

www.electric-boat-association.org.uk

Volume 17 Number 4 Winter 2004/2005

Electric Boat **NEWS**

The Journal of the Electric Boat Association



Supported by the Broads Authority



**Norfolk Weekend • Solar Restoration
The London Boat Show • Historic Hybrid**



BOAT SHOWS IN HOLLAND

Manufacturers of motor yachts and accessories, including a growing number of participants involved with electric boats and propulsion systems, will be exhibiting at Boot Holland in Leeuwarden in northern Holland from February 4th-9th. And from 1st-6th March the watersport association HISWA will celebrate its 50th anniversary with its annual boat show in Amsterdam.

More information from <http://bootholland.fec.nl> and www.hiswa.nl

ELECTRIC BOAT NEWS TEAM AFLOAT



Two key members of the production team behind Electric Boat News had never been on an electric boat. That situation was remedied when Vanessa Russell and Gerry Gandhi from Ethedo Press, who were delivering the proofs for the last issue of the magazine, took a trip under electric power on steam and electric launch *Irene*. The picture shows graphic designer Gerry at the helm of *Irene* on the Thames between Marlow and Cookham.

NEW ELECTRIC BOAT



The new Riverette

Water Roo Craft, a Devon-based manufacturer of personal sports boats, has introduced the new twin impeller drive Riverette. Intended for use on rivers, lakes and estuaries the four metre long open boat can carry up to five passengers and was developed using feedback from customers.

Designer Jim Sawers says the boat is extremely stable and is very easy, and also great fun, to drive.

For more information telephone 01364 642073 or e-mail info@waterroo.co.uk

ANTARCTIC ADVENTURE

An electric outboard will be involved in an expedition to Patagonia and the Antarctic this winter. Doug Anderson is using his Minn Kota Riptide, supplied by the Thames Electric Launch Company, to power an inflatable for surveying and filming. The electric motor is seen as particularly suitable for getting close to the animals in an environmentally sensitive region. Doug has promised a report on his return.

SOLAR BOATS ON CONISTON

Jim Andrews reports that EBA business member the Coniston Launch Company is planning to convert its two elegant 1920s diesel-powered passenger launches to electric power over the winter.

Ruskin and Ransome (both authors lived there) will be fitted with the

American ST 74 dual-motor drives and will be powered by photovoltaic panels discreetly mounted on the existing cabin roofs. They will be the first electric, and also the first solar-powered, passenger launches of their size to be licensed for such work on any loch or lake in the UK. Interestingly, research among passengers revealed that people were more attracted by the non-polluting 'greenness' than by the resulting quietness of the boats.

Gordon Hall, a partner in the company, told Jim that he felt strongly 'about our responsibility to the sensitive and unique environment of the Lake District' and is very excited that at last they can 'do something positive'. Gordon also had to reveal rather sheepishly that 'the Authorities' have insisted on the fitting of small, quiet diesel generators 'so that passengers will not be stranded if a cloud comes over'.

Jim will report on progress and let EBA members know when they'll be able to take 'a truly electrifying cruise' on Coniston Water.



CLC Ruskin



Melanie Landamore

BROADS ECO BOAT

The Norfolk and Suffolk Boatbuilders Association has commissioned research from Newcastle University into the design and technology for an eco-friendly Broads boat. The first phase of the project is being financed by £15,000 from the Broads Authority Sustainable

EBA CALENDAR

February

4th – 9th	EBA Interest	Boot Holland Leeuwarden in Friesland
-----------	--------------	---

March

1st – 6th	EBA Interest	HISWA Boat Show Amsterdam
-----------	--------------	---------------------------

April

18th	EBA Event	Launch Supper Maidenhead Rowing Club
------	-----------	---

May

7th – 8th	EBA Represented	Lowestoft Boat Show
-----------	-----------------	---------------------

tba	EBA Event	Cruising weekend on River Great Ouse
-----	-----------	---

22nd	EBA Interest	The River Festival The Docks, Bridgwater
------	--------------	---

June

10th – 12th	EBA Represented	Beale Park Thames Boat Show Pangbourne
-------------	-----------------	---

18th	EBA Event	Biennial General Meeting Cookham Reach Sailing Club incorporating a Thames picnic cruise
------	-----------	--

July

9th – 10th	EBA Interest	Shrewsbury River Festival
------------	--------------	---------------------------

10th	EBA Represented	Steam and Electric Boat Day Sudbury, Suffolk
------	-----------------	---

16th – 17th	EBA Represented	Thames Traditional Boat Rally Henley
-------------	-----------------	---

September

tba	EBA Event EBA Represented	Norfolk Cruise weekend incorporating Broads Electric Boat Show
-----	------------------------------	--

October

tba	EBA Event	Laying Up Supper
-----	-----------	------------------

For further details of the above, or notice of other events, please contact the Secretary

Electric Boat News is published quarterly by the
Electric Boat Association

No material from it may be reproduced or reprinted without permission. Whilst we take every care to ensure the accuracy of the contents, the EBA cannot be held responsible for any errors which may occur, or for any actions that might be taken as a result of this material. Also, views expressed in the magazine are not necessarily those of the EBA. Electric Boat News welcomes contributions from readers and members. If you have anything you think might be of interest, please send it in. Bear in mind however that due to circumstances sometimes beyond our control we cannot be held responsible for any damage or loss which may occur to this material. Items of interest include letters, reports on rallies or events, reports of particular cruises or trips, articles or advice on building or running electric boats, and reports on items of equipment. We also welcome manufacturers' reports on new items of equipment or boats.

Honorary President: Aitken Clark

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: Tony Edwards,

11 The Square, High Pine Close, Weybridge, Surrey KT13 9EA

Tel: 01932 841501

e-mail: tonyedwards@bushinternet.com

Treasurer: Brian Pickess

22 Temple Mill Island, Bisham, Marlow. Bucks SL7 1SG

Tel/Fax: 01628 823089

e-mail: brianpickess@waitrose.com

Technical Officer: Paul Lynn

Sages Mead, Butcombe, North Somerset BS40 7XF

Tel: 01761 462089

e-mail: paul.lynn@btconnect.com

Acting 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: pbbatts@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

Founder Editor: Kevin Desmond

**Cover Picture: Rhapsody, Silent Explorer and Cedric's canoe
at the Norfolk Weekend**

Photo: Linda Barrell

The Electric Boat Association is on the Internet.

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

ISSN 0969-031X

Printed by: Ethedo Press

Ethedo House, Spearmast Industrial Park, Lane End Road,
High Wycombe, Buckinghamshire HP12 4JG

CONTENTS & EDITORIAL

Contents

- Page 2 September in Norfolk
- Page 5 Rewards and Awards
– *trophies for electric boats*
- Page 6 News
- Page 8 A Remarkable Restoration
– *the story of Whispers*
- Page 10 The London Boat Show
- Page 12 Technical Report
– *Electric Contact*
- Page 13 Book Review
- Page 14 Annual Report for 2004
- Page 16 Noticeboard and Letters
- Page 18 Horsepower
– *a unique hybrid*



Fuel cells are in the news at the moment – even the lights on the Trafalgar Square Christmas Tree were powered by a fuel cell this year. There were two on display at the London Boat Show, and the winner of the Concept Boat competition for environmentally friendly boats included fuel cell energy

in its design. The technology may have some way to go before it is totally practical as a means of powering electric boats but it is getting tantalisingly ever closer.

Meanwhile this issue of the magazine also looks back – to EBA events of last year and last autumn and also further back to a unique historic hybrid electric boat. Although this boat may no longer exist, it is hoped that its story will inspire further development of boats using hybrid electric power.

And, looking ahead again, our calendar for the coming season is packed with a wide variety of boat shows, cruises, events and festivals in different parts of the country. If you are planning to go to them, it's a good idea to check with EBA Secretary Barbara Penniall nearer the time in case there have been changes. I look forward to meeting EBA members at suppers, shows and events in 2005 and to getting reports and pictures about your electric boating activities.

Sylvia Rutter

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:

Spring 1st March

Editor

Editorial Address:

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

Tel: 01628 476158

Email: sylvia_rutter@onetel.com



Solar power Page 8



Cell power Page 10



Hybrid power Page 18

SEPTEMBER IN NORFOLK

As the 2004 boating season drew to a close the Norfolk Broads were the venue for the EBA's popular cruising event, this time incorporating the new Broads Electric Boat Show. John Hustwick reports on a memorable weekend, with pictures by Linda Barrell.

Another year gone and here we were again in Norfolk, getting ready for the weekend's events.

Although John and Sandy Williams had chosen to go to Canada in preference to spending the weekend with the EBA – their loyalty has been noted – the Saturday afternoon once again saw us gathering at their yard in Stalham under the watchful eye of Steve Birtles, ready for the cruise to the Wayford Bridge Hotel and dinner. This year, as the weather wasn't quite so good, it was decided to go directly to Wayford Bridge rather than include our normal cruise around the top of Barton Broad en route. So nine souls set out in *Moonglow*, the Festival 23 and *Rhapsody*, accompanied as always by Cedric in his canoe, and headed for Wayford Bridge in a slight drizzle. However, it wasn't long before the sun came through the clouds and made for an enjoyable trip. Once again Peter Lindford



Tony Fogarty in Moonglow

had offered us moorings at his Neatishead Boatyard at Wayford Bridge, just a short walk from the hotel.

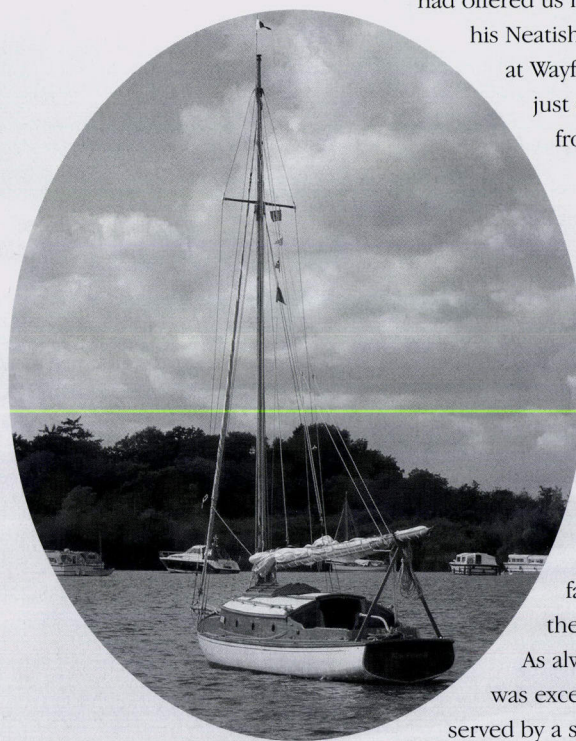
This year 25 members and friends sat down to dinner and for what has become a very social evening; it was nice seeing new faces joining the 'old crowd'.

As always the food was excellent and well served by a staff who are getting used to this annual

gathering of electric boaters. Then, all too quickly, it was back to the boats ready for the cruise back to Stalham. It must have been the cloudless night sky, because we returned with three more passengers than we went with! It seems too that on every one of these evening cruises someone sees a shooting star and this time was no exception. Being in such dark surroundings makes the night sky so much more noticeable and interesting.

Next day a bright sunlit Sunday morning greeted everyone and so it was off to South Walsham Broad for the second of the weekend's events, namely The Broads Electric Boat Show, formerly known as A Silent Sensation. The flotilla from the previous evening was joined by *Silent Explorer* with our web master Nick Goldring at the helm and accompanied by his wife Yvonne on their first outing on the Broads. Luckily boat traffic on the River Ant was much lighter this year, so we made good time from Stalham to South Walsham.

The show was organised by EBA members Tony Fogarty and Peter Howe and, as usual, was held on the waterfront of John and Pat Atkins' land at South Walsham. The costs of the marquee and, shall we say, very convenient portable toilets on site were funded from the promotional budget allocation of the Go Electric grant scheme, for which Tony and Peter had worked so hard to obtain initial funding and then get up and running. There are a number of boats going through the process as I write and I'm told there is still some funding available.



Blue Peter II



The show itself had stands by Stelco Yachttechnik (UK), Thames Electric Launch Company, Chloride Motive Power, The Broads Society and the EBA. Robert Paul of Ludham Bridge Boat Services also had some electric outboards with him. French Marine weren't in attendance but had left a complete Vetus electric drive system, which was connected to a battery so people could operate it and, although John Williams was in Canada, leaflets with boat details had been left on his behalf.

There was a total of fourteen electrically powered boats on the water, representing many different types of craft. Yachts *Moonsbadow* and *Blue Peter II* both had electric auxiliaries. Electric conversion cabin cruisers *Moonglow* and *Patience* were joined by the Salter Deltic cabin cruiser supplied by Ludham Bridge Boat Services. Open/day launches were *Jackie*, a 'Jaunty 20' new from Martham Boat Builders, Festival 23, *Rhapsody*, *Whisper* and solar powered *Terrapin*. The fleet also included two canoes: Cedric's and *Silent Explorer*, narrowboat *Silver Sail* and finally, *White Admiral* the new boat for The Nancy Oldfield Trust, which is an Alpha fibre hull built by Haines Marine with propulsion motor, batteries and control system supplied by Stelco Yachttechnik (UK). This boat is fully equipped for wheelchair access and is a very stable platform for carrying disabled people; it should prove very successful. Tom Moore, the owner of *Moonsbadow*, also brought along his 1926 Brooke Marine gentleman's launch and, although it's not yet electric, he hopes to have it converted during the winter.

All the boats and the stands at the show gave the many visitors plenty to see and talk about and there appeared to be a great deal



New EBA member Shaun Cummings with Duncan and Callum and family friend Ivy Clark in *Whisper*

of interest, so hopefully it will have encouraged more people to see the benefits of going electric.

Finally, for those returning to Stalham by water, there was a more leisurely and relaxing pace after such a busy day.

On behalf of the EBA, I would like to thank Paul and Pat Wagstaffe for taking over the arrangements from John and Sandy Williams, Emrhys and Linda Barrell for bringing the EBA stand to Norfolk and putting it up, Tony Fogarty and Peter Howe for organising the show in conjunction with the Broads Society and John and Pat Atkins for the use of their garden – and particularly Pat for the continuous supplies of tea and coffee throughout the day, something we couldn't have done without!



The Broads Electric Boat Show...

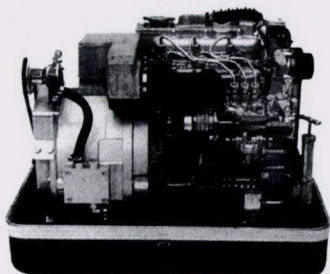


...attracted a lot of visitors



Fischer Panda

U.K. LIMITED



COMPACT – QUIET – POWERFUL

Extensive Range of AC and High Output DC Diesel Generators.

The perfect compliment for all your Electric Propulsion requirements.

Also Invertors, Chargers and Combi Units for all your on board power requirements.

For more information please contact:

Fischer Panda

Tel: 01202 820840

Fax: 01202 828688

Salter Bros Ltd

Boatbuilders since 1858



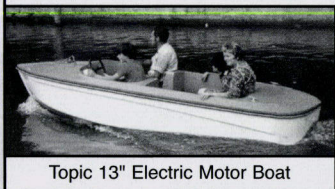
Comfortable, Durable Electric Day Boats suitable for private use but produced with the hire operator in mind.

Overnight Charging, will run for up to a day on a full charge.

The boats are custom-built to your specifications and can be fitted with a range of extras including covers, navigation lights, grab rails and more.



Mystic 19" 6'



Topic 13" Electric Motor Boat

Built in High Quality Glass Fibre with Stainless Steel fittings, they are attractive yet durable and are eminently suitable for all varieties of Inland Waterway.

For information on these and other boats in our range, call us at Salter Bros Ltd, Folly Bridge, Oxford OX1 4LA

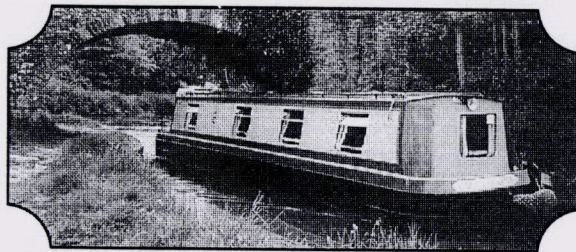
Tel: (01865) 243421 Fax: (01865) 248185

Email: Admin@salterbros.fsnet.co.uk

Website: www.salterbros.co.uk

WALES

MONMOUTHSHIRE & BRECON CANAL



*Enjoy the beauty of the BRECON BEACONS
NATIONAL PARK onboard one of our
ELECTRICALLY propelled all steel narrowboats.*

*We are a small, non-agency family business,
giving a personal service.*

For a free colour brochure:-

Tel 01873 830001 Fax: 01873 832341

WEBSITE: www.canaljunction.com/castlenarrowboats

E-mail: Castle.Narrowboats@btinternet.com

or call in and see us at

Church Road Wharf, Gilwern, Monmouthshire NP7 0EP



NAVIGATORS
& GENERAL

No.1
in yacht and
motorboat
insurance


ARE YOU BENEFITING FROM THE EBA MEMBERS INSURANCE SCHEME YET?

Don't miss out on discounted rates, extensions in cover plus the service standards and security of the UK's leading pleasurecraft insurer, negotiated for you by the Association.

CALL 01273 863420 TODAY

or when your policy comes up for renewal.

PO Box 848, Brighton BN1 4PR. Fax 01273 863401
enquiries@navigatorsandgeneral.co.uk
www.navandgen.com

A member of the  Zurich Financial Services Group

REWARDS AND AWARDS

The start of a new year is a good time to highlight the various trophies which can be won for special achievements in electric boating. Some of the awards go back to the early days of the EBA – and others are brand new.

A silver cup, a beautifully carved grebe and a propeller powered by miniature solar panels are among the trophies on offer for the 2005 season.

The cup is the St. Davids Trophy, originally the BP Challenge Trophy which was won by Fiona, Countess of

Arran in an off-shore powerboat race. Donated by the Countess in memory of EBA founder member the Viscount St. Davids, it is awarded for 'a significant contribution in the field of electric boating'. In 2003 it was presented by Viscountess St Davids to Kevin Desmond, EBA Chairman from 1987 to 1992 and the first Editor of Electric Boat News, for his services in promoting electric boating both in the UK and abroad.



IAN RUTTER

Viscountess St Davids presenting the St Davids Trophy to Kevin Desmond



NICK GOLDRING

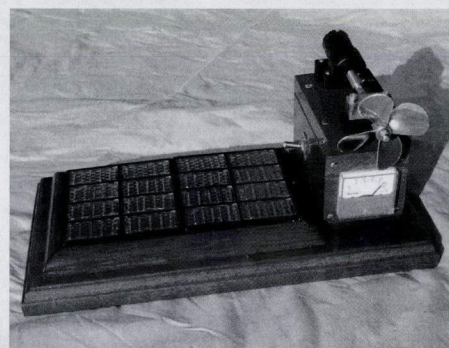
Ulrike and Paul Lynn with the Emsworth Trophy

The Emsworth Trophy, in the form of a beautifully carved and painted limewood grebe, was given to the EBA by former EBA, President, the late Rear-Admiral Percy Gick, to commemorate the 600 mile cruise which he and his wife made in their launch

Electra of Emsworth. It is awarded to the EBA member who has made the longest cruise of the year and was first presented to Viscount St Davids and his wife in 1989 for a cruise of 411 miles in their narrowboat *Silver Sail*. The Emsworth trophy is currently held by Paul and Ulrike Lynn for their journey on the Thames from Lechlade to Teddington in 2003. They are the first holders of the trophy to have accomplished the longest cruise of the year entirely under solar power.

With the increasing interest in solar energy, the EBA is delighted to announce a new trophy for a significant advance in the field of solar boating, which has been donated by Malcolm Moss in memory of his late wife. The Julia Moss Trophy will include a monetary award as well as a practical model of a solar powered installation which has real solar panels charging the batteries and driving a motor and propeller. The panels can be topped up on a sunny windowsill. Malcolm holds the record for the first crossing of the English Channel under solar power in his boat *Collinda* and has also been active in encouraging solar powered boats (as well as solar powered bikes and rickshaws) in northern India.

Last year EBA business member the Thames Electric Launch Company established the TELCO Explorer Trophy to encourage electric boaters to visit new waterways both in the UK and overseas. It is open to



IAN RUTTER

The Julia Moss Trophy

every type of electric craft from inflatables to large cruising boats, and can include hire boat trips. The trophy will be awarded to the boaters who have visited the maximum number of waterways in the year, although there will be commendations for particularly distant or difficult locations, and the winner for 2004 will be revealed at the EBA Launch Supper in April.

Finally, advance news of a trophy for hybrid boats which will be announced later this year and is connected with the article by Kevin Desmond on pages 18 – 19. The Mansura Trophy is a replica of the carved tiller-head of the 1912 hybrid electric launch *Mansura* and is open to cruising vessels with hybrid propulsion which must be mainly electric. The criteria for the award are still being finalised and suggestions from EBA members with an interest in hybrid propulsion systems will be passed on.

The St. Davids and Julia Moss trophies are awarded by the EBA Committee. If you are hoping to be considered for the Emsworth Trophy it's important to notify EBA Secretary Barbara Penniall in advance as documentary evidence of the cruise is required. For rules and application forms for the TELCO Trophy send a stamped addressed envelope to: The Thames Electric Launch Company, PO Box 3, Goring, Reading RG8 0HQ or e-mail: thameselectric@goring.co.uk



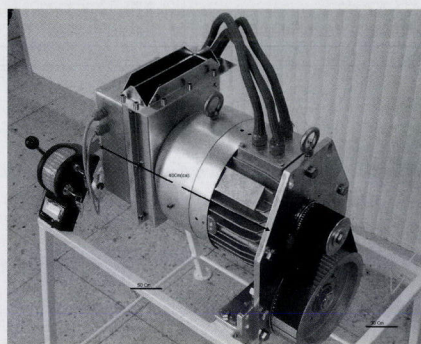
Development Fund and £29,000 from the European Leader+ fund.

The work will be done by 25-year old Melanie Landamore, whose family is one of the major boatbuilders on the Broads. Melanie is the great granddaughter of the founder of E.C. Landamore & Co. of Hoveton and gained a first class Masters degree in Small Craft Technology at the School of Marine Science and Technology at Newcastle. She is researching new opportunities for sustainable boat design adapted to the delicate ecology of the Broads. This includes looking at increased recycling, water treatment, waste and discharge reduction and the use of electric motors, fuel cells and solar/PV systems.

More information from the Project Manager, EBA member Peter Howe on 01603 783096; e-mail: info@norfolksailingschool.co.uk

NEW ITALIAN MOTORS

Two new DC electric motors for boats have been unveiled in Italy. The Electromarine F1 outboard has a maximum output of 10 kW and costs 6,000 euros. The F2 inboard (pictured) with a maximum output of 15 kW is priced at 5,000 euros. Both function at 48 volts and come complete with throttle controls.



For further information e-mail Bruno Franchi on bruno_franchi@fastwebnet.it or look at the web site www.ecologicalnavigation.com

LAYING UP SUPPER

The Maidenhead Rowing Club on the banks of the Thames was once more the venue for the Laying Up Supper marking the end of the 2004 boating season. 25 EBA members and friends enjoyed an excellent meal and lively conversation followed by the presentation of the Emsworth Trophy to Paul and Ulrike Lynn and a raffle with a variety of interesting prizes donated by CMP, the Thames Electric Launch Company, Paul and Pat Wagstaffe and the Henley River and Rowing Museum. The Launch Supper for the start of the 2005 season will be held at the same location on April 18th.

GO ELECTRIC

Tony Fogarty reports that *Dawn Star*, a 34 ft traditional Broads cruiser, has been converted to electric power by John Williams. A grant from Go Electric had been allocated but the owners generously declined it, allowing another conversion to be funded. Grants have been agreed for twelve boats: four yachts from 22 to 32 ft, four cruisers from 20 to 27 ft and four day boats from 16 to 25 ft. One day boat has been



Dawn Star

converted and is undergoing trials and six are either in the course of conversion or waiting for work to start shortly.

Go Electric are keen to see more large cruisers converted and these will be given priority. An article about Go Electric and Tony's converted Broads cruiser *Moonglow* is to appear in Broadcaster, a free paper distributed by the Broads Authority, which will spread the message about electric boating.

If you are interested in the 'Go Electric' scheme you can contact Tony Fogarty on 01603 502007, e-mail: tonyfogarty@onetel.com, Peter Howe on 01603 783096, e-mail: info@norfolksailingschool.co.uk or Albert Lambert on 01263 825218, e-mail: albert.lambert@telinco.co.uk.

BRIDGWATER RIVER FESTIVAL

A packed programme of events including boat trips, guided walks, exhibitions, craft workshops, story telling and music is on offer at the Parrett Catchment Project's third and final river festival on Sunday 22nd May in The Docks, Bridgwater, Somerset. The site is adjacent to the River Parrett and accessible from the Bridgwater & Taunton Canal. Last year's festival, held in Taunton, attracted 28 boats, including Cedric Lynch in his solar powered canoe, and nearly five thousand people.

Boaters can come for the day or spend the whole weekend exploring the canal and historic town. There is a slipway on the canal a mile from the site and full shower and toilet facilities will be provided for boaters in the docks.

For more information and a boat entry form contact the Harbour Master on 01823 490443 or e-mail: john@atucker2.freemove.co.uk.

For information on other events at the festival contact the festival co-ordinator Caroline Dunn on 01823 356156 or e-mail: cldunn@somerset.gov.uk



Last year's River Festival

A REMARKABLE RESTORATION

Tony Fogarty relates how a sad old boat found a place in the sun. Pictures by Les Fidler.

What do you do with a wooden launch rotting away in your boatyard when the owner refuses to pay his rent arrears? You commandeer it, convert it into an Edwardian-style cruiser powered by an electric motor and add solar panels. This is exactly what Les Fidler did after buying Westview Marina of Earith on the Ouse six years ago, having spent most of his working life as a builder in Surrey.

The boat *Dame Quickly* is thought to have been a Broads Conservancy inspector's launch, built by Appleyard Lincoln of Ely in the 1950s. By the time Les came on the scene she had lost most of her paint, had two holes of five feet and eight feet in length in the hull, with weeds growing through the planks, and the engine was missing. Obviously a project.

The boat had a large open cockpit and small cabin, with a hull of teak on oak and a teak floor. Les used the floor for repairing the hull and a load of mahogany, which had been the flooring of a bank undergoing refurbishment, for a new larger and higher cabin, using plywood for a shallow barrel roof. As can be seen, the end result is a beautiful craft of 27 feet in length and 6 feet 10 inches beam. Fortunately the prop shaft and propeller, 13 x 13, were still in place.

Les installed an electric propulsion system – a Lynch motor running at 48v with a 4:1 reduction toothed belt pulley, a 4QD controller, a Zapi NG3 48v 50amp charger and 4 x 220Ah Elecsol batteries. He changed the name to *Whispers*. Having demonstrated



Before...

the capabilities of the boat, last winter he installed solar panels on the roof – 8 x 56w Solara semi-flexible panels with a Phocos energy system controller.

The performance has exceeded all his predictions. He and his wife Elaine normally use the boat for about five hours a week and the panels keep his batteries topped up – on a bright day 34Ah is common. Power consumption is blissfully low – 10amps is enough for 4mph. Even gunning the motor to produce 7mph only needs 50amps.

They took *Whispers* on the Thames from Lechlade to Reading, about 70 miles and, travelling for five days at around 15 miles a day, they used only the solar panels for topping up the batteries. There was no need to plug in to shore power in spite of using an electric fridge and domestic lighting. Nor was the weather particularly sunny – “a rotten week” says Elaine: daily charge from the panels was down to around 20 Ah.

Les reckons that the total ampere hours from the solar panels was 108 Ah and the total used for the fridge, small television and lights was 18 Ah, giving a net input of 90 Ah. As the batteries were almost

flat on arrival, and assuming that around 75% of the claimed 220 Ah was drawn from the batteries, the solar panels provided between 35 and 40% of the required power – even in a period of poor weather.

This is a remarkable boat, a hull ideally suited to electric power and a conversion which is a tribute to Les' skill. Solar energy as the additional means of charging the batteries is the icing on the cake.

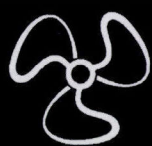


...and after



ELECTRIC BOAT NEWS ADVERTISING RATES

Eighth page £30 per issue
Quarter page £60 per issue
Half page £100 per issue
Complete page £150 per issue



Boat Safety Scheme

Next time your boat requires a boat safety certificate why not try me at
www.boatsafety.me.uk

Chris Pengilley

Authorised Boat Safety Scheme Examiner

Offering:

Guidance on helping you to make your boat safe for the BSS certificate.

Examination and certification at affordable prices.

Contact Chris on tel 01628 528203 mobile 0771 2985189
or e-mail chris.pengilley@ntlworld.com

HAMBLEDEN SALES & CHARTER LTD
MILL END, HENLEY-ON-THAMES RG9 3AY



A selection of electric and traditional boats always for sale.

26 ft electric launch - seats 6
available for day hire

For more information
please contact **Gillian Nahum** on **01491 578870**
e-mail gillian.nahum@virgin.net
or visit our website www.hamblendsalesandcharter.co.uk

Traditional Boating for a day..... or for a Lifetime....



Information sheets from the Electric Boat Association

1. **PRODUCT GUIDE & EBA TRADE MEMBERS**
(free upon request)
2. **SOLAR PHOTOVOLTAICS** by Paul Lynn
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
8. **TRAILERS AND TRAILING** by Paul Lynn
9. **FITTING OUT AND LAYING UP YOUR BOAT** by John Hustwick and Ian Rutter

Available:
Free to members Nos. 2-9
Non-members @ £1.50 per copy

The Secretary,
Electric Boat Association,
150 Wayside Green,
Woodcote, Berks RG8 0QJ

Tel: 01491 681449
Fax: 01491 681945
e-mail: eboat@mail.com

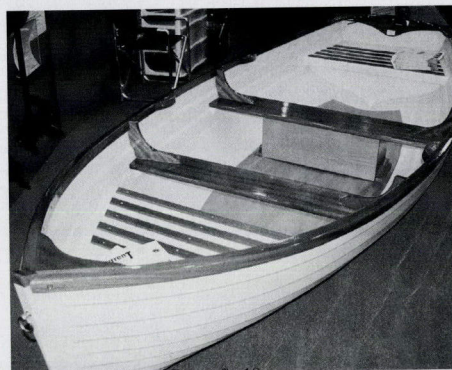
Dragonfly 12

The perfect first electric boat

Roomy and stable, with a powerful electric outboard, Dragonfly is ideal for day trips.

The strong, maintenance-free GRP hull is matched by superb mahogany joinery and polished brass fittings, making this a boat that will get admiring glances wherever you go.

Carries 4-6 people, with up to 8 hours running time. Easily towed and launched. From £1795 inc VAT.



The Thames Electric Launch Co.

PO Box 3, Goring, RG8 0HQ
Tel: 01491 873126 Fax: 01491 872217 www.thameselectric.com

THE LONDON BOAT SHOW

Electric boats for Windermere, the Thames and the Broads, a 3,500 tonne naval frigate with electric motors and Hercule Poirot getting his little grey cells around the concept of fuel cells – there was a lot to see at this year's Schrodgers London Boat Show.

KEITH LANGRIDGE



David Suchet, Emrhys Barrell of TELCO and Stephen Voller of Voller Energy with the fuel cell

The Portapack portable hydrogen fuel cell from Voller Energy was unveiled on the Thames Electric Launch Company's stand and created a lot of interest, not least for the actor David Suchet, attending the Boat Show as Chairman Designate of the River Thames Alliance. The Portapack, which is totally self-contained and the size of a briefcase, generates 240V and 12V electricity and can be used to recharge batteries on electric boats and yachts or as a standby power source for portable electrical equipment. Using hydrogen stored in hydride granules in a rechargeable canister, which lasts for several hours and can be replaced in seconds, it is almost totally silent and its only emission is water.

A different type of marine fuel cell was being shown by Max Power. The MFC 100 converts liquid methanol into electricity using a low temperature electrochemical process.

Weighing only seven kilos it can deliver 100 Ah per day of 12 volt DC power with emissions limited to water and a very small amount of carbon dioxide. Fuel cells, say Max Power, are ecologically friendly and have the capacity to replace fossil fuels.

A variety of electric boats was on display in the main halls. Thames Electric were showing their Interboat 16 and Interboat 19 with GRP hulls, rope fendering, teak steering wheels and optional canopies.



IAN RUTTER

Dragonfly 12 and Interboats with the Jaunty and Phoenix in the background

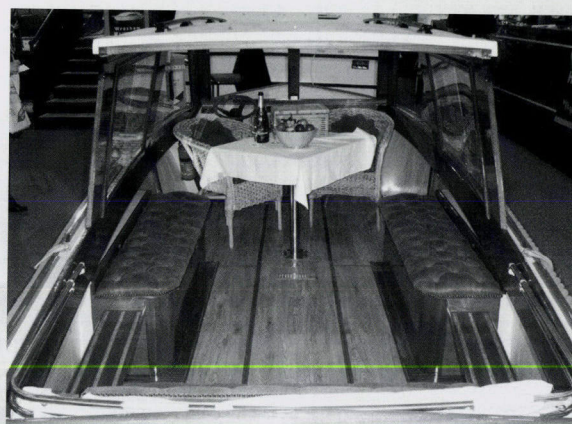
The Interboats are available in either a diesel version or with a 2 kW electric motor, 400 Ah deep cycle batteries and automatic battery charger. Alongside was the TELCO 12 ft Dragonfly skiff with electric outboard which has a GRP hull, mahogany joinery and brass fittings. The Dragonfly can take four people but is light enough to tow behind the smallest car, or even to carry on the roof of a medium saloon with the batteries in the boot.

A number of visitors were attracted by the Jaunty 20 picnic boat with either diesel power or a Rupert Latham electric motor. Ian Curtis of Martham Boat Builders explained that the original wooden Jaunty was designed by his grandfather in 1942 as a day hire boat on the Norfolk Broads, with an engine which cost £100. Now with a modern GRP hull, the new Jaunty on display had traditional touches such as rope fenders and a beautifully varnished interior complete

with teak flooring, leather upholstery and picnic table and chairs.

Next to Martham on the central Inland Waterways feature were EBA members Phoenix. This year they were showing their diesel Aquila 27, built for Maritek to an Andrew Wolstenholme design, although they did have a picture of their electric Phoenix 21 on display. Robin Richardson said he was hoping that next year they would have space to include the 21 as well. On the Broads Authority stand, cruises on an

IAN RUTTER



Jaunty interior



electric Phoenix 21 were among the prizes in a competition. Visitors completing a questionnaire about the Broads had the chance to win four self drive day trips on the wheelchair accessible day boat from Kingline Cruisers of Horning.

The Mystic electric day cabin launch on the Salter Brothers stand was one of a fleet of five which have been sold as hire boats for Lake Windermere. The cockpit can take up to eight passengers on upholstered all-round seating. Salters' own hire fleet on the Thames had a very successful season last year with bookings up by 25% and they will be building more Mystics over the winter for sale and for hire. Also on display was their larger Deltic 21 ft

Electric Weekender which has a cabin one step down from the cockpit with room to sleep two people in comfort.

By far the largest vessel on display at the show was the Royal Navy's HMS Sutherland at 436 feet (133 metres). A type 23 frigate, Sutherland was berthed on the dockside next to the Excel centre and open to the public. Launched in 1996, she has seen service all over the world, from the chilly waters of the Arctic and South Atlantic to the tropical warmth of the Caribbean and Far East. As anti-submarine operations mean that the ship must operate as quietly as possible, she uses combined diesel electric and gas turbine engines. The two gas turbines can be used for cruising, while the two electric motors allow silent running. Sprint speeds of over 28 knots can be reached by running all four engines simultaneously. To enable stealth operations the ship's engines have been placed above the water line, making it harder for submarines to hear them. Four generators supply the 5.2 megawatts of power needed to run all the ship's services and weapons systems.

With an eye to boats of the future, the British Marine Federation was displaying the shortlisted entries for the Concept Boat competition. The 2004 contest, supported by the Environment Agency, challenged

entrants to design a recreational or commercial craft which either made use of renewable resources, was energy efficient or of a low

emission or non-polluting design. The competition attracted over 70 entries from all over the world including Europe, Australia, South America and the United States. This year's winner was *Dynaplane* from the USA, a futuristic planing powerboat, combining high speed with reduced fuel consumption, reduced emissions and the possibility of using alternative energy sources such as a fuel cell. Second prize went to *Clearwater 1* from Argentina, which cleans rubbish from rivers, processes the waste on board and then containerises it for disposal. It is even able to use the waste as a source of

energy. In third place was British design *Hydro Sol*, a solar-powered hire boat, designed to promote sustainable tourism in environmentally sensitive areas such as the Norfolk Broads.

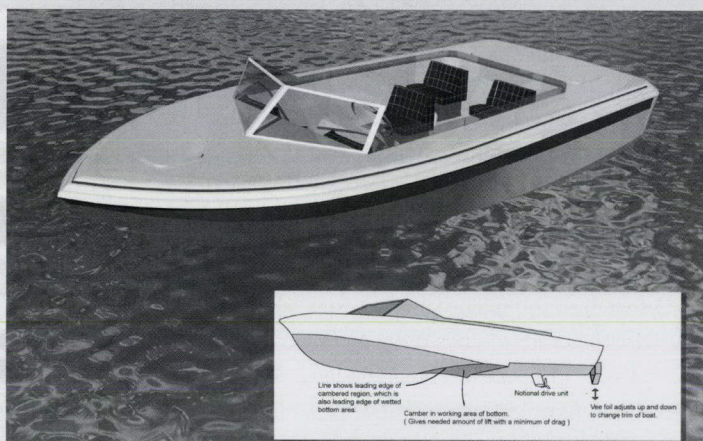
Not only boats, of course, were to be seen at the show. EBA members Hartford Marina had a selection of items on display which are available from their chandlery, Nauticalia were displaying their wide variety of traditional nautical products and practical gadgets, Navigators & General were standing by to answer insurance queries and Fischer Panda were showing their large range of AC and DC marine generators. Bisham Abbey Sailing & Navigation School, who were so helpful to the EBA for our 21st Anniversary celebrations that we organised a return visit last summer, were celebrating their Waterscape.com gold award for the best boating business of 2004. The awards are open to all enterprises based on Britain's rivers, canals and lakes from pubs, restaurants and shops to museums, sailing schools and boat hire companies which encourage people to visit and enjoy the inland waterways. Roy May, the School's principal, said they were delighted to get the award and would work hard to maintain their high standards.

The Boat Show was expected to attract around 200,000 visitors from the UK and abroad over its eleven days up to 16th January.



IAN RUTTER

Salters Mystic



Concept Boat Dynaplane



Roy and Janet May with Senior Instructor Tom Sowerby and the award

TECHNICAL REPORT

In the fifth of a series of interviews with members, EBA Technical Officer Paul Lynn talks to Vice President Edward Hawthorne about *Mystère*.

EBA: Perhaps we should start with the obvious question: why the name *Mystère*?

EH: Translated, it means 'mystery' or 'miracle'. Hence the comment: "It was a mystery how it got started and a miracle it got finished". Actually this is unfair because in 1973 my wife Dinnie converted her 'shopping boat' *Dinya* from petrol to an electric outboard. Laird, our Shetland collie, who had very sensitive hearing, stopped barking – a definite plus was chalked up for electric boating!

EBA: So the mystery is solved; it was the silence that first attracted you?

EH: Yes, although I took rather longer to be convinced that this electric business was any good. The outboards of that time were underpowered and I was all for a bit more speed. Luckily, we were subsequently introduced to the Accumot electric pod motor. Twenty years later *Dinya* and the Accumot are still afloat.

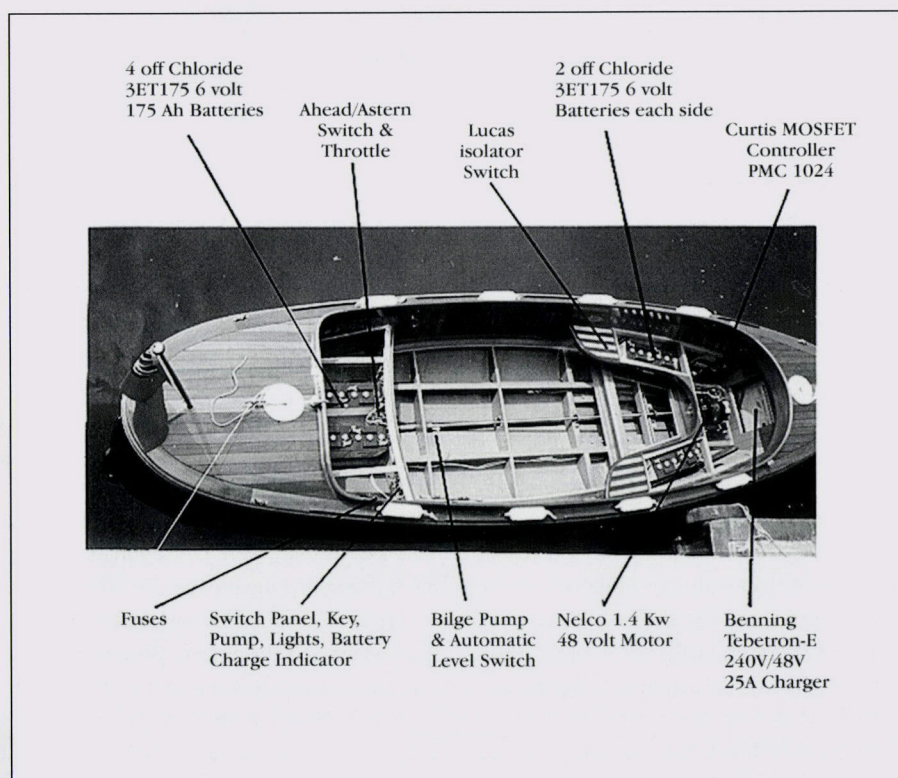
EBA: But you soon decided to go for a larger boat?

EH: Yes, when we moved to our present home we began to dream of a launch that could accommodate more passengers. And then by a stroke of luck we met Dave Smith. A quiet unassuming man, he had a natural feeling for wood and every winter he did restoration work on wooden boats and launches. One day he said he would fit out a Frolic hull for us. So there was the miracle – *Mystère* emerged in the spring of 1991 as a beautiful launch.

EBA: That's certainly a good story. And now for more technical aspects – may we begin with the hull?

EH: *Mystère* is based on a standard Frolic 21 ft (6.4 m) GRP hull. She's a traditional Thames open launch with comfortable bench

seating for two in the stern, two in the bow and space for two Lloyd loom wicker chairs amidships. I wanted a boat with no obstructions amidships and so the motor was fitted under the bow seat with a long propeller shaft under the floor. She was fitted out by Dave Smith in mahogany throughout with four inch high combing curved to suit at bow and stern.



Mystère Electrics

EBA: What type of batteries do you carry?

EH: The original eight 6V Chloride 175 Ah lead-acids lasted 11 years and were replaced in 2002 by 187 Ah Pb batteries connected in series. Production Frolics are normally fitted with sixteen batteries but it would have been difficult to squeeze in the extra eight. *Mystère* is essentially a leisure boat for short distances and I decided to rely upon en-route recharging for longer cruises.

EBA: So you have a nominal 187 Ah at 48v aboard at full charge. And how about the motor?

EH: It's a 48v Nelco

type 132 S053 which drives a 3-bladed 8.5 inch (216 mm) propeller of pitch/diameter ratio 1.21. The maximum boat speed was measured as 6.3 mph (10 kph) giving around 18 miles range, but at a low cruising current of 20A the speed is about 5 mph (8 kph) giving a range of about 35 miles.

EBA: A nice illustration of the range benefits of travelling slowly! How about charging?

EH: I use a Benning Tebetron 240/48v automatic charger with a RCD switch to the mains supply. A special feature is that an Albright SW121 contactor switches the battery circuit from motor to charger when contact is made on plugging in to the mains supply. This gets over the nuisance of manually having to change over power connections in the boat.

EBA: You presumably have thought quite a bit about control and instrumentation?

EH: The electrical system was devised by Rupert Latham of the Steam & Electric Launch Company. It uses a Curtis 1204 MOSFET controller and a potentiometer to give continuously variable speed control. A Curtis battery meter gives me some idea of remaining charge and an ammeter provides a simple way of setting boat speed.

EBA: And finally, could you say a few words about your use of the boat, and any recent problems?

EH: We are fortunate to have our own wet dock. *Mystère* is kept afloat all the year round and is always ready for use with minimum fuss. We have never used a boat cover – no doubt the varnish has

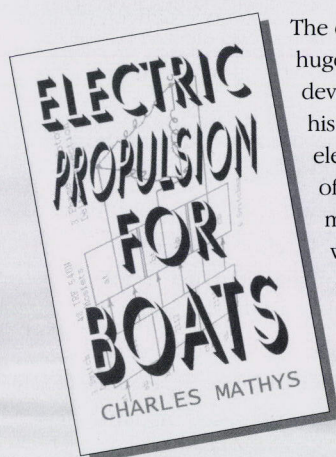
suffered, especially from sunshine on the stern deck. But we regard *Mystère* as a working boat and our biennial revarnishing results in a dockside finish, i.e. looks pretty good to the casual observer. Surprisingly the only electrical problem, probably caused by poor air circulation in the dock, was seizure of one of the forward/astern relays ten years after it was fitted.

Because we like to cruise down the backwaters we fitted a weedcutter, which also shreds plastic bags and cuts small branches and ropes. However last year it must have met some larger stuff because one of the Allen bolts holding it to the propeller housing sheared off.

EBA: Many thanks for a most interesting interview.

BOOK REVIEW

Paul Lynn reviews 'Electric Propulsion for Boats' by Charles Mathys, published in 2004 at \$29.95 by Bristol Fashion Publications Inc., Harrisburg, Pennsylvania; 290 pages, ISBN 1-892216-49-3.



The overriding impression of this book is the huge amount of investigation and development which the author has put into his subject during a 7-year love affair with electric boats. Not content with standard off-the-shelf solutions, he has bought and modified boats and hulls, experimented with AC motors, designed and tested electronic controllers, investigated computer control, and educated himself on propellers, batteries and solar power. The book, written in a chatty and accessible style, is a veritable mine of ideas and practical details.

If I have one overall criticism, it is that information on a particular topic is scattered through the pages and rather hard to locate. This is due to the author's book plan, which devotes the first five chapters to a blow-by-blow account of his work on three separate boats (20 to 23 feet overall) to modify them for electric propulsion and reads a bit like a personal diary. Much of the material is developed in subsequent chapters devoted to particular topics, and revisited in the final 7 chapters which describe 'do-it-yourself' projects. The problem of information search and retrieval is compounded by the lack of an index.

Yet the enthusiasm and competence of the author shines through the page at every turn. The most innovative part of the book is its treatment of AC motors which the author champions in place of the DC motors conventionally used in electric boats. He is dissatisfied with the efficiencies of most DC machines (giving only a few sentences to the Lynch Motor), reckoning that improvements of 10% or 15% can be

achieved using cheaper, lighter and more reliable 3-phase AC machines interfaced to the boat's batteries with electronic 3-phase inverters. This approach involved rewinding a standard motor for a lower voltage and making an inverter, since the requisite items were not commercially available (or affordable). Needless to say, such problems were no barrier to this particular author! However the book's focus on AC motors and controllers excludes any discussion of the ubiquitous permanent-magnet electric outboard (trolling) motor – surely rather a serious omission in any book dealing with electric propulsion.

Subsequent chapters offer useful but fairly conventional accounts of hulls, propellers, and batteries, summarised in the author's straightforward and practical style. Unfortunately, when he gives sources of supplies these are usually from the USA, so not of great help to UK readers. And it is disappointing that a general discussion of propellers, which helpfully avoids technical detail and complicated formulae, is not backed up with data on actual propeller efficiencies. This seems strange after all the attention given to motor efficiency in previous chapters, because motor and propeller are equal partners in the task of moving the boat forward.

To whom can this unusual and stimulating book be recommended? Not, I fear, the novice boater needing a standard account of electric propulsion, nor those who are uneasy with technicalities. But for anyone with practical skills who wishes to get deeply involved in building or modifying boats, or experimenting with AC drives, it should be a goldmine. And then, of course, there are those of us who simply enjoy reading about challenges devised and tackled by other enthusiasts, especially when described with the originality and zest of Charles Mathys.

ANNUAL REPORT

A summary of the activities of the Electric Boat Association during 2004. Photographs by Ian Rutter.

Unlike 2003, in which we celebrated our 21st Anniversary and had a very intense schedule, the Association has had a more relaxing summer season. One important development in 2004 has been the inception of the grant scheme in Norfolk called 'Go Electric' whereby government funding has been made available for qualifying boats being converted to electric propulsion. EBA members Tony Fogarty, Peter Howe and Albert Lambert have been instrumental in setting up and administering the scheme, which is a very positive step forward to demonstrate government backing for electric boating.

The EBA website, originally constructed by Barbara, has now been brought into the 21st century by our Webmaster Nick Goldring, who has completely revamped the site using state-of-the-art web technology. If you haven't already seen the site on **www.electric-boat-association.org.uk**, it is worth a visit and you might like to include a picture of your boat under Members' Craft.

SHOWS



All Electric Boat Show at Huntingdon

2004 saw the first London Boat Show at ExCel, its new venue in the Docklands. The Inland Waterways section provided an opportunity for EBA business members to demonstrate electric boats and equipment in a unique area of the Show. Hartford Marina, Phoenix Fleet and the Thames Electric Launch Company were closely grouped with the Broads Authority who were displaying *Ra*, their solar electric trip boat. Navigators & General were again offering a discounted insurance policy for electric boat owners. Fischer Panda, Nauticalia and Salter Bros were to be found close by.

In early May Lowestoft hosted an East Anglian Boat Show at the Fish Dock. Although this was a general boat show, Go Electric and the EBA shared a stand and noted a lot of interest in the new grant scheme.

May also saw the All-Electric Boat Show at Huntingdon, the third of these shows offering our business members the opportunity to

demonstrate electric craft on a hitherto unexploited waterway. Hartford Marina again hosted the show, providing an ideal location on the River Great Ouse for this event. Pb Batteries joined Thames Electric and John Williams together with the Environment Agency to support the event. Other business members had been invited but unfortunately, for various reasons, were unable to attend. The Show attracted visitors from all over the country who had come especially to visit an all electric boat show – the only one of its kind in the country and which has now become an established annual event – but they expressed their disappointment that there were not more craft and business members represented. Companies who were there felt the show had been worthwhile and would like to see it continue, but to justify members of the public travelling long distances expecting to see a variety of electric craft, it will need support from more Business Members.

The Beale Park Boat Show a month later attracted more business members with Bossoms, CMP, Creative Marine, Peter Freebody, Hambleden Sales and Charter, Henwood & Dean, Pb Batteries, Phoenix Fleet, Silent Explorer Electric Canoes and Thames Electric. The Environment Agency attended with their diesel-electric patrol launch, *Colne*. The weekend's weather was very good and there was a lot of interest in the EBA stand and electric boats.

EBA business members exhibiting at the Thames Traditional Boat Rally in July were Peter Freebody, Henwood & Dean and Hambleden Sales & Charter. Once again the EBA stand was there to support them.

In September the Broads Society, in association with EBA members Tony Fogarty and Peter Howe, organised a new event called the Broads Electric Boat Show. This was held at South Walsham Broad and hosted by EBA members John and Pat Atkins. The event, based on the former A Silent Sensation, attracted fourteen electrically powered boats and was supported by CMP,



Beale Park Boat Show

Ludham Bridge Boat Services, Martham Boat Builders. Stelco Yachttechnik and Thames Electric. French Marine and John Williams, although not present, had left equipment and literature respectively.

SOCIAL GATHERINGS AND EVENTS



Thames Picnic Rally Cruise

The Launch Supper, held as usual at the Maidenhead Rowing Club in April, heralded the start of the social season and was well supported by members and guests. A cruising day was arranged on the River Great Ouse the day after the Electric Boat Show at Hartford. Fortunately, the weather was excellent and 40 friends in fifteen boats took part, making it the largest gathering for a cruise of electric boats away from the Thames.

In mid-July it was unfortunate that the Steam and Electric Festival at Sudbury on the River Stour coincided with the EBA's summer picnic rally at Bisham. This divided the support for both events but the clash had been unavoidable due to availability at Bisham Abbey, which had proved such a successful venue the previous year for the 21st Anniversary celebrations. During the lunch prior to the Thames Picnic Rally cruise, Hilary Fletcher was awarded the prize for the Thames Quiz competition which had appeared in the Winter issue of the EB News.

Members of the EBA were invited to take part in the 100th anniversary celebrations for *SL Firebird*. The owners, Robert and Tina Baker, had taken part in several Steam and Electric Festivals on the River Stour and generously invited local electric boaters along with a number of steam boaters to their celebrations. Colin and Lucie Henwood also took part as Colin had carried out the restoration work on *Firebird*.

September drew us to Norfolk for a cruise as part of the Broads Electric Boat Show. The Saturday afternoon and evening found a number of EBA members and their boats cruising from Stalham to Wayford Bridge in order to enjoy dinner and a night-time cruise in the moonlight. On Sunday morning a number of electric boats travelled from Stalham to South Walsham for the Show.

The final social event of the year was the Laying Up Supper in October held once again at the Maidenhead Rowing Club. This was the occasion when Paul and Rike Lynn were presented with the Emsworth Trophy to commemorate their cruise in *Solar Flair* from Lechlade to Teddington the previous year.

MEMBERSHIP

This year has seen the membership continue to grow, but at a slightly lesser pace reflecting the current trend throughout the inland boating industry. However, we have been able to welcome not only new, but a significant number of lapsed members who have asked to rejoin.

COMMITTEE MATTERS

Martin Allen of Lakeland Electric Boat Centre stood down as Vice Chairman of the Business Group and Dave Millin of Pb Batteries accepted the position, representing business members on the Executive Committee.

The Executive Committee has met five times to attend to the day to day running of the EBA and the Council also met to discuss the proposed revised Articles of Association and future structure of the EBA's governing body.

The Chairman and Secretary have attended the Parliamentary Waterways Group when the discussions appeared relevant to electric boating, but last year there were fewer topics of interest to the EBA membership.

In last year's summary of events we reported that the Association had been asked to take part in a further feasibility study concerning electric boats on the River

Stour. As you will have seen from the summer issue of the EB News, Thames Electric, in association with the River Stour Trust, helped with the Environment Agency's public awareness trials to consider electric propulsion on that waterway.

As always, I would like to thank all those who have helped to run the Association and members who have given their support in various ways over the past twelve months. We want the EBA to continue to grow both in size and prominence and therefore we value your comments and suggestions regarding the way forward. This particularly applies to anyone wishing to offer help for any activities or events in the coming year.

JOHN HUSTWICK

Chairman



Dave Millin

NOTICEBOARD

WELCOME TO NEW MEMBERS

Private Members	Location	Boat where notified
Shaun Cummings	Rockland St Mary, Norfolk	Whisper
P Michael Connor	East Molesey, Surrey	Il Weiry
Jan Smulders (welcome back Jan)	Bourne End, Bucks	
Stephen & Pamela Appleby	Kendal, Cumbria	The Optimist
Victoria Fash	Bray-on-Thames, Berks	Viola
Tom and Sally Beevor	Hargham, Norfolk	Capricorn
Business Members		
Openworld Yachts Ltd	Hawkshead, Cumbria	

EBA DIRECTORY AND PRODUCT GUIDE

The latest edition of the EBA Directory and Product Guide is enclosed for members with this magazine. If you have any corrections or amendments please send them to the Secretary, Barbara Penniall.

NEW E-MAIL ADDRESS

The e-mail address for the EBA Technical Officer, Paul Lynn, has changed to paul.lynn@btconnect.com

REGISTRATION FEE

From the start of the 2005 season there will be a non-refundable registration fee of £4 per application for EBA events such as rallies and cruises (not for the suppers). This is to cover the EBA's printing and mailing costs which are currently around £100 per event.

LETTERS

From Carl Ring, Sweden

Hello Nick!

You guys might like to see Colibri. She is about 100 years old and was the steam launch of king Oscar II. Then she had no saloon – this was built in 1960. The steam was removed in 1920. I found her as a wreck in 1989 and am since fixing and fixing. I put in electric drive together with a 25 hp diesel. The boat is 30 ft x 7 ft and displaces about 3.5 tons! Heavily built. The electric motor is a 60 amp CAV dynamo. I understood that some dynamos are good as motors as well. It depends how the thing is configured, they say. This heavy boat sets forth with good acceleration and moves at about 3.5 knots with full field power. With 7 ohms (maximum allowable at 24 volts) she races at almost 6 knots! We have 12 standard Varta HD 75 amp batteries. Installed as two 12 volt banks in series. They have fairly thick plates, according to the maker. You must relate the plate thickness to the duty. Next spring I will install a good big old AMP-meter to read the consumption. I saw one time that she uses 60 amp when tied up alongside mothership Svanen of Stockholm – www.hyrsvanen.nu. When not harnessed the consumption goes down a lot.

So with no fuss and expensive equipment this is achieved. I feel it's important to show that electric boats can be inexpensive to build. Theoretically she can move (at full field) quite a long time at this setup – over 9 hours? I never tried, because when travelling over greater distances we let the diesel power the boat. Originally there was a 2 hp steam engine; this gave her a speed of 7-8 knots. Now we have 2 hp electric.



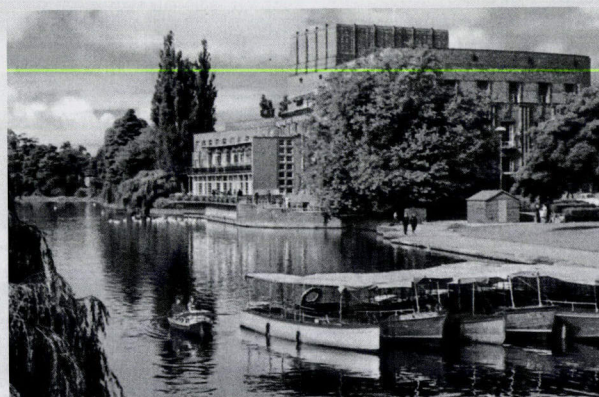
Colibri

She is the ultimate vessel to do champagne cruises with family and friends as well as to travel through the 25,000 islands off Stockholm. Or try the canals, plenty of 'em with locks en masse. Mahogany, bevelled glass, lots of brass, satin and moiré fabrics. Electric WC of course and fridge/freezer. Steam out of the funnel when dieseling... We welcome your delegation next summer for a trip.

Best regards

Carl M. Ring

In response to the request for information on the history of Viola, which won the Simonds Trophy at the Thames Traditional Boat Rally, David Higgins has sent this picture, which he thinks was taken in the late sixties, of the trip boat fleet at Stratford on Avon. Viola's bow can just be seen as the third boat from the left between George Washington and the Royal.



Stratford hire fleet

Phoenix Fleet Ltd

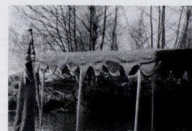
Potter Heigham, Norfolk
01692 670460

*Builders of the Phoenix 21
12 seater river launch*

Electric day boats for hire or sale
New and replacement electric installations



Mayfly 16



Frolic 21



Thames Canoe



Frolic 31



Frolic 36



*Builders of the Finest Range
of Bespoke Launches.*

Eight models to suit all needs
ranging from 16ft to 50ft
in length.

STOCK BOATS
NOW AVAILABLE.

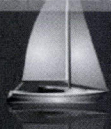
www.creativemarine.co.uk

Creative Marine,
'The Secret Boatyard'
Barningham Barns, Matlaske,
Norwich, Norfolk, NR11 7LE

Tel: 01263 570100
Visitors welcome by appointment



THE
NORFOLK
BROADS



SCHOOL
OF
SAILING



Norfolk Broads Yacht Charter

Learn to sail on the

NORFOLK BROADS

in one of our cabin yachts with an

ELECTRIC AUXILIARY

Phone: 01603 783096

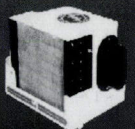
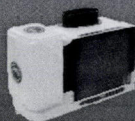
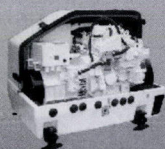
email: info@norfolksailingschool.co.uk

www.norfolksailingschool.co.uk

**Elektra drive
systems from**

HFL.

**As individual as
you are...**



HFL Marine International Ltd, HFL House
Lockfield Ave., Enfield, EN3 7PX U.K.
Tel: +44 (0) 20 8805 9088 Fax: +44 (0) 20 8805 9534
E-mail: HFL@btinternet.com
website: www.HFLGEN.com
For airconditioning accessories
visit: www.aircon100.com



Offices also in USA, Germany and Dubai

Hampers Of Cambridge

Traditional, original, quality gift food and picnic baskets ideal
for any occasion. We produce an individual hamper to suit
your requirements. Select your hamper choice from over
300 different products. Single purchases welcome.

Tel/Fax 01480 811089

www.hampersofcambridge.co.uk

www.the-alfresco-collection.co.uk

SWANCRAFT

Electric Craft for Hire on the Thames

Excellent rates for full day, half day or by the hour
Cruise in a variety of craft on a beautiful stretch of the Thames
enjoying the peace and tranquillity of quiet electric boating
Come to Benson Waterfront for all your electric boat repairs,
refurbishment and batteries

Swancraft, Benson Waterfront, Benson, Oxon OX10 6SJ

Tel: 01491 836700 Fax: 01491 836738

Email: benson.waterfront@btopenworld.com

Just untie and unwind

HORSEPOWER

The story of the unique hybrid electric launch *Mansura* is told by Kevin Desmond.



Mansura at Potter Heigham in 1913

It begins in the Boer War, when a young rifleman named Jack Delmar-Morgan is severely wounded just above his eye, but recovers. Returning to England, he specialises as an engineer in electric DC traction systems. Having trained at the City and Guilds in London, he serves a three-year apprenticeship with J.H.Holmes & Co, electrical motor manufacturers at Hebburn, Newcastle upon Tyne. Here he learns about armature and magnet winding, instrument-making and switchboard work. He also gains experience 'in the erection of engines and dynamos, switchboards, lamps, cables and various details of electric light installations both on board steamships and in buildings such as factories, mills, shops and private houses.' By 1904 he was working for Drake & Gorham, electrical engineers in Glasgow.

Motor vehicles were just coming into fashion and Jack joined two partners to set up Duff, Morgan & Vermont, 'Motor Car Agents & Electrical Engineers and Exporters'. In 1910, soon after his marriage, he acquired a beaver-tailed, white-hulled 30 foot motor launch which was named *Mansura* after an Arab mare. In 1911 the boat was shipped to Holland for a cruise on the canals of northern Europe.

Continuing his interest in motorboating, Jack decided to commission a second *Mansura*. The lines of this 33ft lugger were drawn out by Linton Chorley Hope & Co. and she was built by Taylor and Bates on the Thames at Chertsey Wharf in Surrey. Her hull was mahogany-planked with white Kauri-pine decking and her roomy watertight cockpit and cabin were painted in raven blue.

But the most fascinating part was that *Mansura* was designed to run: under petrol power alone; electric power alone; sail alone (ketch rigged); petrol and sail; electric and sail. This highly innovative design was worked out by Jack himself, using what was available at the time.

The petrol unit was a V8 aero-unit by ENV, designed by Mr Rath in England and built at Courbevoie in France, the name derived from the fact that its configuration was 'en V' in French. It had been used by the legendary Louis Bleriot, the first man to cross the English Channel in a monoplane. It was one of the best engines available and among its innovations were the electro-deposited copper water-jackets on cast-iron cylinders, two valves per cylinder driven from a camshaft. To this Jack added a Zenith carburettor. For the unit developing 60 hp at 1200 rpm but geared down, Jack paid £450. A dynamo which charged the two tons of lead acid batteries was chain-driven from the Thornycroft propshaft. Should the main engine be temporarily put out of action, the clutch was thrown out of gear and the dynamo could be used as a reversible electric motor, obtaining its current from the batteries. The accumulators replaced the lead normally used to ballast such a boat.

This configuration, with the electric engine running in either direction, made a mechanical reverse gear unnecessary. At a time



Jack Delmar-Morgan on board Mansura



when nearly all petrol-engined transport was started by using a crank handle, the engine could be started electrically.

As if this were not enough, Jack Delmar-Morgan equipped *Mansura* not only with electric lighting, electric fans and bilge pumps, but also with constant hot water, an electric cooker, electric kettle, electric frying pan and saucepan. No other cabin cruiser in 1912 had such luxuries!

Mansura's speed under petrol power was 9 knots. Speed under electric power was 5 knots for 6 to 7 hours, 8 knots for 3 hours. Top speed obtained by running electric and petrol together was 11 knots. Electric cruising was easy to control, offering complete silence and wonderful manoeuvrability. Weak points were considerable weight and bulk of machinery, great initial expense and keeping the electric apparatus functioning properly in salt-laden air.

In 1913, flying the burgee of the Royal Thames Yacht Club, *Mansura* crossed to Boulogne and on to Dieppe, running her petrol engine offshore and cruising silently in and out of harbours.

When war was declared *Mansura* became part of the Motor Boat Reserve. As *ML 41* she was painted grey, given a White Ensign flag and a searchlight and, with a light rifle as her sole armament, was sent to *HMS Thames* at Harwich where she was used by 'Major Jack' for carrying despatches and code books. *HMS Thames* was the depot ship for the 5th Submarine Flotilla made up of C class submarines fitted with 16-cylinder Vickers gasoline engines developing 600 bhp at 400 rpm. 'I examined the engines and electrical gear of a submarine the other day' wrote Jack. 'It is exactly like *Mansura*'s arrangement on a large scale....'

Mansura's machinery must have driven the boat many thousands of miles. 'On one occasion she made a passage of 25 miles on battery power alone. The battery was only half discharged on arrival and the speed averaged 6 knots. It was not unusual for her to do a 15-hour day in any weather and at any time; her ease of control and silence were frequently commented on by admirals and dockyard hands.'

Following the Armistice, Jack replaced *Mansura*'s original engine with a lighter, more compact installation consisting of a 6 hp two-cylinder two-stroke Watermota inboard engine and dynamo as auxiliary, and a set of Edison batteries. Unfortunately this was not a success. So from September 1924 to August 1925, working in the Grosvenor Canal, Jack again gutted the machinery, replacing the old ENV with an American-built 4-cylinder Redwing 18-24 hp 'Thorobred' and with a 10 hp Aster coupled to a suitable dynamo as auxiliary. He also built a new wheelhouse. The electric control system was identical to that used on a London tram.

The new approach seemed to work. During the late 1920's and 1930's *Mansura* not only cruised around the British coast, she crossed over to the Scilly Isles, the Channel Islands and even to Holland.

In 1948, *Mansura* left the Delmar-Morgan family, who, however, kept the original oak tiller, carved in the form of an Arab horse's head. Mr. Hausmann, the new Dutch owner, took out her electric machinery and converted her into a conventional internal combustion-engine cruiser. It is not known whether *Mansura* has survived; she was last heard of on the Lea River.

In his book 'Small Craft Engines and Equipment' published in 1963, Jack's son Edward writes: 'So for the next generation of yachtsmen I put forward the hope that they too will have this type of propulsion but naturally without, as in the case of *Mansura*, 2 tons of lead accumulators!'

Last June, 90 years after *Mansura* was launched, I invited Julian Delmar-Morgan, Jack's grandson, to the Electric Boat Association's 21st birthday celebrations on the Thames at Bisham Abbey. Riding as a passenger on board one of the 26 electric boats in the flotilla, Julian learned about the growing fleet of hybrid electric cabin boats. His mind must have gone back to 1932 when as a child he was taken for a cruise on *Mansura*.

Perhaps most nostalgic of all, Julian showed me the horse's head tiller he had kept through the decades, a memento of an extraordinary boat!

A version of this article first appeared in *Classic Boat* magazine.



Mansura on the tidal Thames

ELECTRIC BOAT BATTERIES

Aesir Power Limited is proud to present the **Lifeline** range of high performance sealed AGM (Absorbed Glass Matt) deep cycling batteries. These batteries have significant benefits over conventional wet or gel type batteries in electric boat applications.

- No maintenance or topping up required
- Deep cycle capability 950 at 50% depth of discharge
- Fast recharge capability
- Install in any orientation
- High capacity in standard battery shapes and sizes
- Two years storage life from fully charged
- High peak current capability
- Improved safety
- Non-hazardous cargo status
- 6 volt and 12 volt options up to 255Ah



For full details of **Lifeline** batteries and our range of **Nauticharger** inverters and battery chargers (12v and 24v units up to 60Amps), please contact:

AESIR POWER LIMITED

2 Granta Close
Great Chesterford
Essex CB10 1QP

Telephone: 01799 531152 Fax: 01799 531142

Website: www.aesir-power.co.uk

Email: info@aesirpowerltd.fsnet.co.uk

Electric Propulsion for Boats

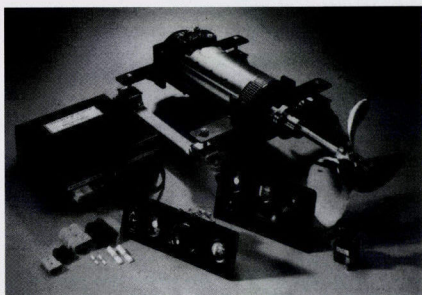


Photo: separately excited direct drive propulsion system

Established in the field of electric boat propulsion for over 20 years
Bespoke restoration and conversion of traditional river craft

38' "SNIPE"

Circa 1900 Admiralty harbour launch restored & fitted hybrid power

34' "SWIFT"

Circa 1900 counter stern Thames launch restored & fitted AC electric power

30' "DAPHNE"

Circa 1920 Borwicks Windermere launch refitted & converted electric power

29' "VIOLA"

Circa 1908 James Taylor Thames launch restored & fitted electric power

28' "GOLDEN GLORY"

Circa 1930 Andrews Slipper launch restored to original

26' "FERRY LADY"

1950's river cruiser restored & fitted electric power

Rupert Latham

Stelco Yachttechnik

Ferry Farm Works, Ferry Road, Woodbastwick, Norwich, NR13 6HN
Tel/fax: 01603 722117 Mobile: 07711 734271 e-mail: Stelcoyacht@freenet.co.uk

Peter Freebody & Co.

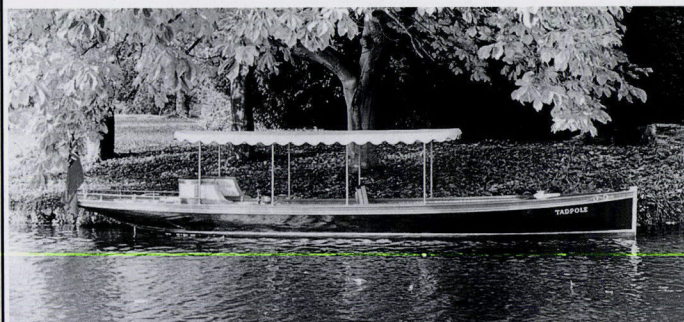
OF HURLEY-ON THAMES
TRADITION WITH TECHNOLOGY

The boat and launch builders of the Thames with a wide range of river craft – electric, petrol and steam.

Dinghies, punts, skiffs, powered Canoes,

Slipper and Saloon Launches,

Restorations & Electric Conversions.



"Tadpole" – 27ft electric launch built by ourselves in 1994. Based on a design from 1884 and powered by original 72 volt DC Electric Motor dating from that time, with high efficiency, state of the art control system, she is currently for sale and is available for demonstrations at Hurley. Please call us for further details.

PETER FREEBODY & CO., BOATBUILDERS,
Mill Lane, Hurley-on Thames, Nr. Maidenhead, Berkshire. SL6 5ND.

Tel: 01628 824382 Fax: 01628 820238

Visit our website at: www.boatbuilder.co.uk

Henwood & Dean

Boatbuilders

Builders of the award winning
electric launches *Polly* and *Lady Helen*

Henwood & Dean Boatbuilders,

Greenlands Farm, Dairy Lane, Hambleden,
Nr Henley-on-Thames, Oxfordshire RG9 3AS

Tel: 01491 571692 email: info@henwoodanddean.co.uk

www.henwoodanddean.co.uk

*Specialists in the building, restoration and care of
fine wooden boats on the River Thames*

ONE-STOP ELECTRIC BOATING

We can supply everything you need

Electric outboards for your dinghy

Saildrives for your yacht or canoe

Inboard motors for launches and cruisers

Selectric Diesel Electric system for cruisers and narrowboats

Batteries and chargers, Service and Repairs

Complete Electric Boats

Suppliers to the Broads Authority, Environment Agency,

Canal Societies and Private Owners

Holders of the 24-hour Endurance Record – 116 Miles on one charge

Come to the experts

The Thames Electric Launch Co.

PO Box 3 Goring-on-Thames, Berks RG8 0HQ

Tel: 01491 873126 Fax: 01491 872217

e-mail: thameselectric@goring.co.uk

ELECTRIC BOAT ASSOCIATION SHOP

EBA Tie – navy blue with narrow green/white diagonal stripe £9.50

EBA Pennant – good quality cotton, royal blue with
'Electric Boat Association' and grebe in white £10.00

EBA Brooch – delicate blue and white grebe edged
with silver Safety pin clasp, 25mm high £5.50

EBA Sweatshirts and Polo Shirts

Good quality, both in pale blue with royal – sweatshirts £20.00

blue logo or bottle green with gold logo – polo shirts £16.00

Please state Small, Medium, Large or Extra Large

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

Tie ☐ Pennant ☐ Brooch ☐ Sweatshirt ☐ Polo Shirt ☐

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

Name.....

Tel No:

Address

14' Deluxe Classic Launches from only £9999 incl VAT

For more information on our range
of launches from 14' to 32', or to
Book FREE day trial on our demo
Oyster 16, contact us at the address
below or look at our web site



Bossoms Boatyard Ltd

Near Binsey Village, Oxford. OX2 0NL Tel: 01865 247780 Fax 01865 244163

www.bossoms.com e-mail: info@bossoms.co.uk

John Williams Boats

The Staithe, Stalham. Norfolk. NR12 9DA

Telephone: 01692 580953 email: johnwboats@aol.com

www.johnwilliamsboats.co.uk

~ "The Electric Boat Centre" ~



See our superb range of Electric Launches
and Electric Propulsion Solutions

- Full Boatyard Facilities including on site Crane and Winter Storage.
- Repairs in timber and GRP, refurbishments or complete re-builds.
- Pressure washing, antifouling, Painting and Varnishing.
- Boat Safety Scheme inspection centre.



Pb Batteries

We can supply batteries and chargers for use
in all types of marine applications from small
river craft to cross channel ferries.

Units 2 & 3A Oyster Park, Greenstead Road,
Colchester, Essex CO12SJ

Tel: 01206 792449 Fax: 01206 860438

e-mail: pbbatts@FSBDial.co.uk

CLASSIFIED ADVERTISEMENTS

Mystic 19 ft 6 ins Electric Day Boat 1994. Safety certificate to March 2008. 2 hp motor. 400 amp hr batteries. Helm and passenger seating. Upholstered all round cockpit seating. Table. Carpet. Anchor and warp. Fenders. Mooring lines. £8,250
Telephone Sunbury on Thames 01932 782454

Brimbelow E-Drive system parts, comprising 2 x 48v electric motors 1.6 Kw, type 805E; 1 gearbox, type ESR 6H; 1 controller 48v 40 amp, no type reference; 1 joystick, type GSS 22; assorted cabling. Located at Bourne End, Bucks. Buyer collects.

Offers to Chris Chacksfield at chacksfield@rya-online.net or 01628 528334

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.



Battery Chargers and Connectors

AC and DC Motor Speed Controllers

Counting, Monitoring and Timing Instrumentation

Care and Safety Equipment

CURTIS

Telephone: 01604 629755
e-mail: email@curtisinst.co.uk
www.curtisinst.co.uk

Electric Boating ...Less Pollution Clean, Quiet Power ...Total Solution

Chloride Motive Power batteries and chargers. The ultimate in clean, quiet power for dependable performance in electric boats. Traditional skills, unrivalled service support and leadership in technological innovation make Chloride Motive Power the perfect choice.

CHLORIDE
MOTIVE POWER
POWERFUL SOLUTIONS

CMP Batteries Ltd., Customer Services, P.O. Box 1, Salford Road, Over Hulton, Bolton BL5 1DD, United Kingdom.

Sales - Tel: 01204 661460 Fax: 01204 661413 E-mail: sales@cmpbatteries.co.uk
Service - Tel: 01204 661444 Fax: 01204 661481 or 661491 E-mail: service@cmpbatteries.co.uk