

The Journal of the Electric Boat Association
Supported by the Broads Authority

www.electric-boat-association.org.uk

Volume 19 Number 2 Summer 2006

Electric Boat **NEWS**



***Cruising the Ouse • Electric Boats Old and New
Boat Shows from Somerset to Cumbria***



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Hale Bopp: 16ft Salters double skiff – dark blue with varnished hardwood thwarts and trim, two pairs of oars and rowlocks, battery platform, upholstered seat cushion, Minn Kota electric outboard + tiller extension, 3 x 12v batteries, Snipe MST400 road trailer, battery charger. Located in Herts. £1,800 o.n.o (as one lot) Picture on page 14. Enquiries to Anthony Oliver on 01727 841553 or at anthonyfoliver@aol.com

13ft Exe Class built of Douglas fir on copper fastened steamed oak frames with two laminated frames in centre. Mahogany transom and seating. Electric installation by Stelco, with 1.5kw 48v motor, 4 x 110AmpHr batteries. Two wheeled trailer. Full canvas cover. Cost over £12000 to build. Price £5,000. John Murch 01202 291350 Poole, Dorset, email john_murch@hotmail.com

Electric Skiff: 16'3 x 4'2 black grp simulated clinker hull (moulded from original Yare rowing skiff). Pine/Jarrah planked decks and cockpit sole, mahogany inset transom. All woodwork epoxy treated both sides, high gloss varnish finish. Fitted Briggs and Stratton electric motor, 4QD controller, 4 x 12v (38 ah) batteries giving 24 volts. Side wheel steering, many brass original parts used. Complete with fully galvanised custom built trailer. £4,200. For picture see page 14. Contact Paul Morton 01603 721343 Mobile 07860 731767.

Creative Marine Moth 31 launched in 2000, based on a 1902 design. Seats six in open at bow with two in the stern. Main cabin has seating for six around table. Separate WC with hand basin plus galley with sink and cooker. 12 hp electric engine with 24 batteries. Boat safety certificate runs until 2008. £97,500. Picture on page 21. Contact Philip Nugus 0207 734 5428.

Electric Zelec, as new, unused. 5.5m loa, 5.25m lwl, 2.10m beam, 0.45m draft, displacement 825 kgs. CE Category D in sheltered waters. Up to 8 persons. Max design speed 5.5 knots. Range 10 hours at 4.5 knots, 6 hours at max speed. Complete with trailer and every conceivable extra. Suit new boat buyer. Cost £15,000. Will accept best offer over £9,000. Telephone Trevor Slown 01962 777077.

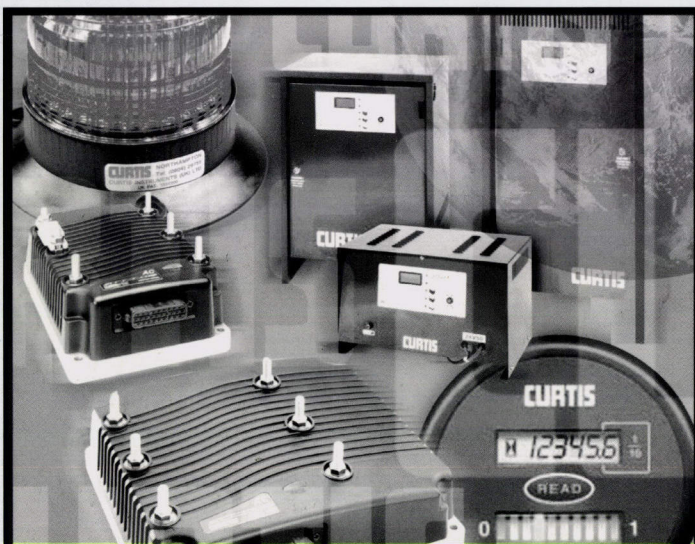
WANTED:

'Vintage' Electric motor suitable for a 30ft river launch, power in the region of 4HP but anything considered, or if anyone has any information on vintage electric motors, or a steam launch called WILLAMETTE, I would very much like to hear from them. Frank Kitching. Evenings, Tel 01642 723848.

Seeking low maintenance electric day boat up to 18 ft long. Please contact Nigel Cockburn 01628 621084 or vn@masoncockburn.plus.com

BOAT SHARE – BOURNE END. Considering buying Waterroo (see ad on page 14)) to moor at Marina. As past launch owner, 4 or 6 sharing seems more sensible. Per person costs say, capital c£1.5K; fees say £10-15 pm – about 60 days use each. Interested? Contact Peter Willingham 01628 850 999 07973 224 999 or ptw@acceleratedmortgages.co.uk

Members wanting to buy or sell electric boats, motors, fittings or associated equipment are invited to submit a 50-word entry direct to the Editor (Note: No agents or brokers). The information contained in members' private advertisements is provided by the advertiser and the Editor is unable to vouch for their accuracy. It is the responsibility of prospective purchasers to satisfy themselves as to the accuracy of the information given and of the condition of goods advertised.



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EBA CALENDAR

July

15th – 16th **EBA represented** Thames Traditional Boat Rally
Henley

August

26th – 28th **EBA represented** IWA Festival
Beale Park, Pangbourne

September

9th – 10th **EBA Event** Norfolk Cruise weekend

30th **EBA represented** Green Boat Show,
Salhouse Broad, Norfolk

October

16th **EBA Event** Laying Up Supper

Please note that dates and events may change. For up to date details, contact the Secretary or check the EBA website.

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Electric Boat Association

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The World Wide Web Address is: www.electric-boat-association.org.uk

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High Wycombe, Buckinghamshire HP12 4JG

Honorary President: **Malcolm Moss**

Honorary Vice Presidents: **Fiona, Dowager Countess of Arran**
Edward Hawthorne

Chairman: **John Hustwick**

33 The Street, Latchingdon, Essex CM3 6JP

Tel/Fax: 01621 742367

e-mail: john@mhustwick.freemove.co.uk

Secretary, Membership Secretary: **Barbara Penniall**

150 Wayside Green, Woodcote, Reading, Berks RG8 0QJ

Tel: 01491 681449 Fax: 01491 681945

e-mail: eboat@mail.com

Advertising Manager, Electric Boat News: Position Vacant,
Please send advertising to EBA Secretary, Barbara Penniall

Treasurer: **Don Wright**

3 Yeoford Drive, Altrincham, Cheshire WA14 4UP

Tel.: 0161 2330879

e-mail: don.wright@zen.co.uk

Press and Publicity Officer: **Tony Rymell**

Lyewater Farmhouse, 2 Lyewater, Crewkerne, Somerset TA18 8BB

Tel.: 01460 78295

e-mail: tony.rymell@btinternet.com

Technical Officer: **Paul Lynn**

Sages Mead, Butcombe, North Somerset BS40 7XF

Tel: 01761 462089

e-mail: paul.lynn495@btinternet.com

Vice-Chairman – Business Members: **Dave Millin**

Pb Batteries (SE) Ltd

Unit 2 Oyster Park

Greenstead Road, Colchester CO1 2SJ

Tel: 01206 792449 Fax: 01206 860438

e-mail: davidmillin@fsbdial.co.uk

Vice Chairman – Users Group: **Ian Rutter**

Riverwood Heights, Gibraltar Lane, Cookham Dean, Berks SL6 9TR

Tel: 01628 476158

e-mail: ian_rutter@onetel.com

Webmaster: **Nick Goldring**

8 Ambleside Close, Woodley, Reading, Berks. RG5 4JJ

Tel.: 0118 9694657

e-mail: nick.goldring@eboat.org.uk

Founder Editor: **Kevin Desmond**

Cover Picture: *Rhapsody and Georgie*
on the River Great Ouse
Photo: Nick Goldring

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From the old to the new – on a sunny June day I joined the centenary celebrations for a much-loved traditional electric launch and the following morning saw the EBA take charge of a boat powered by a hydrogen fuel cell, which may be the technology of the future. Having this boat on the EBA stand

at Beale Park alongside our Technical Officer's new solar-powered catamaran certainly demonstrated that the EBA is in touch with new developments in electric power.

The solar boat also attracted a lot of interest at the Somerset River Festival, and at the Lancaster Canal Rally the EBA was delighted to welcome world speed record holder *An Stradag*, which was surrounded by crowds of visitors all weekend.

It was good to meet EBA members at the AGM and enjoy a cruise on a beautiful stretch of the Thames once the serious business of the morning was over. A full report of the day's events will be in the autumn magazine. Meanwhile there are still a lot of boating events over the summer to look forward to, before the season draws to a close with our Laying Up Supper in October.

Sylvia Rutter

Editor

Editorial Address:
Riverwood Heights, Gibraltar Lane,
Cookham Dean, Berkshire, SL6 9TR
Tel: 01628 476158
Email: sylvia_rutter@onetel.com

Copy Deadlines:

Material to be considered for inclusion in the next edition of Electric Boat News should be sent to the Editor (preferably by email) by the following date:

Autumn 1st September



A bargain, Page 9



a birthday Page 15



and a boating vicar Page 13

THE CRUISE ON THE OUSE

EBA Secretary Barbara Penniall reports on a weekend of electric cruising on a beautiful stretch of river.

Two days spent cruising in great company, offering members the opportunity to join us either for one day or a whole weekend? Following the success of the cruise on the River Great Ouse in 2005, it was felt that weekend cruises should be a regular feature in the EBA calendar.

Mid May drew a variety of electric boats to Les and Elaine Fidler's Westview Marina in Earith. As always, their helpfulness with launching – Les' son demonstrating his expertise with the crane and making launching appear fast and effortless – meant that in a very few minutes we had a flotilla of electric boats assembled and ready to start.

Our Chairman, John Hustwick, had brought his 18ft open launch *Rhapsody* and Jeff and Georgina Waterson, together with Valerie and Alan, joined us again in their pretty blue hulled Frolic 21 *Georgie*. Nick and Yvonne Goldring travelled from Reading with their Canadian canoe *Silent Explorer*, and Julia and Harry Briars-Filby with their neighbours from St. Ives brought the Interboat *Pilgrim Minor*. We were delighted to welcome for the first time Bill and Veronica Selby with their lovely launch *Serena*, recently converted from steam to electric.

Already on the water in the marina was *Wayfarer* an elegant 42ft cabin launch, built in June 1906 in Burnham on Crouch. Alex Khot, Betty and several friends acting as crew were more than happy to provide information about this stately craft, originally named *Victory*. The name was apparently a reference to the Boer War – and not to any famous warship – and we were very impressed to hear that she was about to celebrate her 100th birthday.

Les, Elaine and Annie the dog joined us in their solar powered craft *Whispers* featured in EB News, Vol. 17 No. 4. *Whispers* is a 27ft Edwardian-style cruiser and ex Broads conservancy launch which Les himself converted to electric power, adding solar panels to the roof. It was interesting that although the panels had been concealed under a cover during the winter months, enough daylight had penetrated the canvas to trickle charge the batteries.

EBA members Mike Dolan, John and Marie McManus and Jill and Bill Raynor all came by car and were given a warm welcome by those already afloat. Seats were offered to prospective passengers and there were some quick decisions to be made as to whether they would risk an open boat in case of inclement weather, or go with someone for a brain-



Launching at Westview Marina

BARBARA PENNIALL

picking session on conversion to electric power or a recent interesting installation.

We looked at the sky, which had suddenly turned from bright sunshine to some very threatening clouds, and decided to make a hasty departure from the marina. This proved to be a wise decision as on our return that evening we were greeted with cries of "You must have been soaked!" No, far from it, as although the whole weekend was chilly, we were fortunate enough to escape any rain at all.

So, setting off in blissful ignorance that the marina was about to be overtaken by

some dreadful weather, we happily cruised on the tidal area of the River Great Ouse. The claim to fame of this stretch is that in 1947 the Barrier Bank to the south of the river gave way after a winter of deep snow, followed by a thaw and heavy rain. As the river rose, the bank breached over a length of 50 metres, flooding thousands of acres of land in what was possibly the greatest flood since the fens were first drained. The army was called in to seal the breach, using Neptune amphibious vehicles, in an operation appropriately codenamed Operation Neptune.

As we reached Brownhill Stauch, the unmanned lock which marks the end of the tidal limit at 62 kilometres from the sea, we all managed to squeeze in while Elaine supervised the electrically operated guillotine gates. Chatting amongst ourselves, someone remarked that *Silent Explorer*, rafting alongside *Serena*, was blending in beautifully with an identical hull colour. Seconds later, we all noticed that Bill, Veronica, Nick and Yvonne were wearing matching waterproof jackets and three of them sported almost identical panama hats (a spare was quickly produced for Yvonne). Much leg-pulling ensued and then seven boats and giggling crews spilled from the lock into the next stretch of our journey, leaving behind the high flood banks and following the river as it meandered across its own wide flood plain.



NICK GOLDRING

Wayfarer



BARBARA PENNIAL



Hermitage Lock

Brownhill Staunch dates from 1834 and early staunches did just that, providing a simple single gate barrier across a river. When left open, the upstream fords were shallow enough to allow a road traffic crossing and when closed the water level built up, enabling boats to navigate upstream.

We cruised on, chatting amiably, through really beautiful countryside where the river crosses the Greenwich Meridian. Nick and Bill were competing with gadgets, comparing notes with GPS, complicated hand held pc's and mobile phones – all very hi-tech gizmos. The majority of ladies eschewed these boys' toys and preferred to pass round flasks of coffee and mid morning nibbles.

We journeyed on past the Pike and Eel where we had met for dinner during the previous year's cruise, then the Old Ferry Boat Inn. This had been the limit of our cruising on this stretch in the past, but this time we headed on through Holywell towards St. Ives. The river was quite shallow at this point and it wandered through a wooded stretch before opening up to reveal the spires and distant mills of St. Ives. Cruising towards the town, we encountered our second lock of the day similarly unmanned, with a guillotine gate downstream and a pair of upstream pointing doors. The river then opened out to welcome us to St. Ives and we passed under the 500 year old bridge with its chapel, one of only three in the country. Harry and Julia had very kindly invited us to their home on the waterfront for our picnic and we enjoyed a very sociable interlude at lunchtime, followed by a quiet wander around the historic town.

Soon we were cruising back towards the Marina, seeing a wealth of wildlife once we had left the town. Everyone wanted to spot the 'blue chicken' described in the report of last year's cruise, some obviously doubting the colourful description, but there she was, sitting on another nest. Sadly we did see the seal again, but this time floating lifeless in the water and Elaine told us that she feared it had been shot by fishermen.

Back at Westview, we were treated to a positive banquet, which Elaine lightly dismissed as a bit of a barbecue. Julia and her neighbour Mavis had provided a delicious selection of desserts and there was wine and beer for everyone. The evening was a very social occasion, with the opportunity to mingle in a far friendlier way than if we had been seated in a pub for dinner.

Sunday dawned dry again and we welcomed Jo and Chris Fairman in their skiff, *Little Grebe*, and Anthony and Tessa Oliver in *Hale Bopp*. We had said goodbye to Alex Khot the night before, but were very pleased to add another boat to our cruise as we were joined by Joan

Grey in her 25 ft aluminium ship's lifeboat. What an unusual craft! Until recently it had been used in Cambridge as a garden shed and Les had added an aluminium canopy roof, fitted with solar panels of course and converted it to electric propulsion with a Lynch motor. We always draw attention with our flotilla of varied electric craft, but with this addition our Sunday cruise was one of the most unusual ever undertaken.

This time we turned east, setting our boats towards Aldreth. The banks are fairly low-lying on this tidal stretch and very soon we reached Hermitage Lock. This is the only manned lock and has been in existence in some form since the mid 17th century, preventing the River Great Ouse from flowing down the Old West River, and vice versa. The lock-keeper was quite bemused at nine electric boats silently appearing, and we assured him we had the approval of the Environment Agency to organise the cruise, for which they had very kindly waived the licence fee for the weekend.

We passed under Flat Bridge and continued towards the Aldreth High Bridge, noting the difference in the surrounding countryside from that travelled the previous day. This stretch appears to be quite remote and rural but we saw several boats, all intrigued by this silent convoy, chatting easily to each other without the usual competition over engine noise. We were heading towards Smithy Fen, when Elaine called a halt and we decided to picnic where we were.

In spite of 22 people having had more than enough to eat the previous evening, Elaine still managed to provide a good picnic from the previous night's party to keep everyone happy. It was very much a loaves and fishes parable, the food and drink more than sufficient for everyone as we picnicked with rugs spread out on the bank and everyone in high spirits.

Mid afternoon, well-fed and content, we turned for the marina and home. Again Les' smooth lifting of each boat on to its trailer made the recovery process simple and we were soon exchanging goodbyes and 'when's the next cruise?' We all had a lovely weekend, and we must thank Elaine and Les Fidler for their hospitality, the barbecue and picnic, Julia and Harry Briars-Filby for opening their garden to us on Saturday but mostly to all the EBA members who came – new friends and old acquaintances. They all combined to make it a really happy weekend. As we always say in the EBA – cruising in great company!



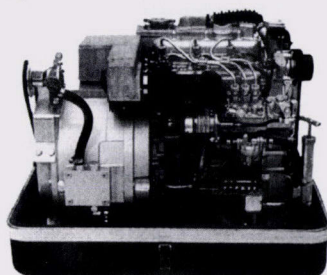
Sunday picnic

NICK GOLDRING



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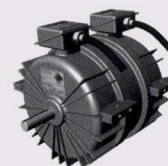


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SOMERSET RIVER FESTIVAL

The EBA's new Press and Publicity Officer, Tony Rymell, reports on the River Festival held at Langport in Somerset on a wet and windy weekend in May.

Pictures by Barbara Penniall.

The fourth annual River Festival, to celebrate the importance of the river Parrett and its tributaries to Somerset, was held at Cocklemoor, Langport on 21st May. Langport is at the heart of the Somerset Levels at the confluence of the rivers Yeo (Ivel) and Parrett and just two miles downstream from the junction with the river Isle. With three major rivers coming together in such a short distance the potential for flooding is always in the minds of local people.

As a local member, I took a caravan to the site to replace the usual EBA gazebo and the EBA display was erected very quickly under the caravan awning, with the prototype solar powered fun boat designed and built by Paul Lynn displayed alongside. This arrangement proved to be most fortuitous as Sunday 21st May turned out to be the coldest, windiest, rainiest May day on record for the county of Somerset and almost all the other tented exhibitors had their stands blown down or, in the case of Somerset County Council, the whole tent blown into a nearby garden, and that before the official opening!

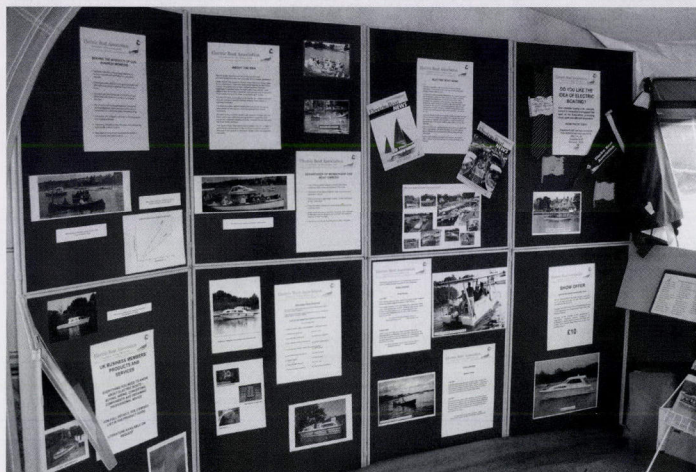
However, from what seemed to be a disaster things suddenly changed. At about 3 pm the wind dropped, the rain stopped and from somewhere the people appeared. For about two hours the EBA stand, staffed by John Hustwick, Barbara Penniall and myself attracted a constant flow of enquiring visitors with a great number of questions about the availability and practicality of electric boats and especially the potential for their use on West Country waterways.

Paul Lynn's *Solar Flair II* was a great attraction and at times over a dozen people at a time were gathering round to listen to a description of how it works and the benefits of solar assistance for an electric day boat.

In spite of the weather, we enrolled and welcomed new members to the EBA, over forty boats launched onto the river Parrett for the first time ever and the electric trip boat *Edith Elizabeth*, loaned to the Somerset Waterways Development Trust by the Monmouthshire and Brecon Canals Trust, gave boat trips all day. If it had been fine all the time we probably could not have coped with the number of visitors.

The Festival successfully celebrated the river and the weather gave us a two hour respite, but the rain returned overnight and by morning the river had risen to within a few inches of topping the banks. Recovering the boats from the swollen flow proved to be quite a challenge.

Next year the Festival will be held on the river Tone in Taunton, the county town. I look forward to meeting many members there with or without their boats.



The EBA Stand



Electric Trip Boat



Solar Flair II attracts the crowds

PAUL AT THE PALACE



Congratulations to Paul Wagstaffe who received his MBE from Her Majesty the Queen at Buckingham Palace in May. Paul, along with his wife Pat, has always been a very supportive EBA member and was a valuable committee member last year. As he is also vice president of the Inland Waterways Association, chairman of the RYA Inland Navigation Committee and secretary of the Thames Boating Traders Association it was appropriate that his award was for services to inland waterways, linked to his work for the Inland Waterway Amenity Advisory Council.

Paul's interest in boating began with a folding dinghy at Cookham 55 years ago and his electric boat *Wagtail V* was featured in EB News Vol. 16, No. 2, Summer 2003. He is already passing on his love of the river and boats to his young grandsons and says he plans to continue to serve and promote the waterways and the EBA.

BOAT REGISTRATION FEES

The Inland Waterways Association has criticised proposals by the Environment Agency to increase the cost of boat registration on the rivers Thames, Medway and Wye and many East Anglian waterways including the Nene and Great Ouse. The Agency says it is under government pressure to collect a greater proportion of its revenue from waterway users and intends to increase registration fees annually by around 5%, in line with the increase in cost of maintaining the waterways, plus 7% to fund the backlog of maintenance work and a further 2% to fund local waterway improvements.

The IWA is concerned that many people, including young families and pensioners, will be priced off the waterways and has written strong letters of protest to EA Chairman Sir John Harman and the new waterways minister, Barry Gardiner.

THE GREEN BLUE

The Green Blue is a new environmental awareness initiative by the British Marine Federation and the Royal Yachting Association which aims to promote the sustainable use of coastal and inland waters by boaters and the sustainable operation and development of the recreational boating industry. Its programme of academic research and practical projects will provide advice and information on topics such as fuel, cleaning and maintenance, anti-fouling and paint, waste management and effects on wildlife.

More information on the website: www.thegreenblue.org.uk

ELECTRIC EEL

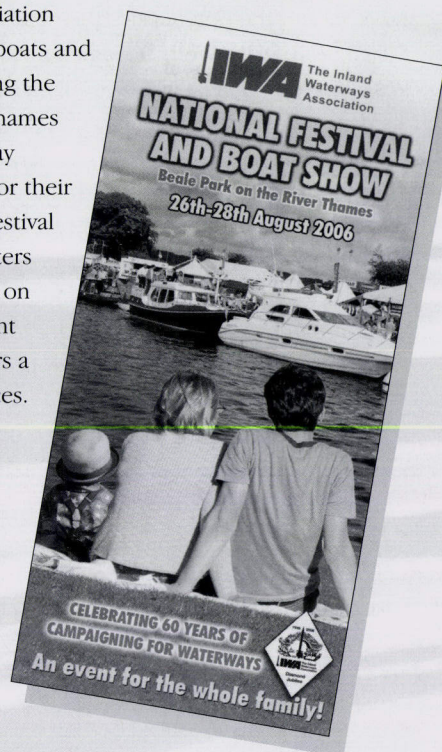
Chris Packham, the presenter of the BBC's 'Really Wild Show' unveiled a 7 ft high dragonfly to celebrate the designation of How Hill National Nature Reserve by English Nature on May 15th. Guests at the ceremony were taken out on the Broads Authority's launch *Electric Eel* for a 'Really Wild' trip across the river to look at the wetlands and wildlife and some of the management work.

How Hill, near Ludham, attracts over 25,000 visitors a year who come to enjoy the nature trails, wildlife water trail, moorings and riverside paths. The How Hill Trust uses the reserve for its environmental study centre where children and adults come to learn about wildlife and the Broads.

IWA FESTIVAL

The Inland Waterways Association is expecting more than 500 boats and over 250 exhibitors (including the EBA) at Beale Park on the Thames over the August Bank Holiday weekend 26th-28th August for their Diamond Jubilee National Festival and Boat Show. To help boaters make the most of their time on the Thames, the Environment Agency is giving festival goers a third off 31-day visitor licences.

The IWA was founded in 1946 by a handful of enthusiasts to campaign to keep the canals and navigable rivers open and used, at a time when it seemed likely that competition from road and rail transport would





kill waterway traffic and they would be lost. In its 60 years of activity the IWA has played a leading part in the retention of the main canal system and the restoration of over 500 miles of once-derelict waterways.

Tickets for the Festival are £8.50 per person or £7.50 if booked before 12th August. Free admission for children under 16 accompanied by an adult. To book tickets telephone 01923 711114 and ask for 'Festival Tickets'. For event information telephone 0870 240 2438 or visit the website www.waterways.org.uk/festivals.

ELECTRIC BOATING ON THE STOUR



2004 River Stour trials

For the August Bank Holiday weekend, small electric boats will again be allowed to use the Essex/Suffolk River Stour at Bures, Nayland, Dedham and Flatford. This is part of the Environment Agency's continuing assessment of electric propulsion on parts of the Stour, where motorised craft are not normally permitted, and follows the success of the EA's electric boating trials on the river in 2004 and 2005. The EA believes that these trials could point the way forward not only for the Stour but also for other environmentally sensitive waterways.

The special licence will apply from Saturday 26th to Monday 28th August. Electric boat owners wishing to participate should contact the River Stour Trust Secretary Mike Finch on 01621 892193 as the licence allows for a maximum of 12 visiting craft over the weekend.

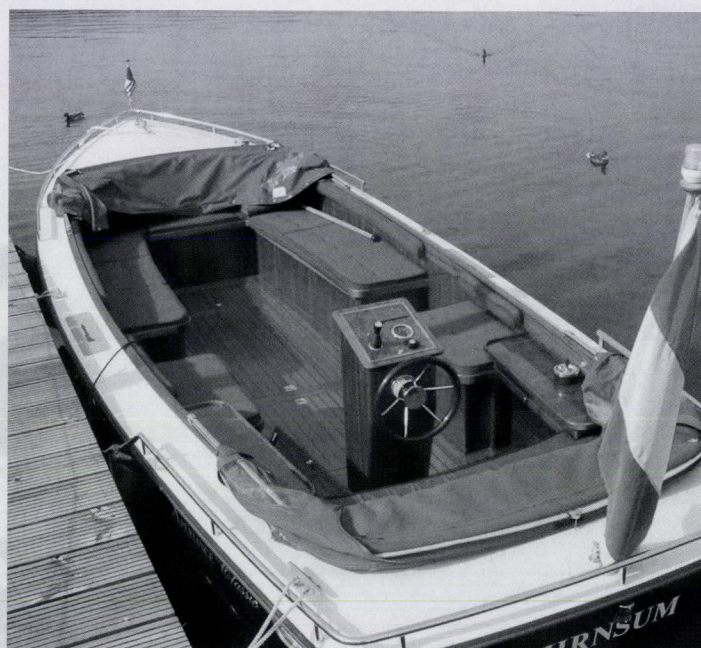
NEW ELECTRIC FERRY IN FRANCE

The old port of Marseilles is planning to replace its 13-metre double-ender passenger ferry *César*, powered by a 45hp diesel engine, which has been carrying people from the Town Hall to the Place aux Huiles for the past 38 years. The new *César*, which will cost the city 525,000 euros, will also be a double-ender with a prop at both ends but will be driven by twin electric engines, supplemented by roof-mounted solar panels. Having covered 143 million kilometres in its career (the distance between the earth and the sun) the old ferry has well earned its retirement.

HYDROGEN BOAT IN HOLLAND

The first fuel cell boat in Holland has been built as a joint venture by Ecofys of Leeuwarden and boat builder Ganita with subsidies from the province of Friesland and the Dutch Economics Ministry. The 7.4 metre steel boat *Hydrogen Xperience* is powered by a built-in Ballard Nexa 1.2 kW fuel cell and can cruise at six to eight kilometres per hour for two or three days, using 120 litres of hydrogen.

The Air Liquide hydrogen gas is stored under the floor in four 200 bar tanks, each weighing 15 kilos. Batteries under the seats act as a buffer and can provide extra power if the 2.4 kW motor needs more current than the fuel cell can supply. The *Hydrogen Xperience* is due to participate (hors concours) in the 220km Frisian Solar Challenge starting at the end of June.



Hydrogen Xperience

WATER AND WINE

Australian EBA member Charles Fitzhardinge has news of a winery offering lunch and wine tasting along with a trip on an electric boat, which seems like an excellent combination.



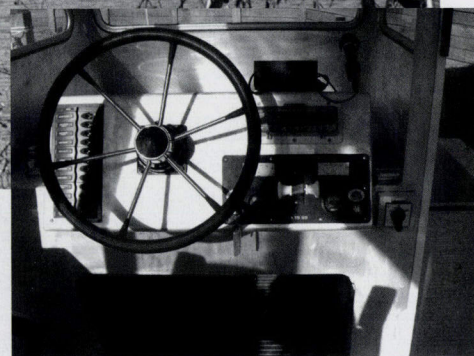
Cruising through the wetland

The Tahbilk Winery in northern Victoria has just taken delivery of the second of their 30-passenger tour ferries.

The boats operate on a protected wetland on the Goulburn River which runs through the vineyards of this district. Tahbilk have set up a series of walks through the margins of the wetland, with bird hides etc. There are four jetties placed at intervals along the walk, in addition to the base jetty at the winery's new restaurant which overlooks the wetland.



Boat interior



Helm station

The ferries are 10 metre long aluminium 'punts' and while this hull shape is not very elegant – or efficient in

terms of drag – it does give a lot of interior space. Each boat is powered by two ETEK motors running at 48 volts through Sevcon Millipak controllers. At present they are recharged from the mains, but down the track they may be fitted with solar panels.

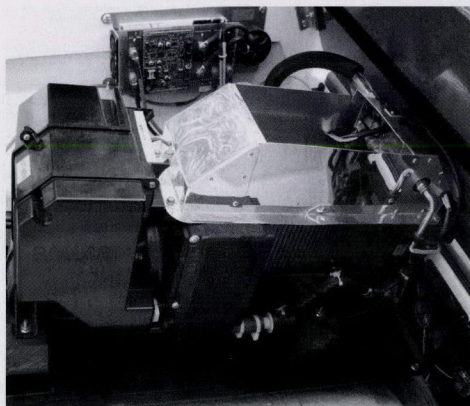
Visitors to the winery book a tour either before or after lunch. The tour takes you at a leisurely pace along the waterway, with a commentary on the flora and fauna by the boat driver. When the boat reaches the furthest point it calls in to the jetty and passengers can walk around with the guide for a few minutes. Then the ferry sets off on the return trip. Those who want can walk along the marked track or boardwalk to study nature more closely, whilst other passengers relax on board. The boat calls in at each of the other jetties in turn, waiting for five to ten minutes at each jetty. The timing of the boat is judged to allow walkers to rejoin the ferry at any subsequent jetty.

After a one hour cruise/walk it is time to repair to the restaurant for lunch, or if you have already done that, stroll up to the tasting cellars in the 150 year old winery.

A PRESENT FOR THE FUTURE

The EBA has been given a new boat powered by a hydrogen fuel cell, which could be the eco-friendly way to generate electricity in the future. The boat was featured in last autumn's Electric Boat News when it undertook an endurance test on the Thames and its first outing under the EBA flag was at the Beale Park Thames Boat Show. Report and pictures by Sylvia and Ian Rutter.

The fuel cell boat, a 14 ft Salters skiff with a Minn Kota outboard, was donated to the EBA by the company Cellcraft. Strictly speaking, the EBA bought the boat for £1 plus VAT and on 5th June EBA Chairman John Hustwick and Secretary Barbara Penniall



The fuel cell installation

Penniall formally handed over the cheque for £1.17p to Cellcraft Director Simon Jeffs and took delivery of the boat. Together with Ian Rutter they were given a detailed briefing covering the safety aspects which apply to a hydrogen powered boat.

The fuel cell unit, which is installed behind the stern seat, uses oxygen from the air and hydrogen, which pass through a proton exchange membrane to produce electricity. The power is clean and silent and the only 'waste' product is pure water which dribbles out on to a tray. Each single cell produces about 0.2 volts so a stack of cells is needed to generate enough volts to operate the outboard motor and charge the batteries. As the voltage of the fuel cell stack varies between 30 and 50 it is fed into an automatic voltage regulator to produce the required 24 volts.



Handing over the cheque

The onboard steel cylinder stores the hydrogen gas at 170 Bar or 2500 lbs per square inch and gives a running time of approximately three and a half hours at four mph. Also included is a lightweight prototype cylinder made of carbon fibre. Although not filled, it can contain twice the amount of hydrogen as the steel cylinder and shows the way forward for hydrogen storage.

The cost of refilling the steel cylinder is £35 so the EBA is likely to use the boat mainly as a static exhibit at shows. The crowd of visitors around it at the EBA stand at Beale Park confirmed that there is a lot of interest in this new technology.

The boat is available for non-commercial use by the EBA. Any members with an interest in fuel cell technology who would like to operate it or put it on display should contact EBA Secretary Barbara Penniall.



Simon Jeffs and John Hustwick testing the fuel cell boat last summer

BEALE PARK BOAT SHOW

In spite of the rival attraction of the football World Cup, the beautiful sunshine over the weekend of 9th – 11th June brought large crowds to the Beale Park Thames Boat Show. With boats on land and on the water, many of them electric, there was a lot for visitors to see.



IAN RUTTER

Sun and steam – Tony Rymell discusses solar power with Steam Boat Association Vice President Sam Wilkinson

The EBA's new acquisition, the Cellcraft fuel cell powered boat was a prize exhibit on the EBA stand near the entrance to the show, along with Paul Lynn's new solar powered catamaran *Solar Flair II*. Both boats attracted a lot of interest and Julia Lawson of Creative Marine commented that of all the exhibitors the EBA seemed to have the busiest stand. EBA Chairman John Hustwick, Secretary Barbara Penniell and newly co-opted Press and Publicity Officer Tony Rymell were kept very busy all weekend answering visitors' questions and handing out information. There was a slight lull on the Saturday afternoon during the England/Paraguay match but Barbara's 4 p.m. PA commentary about electric boats attracted so many people to the EBA display that the team struggled to get away when the show closed.

Among the 125 exhibitors at the show were a number of EBA business members. The Thames Electric Launch Company had a good selection of electric boats on the lake, ranging from a 23 ft Freeman cruiser to a tiny Barrow Boat with Minn Kota outboard. With a length of only 6 ft 3 in, the Barrow Boat, *Pet 2*, can fit into the boot of its owner's Volvo estate and, since being launched last year, has made over fifty trips on the Oxford Canal and the Thames. The Barrow Boats, built by Greenway Marine, are designed mainly for sailing but *Pet 2* is a rowing boat version.

The Freeman, *Rivka II*, has recently had its petrol engine replaced by a

powerful electric motor and maintenance-free gel batteries.

The automatic charger can be plugged into any mains shore supply, with the option of a portable generator to give complete flexibility. The Freemans are well-made popular boats on inland waterways but their petrol engines are now showing their age and becoming expensive to maintain and repair. Conversion to electric propulsion can give them a new life.

Alongside the Freeman was Chris Tassell's varnished slipper launch *Sunpenny*, demonstrating the elegant side of electric boating while the practical side, especially for disabled boaters, was shown by the Mobiboat. Powered by an electric outboard, the 16 ft 6 in polyethylene-hulled Mobi is designed with a drop-down loading ramp to take wheelchairs. Also on the lake was Paul Rusher's *Robin's Nest*, one of TELCO's Dragonfly skiffs. Displayed on land were the Interboats 16 and 19 as well as a range of outboard motors, including the new Torqueedo with built-in battery.



IAN RUTTER

Pet 2



LINDA BARRELL

Rivka II



EBA members Salters had a 19 ft 6 in electric Mystic on the water. The Mystic is a grp cabin launch which can be built to a customer's specifications with a range of extras. It can take eight passengers and is popular for both the hire trade and for private use. Both categories are also served by Swancraft's Phoenix 21 which was on display nearby and can be hired from Swancraft's base at Benson near Oxford.

IAN RUTTER



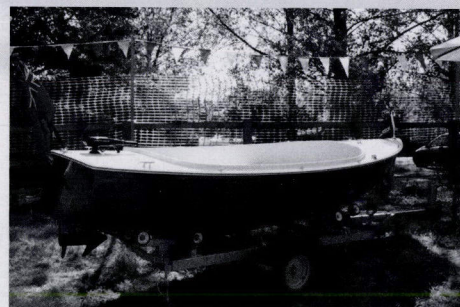
Salter's Mystic

It was interesting to get news of Creative Marine's experiments with solar power. With a £7,000 grant from the Broads Authority's Sustainable Development Fund they are carrying out trials until September and their stand showed pictures of the standard Frolic 21 with its roof covered in flexible solar panels. Managing Director Simon Read said that the panels were very efficient in bright sunlight. There is no mains power where the boat is moored and there has been no need so far to recharge the batteries.

Colin and Lucie Henwood were showing their boat-tailed car, as well as electric launch *Polly*, powered by a Combi 700 Saildrive. Owned by EBA members Phil and Karen Smyth, *Polly* was built in 1998 to a design by Andrew Wolstenholme and was awarded the Simonds Trophy for electrically powered craft at last year's Thames Traditional Boat Rally.

Classic Launches had a brand new electric boat on display, completed only at the beginning of the week. The 14 ft light blue fibreglass hull, built to an Andrew Wolstenholme design, has an inboard Minn Kota mounted in the stern, two batteries and an on-board charger and will retail at around £7,000. A dark blue version with inlaid timber deck and coaming will be available in the future at around £10,000. This will have a 24 volt system whereas the fibreglass boat operates with 12 volts.

At Hambleton Sales & Charter, Gillian Nahum was celebrating 20 years in the boating business with a variety of craft for sale or hire. One of the electric boats on offer was *Drifting By*, an Edwardian style



IAN RUTTER

The new Classic launch

gentleman's launch with mahogany cabin and a 2.5 kW electric motor, powered by two sets of eight 6 volt batteries, giving a speed of 6 knots.

Another traditional boat was being shown by the Thames Vintage Boat Club. *Hocus Pocus* is a beautifully varnished electric punt which owner Roy Hudson found 15 years ago as a sunken wreck and was told: "If you can raise it you can have it". Now restored with the help of boatbuilder Mike Dennett and with a Mercury outboard powered by three gel batteries, *Hocus Pocus* is perfect for lazy summer days on the Thames.

EBA Vice-Chairman – Business Members, Dave Millin was busy on the Pb Batteries stand, assisted by his wife Jennifer, and former EBA Chairman Phil Horsely was on duty on the Chloride stand, along with National Account Manager Stuart Goates. EBA Webmaster Nick Goldring was on the water in his electric canoe, *Silent Explorer*, and offered tours around the lake to a number of visitors who expressed an interest in electric propulsion. Cedric Lynch spent a lot of time on the EBA stand discussing solar power and demonstrating his Lynch motor, which is now being produced in India by Agni Motors. Fortunately there was plenty of sunshine over the weekend for him to demonstrate solar power in action by taking passengers out on the lake in his solar-powered canoe.

The EBA will be back at Beale Park over the August Bank Holiday weekend for the IWA National Festival and Boat Show, celebrating the IWA's 60 years of campaigning for the waterways.



IAN RUTTER

Sunpenny, the Mobiboat and Robin's Nest

LANCASTER CANAL RALLY

EBA Secretary Barbara Penniall reports on an interesting Easter weekend in Cumbria.

2006 will be the busiest year yet for the promotion of electric boating in regions we rarely reach, and so we started the EBA season earlier than usual. Good Friday saw the Chairman and Secretary putting up the EBA stand in a howling gale at the Westmorland County Showground on the Lancaster Canal. The event over the Easter weekend, organised by the North Lancs and Cumbria branch of the Inland Waterways Association and the Lancaster Canal Trust, highlighted the restoration work carried out on this beautiful stretch of waterway. The building of the M6 in the 1960s had cut off the Northern Reaches but now a navigable stretch of some 2.5 miles demonstrates the feasibility of eventually reconnecting with the main network.

The gazebo erected and tied down to anything and everything in a 15ft radius, we were alerted to the excitement of something very special arriving on site. Henry Engelen had appeared with his unique 15ft hydroplane *An Stradag*, the electric boat which last November achieved a new world water speed record of 68.09 miles per hour. We are very grateful that Henry allowed us to exhibit *An Stradag* by our stand for the whole weekend, as we were constantly surrounded by visitors who had come to see this VIP craft. Dummy motors and batteries had been put in to give a clear impression of the installation and the interest generated by the boat's achievement was confirmed by the constant crowd around it.

Our delight in having *An Stradag* was increased on Sunday when Helen Loney, the pilot for the World Speed Record attempt, joined us with her husband Chris. Helen was happy to pose for photographs and answer questions about the event on Lake Coniston.



An Stradag alongside the EBA stand

Although we 'soft southerners' were wrapped in various layers to keep warm, we were in fact very fortunate that the weather kept dry with a mixture of sunny spells and a cool wind. The air temperature was in complete contrast to the warm welcome we received from all the EBA members who had travelled to the event and stopped to say hello to us. Janet and Tony Dunning of the IWA were incredibly helpful with the practicalities of the weekend – not least by ensuring the gazebo remained in place, and Roger and Julia Woodhouse were in attendance over two of the three days, helping on the stand and allowing John Hustwick and me to have time out for lunch, which was greatly appreciated. Tony Rymell had towed *Somerset Dream* from (three guesses) Somerset and was a tower of strength throughout the weekend, not only helping on the stand but also

demonstrating the delights of electric boating by taking people on the canal. In addition he lent his outboard and battery to anyone who wanted to try them out on their own boats, which meant that had he been selling them he would have made numerous sales with no effort at all!

Stephen Appleby brought his lovely dinghy *Optimist* which had been featured in the previous issue of EB News, and was kind enough to take me the length of the navigable stretch during a very welcome break from answering questions on the stand. The boat drew many admiring looks from towpath walkers as we cruised in bright sunshine through this little used stretch of Stephen's home waterway.

Mick Hornby, another local EBA member, joined us on the stand, but sadly he had been unable to complete the appropriate paperwork necessary to put his boat on the water in time for participation in the



Helen Loney

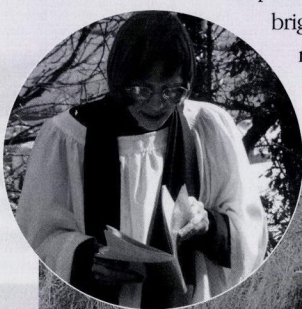


show. It was a real pleasure to meet so many EBA members who had previously only been voices on the end of the telephone, including Terence Rowbotham and Peter Morgan, but we were delighted to renew acquaintance with EBA members and enthusiastic supporters Jim and Judy Andrews from Lake Windermere's shores and Andrew Wolstenholme who had come to the show from Norfolk with his family. We were also very pleased to meet in person our newly co-opted Treasurer, Don Wright

Business members, Gordon and Margaret Hall from EnviroBoat Developments had a stand in the main marquee and spent a lot of their time directing their enquirers towards the EBA pitch, and in turn we encouraged anyone interested in solar powered electric boats to visit EnviroBoat's stand. Visitors were given information about the first solar powered passenger launch service operating on Coniston Water. *Ruskin* and *Ransome*, cruising as Coniston Launches, are 1920s built traditional wooden launches operating under 70% solar power.

It proved to be a very hectic three days with many people coming especially to see *An Stradag*. We were impressed by the intense interest shown by these visitors, many of whom were asking in-depth questions about electric boating generally. We appreciated that these were people who were thinking about 'going electric' and wanted to know more about it. Some visitors had never heard of electric boats, but they were extremely interested in all we had to say and would now seriously consider electric boating as an alternative to petrol or diesel.

A very pleasant memory from the weekend was on Easter Sunday afternoon when the Rev. Sarah Lunn held an informal service on the towpath for the Blessing of the Boats. The sun was bright and cheerful, the boats gaily painted and moored silently as a large gathering of boaters, visitors to the show and canal-side walkers



Rev. Sarah Lunn conducts the service ...



The Optimist

paused for a moment to join in the simple service. In complete contrast to the previous peace and quiet of the countryside, glorious Easter hymns suddenly rose from an enthusiastic congregation, accompanied most ably by Tony Dunning playing an accordion – what else on a canal towpath virtually in the middle of nowhere?

At the conclusion of the service, and as the last notes of 'Lord of the Dance' melted into the treetops, Tony Rymell asked the Reverend whether she would like a ride in an electric boat, and her immediate response was to quickly remove her surplice, bundle it unceremoniously under her arm, hitch up her cassock (to reveal jeans and Wellington boots) and gaily hop into *Somerset Dream*. A very happy vicar spent an enjoyable half an hour cruising silently on the canal and I later discovered this had proved a welcome break in a day of numerous services in a parish covering 92 square miles. It was also casually mentioned that she had been up until 2am that morning – lambing!

Sunday seemed to be the busiest of the three days, when we talked ourselves hoarse dealing with a constant stream of visitors. The IWA organisers offered a different entertainment each evening and on

Sunday we were treated to a talk by a Thames Lock-Keeper – ironic as we had travelled from that area two days previously. The talk was a prelude to an illuminated boat parade, when a procession of craft, all imaginatively lit up, steered eerily through the gathering dusk.

There is no doubt that the weekend was a great success for the IWA organisers and was enjoyed by everyone participating. The Electric Boat Association played a part in its success by promoting electric boating on behalf of our business members in an area ripe for increasing the present small number of craft using our preferred form of boating.

The weekend was summed up for me by one visitor to our stand who told me firmly that he had always considered electric boats 'a bit of a joke' – but now he had seen them and NOT heard them, he was thoroughly converted!



... and enjoys a trip on Somerset Dream

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HAPPY BIRTHDAY VICTORIA

A stately lady reached her centenary this year. Electric launch *Victoria* was the centre of attention at a party in June organised by her owners Brian and Dawn Smith at their house on the Thames at Bray. Ian and Sylvia Rutter (who used to own *Victoria*) were delighted to join in the celebrations and tell something of the boat's history.



Victoria

Built in 1906 by S.E.Saunders & Co. at the Springfield Works in Goring on Thames, *Victoria* is made of three diagonal layers of mahogany hand stitched together with copper wire and sealed with calico and varnish. This method, effectively an early form of plywood, was patented by Sam Saunders and made for a very strong but light construction. It was first used in Saunders' 1898 *Consuta* (from the Latin for 'with stitches') which operated for many years as an umpire's launch at Henley and, now restored, returned to umpiring duties at the 2004 Henley Royal Regatta.

Consuta was built as a steam launch but *Victoria* began with an early petrol engine as one of the fleet of day hire boats run by Hobbs of Henley. In the 1960s a historic 1898 steam engine was installed and in 1996 she was converted to electric power by Ian Rutter with a motor designed and built by Cedric Lynch and twelve 6 volt Monobloc Semi Traction 175 Ah batteries.

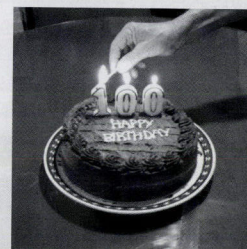


Cruising towards Brunel's bridge

Her home waters remained the Thames, although she did make one memorable visit to France in 1991, crossing the Channel by ferry rather than under her own steam, but creating something of a sensation on the River Sarthe, where spectators lined the banks to wave and make toot-toot noises in French accents.

Victoria has appeared in films and carried beautiful brides, including the Duke of Northumberland's youngest daughter who travelled on board from Twickenham church to her reception at Syon House. In 1985 a designer produced plans for a radio-controlled scale model of *Victoria*, which were published in Model Boats magazine, and many mini-versions of the boat have been made around the world.

With varnish gleaming and her canopy fluttering in the light breeze, *Victoria* really looked her best for her hundredth birthday party on 4th June in the company of Brian and Dawn's family, friends and neighbours. On a beautiful sunny day people were eager to climb on board and take trips up to Brunel's famous sounding arch, just downstream of Maidenhead Bridge. Although with Anne Tennant and Marie Tinker, who look after the EBA so well at our Launch and Laying Up Suppers, in charge of the food and drink there were plenty of distractions on shore.



Lighting the candles

Towards the end of a memorable day's celebrations, Brian lit the candles on the birthday cake. We hope that the young party-goers who helped him to blow them out will continue to enjoy trips on *Victoria* for many years to come.

NOTICEBOARD

WELCOME TO NEW MEMBERS

Private Members	Location	Boat where notified
Dave Poskitt	Grange-Over-Sands, Cumbria	
D.C. Lightfoot	Cholmondeston, Cheshire	
Elaine McKensie	Liverpool	<i>Tomo</i> , 36ft solar narrowboat
John Newman	Maidenhead, Berks	<i>The Humming Bird</i>
John Faulkner	Oxford	
John Leonard	Bridgwater, Somerset	<i>Kibisi</i> (Swahili for grebe!) open launch
David Spears	Taunton, Devon	
Ralph Wilson (Welcome back Ralph)	Bergen, Norway	<i>Amy</i> , open launch built in 1921 for Ralph's grandfather – now electric
Tobin Prior	Hurley, Oxon	
John & Jacqui Ray	Henley-on-Thames	<i>Snipe</i> , electric launch
Paul Smith	Louth, Lincolnshire	
Philip Laverty	Paris	
Chris Sands	Kennford, Devon	
Lynne Peperrell	Marlow, Bucks	<i>Whispering Willow</i>
Humphrey & Venetia Foster	Poyntington, Dorset	
Jim Heselden	Wetherby, Leeds	<i>Flint Mill</i> – Water Roo's Riverette
Dennis Rogers	Hull	<i>Seventeenth of May</i> – 20ft cabin cruiser
Jack Platt	Dukinfield, Cheshire	
Vice Adm Sir Jonathan Tod	Kingsbridge	
Business Members		
Agni Motors, India. Manufacturer of Lynch motors		

WEB DESIGN AND HOSTING SERVICE

EBA Webmaster Nick Goldring is offering a web package for EBA members. The single page starter package for £99 per annum, including up to three updates a year, provides a 'Home Page' on the EBA's web server, e-mail address and registration of a domain name as well as reciprocal links to and from the EBA website. An upgrade to a four page website is available. For more information, see www.eboat.org.uk/web_package.htm

BINDERS FOR EB NEWS

The binders for Electric Boat News have now arrived at the EBA Shop. Binders, which are navy blue with gold lettering, cost £10 and can hold five years' issues of the magazine. The shop also stocks ties, brooches, pennants, sweatshirts and polo shirts. Details on the EBA website or from Secretary Barbara Penniall.



NEW B & B



Amerden Lodge, a newly opened Bed and Breakfast on the banks of the Thames just downstream of Bray Lock, is offering a complimentary evening meal to EBA members who stay for two or more nights. Prices are £55 per night for a twin or double room with

private or en-suite facilities and there is overnight mooring.

To book, contact Jane and Nigel Saw on 01628 673458.

Paul Wagstaffe's article 'Boat and Breakfast' from EB News Vol. 16, No.1, Spring 2003 has details of a number of places to stay on the Upper Thames. Reprints are available from Barbara Penniall, who is also pleased to get feedback and updates.

NEW E-MAIL ADDRESS

Please note that the e-mail address for Technical Officer, Paul Lynn is now: paul.lynn495@btinternet.com.



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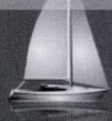
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TECHNICAL REPORT

ELECTRIC POINTS: MORE ON THE SOLAR BOAT INDEX

In the eighth of a series of articles on technical aspects of electric boating, EBA Technical Officer Paul Lynn reviews his proposed measure of solar boat performance.

In a Technical Report six months ago (EB News, Winter 2005/06) I considered the question 'What is a Solar Boat?' and proposed a new performance measure, the *Solar Boat Index* (SBI).

In the meantime the Solar Power section of the EBA's website has been updated and expanded to include photos and technical data (including SBI values) for all solar boats in the EBA's fleet, plus information about trips on the UK's solar passenger boats. I am very grateful to Nick Goldring, our Webmaster, for his help. You may like to view the results at:

www.electric-boat-association.org.uk/solar.htm

I have received some interesting comments from members about the SBI. Before discussing them it may be helpful to repeat the definition of the index:

$$SBI = 3 (P_{pv})/(P_m)$$

Here P_{pv} represents the peak power supplied by a boat's photovoltaic (PV) modules, and P_m is the motor input power to give a cruising speed of 5 mph (8 kph) on rivers and lakes, or 4 mph (6.4 kph) on canals.

Some have queried the factor 3 in the equation. I admit it is never very satisfactory to include a 'fudge factor', chosen for convenience but lacking theoretical support. The justification

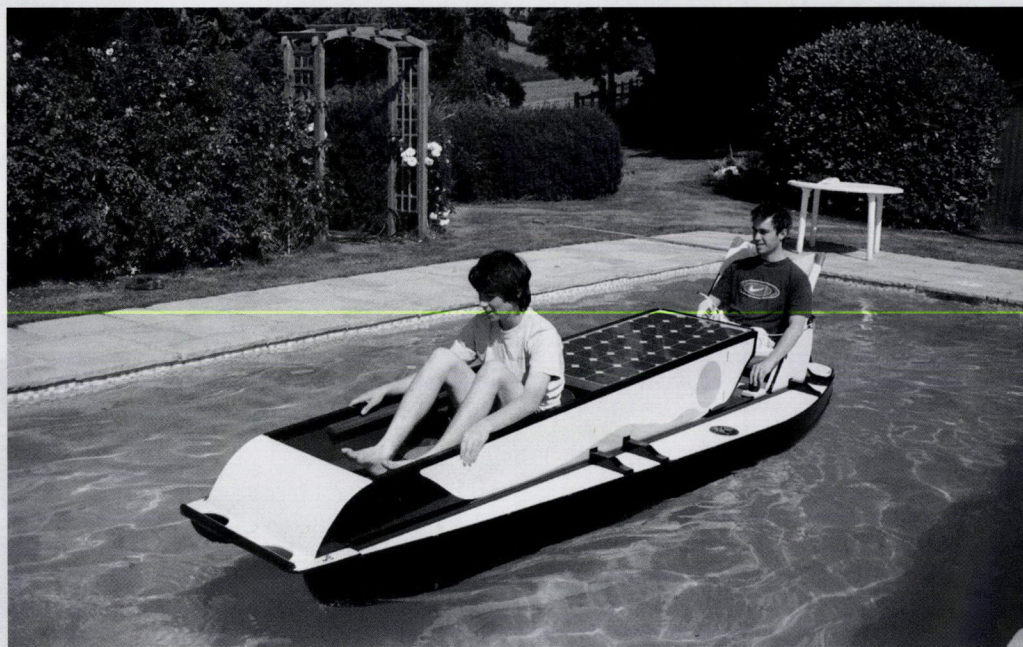


Unity

in this case is that it produces a simple and attractive feature: a boat's SBI value indicates the average number of hours of solar cruising per day at the above speeds, in English summer conditions. Furthermore, an SBI value of unity, representing an average one hour per day or seven hours per week of cruising, seems a reasonable minimum value for a leisure boat to be considered 'solar-powered'. This makes the SBI easy to remember, explain and discuss.

Others have questioned the assumption of a standard cruising speed (5 mph on rivers and lakes, 4 mph on canals). But we must remember that the power required by a propulsion motor – and therefore the amount of cruising (either in time or distance covered) provided by a boat's PV array – is highly dependent on boat speed. So a solar performance index must either assume a standard speed, or complicate the definition by including a speed variable in the equation. Otherwise people would be tempted to claim large SBI values by insisting that they prefer to travel very slowly!

Unfortunately standard speeds may give hard luck in particular cases. It is, for example, ironic that the first canal boat to feature on our website is the impressive 68 ft (20.7m) widebeam barge *Unity*, which rarely reaches



Solar Flair II

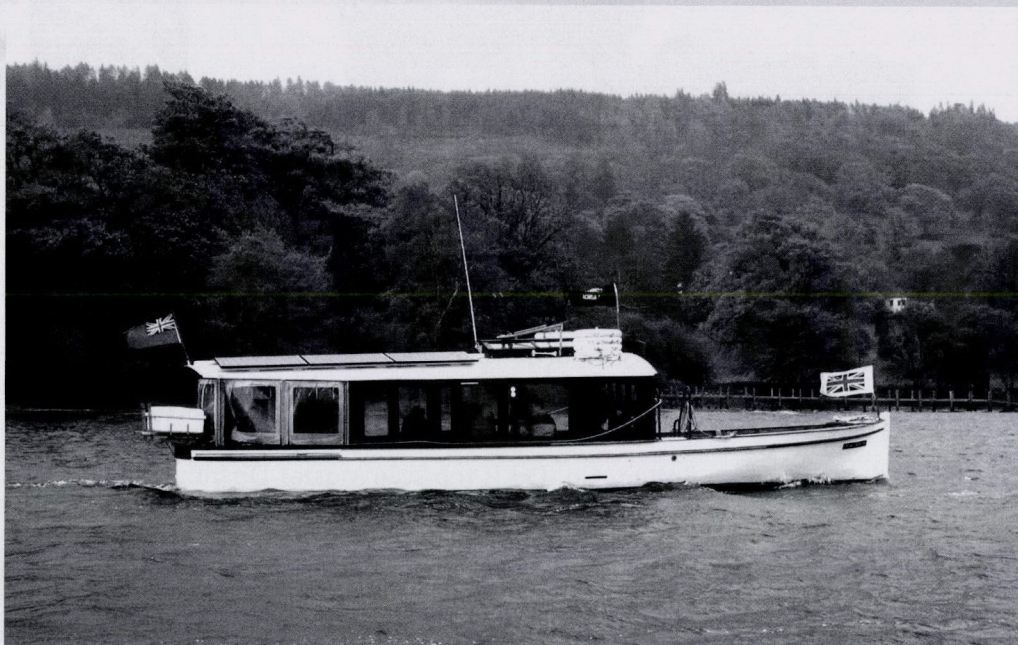


4 mph because of restricted canal width. Nor do the owners wish to spend a lot of time on the move. So *Unity's* SBI of 0.6, which suggests a limited solar performance, may seem a little unfair. Rebased on a speed of 3 mph, the SBI would increase to well above 1.0. But we cannot make exceptions without complicating and confusing the issue. Better to stick with 4 mph, the official speed limit on the English canals, and interpret particular cases flexibly.

Local climate and patterns of boat use are also important. For example, an EBA member in Australia who only uses his boat for a few hours every other weekend might well claim that an SBI value of

0.2 gives him all the sunshine cruising he requires. But a UK passenger boat offering scheduled trips will probably need quite a lot of recharging by other means, even if its SBI is well above 1.0. Sensible interpretation is again required.

My SBI definition bypasses the question of battery storage. It simply assumes sufficient battery capacity and proper battery maintenance and use, clearly important but hard to assess. Solar charge controllers come in many shapes and sizes and use different control strategies. A solar boat's batteries experience a very different charging regime from a conventional electric boat and must accept



JIM ANDREWS

Ruskin

whatever menu is offered by variable weather conditions. However multitudes of PV systems with solar charge controllers are now installed around the world. Controllers are highly developed and if rated at more than, say, 20A often incorporate battery overvoltage and deep discharge protection plus boost and equalisation charging. Choose a high quality controller (which will still only cost a small fraction of the PV system budget) and you should be safe enough.

With all the above caveats and complications, you may

be tempted to question the value of a SBI defined in terms of just two variables – the amount of PV carried and the motor power needed to run at standard speed. But simplicity is generally a virtue, and a simple quantitative measure is surely better than nothing at all.

I conclude with an amusing thought: my new catamaran *Solar Flair II*, just 13 ft long and designed to take one or two young people, has a similar SBI to *Ruskin*, the 40 ft passenger launch run by Coniston Ferry Services in the Lake District, and also the Fidlers' 27 ft converted launch *Whispers*. Whether the three boats will ever meet must be in doubt; but if they do I anticipate a certain solar *esprit de corps*.



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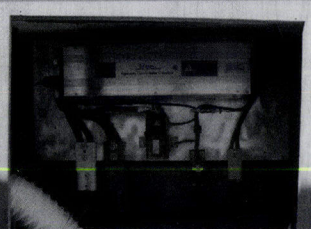
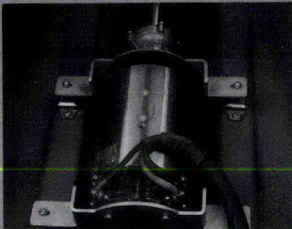
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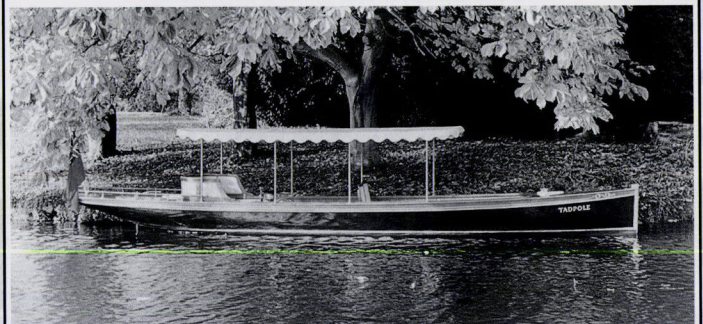
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