

Electric Boats - Future Purrfect?



Long ago, in the late 19th century, before the internal combustion engine, there were electric boats on Britain's waterways, sleek and efficient, carrying substantial loads for relatively little energy. From 1888, when the 65ft Viscountess Bury began Thames day trips with up to 80 passengers, electric boating expanded and people enjoyed a quiet alternative to muscle power and sail.

Diesel and petrol changed all that. For a while, boats retained their sleekness but with the mass market of the '50s and '60s, broad beamed cruisers arrived to churn the waterways and push tonnes of water before them, leaving back wash and bank erosion in their wake. Hull efficiency was sacrificed to greater living space and profligate energy consumption.

The trade-off continues. On the Broads, which must compete with foreign holidays destinations, fat diesels prevail and, with the capital investment now involved, diesel will do so for some time, for electric propulsion cannot, even with the latest technology, generate the power to propel those floating bungalows.

And yet despite its shortcomings, diminishing though they are, electricity has already reclaimed some of the day boat market. Borrowing heavily from forklift technology whose batteries and controllers are directly transferable, electric boats are now the equal of petrol or diesel launches under modern speed limits, and hirers can breathe clean air and actually hear the birds sing.

Phoenix Fleet of Potter Heigham built its first electric day boat in 1982, the first on the Broads and possibly in the country. Its hire fleet now includes two of its latest, 12 seater, Phoenix 21 design which has also been sold on other rivers including the Thames.

Inevitably, there were problems in convincing people that electric boats could go the distance, according to Phoenix's Robin Richardson. But he tells the story of one early hire party:

'They collected the boat at 8.30am and went to Coltishall, via South Walsham, Ranworth, Salhouse and Wroxham Broads. Then it was Barton, Weyford, Stalham and Sutton, and back through Potter Heigham Bridge at 4.00pm, going up to Hickling, Horsey and Somerton and returning here, albeit rather slowly, at 6.00pm. They hadn't stopped and were probably pushing the speed limit but they did nearly sixty miles. You couldn't do that now because the speed limits are lower but that makes electric boats even more competitive.'

Customer resistance finally disappeared in the mid-'90s by which time other hire companies were in the market. Now the Broads have more electric hire boats than any other British river system although the Thames has more private craft; after all, if you can afford a Thames riverfront, you can probably afford ten or fifteen thousand pounds for a launch just to motor up to the pub occasionally.

John Williams, boat builder of Stalham, is East Anglian representative of the Electric Boat Association, founded in 1982 to promote electric boating for builders, owners and anyone interested. He also skips the Liana, an electric launch operated and chartered by the Broads Authority.



A few years ago, he designed and built a 12 seater electric powered water taxi, the first of many destined for the South African market to where production was subsequently moved. But an order from British Waterways has restarted domestic production and another boat will be heading for the Lake District next year. Enthusiastic for electric propulsion though he is, he sees electrically propelled

cruisers as some way off.

'Electric boats need firstly a low drag factor to minimise energy use. Most cruisers don't have that. Second, they need sufficient buoyancy to carry half a tonne of batteries.'

He thinks an interim measure could involve solar power to minimise or even dispense with recharging time.

'But you can't simply take the diesel engine out of a boat and put in half a tonne of batteries and an electric engine because it won't work. If electric cruising is to gain ground, the whole concept of holiday boating has to change and we have to get back to boats which are fine in the bow and go through the water like a knife.'



as they are now.'

Which, as it happens, is what Creative Marine have done for some time, building their small river craft with GRP hulls and finishes in pine, ash and mahogany. From their Aylsham factory, partners Simon Read and Roy Lawson, turn out nine different designs to order, most of them electric powered and many going to the Thames, perhaps for that occasional potter up to the pub. Their boats have an Edwardian feel to them and they intend to keep it that way.

'Our moulds will never go out of fashion' says Simon. 'They'll be as sought after in 50 years time

But that is a select niche and still one for day boats. Further thoughts on cruisers come from designer and builder of electric motors, Cedric Lynch of the Lynch Electric Motor Company; he takes up the solar theme.

'All motor boats on the Broads should or could be solar powered' he says flatly. 'It is certainly technically feasible, given necessary hull redesign. The problems are firstly people not believing it's possible and secondly cost. Solar panels cost about £5-£6 a watt which makes a 60 watt panel - about half a square metre - about £300 or so. But prices are falling and while some people might use, say, a 15hp outboard on a four berth cruiser, they actually need less than one horsepower. In the old days, a 100 ton canal barge was pulled by a horse and a horse walking slowly is less than one horse power, and one horsepower is 746 watts.'

Another idea is mooted by Brian Ellis of Landcare Environmental Services which makes solar powered generators for such things as temporary traffic lights and cattle fencing. He suggests energy gathering stations with solar panels and small wind generators into which boats could plug, perhaps three or four at a time, though the station would then need time to recharge its own batteries.

But boat designer, Andrew Wolstenholme, is another who thinks that despite solar energy, the quantum leap to electrically propelled cruisers is well into the future.

'If hirers were careful with their power, it could work. But Broads holidaymakers mostly aren't like that. They simply want to cover as much ground as they can. Green propulsion doesn't particularly concern them.'



He, too, points to competition from foreign holiday destinations.

'If you add the challenge of electric cruising - particularly major investment in hull redesign - to the problem of attracting people to the Broads, the sums don't add up.'

But that is still no reason to be defeatist.

'We have to sow seeds for the future. Whereas the present holiday maker has been

brought up on big engines, the generation now growing up is more environmentally aware. They will be more ready to accept it. The rivers should be places of peace and quiet.'

Indeed, and of purring rather than chugging or roaring boats. And it will be nice to hear the birds again.

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