice quiet electric power?

In reply, Paul Wagstaffe of British Waterways said that operators were familiar with diesel engines, and understood how to service

The Government could consider assistance for conversions or new electric boats, as offered to road vehicles if a strong case were to be made ( Lord Whitty)

and repair them. They also could not afford the high capital cost of installing electric systems, even though they would gain a long-term pay-back. Lord Whitty then said that it would be difficult for the Government to restructure the industry, or give direct assistance to companies to develop electric products, but it could consider whether there should be incentives such as the Powershift initiative for the car market, where owners are given assistance with buying new, or converting existing vehicles to alternative power sources, such as gas, electric or hybrid engines.



*Lord Whitty in conversation with Ian Rutter, EBA Users Group Vice Chairman*



*Howard Pridding, Executive Director of the British Marine Federation, speaking on behalf of the boat building industry*

## CONCLUSION

At the end of the formal session, several other EBA members present had the opportunity to speak directly to the Minister, while the other delegates, representing all sectors of the industry at the most senior level also found valuable time talking to the Minister and to each other. Present EBA Chairman John Hustwick concluded the proceedings, thanking Lord Whitty for his valuable time, and for his obvious interest in the future of electric boating.



*The Minister with EBA member Brian Smith (left) and Emrhys Barrell, Business Member*



*On board the Environment Agency's patrol launch Colne, the Minister is shown the diesel / electric system, and its tiny electric motor that replaces the diesel engine for normal cruising*

# BOOK REVIEW



## **Electric Boats; The Handbook of Clean, Quiet Boating** by Douglas Little.

Published by International Marine/McGraw Hill  
ISBN 0-07-038104-6

This is really two books in one. The first part describes the author's experiences with his electric canoe style launch on The Black River (USA). In later parts of the book he goes into some technical detail about the various systems, aspects and design considerations for those who would like to construct their own electric boat. The travelogue portion conveys the authors delight at being close to the natural inhabitants of his local river, along with the sound ecological and personal reasons that accompany the decision to go electric (as opposed to muscle power or internal combustion engine). There is a useful discussion about the pollution aspects of using internal combustion powered craft in chapter 2 and this alone would provide enough arguments for any eco-warrior to use. Of interest to the more technically minded chapter 3 to 9 provides a discussion on all the topics including energy basics, batteries,

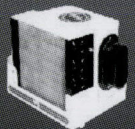
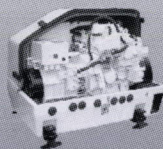
motors, propellers and control systems. This includes calculation of the likely power requirements for a boat and duration of operation (with usage strategies). The section on propellers give useful formulae (imperial units) to assist in selecting the appropriate size and style of propeller. Chapters 6 & 7 discuss batteries generally and building and maintaining the battery bank. Chapter 9 works through the building of a boat similar to the author's own craft and is complete with sketch drawings and step by step build guidance, while Chapter 10 reviews some of the electric equipment available in the US.

This book is well written and would give a novice electric boater a good introduction.

Paul E. Bennett



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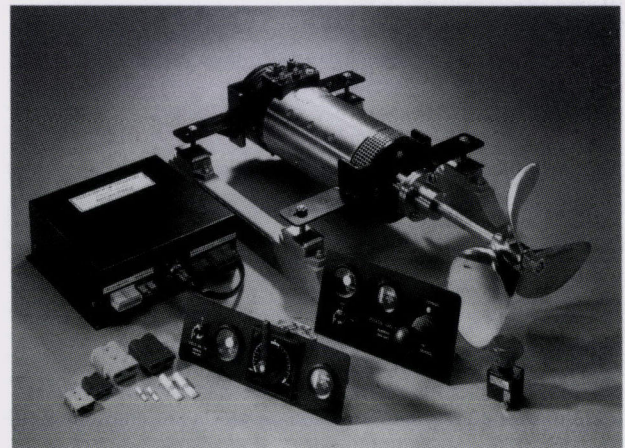
\*Offices also in USA, Germany and Dubai\*



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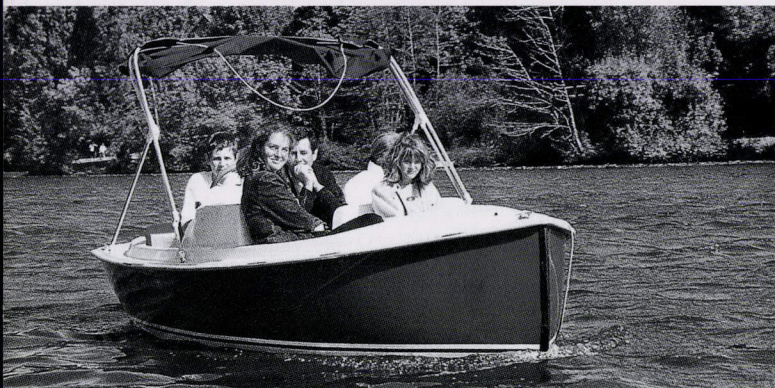
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# BUSINESS NEWS

## RUBAN BLEU BOATS FOR THE LEE VALLEY FLEET

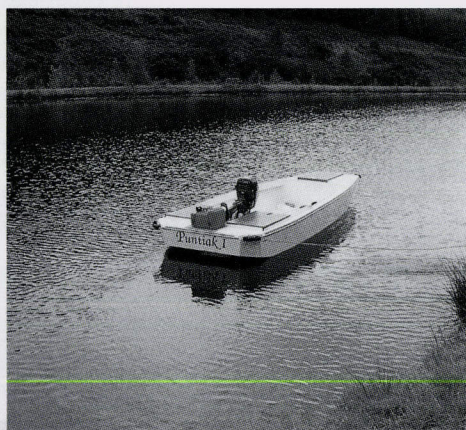
By the time this goes to press, the Lee Valley Regional Park Authority will have taken delivery of eight Blue Ribbon Aces. The boats will be based at Lee Valley Boat Centre Ltd, their hireboat base at Broxbourne, Herts.



Eight of these Reuben Bleu Aces are due to join the Lee Valley Regional Park Authority

The Authority went for these electric boats primarily for environmental reasons. The decision is also welcomed by the fleet operators, as the new boats will mean much less work and lower running costs than the outboard-powered launches they will replace.

Further details from David Cartwright tel: 01986 785322, email: [dcboat@freeuk.com](mailto:dcboat@freeuk.com) or John Williams tel: 01692 580953, email: [Johnboats@aol.com](mailto:Johnboats@aol.com), website: [www.johnwilliamsboats.co.uk](http://www.johnwilliamsboats.co.uk)



The new Pontiak

is easy to launch because it is fitted with wheels. The hull can be completely covered by a quickly erected canopy which will provide shelter from inclement weather, cooking and sleeping space, with onboard lighting. While *Puntiak* sell the craft with a 4 stroke outboard, this craft would appear ideal for use with an electric engine.

Further details: Pontiak Ltd tel: 01923 850967 email: [puntiak@onetel.net.uk](mailto:puntiak@onetel.net.uk)

## BOSSOMS AT SOUTHAMPTON

One of the few electric boats on display at the Southampton Boat Show was the *Oyster 14* from Bossoms. While visiting the show

I met Jeremy Freeland of Bossoms, ably supported by his young daughter, Grace.



Further details:  
Bossoms Boatyard  
tel: 01865 247780.  
Email: [Jeremy@bossoms.co.uk](mailto:Jeremy@bossoms.co.uk)

Jeremy Freeland of Bossoms Boatyard and his daughter Grace

## ZeTek Power



### ZETEK POWER CALLS IN THE RECEIVERS

Sadly, we have learned from the Battery Vehicle Society that in December ZeTek, Europe's largest fuel cell company, was preparing to call in the receivers after the failure of a £40m fund raising effort. The technology promoted by ZeTek has been well received but the plans for a stock market flotation were hampered by market conditions and the disastrous events of September 11. It is reported that Nic Abson, Chairman and Chief Executive, is seeking backers to buy back the company from the receivers. Nic founded ZeTek and is of the firm belief that fuel cell technology will revolutionise the power generation and transport industries (see EB News Summer 2001 – page 15).

### CREATIVE MARINE

Following the successful launch of the *Frolic 36 Estel*, Creative Marine are now currently building a *Frolic 31*. The boat is being fitted out in teak with traditionally laid decks and fitted cabin work. Accommodation comprises two berths, toilet and galley and the boat is powered by a 4Kw direct drive electric motor.

All interested members are welcome to visit the workshops to see the building in progress – but it is suggested that you phone in advance to obtain directions – the term 'Secret Boatyard' isn't an idle boast.

tel: 01263 570100

# TECHNICAL NEWS

## Cruising Speed and Distance Part 2

John Hustwick continues with his study of the performance of *Rhapsody*

As I mentioned in the summer 2001 issue, I wanted to get some idea of the performance of *Rhapsody*. I was eventually able to get the information I needed on a trip on the Broads at Stalham. There were three adults in the boat at the time – she could carry six. The boat speed was measured using GPS and although this gives speed over ground, there was no current to worry about, so the readings can be assumed as the speed of the boat through the water. The propeller shaft speed was measured using an optical tachometer and the motor current was measured using the ammeter on *Rhapsody*'s control panel.

The figures shown are from one set of measurements and are only a guide to illustrate performance. With more time I would have liked to have done several sets of measurements and taken an average. Perhaps I will try again this summer:

Motor Current (Amps)	Propeller Speed (Rpm)	Boat Speed (Knots)	Duration (Hrs)
10	420	2.7	28
20	580	3.4	14
30	671	4.0	9.3
40	790	4.6	7.0
50	919	4.9	5.6
60	935	5.0	4.7

The duration is theoretical and based on a constant current and that the batteries would be discharged 80% (ie it assumes I would be able to get 280Ah from the batteries which are rated at 350Ah).

I hope members find the data interesting and that it might inspire others to carry out similar tests on their boats in the future – and publish the results in this magazine. The gathering of this information will help to broaden our knowledge base.

## BOAT SAFETY SCHEME GUIDE

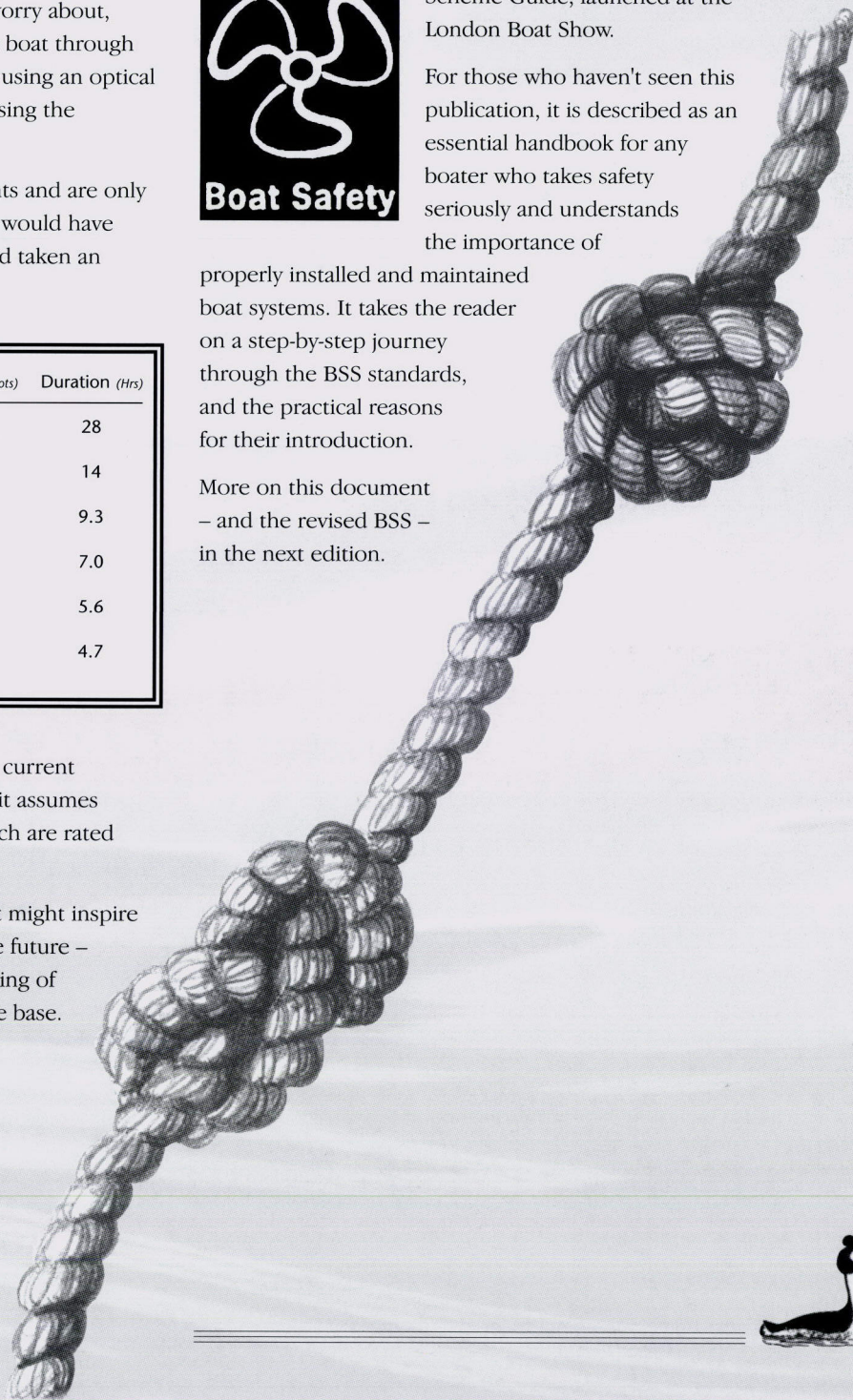
If you are already a licence holder for British Waterways or Environment Agency waters, you will have either received or been informed of the new Boat Safety Scheme Guide, launched at the London Boat Show.



For those who haven't seen this publication, it is described as an essential handbook for any boater who takes safety seriously and understands the importance of

properly installed and maintained boat systems. It takes the reader on a step-by-step journey through the BSS standards, and the practical reasons for their introduction.

More on this document – and the revised BSS – in the next edition.



# NOTICE BOARD

## ELECTRIC BOAT EVENT, HARTFORD MARINA 4 – 6 MAY

The Electric Boat Trade Show at Hartford Marina on the River Great Ouse will be open to the public on 4th and 5th May, combined with a cruising day for EBA members and friends on Monday, 6th. The event was originally planned for last year but had to be cancelled because of the Foot & Mouth epidemic.

## UK BUSINESS MEMBERS' PRODUCT GUIDE

The guide is normally included in the January issue, but with the importance of the coverage of the Minister's visit, this is being held over until the April issue. Copies can always be obtained direct from the Secretary at any time.

## VACANCIES

We still have a vacancy for a Public Relations Officer, as announced in the last edition of EB news. It is important that we fill this vacancy as soon as possible. Any volunteers interested in taking up this interesting post should contact the Chairman.

## 21ST ANNIVERSARY CELEBRATIONS

It has been decided that the anniversary celebrations originally planned for our 20th year will now be held in 2003 on our 21st.. More details to follow during the coming year.

## NEW MEMBERS

Name	Vicinity	Boat(s) where appropriate
<b>PRIVATE MEMBERS</b>		
Eric Lee	Maghull, Merseyside	
Laurence Sparey	Barnet, Herts	Wasp
Charles Fitzhardinge	Hunter's Hill, New South Wales	
Roger Adams	Welton, Lincoln	Bonnie Lass
<b>BUSINESS MEMBER</b>		
Hawksley Silicon Systems	Isle of Wight	

## ELECTRIC BOAT ASSOCIATION SHOP

<b>EBA Tie</b> – navy blue with narrow green/white diagonal stripe ...	£9.50
<b>EBA Pennant</b> – good quality cotton, royal blue with 'Electric Boat Association' and grebe in white .....	£10.00
<b>EBA Brooch</b> – delicate blue and white grebe edged with silver Safety pin clasp, 25mm high .....	£5.50
<b>EBA Sweatshirts and Polo Shirts</b>	
Good quality, both in pale blue with royal blue logo	
Please state Small, Medium, Large or Extra Large	
	– sweatshirts £20.00
	– polo shirts £16.00
Why not add the name of your boat for an extra	£2.50

All prices include post and packing (UK only)

Please send cheque for £..... made payable to the Electric Boat Association to:

Barbara Penniall, 150 Wayside Green, Woodcote, Reading, RG8 0QJ  
Tel: 01491 681449 Fax: 01491 681945 email: [eboat@mail.com](mailto:eboat@mail.com)

Tie  Pennant  Brooch  Sweatshirt  Polo Shirt

(Please indicate quantity and size required plus additional boat name as appropriate)

.....

Name ..... Tel No: .....

Address .....

.....

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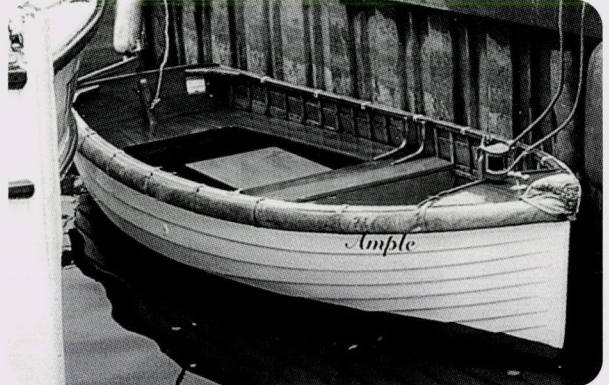
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For details contact:

**John Williams Boats, The Staithe, Stalham, Norfolk NR12 9DA**

Telephone: 01692 580953 Website: [www.johnwilliamsboats.co.uk](http://www.johnwilliamsboats.co.uk)

Email: [Johnwboats@aol.com](mailto:Johnwboats@aol.com)



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