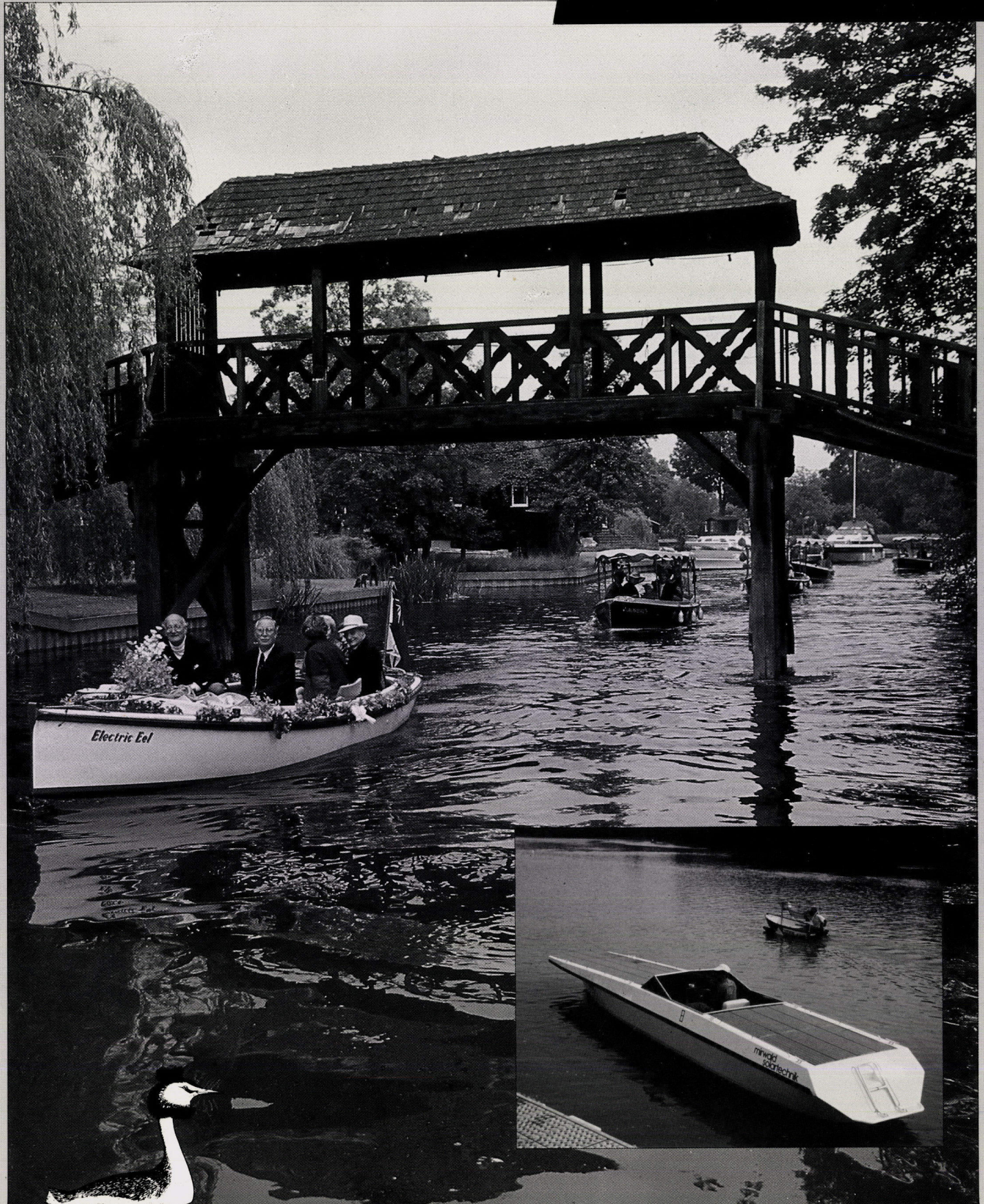


Electric Boat News

The Journal of the Electric Boat Association
(Affiliated with EVA)

Volume 4 : Number 3 : Summer 1991



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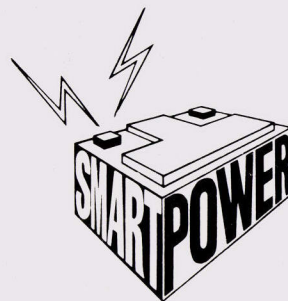
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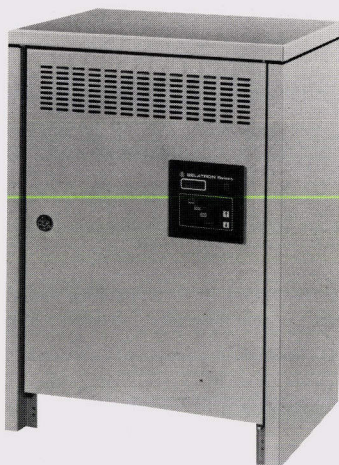
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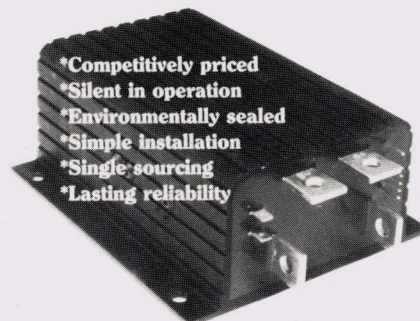


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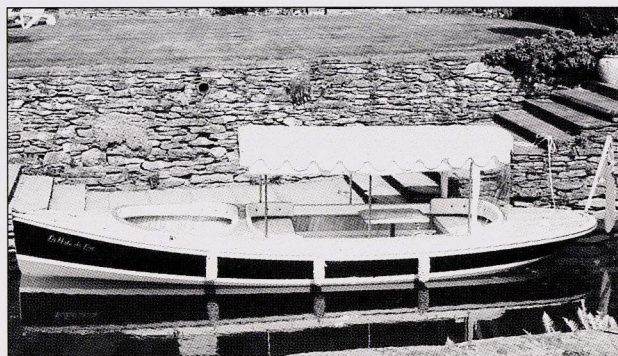
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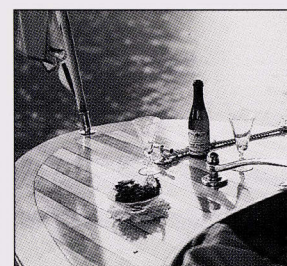
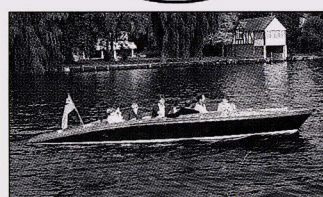
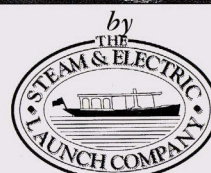
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RHAPSODY IN BLUE



Frolic 21 Traditional



Above: Frolic 21

left: Henley Slipper Launch

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MORE THAN A REQUEST

"Electric Boat News" is the quarterly journal of the Electric Boat Association. To ensure its continued positive benefit for both EBA members and on the boating/electric vehicle industries, YOU are asked to regularly consider SENDING IN any relevant information for publication. We are always looking for reports (from the manufacturers) on the latest boat, motor, battery, controller, charger or accessory. We welcome instructive articles about electrifying and fitting out a particular boat (written up by the owner or his boatyard); regional progress reports, home and abroad (from those active in that locality); reports on rallies, races and records (sent in by organisers, sponsors or competitors); letters of constructive criticism; historical articles and ideas for the future these are always of interest. Please, therefore, send your contributions (500 words max.) with at least one photograph, to The Editor, Electric Boat News, Fairfield House, 122 Olive Road, London NW2 6UU, England. Thank you.

Deadline for the next issue is 20th September.

Chairman/Editor: Kevin Desmond, "Fairfield", 122 Olive Road, London NW2 6UU.

Membership Secretary/Treasurer: Fraser Brown, c/o The Mouse Hole, Abbey Road, Knaresborough HG5 8HX.

Chairman (Users' Group): Edward Hawthorne, "Waters Edge", Riversdale, Bourne End, Bucks. SL8 5EB.

Cover photographs: The Wargrave Rally passes under the bridge over the Lodden on their return to Swancraft.

Photo: William Payne/Motorboats Monthly.

Inset: Things to come—the modern approach compared to the traditional boats on the Rally!



NEW MEMBERS

Trade:

A.C.T. Orion (Montecatini), New York, USA.

Maréchal, Chester.

Southern Electric, Maidenhead, Berks.

Gibbs Marine Sales Ltd., Shepperton, Middlesex.

Seaboard plc., Hove, East Sussex.

User Group:

Edna and John White, Bourne End.

Mrs. Ruth Bernstein, Marlow, Bucks.

S. R. Daniels, Hoveton, Norfolk.

Mr. Lynn Lewis, Shepperton, Middlesex.

David E. P. Colley, Teddington, Middlesex.

Graham Daniels, South Australia.

N. Heran, Queensland, Australia.

David Higgins, Stratford upon Avon.

Mike Rumbelow, Norwich, Norfolk.

Gordon M. Lyall, Glasgow, Scotland.

P. S. Rumsey, Poole, Dorset.

J. R. Sowerbutts, New Zealand.

BROADS MEETING A SUCCESS

From midday on April 22nd, with cold Spring rain showers beating against the "Airport Ambassador Hotel" near Norwich, 150 delegates came together for Eastern Electricity's Seminar on "Electrifying The Broads". The Hotel's spacious Lancaster Suite was flanked by stands representing the EBA, the EVA, Curtis Instruments, Benning UK, RD Power, Ludham Bridge Services (MinnKota and Combi-Nautic), Thames Electric Launch Company, Steam and Electric Launch Company, Broads Authority and Eastern Electricity. Speakers ranged from Diana Shipp (Broads Authority), Paul Wagstaffe (BMIF), Mike Cooper-Reade (Eastern Electricity), Gillian Nahum (STAE LCO), John Gardner (Benning) and Bill Johnson (Chloride EV Systems Ltd). Together with a heated question time, delegates were also able to raise points of doubt or reservation during the buffet lunch. These included dayboat operators realising that whilst the day of the electric hireboat may have come, the problem of building a charging infrastructure for larger weekly holiday cruisers appears insurmountable. Others stated that the Broads Authority should take a lead and provide some kind of financial incentive such as a differential toll structure favouring electric boats, as is already done by BWB, NRA and others.

Diana Shipp, Assistant Broads Officer (Recreation and Tourism), acknowledged the challenge of switching to electric power and recognised that it is a long-term process. "Perhaps as a result of this seminar the Broads Authority, together with Eastern Electricity,

will be looking at electric propulsion and ways of help the industry make the change-over."

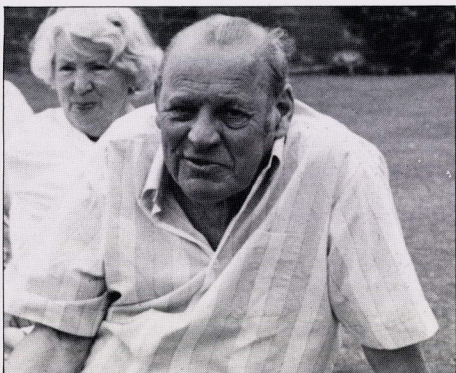
Since the meeting, one delegate, Mr Barrie Perry of Hartford Marina has offered the following:

"My proposal would be that the electricity company installed 30 amp power points and allowed payment for the cost of this installation over a 10-year period. The industry should agree an hourly rate for charging, which would allow a considerable profit over the cost of the electricity and so make a worthwhile contribution towards the capital cost of the power installation. Customers are used to paying a considerable amount for their fuel and would not object to pay a rate for electricity equal to say half this amount.

"I believe a payment spread over 10 years for the installation of power points would encourage many commercial marinas, boatyards, hotels etc, to make the installations and this would get over the chicken and egg situation which so many delegates at the conference felt was discouraging owners from going electric. The electricity companies, I am sure, can provide the incentive for this very worthwhile development."

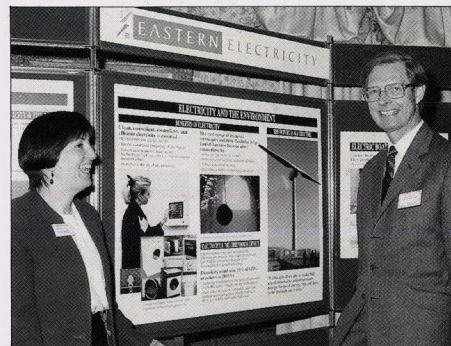
More recently, on June 20th, there was a follow-up meeting of interested parties at Eastern Electricity's offices. (Watch this space...)

OBITUARY



It is with the great sadness that we have to report the death of Jestyn, the Viscount St Davids on the afternoon of Monday 10th June. He had been suffering from cancer and his passing was a welcome relief from pain. We reviewed his great contribution to electric boating in the previous issue of this journal, but suffice it so to say that his Memorial Service on June 20th at St Mark's was a very well attended affair.

Produced by Caversham Lithographic Studios,
16a Bridge Street, Caversham, Reading, Berkshire RG4 8AA.
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Pictured above are Diana Shipp and Mike Cooper-Reade, at the recent seminar on "Electrifying the Broads".

QUIET TECHNOLOGY AT TRENTHAM

For just a couple of days during National Environment Week, it looked as if a venue near Stoke-on-Trent had made a quantum leap into the 21st Century, when Trentham Gardens became the site for "Move Electric '91", described by its organisers, the Electric Vehicle Association, as a showplace of worldbeating British and Continental EV technology. According to Colin Edwards and Jeremy Kunz of Trinity Trade Exhibitions Ltd. who are to be commended for taking on such an innovative expo.

"We sold 45 stands, about 80% of those on offer. As far as promotion is concerned, we are delighted to report that attendance over the two days has totalled 859 visitors."

Most of the exhibitors who decided to take space are manufacturers of component parts, rather than from the vehicle builders, although we were able to count a total 54 electric vehicles inside and out. These range from motorcycles, motor-tricycles, golfcarts, personnel carriers, cleaning machines, stackers, flatbeds not to mention the sign:

"CROSS OVER BRIDGE FOR
DEMONSTRATION OF
ELECTRIC BOATS"

In the indoor Features area, visitors to Move Electric could inspect the 15ft **An Stradag** hydroplane, current holder of the World Electric Water Speed Record at 50.8 mph, and Richelle (St Richards's Electric) school bus,

overall winner of the 1990 BP Buildacar Contest. The nearest stand was exhibiting four ev's specifically designed for the elderly and handicapped and manufactured by SAE Afrikim of Israel.

The International Conference, entitled "Electric Vehicles for Europe Today and Tomorrow" was attended by 88 delegates from as far afield as Brazil, Germany, Italy, Luxembourg, Greece, France, Belgium, the Netherlands, Denmark, Mexico and Spain. One delegate's place was also given to all exhibitors. Day One concerned itself with "Developments in Battery Capability and Vehicle Design", with speakers from the USA, Germany, France and the



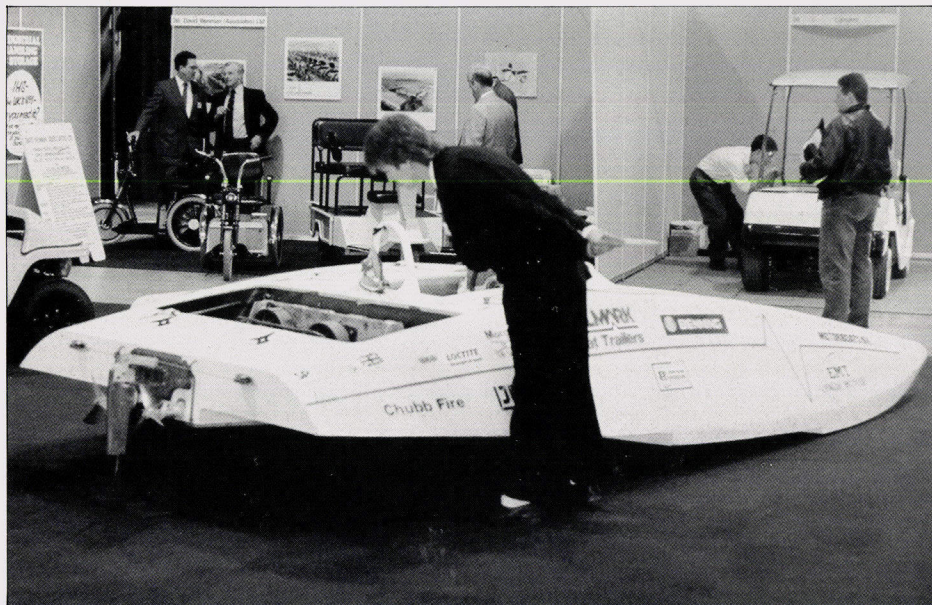
Move Electric '91.



Your Chairman learns how to drive the "El-Trans".
(Photo: David Owen, Powergen).

UK presenting the latest innovations in components pushing back the energy-density frontiers of various battery types (lead-acid, nickel-cadmium, sodium-sulphur, fuel cell), then elaborating on more efficient motors, battery chargers, electronic controllers, battery-monitoring and microprocessor control management of the entire drive system.

Day Two tackled "The Electric Vehicle Market" included ev application progress in Europe and Southern California, not to mention a very fine slide-show paper delivered by Paul Wagstaffe (BMIF) on the past, present and future of electric boats. It was a full programme, working out at 15-20 minutes per speaker and giving little time for questions. There will however be a conference proceedings book put together for delegates by the EVA, which may



As always, An Stradag created interest at "Move Electric '91".



Our Stand at Move Electric '91. Victor "Babs" Johnson explains the intricacies of a Motorguide.

well give indications as to where to next.

Apart from acting as a reporter for this show, the writer of this article also went up to Trentham Gardens wearing his hat as Chairman of the Electric Boat Association.

Our Stand 45, half financed by BABS Ltd, the Motor Guide outboard agents — had five MotorGuides on show (as well as the one powering the dinghy on Trentham Lake). There was the STAELCO propulsion unit, a Curtis Instruments poster, an Eastern Electricity Board display and some Combi outboard posters.

We also exhibited, for the very first, our new EBA pennant (see below).

Giving out a pile of EBA membership literature to passers-by, I can honestly report that thanks to Move Electric 91, we made more people in the electric vehicle business, at home and abroad, aware of our growing existence and needs for the future in just two days, than we might have done in a year. Despite driving rain, the redoubtable Gillian Nahum of the Steam and Electric Launch Company continued to give trips on the lake to visitors until the cold got the better of her!



The El-Trans, a state-of-the-art electric urban car, produced by Denmark for the roads. What might we produce for the water...

SCIENTIFIC PROOF?

We recently received a most interesting communication from Professor J Gwynfryn Jones, Director of the Windermere Laboratory of the Institute of Freshwater Ecology. Enclosed was a paper entitled "Sedimentary Record of Polycyclic Aromatic and Aliphatic Hydrocarbons in the Windermere Catchment" by Dr. Peter Cranwell and V.K. Koul. Immensely well-researched, the conclusion is made that "throughout the present century Windermere has received input of aliphatic hydrocarbons derived from oil products: sewage input, road runoff and leisure motor boat use are probable major sources."

In his accompanying letter, Professor Jones states: "Although we have attempted to obtain funding for such research for some considerable time we have been unsuccessful."

The National Environment Research Council's 1988-89 Report adds:

"Fossil fuel hydrocarbon concentrations are greater in sediment adjacent to boat mooring and fuelling facilities than at the mid-lake North Basin site. Indications of lower pollution levels in lakes lacking motorboats suggests that the latter make a significant input to Windermere."

What does this mean? Well, as one example, the *Vendace*, a small-sized freshwater fish, has inhabited a handful of British lakes since the end of the last Ice Age. Although legally protected under the Wildlife and Countryside Act, unless something is done, there may only be one fate left for this fish — extinction.

Peter Harrison Chaplin of the Meadhurst Park Nursery, Sunbury, has also recalled how back in the 1950's, a Dr Kenneth Post, Professor of floriculture at Cornell University, carried out detailed research work on the effect of exhaust gases on flowers and plants: in the mid-fifties Dr Post was in the UK for a short spell and looked into the problem of diesel fumes "sending flowers to sleep" which can result in the loss of viable seed. Flowers or plants so damaged failed to revive.

Perhaps one or two other scientific bodies should carry out some detailed research into these problems — before it is too late. ●

USER GROUP



SPRING MEETING.



On May 25th, just nine days after Move Electric 91, eighty-seven EBA members and enthusiasts, including Dr Hans Asyee, co-founder of our sister Dutch Electric Boat Association, arrived at Bourne End, Bucks, for the User Group Spring Meeting where thanks to the hospitality of U.G. Chairman Edward Hawthorne and his wife Dinnie, we were all able to thoroughly enjoy ourselves in lovely sunny weather.

With everyone seated under the marquee, following a welcoming speech by Chairman Hawthorne, Paul Wagstaffe gave the same excellent slide-show as he had done at Trentham. Then Rear-Admiral Percy Gick presented the Emsworth Trophy to Treasurer Fraser Brown for having made the longest cruise for 1990 in his electric narrowboat. Next came an up-date from your Chairman, urging you all to take a more participatory role in our Association's future. "Getting The Best Out of Your Electric Boat" saw a question-and-answer session between Users and Trade concerning batteries, chargers, motors etc.

A delicious buffet lunch was enjoyed by all, including the



Bourne End Spring Meeting: Lunch on the lawn.

television presenter, Frank Bough, who wants to replace his troublesome Slipper with something simpler and had come with new member, Lynn Lewis of "Nauticalia".

With additional visitors in the afternoon, "Try-A-Boat" proved yet again that electric boating is an unforgettable experience and a great deal of fun. Rupert Latham in STAELCO's canoe, Ivor Bernstein in his Frolic *Cobweb*, Denis Tye in his Mystic *Electra*, Paul and Pat Wagstaffe in *Wagtail V*, Hugh Cundall in his MinnKota-engined skiff *QT*, John Piercey with Gibbs Marine's *Electrocraft* playboat,

Cedric Lynch in his solar-canoe and the Hawthorne's faithful *Dynia* and latest *Mystere* gave everyone a spin along the reach between Cookham and Bourne End Bridges. Once again, congratulations to all who made this long-awaited meeting possible.

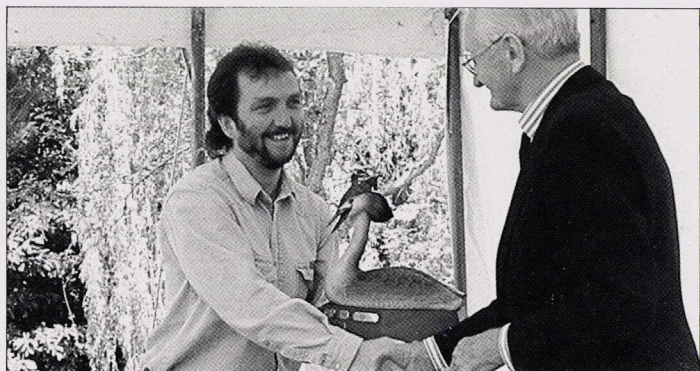
(Editor's Note: At the Meeting, we gave out an EBA questionnaire to those present. Some of you took the trouble to fill it in. Thank you. So that all members get the chance to direct the future destiny of our Association, a copy of this questionnaire has been inserted into this issue, **Please fill it in and return it to us ASAP.**) ●



A variety of 'electrics' at the Bourne End Spring Meeting. It'll take all sorts . . .



Bourne End: Left Mr Latham (STAELCO), to the right Mr Barrel (TELCO). In between Hans and Betty Asyee (Netherlands).



EBA Treasurer Fraser Brown receives the Emsworth Trophy from its donor, EBA President Rear-Admiral Percy Gick.

WARGRAVE IV

Again, just two weeks later, the Fourth Wargrave Electric Boat Rally was held from Adrian Tilbury's Swancraft jetty at midday on Saturday June 8th. Once again there was a wide range of some nineteen florally-bedecked vessels. Largest in the fleet was the 50ft *Humble*, re-electrified after sixty years, with the 30-footers *Saunders* and *Wagtail V*, a gaggle of eight Frolics (reviewed by Admiral Latham in *Millers Lass* canoe, right down to some very attractive little 14-15 footers (*Natalie*, *Longfellow*, *QT*, *Willow VI*, and *Pacer Whisper*). Leaving the jetty, the silent parade cruised down river and then turned to cruise up the Lodden to "Laughing Water", the home of Dick and Maggie Goodall. Dick will soon be taking part in the Wargrave rally as he has located and is having restored, the *Tench*, one of Andrews of Maidenhead's fleet which plied for hire some ninety years ago. The rally coincided with the Wargrave Festival so that after picnic lunches there was an opportunity to visit a number of interlinking gardens in the Lodden area. As in previous years, there was a



Wargrave '91: Ready for the off.

competition for the best decorated boat. The winners, Robin and Eve Benthem from Caversham with their *Bluebottle*, delightfully bedecked with bluebottles and blue balloons, were presented with the engraved crystal decanter to keep for a year. With the forecast rain holding off, Messrs Barge and Butler are to be congratulated on another fine gathering.

Without doubt, Wargrave has become the finest showcase of traditionally-styled electrics anywhere. Photographically, its influence on getting people to "cruise electric" around the world is immeasurable. Next year, perhaps they can organise something zany like a Choreograph Contest or a Teddy Bears' Picnic...



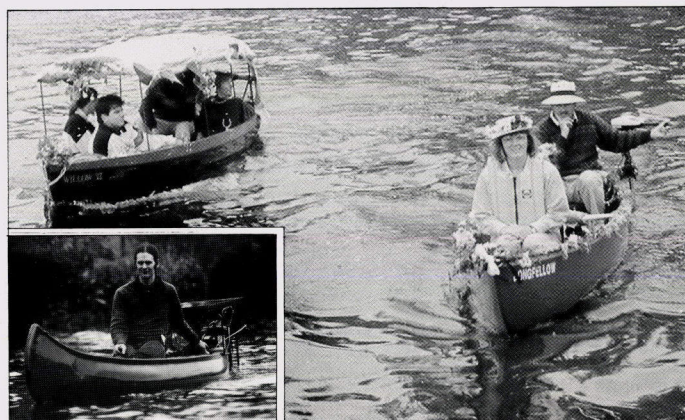
Wargrave '91: A wide variety of electrics.



Edward and Dinnie Hawthorne came in their brand-new *Mystère*.



Bluebottle won the Wargrave crystal decanter.



Cedric Lynch came with his solar powered canoe.

The smaller boats came too...

OUR NEW PENNANT

Be it the Union Jack, Stars and Stripes, Skull and Crossbones, flags and pennants certainly tell others what you are about. Following our previous ventures with a coffee mug, a blue and red pennant and a grebe sticker, using a designed volunteered by member Jim Andrews of Windermere, we have commissioned River Mill Flags Ltd to make us a limited batch of new EBA pennants. Environmentally green, we hope that this carefully chosen design will prompt people to ask all about us. The price, including postage and packing is £9.50. Please make cheques payable to Electric Boat Association and send to Fraser Brown, the Mouse Hole, Abbey Road, Knaresborough HG5 8HX ●



Our new pennant—on the bows of Hugh Cundall's QT.

LAKELAND NEWS

On a recent trip to Windermere (the kids' half term) "Sparks" was very encouraged by developments in Cumbria. At ever-popular Bowness, an electric Frolic 21 is now plying for hire from "The Old England Hotel". Called **Old England I**, it is run by chartered engineer Tim Bell of the Windermere Electric Boat Hire Co. You can drive it yourself or hire a Guide with local knowledge of the lake. **Old England I** is fully equipped with a Boat-to-Shore Radio and Depth Sounder. (Please enquire and book by phoning Windermere 88658).

Not far away, on neighbouring Coniston Water, the Boating Centre has begun to hire out the first two Mystics, recharging them from the same jetty as the fleet of petrol-outboard cabin boats they will gradually be replacing. According to "Hughie" who runs the show, they're even stable in a Force 5, and in calmer weather they only need recharging every other day. So far they have not been officially named, although to those who run them they are nicknamed **Maggie** and **Denis** (!)

Visits to both Derwent Water and Ullswater showed that a brace of diesel-engined waterbuses per lake are still in buzzing operation, together with a gaggle of petrol-outboard dayboats. But for how much longer, one wonders?

On May 31st, the local "Westmorland Gazette" published a front-page article, in which Lake District National Park Officer John Toothill suggested that a 10 mph speed limit for boats would be the simplest way of tackling the problems facing Windermere—ie. 10,000 power-driven vessels registered on the lake. The restriction would mean fewer boats using the lake and less noise. In a report to the planning committee, Mr Toothill said that measures to tackle the problem might stand a better chance of being introduced if brought in as part of new bylaws.

It is however unlikely that such a drastic measure will be accepted as it would upset the vested interests of those who derive their trade from both speedboating, water-skiing and jet-skiing. So the operative word seems to be **WOULD**.

Having studied the problem, there is far greater room for noise—rather than speed—reduction on the lake. After all, if the Windermere Steamboat Museum with its whisper-quiet engines can become so popular—then there must certainly be plenty of room for quieter electric waterbuses, hireboats, outboards—and maybe the occasional 93/4mph speedboat! ●

Out on hire: The first of the Mystic fleet at Coniston Boating Centre.



Coniston Water. To the left: The outgoing fleet of petrol dayboats. To the right: The first two electric Mystic dayboats. In the centre "Hughie".



FROM DOWN UNDER, MATE!

In the May issue of "Modern Boating", published in Alexandria New South Wales, Australia, there was an article entitled "Ohm Sweet Ohm" — not the one published in "Motorboats Monthly", but a different version by KD. It concluded:

"Anyone interested in 'Cleaning Up Australia Afloat' should contact the Chairman, EBA, etc."

Recalling how as long ago as 1884, a wood-built screw launch, the **Australia** was fitted with an electric motor, it was encouraging to receive news from a Mr Graeme Daniels of Lincoln Wooden Boatworks, Port Lincoln, South Australia, that his yard recently launched the Daniels electric launch — a 23ft Philip Bolger designed fantail launch, propelled by a 5hp 48V DC traction motor powered by four 200 a/H 12 volt batteries. The hull is built of cedar, sheathed in grp. Steve Daniels, who has joined the EBA, adds — "We are currently building production moulds and will be ready with the first boats early next year". We wish Graham the best of luck!

Also in response to the "Modern Boating" article, we heard from A. Boucaut-Jones, Principle of Encounter Coast Outdoor School, Victor Harbour, South Australia. They operate an Adventure and Environmental Education Business into the Coorong National Park, a shallow wetland/sand dune wilderness rich in birdlife. Mr Jones has indicated his intention of converting his fleet of cruise boats to electric propulsion.

Similarly we received requests for technical information from Bill Elliott of Madora Bay (Western Australia), John Brodie of Mount Eliza (Victoria), Ken Butcher of Hahndorf (South Australia), N. Heran of Cornubia, (Queensland) and Graeme Attey of Hycos Pty Ltd, Fremantle, (Western Australia), and R. Boulton of Queenstown (New Zealand).

Given our two current Australian EBA members: Mr Slayter of Mossman and Mr Shoebridge of Dora Creek (both NSW), we wonder whether this might not have sparked off the Aussie EBA? Time will tell . . .

Down Under: The Daniels 23'. ▷

STARS & STRIPES



Stars & Strips: On board the Elco fantail.

Despite some setbacks, a letter from Joseph Fleming III, Elco's Vice-President Engineering states:

"I would like to discuss the type of activities that EBA would like to see in the United States. From past correspondence and from people I know in the industry we could probably round up three or four members. How about forwarding the EBA Bye-Laws for us to use as guidelines for our Chapter? We feel that the best water foul to represent electric boating in our country would be the Swan.

"We have a major mail order catalog interested in the electric speedboat and the attention of a major US marine manufacturer.

The electric speedboat is designed around today's technology. It will have a top speed of 12 mph on electric power, and top speed of 18 mph if an auxiliary generator is kicked in. It will sit 4 people people comfortably. The design was developed by Elco and Sunwise Energy Systems of Chicago, Illinois and it was presented to OMC at a meeting of the 14 boat division presidents.

"There is growing interest in electric boats in the US. We will be contacting you with our progress."

(Editor's Note: A description of EBA activities was mailed out to Elco soon after this letter was received.) ●



OUR LITTLE SISTER

Last issue mentioned the birth of EBA's little sister in the Netherlands. We are pleased to say that she is doing well. The "Stichting Electrisch Varen" is a non-profit foundation, aiming to demonstrate to the country's large group of motorboat enthusiasts the many advantages of electric propulsion over the traditional explosion motor.

This is especially valid in specific areas with vulnerable flora and fauna, or in places with a high density of motorboats, for instance the Giethoorn district. Giethoorn, a popular tourist attraction nicknamed the Venice of the Netherlands is a little town in the middle east of the country, and known because of its characteristic network of small canals between the houses in lieu of roads. During the season, many hundreds of rental boats operate bow to stern through these canals, and even one way traffic had to be introduced. Meanwhile noise and exhaust fumes definitely have reached intolerable levels. After a rather long battle lasting many years, finally legislation was introduced ordering by August 1993 all rental motor boats to be equipped with electric motors, the local government providing the necessary charging stations. As the rental fleet is by far the largest

fraction of motorboats in the area, it is evident that the skies will be clear again in summer 1993. And all this without a financial disadvantage: overall electric propulsion turns out to be cheaper than the traditional outboards, because of the intensive use made of these rental boats.

In the lake district of Reeuwijk (a little town near Gouda), where SEV was born, half a dozen of electric outboards are in use already for some time. Recently the first two of a series of electric inboards were added to the fleet, an imported Voltaire 18 from Duffield Marine, followed by a 19ft flat named *Annfleur*, built locally, and equipped with two 1.1 kw engines. The *Annfleur* performs remarkably well and attracts considerable attention. She kept pace with a similar hull propelled by a HP diesel engine, and has a battery capacity allowing to cruise at hull speed for 15 hours.

SEV plans a major demonstration of electric boats in the Reeuwijk area, later this summer. This will be the first of its kind in Holland, and should attract wide attention. We look forward to receiving assistance from overseas, in particular the UK sending us some nice weather we need so badly . . . **Hans Asyee.**

SOLAR UPDATE

That the solar sport afloat has come to stay was evidenced on 17th March this year, at the General Assembly of the International Motornautical Union in Monaco. Proposal Number 39, made by Great Britain and supported by France, Denmark, Sweden and Norway was that a new International Classes be accepted — for electrically-propelled boats, subdivided into two categories: battery and solar. The proposal received the almost unanimous vote of the delegates of 22 countries (5 abstentions) — hence accepted globally.

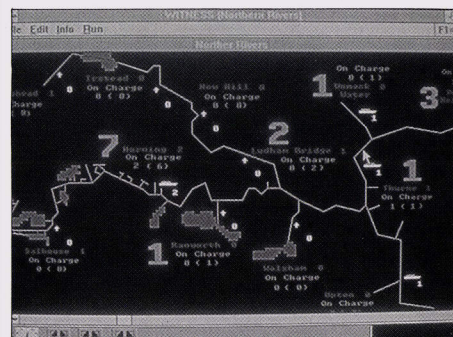
To begin to work out more detailed power-weight rule specifications, on July 6/7th at Casale Monferrato on the River Po, there was a 60 Km circuit race, closely observed by Raffaele Chiulli, President of the International Pleasure Navigation Commission, together with

officials of the Italian Motornautical Federation and experts from the Centre for the Promotion and Development of Electrical Propulsion Systems.

Also during this summer, the Second Longines Trophy series is being held between June 1st and September 8th, ranging in venues from Sardinia, to Sicily, Capri, Cote d'Azur, Spain, Lake of Constance and Venice. There will be of course be Swiss races as well.

Without doubt, on everybody's lips will be the Telefunken laser-grooved silicon solar cell, with its greater receptivity to the sun's energy (17%). This Australian innovation, which enabled the Swiss *Spirit of Biel/Bienne II* to win the 3000 km World Solar Challenge car race from Darwin to Adelaide last November, is due to go into manufacture in Spain at the end of the year. It will also be manufactured by BP Solar. ●

WHY RISK IT SIMULATE IT!



One of the uncertainties with introducing an electric weekly hire fleet is to decide how many charge points are required and where these should be sited. Eastern Electricity plc has come up with the answer: a computer program which allows different charge point infrastructures to be analysed. At present the program has been developed for the Norfolk Broads Northern Rivers network, but there is no reason why the same techniques could not be used for any other inland holiday cruising area.

The program is based on a commercial graphical simulation package. Although the software was primarily developed for simulating manufacturing processes it has been adapted by Howard Kendray, a member of Eastern Electricity's Management Services Unit, to aid the decision making on setting up the charge point network for electric boating. Howard has written several simulations since joining Management Services after working as a computer programmer and systems analyst, though none has been as inspiring as this one.

The simulation is easy to understand as it allows the viewer to see exactly what is happening. In brief, the screen gives such details as electric boats currently heading towards, moored and 'on charge' at each location simulated. Other information relevant to decision making is gathered by the program, for example, the current state of each boat's battery and route taken.

To enable "what if" questions to be answered, many aspects of the simulation can be changed before re-running the program using the same data as for previous simulations. In this way true comparisons between different charge point structures can be

PLUGS & SOCKETS

Maréchal's Safe Switching

What is a Decontactor ?

Maréchal's is an industrial plug and socket equipped with a switching facility for the making and breaking, on load, of electrical circuits. The DS range of decontactors runs from 16A to 250A at a maximum of 660v. It is designed as a modular system which enables the user to make up different configurations, e.g. panel mounted sockets, appliance inlets, in line connections etc., from standard modules to suit his requirements.

Performance

The DS1 decontactor has a thermal current rating of 30A at either 240 or 380 volts and will make and break 30 amperes (+/- 10%) on load as a switch at either 240v or 380v. The need for two sockets at the charging point or on the pontoon to cater separately for 16 and 32 amperes is therefore negated. Maréchal sockets are recommended by British Waterways for the connection of charging points ashore to the vessel. (Boat Standards clause C24, issued Nov.1990)

Safety

The UK supply voltage of 240v at 50Hz frequency is a potential killer. In many instances the

Why Risk It...

made. To give flexibility variable parameters include: number of days cruising; number of boats; number and location of charge points; average cruising speed and battery capacity.

With any computer simulation accuracy of results depends on accuracy of data. With this in mind Eastern Electricity intend to liaise closely with the Norfolk Broads Authority with the aim of gathering up-to-date information on the habits (boating ones only)! of holiday makers on the Norfolk Broads.

The simulation should then be ready to give confidence and insight to those who have to make the decisions on "electrification on the Broads", in fact you could say it will replace guess work by "DECISION WITH VISION".

Any queries on the simulation can be made to Howard Kendray. Tel: Ipswich (0473) 688688. ●



Maréchal DS type decontactor.

inserting of a plug into a socket requires the user to hold the plug in one hand and the socket in the other, giving rise to the 'across the heart' connection. Faulty products in wet environments in these instances can be fatal. Maréchal's DS sockets and plug bodies are manufactured from glassfibre reinforced polyester, which not only withstand onerous conditions but also provide double insulation. They are safe to handle.

Conductor terminals in both plug and socket are of patented design which prevents loosening. Loose terminals increase resistance and lead to overheating and final breakdown. The earth contact accepts the same size conductor as the phase contacts and it makes first and breaks last.

A safety shutter shields the live contacts in the socket from fingers and implements and will only allow a plug configured to the same voltage position as the socket to be inserted. The DS has 24 such non-interchangeable polarised positions.

As a switch, the DS is capable of making and breaking on load without the need for an isolator. Even if not used as a switch, the top-mounted release latch enables the load to be broken in an emergency and in complete safety. This facility is available in an ejecting version.

The combination of the safety shutter and the load-break facilities make for an extremely safe trailing socket configuration: viz the shutter will prevent a 110v plug being inserted into a 240v trailing socket whilst the load break facility enables a 30A load to be broken safely. (The DS range can break up to 250A on-load).

Security

A potential problem with financial consequences of having an electric socket outlet installed in a public place, or in a place where the public might gain access to it, is theft of electricity. The technical problem is that a contaminated plug (with an oxydised pin) will contaminate the corresponding sleeve contact in the socket. This will degrade the electrical contact and probably lead to socket failure at a future time. Maréchal can counter this potential breach in security in a number of ways.

The safety shutter, with its 24 voltage positions is multi-functional. It shields the live contacts from physical contact. It polarises the contacts to prevent intermating of dissimilar voltages. However, assuming one operating voltage (say 240v), several different positions are also available for security positioning. This means that a double socket outlet on a pontoon could both be at 240v but still not interchange as one socket is configured to position 04 whilst the other is at 05. As no other plug can fit into a Maréchal socket, this can cut down considerably the opportunities of socket abuse.

A padlockable or a triangular screw lock latch, as an option, provide yet further control of access to the socket. In addition, with the plug inserted in the socket and the padlock in place, it is impossible for the latch to be operated and therefore the plug to be removed. This facility ensures, say, uninterrupted overnight boat charging or supply and secure generator connections.

For further information on Maréchal's DS1 Range please contact Stephen Thackray on 0244 880079. ●