



**CANOEING
MAGAZINE**

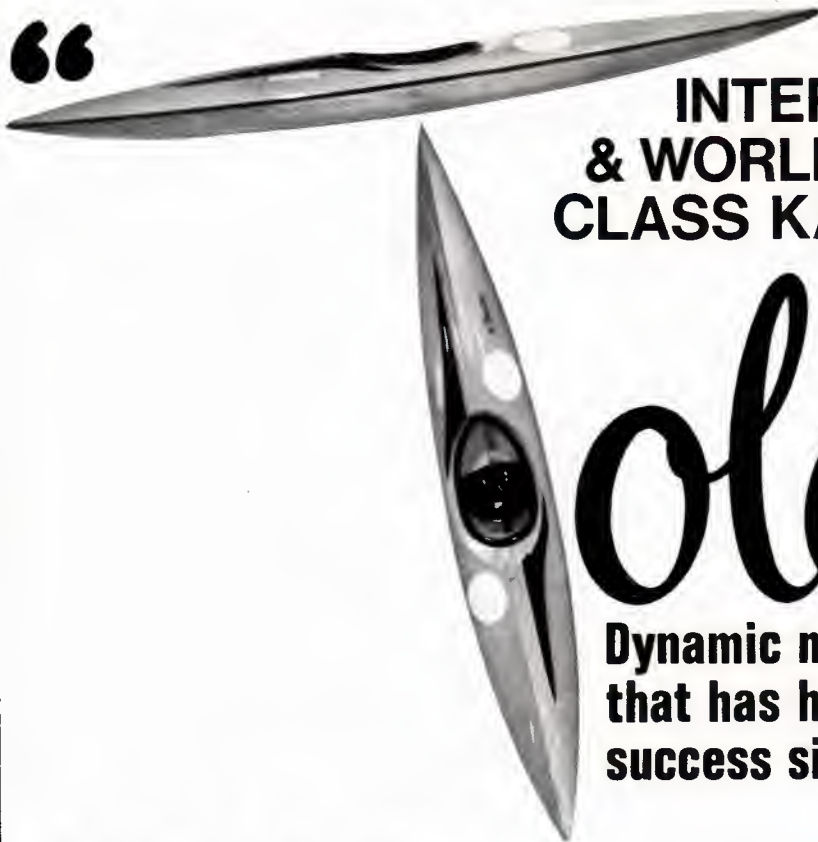
SURF SPECIAL

July-August 1974 25p

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SURF SPECIAL

The total of this issue of Canoeing Magazine is devoted to a new and fast growing side of our sport – that of **SURF CANOEING**. My thanks go to Ernie Phillips for an interesting article and some fine photographs on a surfing expedition to the West Coast of Ireland, and to Frank Goodman for the major article on Surf Technique and some superb cartoons and diagrams.

Mike Clark

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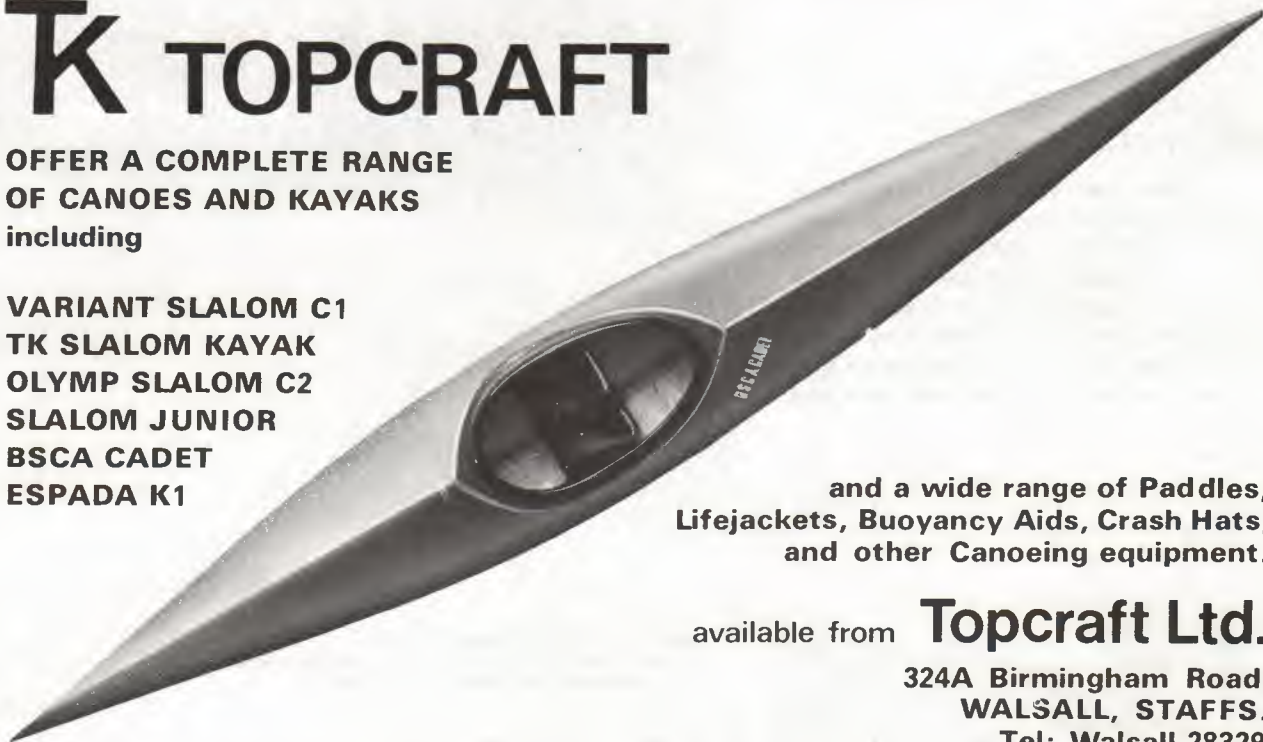
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SEVERN LEAGUE SHOES

Frank Goodman equals world surfing record

The Severn Bore has been ridden for many years now in its estuary section, the favourite starting point being Newnham-on-Severn giving a ride of approximately nine miles to the *'Bird-in-the-Hand'* pub at Minsterworth. This is the course of the now familiar *'Severn Bore Race'*—an annual event organised by the Gloucester Canoe Club. Although it is generally acknowledged that this route was pioneered by Eric Wynter of Tewkesbury—probably the most notable expert on the Bore, at least in its estuary section. Here the front wave is ill-defined, and a long ride on one wave is not feasible, and cunning watermanship is required to remain with the Bore for the whole of the run.

The upper river section of the Bore has a well-defined front wave that can reach 10-feet high on the banks, and moves forward at a rate of 14-miles an hour compared with the leisurely 7-miles an hour in the lower section. Not surprisingly, paddlers have been deterred from tackling this big water flowing so rapidly between steep willow-lined banks.

Small Bores had been attempted, but this section of the river has a series of sharp bends onto which the Bore flings itself with awe-inspiring grandeur, and it was clear that a slalom canoeist, locked broadside on to a breaking wave and to all intents and purposes out of control, could not hope to survive if he was swept on to the steep bank.

The advent of the surf kayaks, with their ability to control themselves even on a breaking wave, made the prospect of survival on the upper section look more promising, and in March 1971, Keith Cooper and Frank Goodman from Nottingham, took to the Severn at Rea and waited for the biggest Bore of the year to appear around the corner from Stonebench. This Bore gave a front wave of about 5-feet, green across the river except for a heavy break on the banks, and a run of about a mile, down the long straight of Rea was made.

In September of the same year,

Mike Evans, Ian Faulkner, and Dick Goodman (brother of Frank), began a run from Rea which resulted in a new World Record by Mike Evans, who managed to stay with the Bore until it finally ran into Maisemore Weir, over 4-miles upstream. The whole run was observed by Eric Wynter from a Buccaneer jet boat, and eventually Mike was credited with the *'Longest run on one wave'* in the Guinness Book of Records, almost doubling the previous best, again on the Severn, by a surf board riding from Rea to Lower Parting.

1974 has been remarkable for its exceptionally high tides, and for those canoeists interested in riding bores, a close look at the tide tables showed them that this year held promise that might well make up for the rather meagre crop of bores in '73. The 9th February was predicted as the highest tide for over 300-years, yet heavy flooding on the River Severn produced one of the poorest bores of the decade! Not an auspicious start! However, 21st July showed a tide level of 31.5-feet at Sharpness, and as anything over 30-foot there will usually give a bore of rideable dimensions, this date, with a possibility of low river water levels to give good definition to the Bore, looked promising.

The Midland Canoe Club decided that the 20th/21st July was to be a *'bore weekend'* and the Sunday morning saw most of them launching at Newnham-on-Severn, but with Dave Patrick driving up to Rea to try the more demanding upper stretch in his new Surfer with Frank Goodman and his Surf Shoe as companion. Both Frank and Dave had been baulked of a run in the February floods and had talked then of having a private competition between the two types of kayak on the Severn Bore, but nothing had been organised. It was pure chance that the two of them came together for a bore ride at Rea and to find that they were the only two to take the water. As it turned out, this ride became the peak experience for

Frank Goodman of his many rides on the Bore. But let Frank continue the story in his own words:

'The Sunday was a bright warm sunny day, in sharp contrast to the gale and bitter cold flood water of February. Dave and I needed only crash helmet and personal buoyancy, and as Keith Cooper arrived from Newnham to say the Bore had been 5-minutes late there, we had plenty of time to climb down the twelve feet of grey-slime bank and launch into the river where we waited, congratulating ourselves on the fact that only we two were paddling. Although the river is a good hundred yards wide at Rea, only a ride close the bank can guarantee a reasonable run, and therefore, a crowd at Rea doesn't help.

After a twenty minute wait, a speed boat rounded the downstream bend and we guessed the Bore must be close. This was confirmed by the speedboat driver, who slowed to have a word with us, but when the Bore finally swung round the bend we saw that another inflatable was also riding the second wave.

It was not a massive Bore, but about four feet high in the middle, and as it settled down after rounding the bend, the front wave steepened and began to break across almost the full width of the river. Not a pretty sight, sunbeam, as a breaking bore means a tough turbulent ride with no let-up, and once on the Severn at Rea you are committed—there is no chance of chickening out and scrambling up the slippery bank—you've got to go!

Dave was a little further downstream than I, and as I picked up the front wave with a couple of hard strokes, he came surfing up alongside between me and the bank. Luckily the Bore was very steep and the break continued far out from the bank and I was able to stay on the wave easily and yet still give Dave plenty of room around the first minor obstacle—a log lying at right-angles to the bank, and well out into the stream.

Three's a crowd on the Bore however—the speed-boat had become curious and had moved nearer to us for a closer inspection, keeping several yards ahead of the front wave, just in the right position for its wake to upset the Bore which had now ceased to break. We swung wildly across the wake, but the green wave

now gave us a quieter ride and we coped. This spot, about three quarters of the way along the 'straight mile' above Rea is a place where the Bore often slumps and becomes unridable, but although the wave went green, it kept its steep front and in another few yards a crashing roar and a violent nudge from behind warned us that the break had again extended well out from the bank.

Dave was now in trouble. Although the inside position is considered favourite, as this gives the best chance to stay on the wave, Dave felt hemmed in by me, creaming along some ten feet to his left, and apart from a lot of turbulence from the breaking Bore, that bloody speed-boat was here again! This time the wake swung us about so much that we had all our work cut out to prise stern rudders strong enough to prevent a broach to. Dave and I swung close, touched gently, but as I came back onto course I realized Dave had gone over the top of the wave out of control and was not going to be able to regain the front. I glanced enquiringly at the speed boat who gave a thumbs-up sign and mercifully moved out across the river.

I was on the big sweeping bend to the right now, the wave held firm and I moved round without any trouble. Looking left I saw that the wave was breaking across the river and I knew

that I must reach the left bank if I were to stay with the Bore past Lower Parting.

I started a slow slide to the left and after another three hundred yards arrived safely at the left bank with the Bore still steep but losing its white water. The speed-boats had now turned back over the Bore and I was alone.

Up to this point I had not really thought of emulating Mike's run of 1971, but I saw Lower Parting appear round the slow left-hand bend and realized that I had a chance of reaching the weir at Maisemore if only I could get past the Parting. The river divides here, one arm going up into Gloucester and the other leading under Over Bridge towards Maisemore. Where the river widens, the Bore tends to slump and I crept closer to the bank as the wave slackened.

Closer, and closer, I skimmed the willows, 'This is stupid,' one touch too close and I could be in real trouble, hooked into the willows with the river level rising at an alarming rate behind the Bore. No time to worry now though, as the willows ceased and a pile of ballast on the bank marked the corner of the left arm of the river. The wave grew smaller and I began to paddle hard in a desperate attempt to stay with the wave. Just as I reached exhaustion point there was a violent crunch behind me as the wave sud-

denly picked up, broke, and swept me up to Over Bridge.

Once out on the other side of the bridges (there are two road bridges now at Over), I suddenly realised how tired I was. Two and a half miles of continuous turbulence began to take its toll. Was it tiredness or was there more turbulence above the bridges? I verred drunkenly across the front of the wave, caught my paddle in the upstream calm and capsized. I don't remember rolling, but I remember thinking 'Blast, that's it,' I suddenly realised however, that I was upright and still on top of the wave; two heaves and I shot down the front, and was so amazed to be surfing still that I forgot my tiredness. Maisemore Bridge was ahead, and with a fully broken wave across the river I moved over to the right and just missed a mass of tree banches jammed in the river bed. Under the bridge—there, only a third of a mile away was the sloping face of Maisemore Weir. Suddenly I knew it was possible to make it, but I was desperately tired now, and I had to push with every ounce of energy to hold the Surf Shoe on course; things became harder and harder until I was swinging badly across the still-breaking wave. Three hundred yards to go—this won't do—what happens when you hit the weir, it's three feet high and approaching fast! I aimed for the left bank and



Frank Goodman (front) and Keith Cooper riding a small bore in 1973 at Rea. Photo: B.I.P. Resins.

continued overleaf

raced toward the base of the weir—but I never hit it. The Bore rolled up the weir face and very gently tipped me on to the smooth water on top.

I paddled to the bank, lost both sandals in the mud, and hauled myself and kayak onto the grass, with just time to see the reflection of the Bore that rebounds off Maisemore Weir go pounding off downstream, crashing through the collection of tree-trunks floating up on the tide-race behind the Bore.

Well that was it; I was now joint world record-holder of the longest wave-ride with Mike Evans. So what! My right forearm had completely seized up and I hadn't the energy to cross the field to the road, let alone tramp the two miles back to Over Bridge.

'Good old Goodies—I got a super shot of you coming onto the weir!' It was Keith Cooper, who, annoyed to see me still on the Bore at Over, had driven up to Maisemore, raced across the field and was just in time to get a photograph at the end.

By now the tide-race was pouring over the weir, and there was a two foot drop upstream! Keith hauled my kayak over the grass to his car, I humphed my paddled and began to think about food!

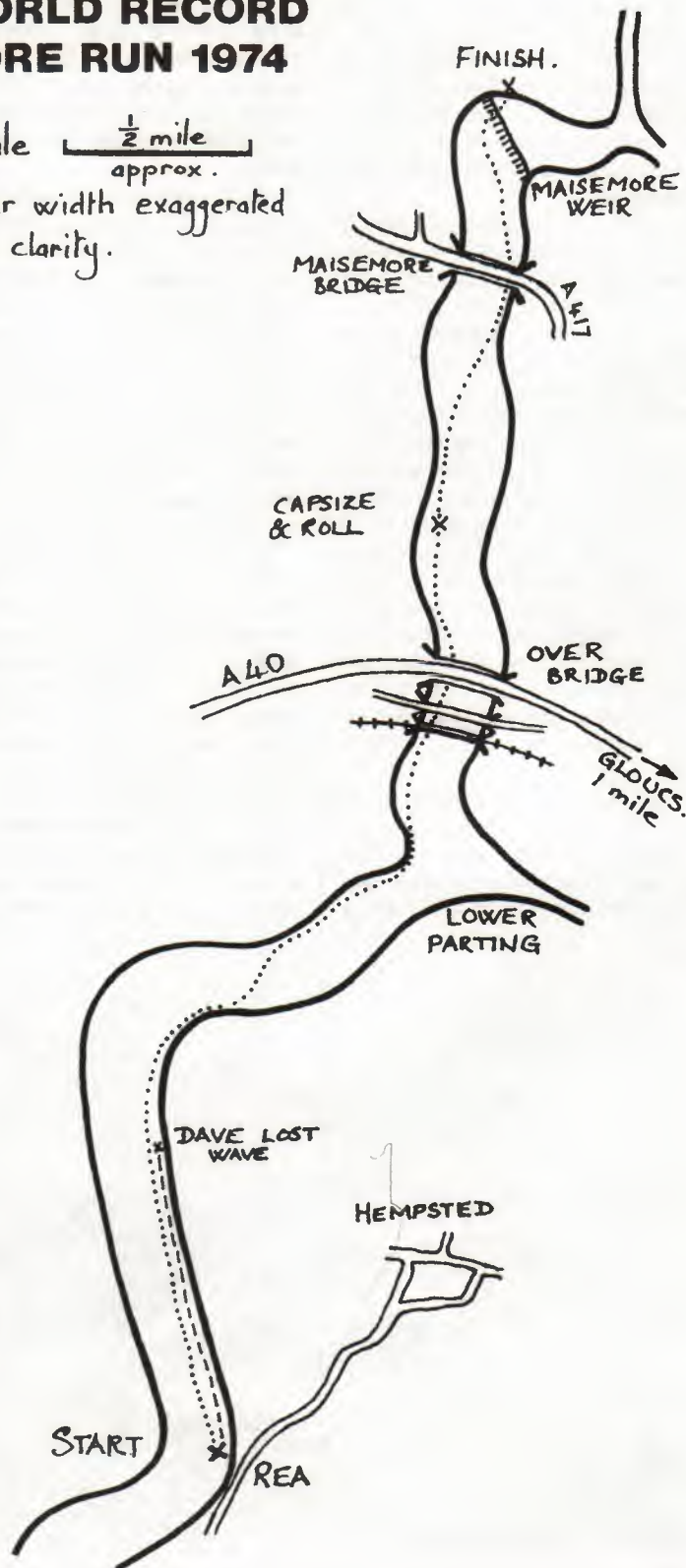
Frank is to be congratulated in collecting a world record at the age of forty-three, and in a Surf Shoe made by his firm to boot!

Surf Shoes have twice now made world record surfing runs, and this, together with their continuous series of firsts in major surfing championships must make the Shoe the supreme surf kayak. However, the right kayak itself does not produce a world record, and it is clear that experience of the ways of the Bore is needed too. The canoeist must be in the right place at the right time, and also be fit enough to withstand the continuous battering that a breaking front wave on the Bore can offer. As Frank himself admits, one reason for his success was that he was still very fit after training for the Irish Sea crossing he made from Wicklow to Aberdoron in June. A major sea crossing of 60-miles in 19 hours and a world record surf of 4-miles in 25 minutes all within 6-weeks will make the summer of seventy-four a memorable one for Frank Goodman.

WORLD RECORD BORE RUN 1974

Scale $\frac{1}{2}$ mile
approx.

river width exaggerated
for clarity.



Surfing is anything but a new sport. Indeed, as a recreation it goes back further than the recognised beginnings of canoesport in John MacGregor. The sport originated in the South Seas among the paradise islands of Tahiti and Hawaii. Today Hawaii attracts top boardsurfers who pit their skill against such famous surf spectaculars as the formidable Banzai Pipeline and Point Surf, while such superb surf beaches as Waimea, Makaha, Sunset, and Haleiwa are held in awe and only talked of with reverence.

Captain James Cook discovered Tahiti (first called Otaheite) in 1777 and the Hawaiian Islands in the following year. At both he also found groups of enthusiastic natives riding huge waves that broke towards the shore. Just how long the Polynesians had been surfing is anyone's guess, but there can be little doubt that the sport they originated will continue to grow and develop in every country that can boast a three-foot wave.

At Tahiti the surf-riders used canoes, while at the Hawaiian Islands the surf-board was in use. However, the development of the sport did not really take hold until the present century, when, in the 1920's the Olympic swimming champion from Hawaii - Duke Kahanamoku - introduced surfing to Australia and the Californian coast of America. With the perfect surf of California, the great 150-pound red-wood board was soon replaced with a lighter balsa-wood board, but it was the introduction of the glassfibre board in the 1950's that brought surfing within the reach of all and even the youngest enthusiast could handle such a surf craft. Today a Mecca of the sport is the surf beaches of Huntingdon and Newport, San Onofre and Dana Point, California - Huntingdon is reputed to be the hottest surf town in the world!

Along with the development of the surf board, a surf ski was designed - longer and slimmer than the board, the surfer sat on the ski and used a paddle to get out to the line-up. Such a surf craft took particular hold in Australia. However, in the late 1960's the Californian surf saw the introduction of the first surf kayak - the Surf Shoe. Designed by Mike Johnson of Costa Mesa, an expert kayaker, the surf kayak was short with stub-nose and stern, and a low flat hull. The kayaker sat in the craft and not on it as with the ski. Highly manoeuvrable and with the kayaker being able to survive a wipe-out, the surf kayak is capable of making far longer runs than the board or the ski. Thus, from the surf canoes of Tahiti in the 16th century, the sport has now come full circle with the surf kayak of the 1970's.

SURF SPORT - FULL CIRCLE

SURF KAYAKS

On the British market, the surf kayak is available from a number of manufacturers:

SURF SHOE original Mike Johnson design:

Valley Canoe Products, Private Road 4, Colwick, Nottingham.

SURFYAK

Wild Water Centre, The Mill, Pateley Bridge, Harrogate, Yorks.

VEGA

The Canoe Centre, 18 Beauchamp Road, Twickenham, Middx.

WEDGE

Gaybo Limited, 4 Rose Hill, Brighton, BN2 3FA.

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Ernie Phillips

SURFING with the leprechauns

photographs by Don Charlesworth and courtesy of P & H Fibreglass Products

British paddlers in search of stoking surf on the West Coast of Ireland

Sealink offer an inexpensive service which takes a car of any size, with up to four passengers, across the Irish Sea for around £30. We originally intended to take an estate car and a trailer full of boats, but in the event it turned out that the trailer would cost more than the car, so that finally seven of us made the trip in two separate cars. As we had practically no hard information as to the best area, we took the Holyhead-Dun Laoghaire crossing, and headed north-west via Mullinger and Boyle to Sligo Bay, travelling easy once clear of Dublin.

The road turns west, along the south side of Sligo Bay to Easky, where we had intended to camp.

However, the promise of inclement weather induced us to move on another six miles or so to Inishcrone, where we were able to get a couple of caravans for the very reasonable cost of 25p each per night.

The Sligo road out of Easky crosses the river bridge and immediately a lane leads off to the sea in a few hundred yards. A sward of the greenest Irish grass has, as a centrepiece, a large ruined stone watch tower or keep, and as we stopped we could see the swell coming in big and green. In a matter of moments, the boats were off the cars, wet suits or drysuits donned according to choice, cameras tripoded, and things were moving. . .

continued overleaf





It has to be admitted that at first sight Easky is a most unlikely looking place for surfing. The river, which drains quite a large area, comes down rapidly between vertical banks over a rocky bed, and discharges immediately into the sea. At one side of the mouth a shallow rock spit runs out, and on the other side is a haven or harbour. There is no beach. It seems reasonable to suppose that over geological time the river current, which flows strongly for some distance out to sea, must have cut a submarine valley a fair way off shore, and this, combined with the shallowing at the sides due to the spit, and perhaps some effect from the harbour, makes a perfect shoulder form at both ends of the wave while it is still well off shore. The shoulders move beautifully across the wave giving an ideal surfing form—sheer poetry in motion.

Double shouldered waves of this shape would normally close in, but here the effect of the river comes into play. As the current begins to make its presence felt, the centre section of the wave is flattened and one can drop off into the fresh water, to have an easy ride back out without having to fight away at the break. What is even more remarkable is that when the sea all round is virtually flat, the mouth of the Easky seems able to produce the most excellent surfing waves, as we noticed on several occasions. How it happens seems to defy any explanation, and one can only conclude that this area must be where the local leprechauns ride—although I didn't manage to catch sight of one myself!

From Inishcrone to Ballysadare is about 35-miles, and the quarter-inch map shows over thirty small lanes leading to the sea in anything up to

half a mile or so in this distance, thus access to the water is very easy. It is mostly a limestone area, consisting of endless masses of all kinds of fossils, some as big as plastic washing-up bowls, with beautiful beaches here and there. Apart from a van-load of board surfers, who turned up for half an hour one day, we didn't see anyone else on the coast the whole time we were in this part of Ireland.

A secondary road from Ballysadare leads to Strandhill in about six miles, where there is a beach about a mile across. When we arrived here a brisk offshore wind was holding the swell up to close inshore. Six foot tubes were well in evidence, calling for a strong arm and a robust boat to survive the crashing force of the water as the waves came roaring in off the Atlantic. Parking is easy, as is the access to the beach, and the facilities include a small cafe-cum-bar which

can supply anything from coffee to potheen! The only person that we saw at Strandhill was a solitary road-sweeper who seemed to spend half an hour leaning on his broom, and half an hour in the otherwise deserted bar knocking back double whiskies. What do they use for money? We never found out . . .

For moderate to average surfers, both Easky and Strandhill could prove a bit of a handful when big stuff is coming in, and it is worth noting that Inishcrone itself has a marvellous beach about a mile long which enjoys the relative shelter of Killala Bay. To cross the bay one has to drive up the river Moy—noted for its salmon fishing—to Ballina, which is a small market town with four or five streets and a handful of shops. Quite a metropolis for this part of the world! It was here that we discovered that garages are closed in Ireland on Sundays, although an owner-occupier out in the country can usually be persuaded to open up by a persistent customer.

continued overleaf





a Shoulder – a Wall – Sheer Enjoyment . . .

SLIGO AND ACHILL

The road north through Killala brings one to Lackan Bay and its marvellous golden sanded beach. The hamlet of Rathlackan is close to hand, whence the coast road leads to Downpatrick Head and another sheltered bay at Bunatrahair. From here on the coast is not accessible by road for about sixteen miles, but it looks most impressive with thousand foot peaks close to the shore—ideal country for a strong sea touring party in good weather conditions.

On the last day we split the party, three going north of Sligo Bay, and the rest to Achill Island on the far west coast. Distances on the map in Ireland are deceptive, and it is a fair distance to Achill Sound and the Bridge over the Atlantic. The tide was going full-bore when we arrived, and must have been the best part of ten knots, so that the car emptied like lightening in spite of the rain which was now falling, as four breaths were sucked and eight eyes boggled. The island is reckoned by most authorities to have the most spectacular coast in the area. Slievemore and Croaghann are both two-thousand two-hundred feet straight out of the sea, and the cliffs on the latter are supposed to be

two-thousand feet up from the water! They can only be seen from a boat.

Keel Strand and Keem Strand face south-west and south respectively, while Doogort about three miles away on the opposite side of the island faces north-west—thus one is never likely to be more than ten minutes away from a good break. Across Blachsod Bay, about four miles away, we could see the southern end of the Mullet with miles of west-facing beaches stretching into the distance—four miles by sea and seventy miles by road. A week in this small area alone would be far too short.



CONCLUSION

What then is the general impression? An endless and solitary coastline, beaches which one dreams about, perfection in surf, the incredible friendliness of the people who live here, plus pubs that can provide anything from a glass of Guinness to a coffin and stay open until two in the morning if you can stand the pace. As a communicative barman said, 'What does it matter? Nobody gets up 'till half past ten here anyway!' But above all there is the sea, the surf, and the magic of Easky. . .

OPINION

It was extra-ordinary how, when there wasn't a ripple anywhere along the coast for some fifty miles north or south, that Easky was pumping in steadily at four to six foot perfection.

The break at Easky river mouth can produce very nearly the ideal situation: cruise out on the river flow with the minimum of effort and then surf your brains out on immaculate waves of almost perfect shape. We are positively going back and hoping for bigger water. (*Apologies for the photographs, but all the best action is on a cine-film!*)

Danny Broadhurst.



Above: Surf so predictable that sets could be shared without the hassle of one surfer claiming the other had stolen his wave . . .



The Easky Wall.



FRANK GOODMAN
looks at

SURF TECHNIQUES

Until nineteen-seventy, most surfing in this country was carried out in slalom kayaks. Unfortunately, since these boats were not designed for surf, they could not hold the shoulder of a wave in the way a surf board, especially designed for that purpose, could pick up a fast moving shoulder and ride long distances parallel to the breakers. The surfer in a slalom kayak developed his own technique to make use of his boat's basic inadequacy in surf. He picked up the green wave, rode it almost at right-angles and then put a final effort into the last few seconds on the ride to complete a loop, pop-out, or pirouette. The good surfer thus put the slalom kayak's pathological addiction to pearl to good use and produced some very fine gymnastic displays, but he was forced to ignore the shoulder run to a considerable extent, since as soon as the correct angle almost parallel to the wave was set, the stern slid down the wave and the canoeist obliged to pull out over the top.

When the Surf Kayak appeared at the beginning of this decade, the British Canoe Union was quick to realize that here was a different fish, and immediately set up a new class for surf kayaks in competition. However, the canoeists themselves were slow to realise the potential of the new design. This was mainly due to a series of National Surfing Championships with poor surf conditions which prevented the surf kayaks from

showing their paces. In 1972 however, on the Wednesday and Thursday before the Nationals, surfers were awakened by the sound of a huge glassy swell pounding the Cornish beaches. Impatient canoeists who on the Tuesday stood around, paddle in hand, complaining about the lack of surf, suddenly discovered that there was shopping to be done in town! Various other disguises were used, some of which are shown. See *Sketch 1*.

Of the few slalom kayaks that did venture out, a large proportion soon limped to shore with severe structural damage, after discovering that the waves were so massive that they were collapsing on top of the kayaks before or during a loop. The Surf Kayaks, on the other hand, had a ball and for the first time in Britain canoeists woke up to the tremendous potential of the Surf Kayak—the following 1973 Championships with an entry of thirty-two surf kayaks proved that the point had been taken . . .

Confusion reigned however, inasmuch that many people were still looking for slalom kayak performance from the surf kayak, and were not able to digest the new style. While in California techniques had developed to a sophisticated level on their superb surf, the unpredictable nature of British surf together with a tide scour that prevents the build-up of suitable shoals to form good quality waves, held back British surfers due to lack of good practice conditions rather than lack of innate ability.

Sketch 1.



Now that surf kayak techniques are beginning to develop in this country, it would perhaps be a good idea to have some definitive notes of the basic techniques that will help newcomers to the sport to develop on sound lines. I hope these notes and diagrams will do just that!

Because of the lack of space—although much of this issue is devoted to surf canoeing—it is not possible to deal with all aspects of surf kayak handling, or with every type of wave. Only a brief summary is possible, diagrams show manoeuvres on 'perfect' waves, and both waves and manoeuvres are stylised for clarity. The photographs give some indication of the real thing, but stills are not ideal, and I have had to use the few shots I have. Surfers on big surf are usually too far from the shore to be photographed except with first-rate equipment, and on really good days the camera has usually been left at home!

THE SURFER

Just as basic strokes learnt separately by the novice canoeist flow together and amalgamate as he becomes proficient, so basic manoeuvres in the hands of an expert surfer dissolve together to give a rhythmic flowing performance. Anyone who has mastered basic canoeing techniques, and can roll with some confidence, can surf with a little practice. No special attributes are needed but I have tried to give an indication of the perfect surfer—see *Sketch 2*.

THE SURF

Many of the individual manoeuvres mentioned in the following text are only possible on large, well-formed surf, but whatever the size or quality, the basic aim is to use the *shoulder* of the wave, staying as close as possible to it to give the longest, fastest ride, and using the energy provided by the wave to add to a well-judged shoulder ride as many additional manoeuvres as taste and skill dictate. When the shoulders are forming well, forward runs, even with manoeuvres, forward loops (*pearling*), and rides in the *soup* are not part of surf kayak technique and should be avoided. However, the surf in this country is often so diabolically bad that shoulders are virtually non-existent and these second-rate techniques are the only ones possible (see under competitive surfing).

Don't be too keen to get on the water until you have had a good look at the scene. Look for the *rip currents* to get you out through the *break-line*

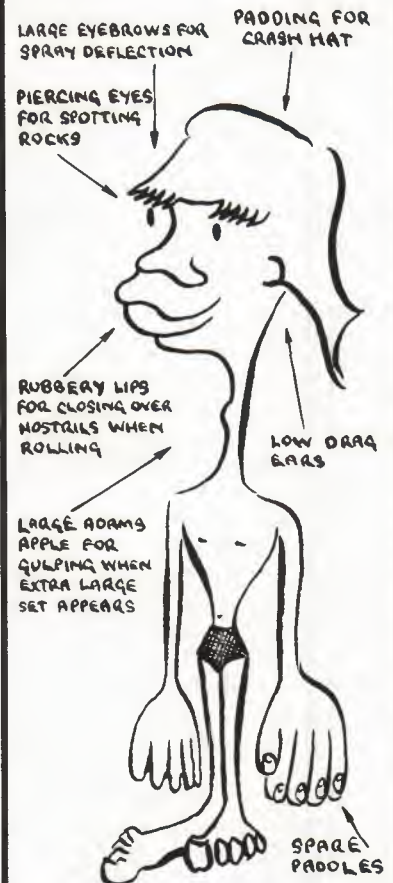
to your *line-up*. Rip currents often have well-shouldered surf on either side of them, as the rip will scour a groove in the sand, leaving shallows on either side. Remember rips can be dangerous to the swimmer, so perfect your roll! Look for places where the shoulder runs along the wave smoothly and at a steady pace. At low water areas of sand higher than average can be spotted, and as the waves will break sooner in these places, good shoulders can be expected along the edges of these shoals once the incoming tide covers them. Try and avoid places where the waves *close out* (break right along simultaneously), or *back off* (re-form into green waves after having broken once).

Unfortunately, the large range of our tides give rise to tidal scour that tends to remove shoals and deposits sand well into the bays, which makes most surf in this country close out. The coral reefs of Hawaii and the point breaks of California that give the surfer gentle paddle out in deep water and superb shoulders for his return trip, are almost unknown in this country. A hard bash out through the break and a frustrating return on poorly formed surf that closes out with monotonous regularity is generally our lot.

Paddling out through the break needs especial care in a surf kayak. The craft tends to loop backwards easily and only hard paddling and weight well forward will avoid this on big surf. Rolling under waves is par-

continued overleaf

Sketch 2.



THE SURFER

(CANOE TYPE Mk. IIs) Note intelligent expression and withered legs. The toenail of the right foot is ingrowing. His mother said 'I have nothing to say' when we called.

Sketch 3.



'DON'T BE TOO KEEN TO GET ON THE WATER' ... 'SURVEY THE SCENE'

ticularly effective however, as the flat bottom of the surf kayak is held down well by the breaking wave and there is less chance of being surfed back in than with a slalom kayak.

The line-up for surf kayakers tends to be somewhat closer in-shore than for slalom kayakers (surf boards are even closer in-shore). The position is obviously related to the amount of acceleration possible, and surf kayakers are slower than slalom until they come up on the plane.

TAKE OFF

As the wave steepens and the *crest* approaches its breaking point, a couple of hard pulls on the paddle will set the surf kayak planning down the front of the wave. There are two basic beginnings to a run.

a) As you begin to slide, immediately use a stern rudder to set the kayak at an angle to the wave so that you are moving along it at the same speed as the shoulder. You must look to see where the shoulder is, or where it is going to form, decide whether you must slide left or right and set your course all very quickly. See *Diagram II* and *Photo A*.

b) As you begin to slide, allow the kayak to pick up maximum speed by pointing straight down the wave. At its base turn sharply by use of body lean and stern rudder, and climb back up the wave onto the steep face and set course as in a) above. This is called a *bottom turn*. See *Diagram III* and *photo B*.

THE RUN

See *Sketch 4* for the correct pose. Your basic concern is to stay as close to the shoulder as possible where maximum energy is available. To do this, you need body lean and stern rudder for steering and as much weight movement fore and aft as possible to vary forward speed. (The further forward the weight is, the faster you will plane.) *Diagram IV* shows the areas for maximum energy gain from the wave.

If the wind is off-shore, the wave may *pipe* and form a *tube* under the breaking crest. In this case the kayak may actually be surfing along under the breaking crest. Alas, tubes are rare in Britain. If the shoulder is running very fast, then the canoeist must get his weight as far forward as

Diag. I

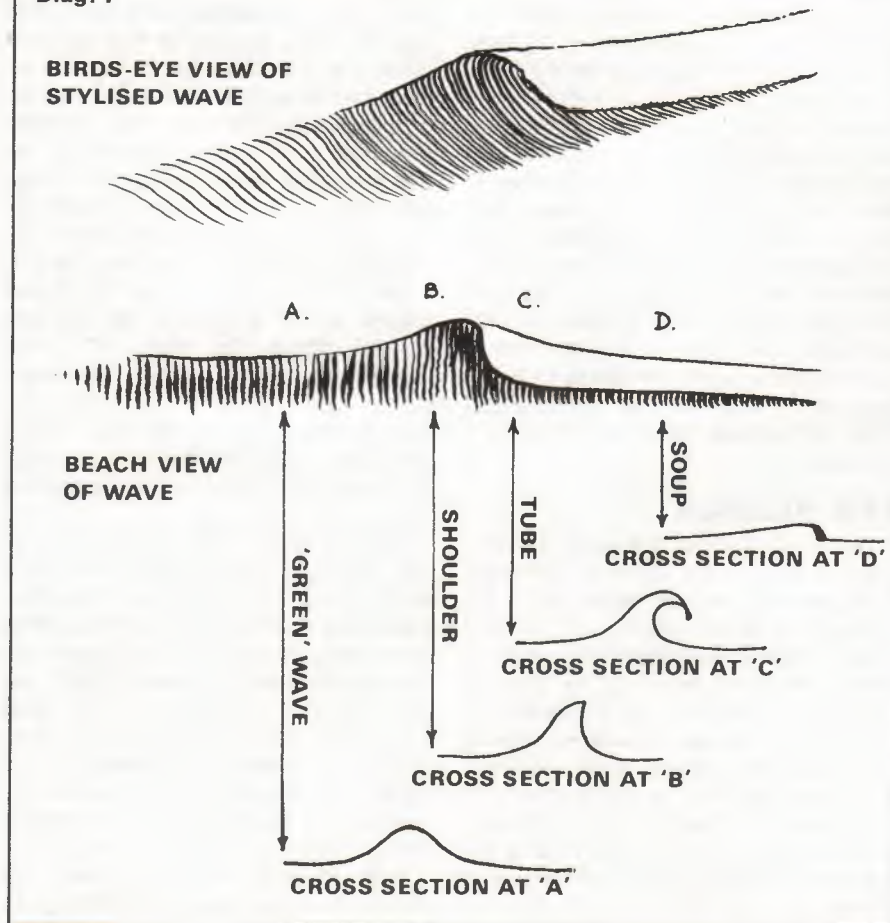


Photo A. Take off. The wave is on the point of breaking and the surfer has already set his course to slide right, under the curl.



Photo B. Bottom turn. The fast run down the wave has carried the surfer almost beyond the slope of water. He is turning quickly so he may climb back to his energy source on the face.

possible to give the kayak maximum speed, *see Photo C*, even then, the shoulder may well outrun him. In this case he must decide whether to pull-out over the crest (lean, stern rudder, or high telemark), and paddle for another wave, or whether to ride the soup in the hope that he can regain the shoulder if it eventually slows up. If the shoulder runs so quickly that eventually the whole wave front collapses the kayakers is *locked in* and cannot escape. *See Photo D. and E.*

Unfortunately most of our beaches give waves of the type that close out completely. The moment to pull-out is critical—one half second late and you are destined to waste time and energy riding the soup. Often a secondary break begins further along the wave, forming another shoulder that runs back towards the surfers shoulder. When the two shoulders meet there is maximum energy dissipation and therefore turbulence. On big waves it is as well to have pulled out just before this startling event takes place! *See Diagram V.*

Even when the shoulder is running well, it will not travel along the wave at a constant speed. The canoeist must watch the break to make sure he is always in the best place. If the

continued overleaf

Sketch 4.



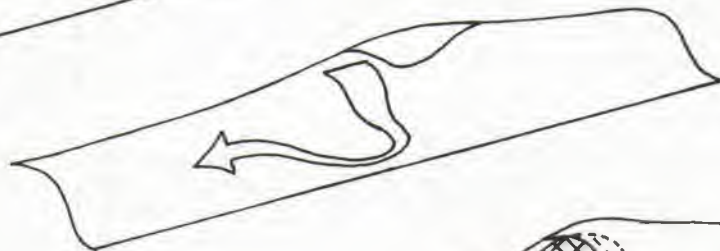
IN THE SURFING POSITION - This is a posed shot. Normally the eyes are kept tightly shut.



Photo C. Forward lean—perfect trim for maximum speed.



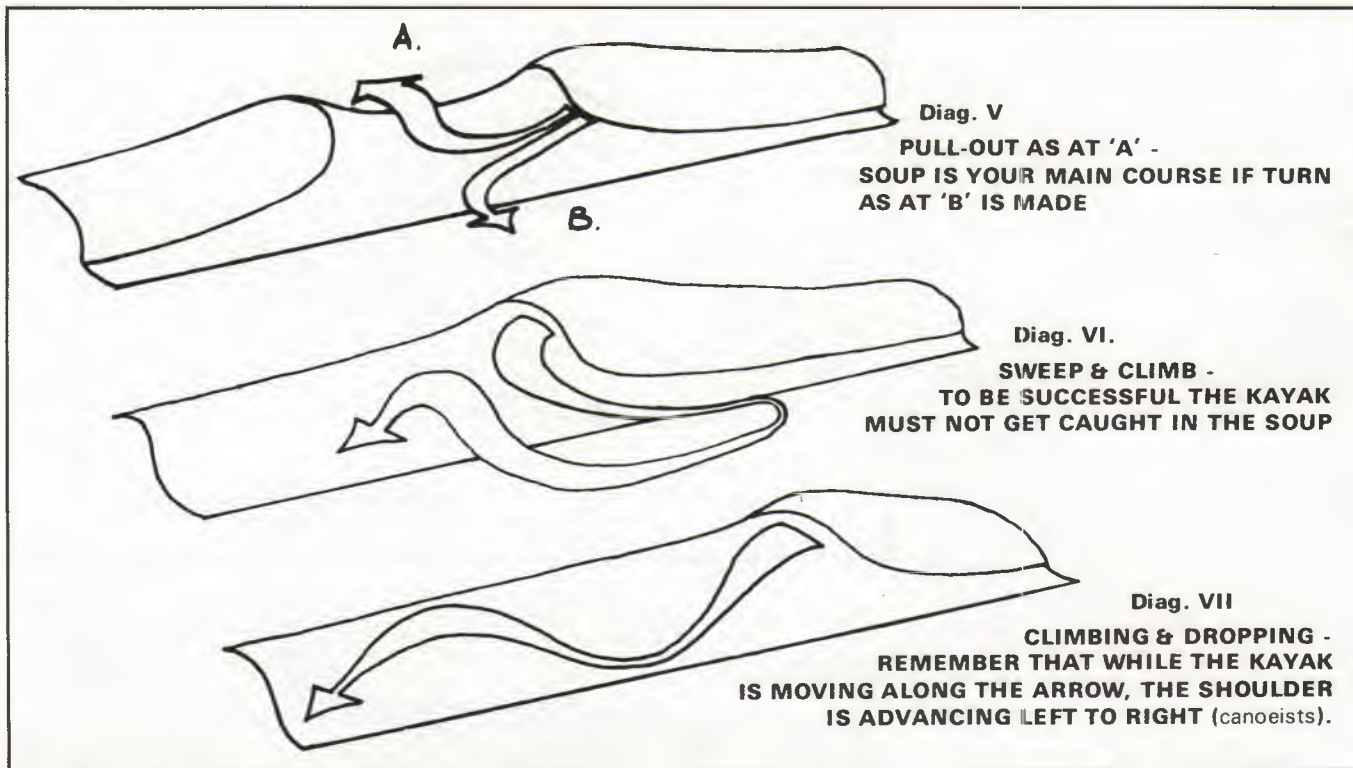
Diag. II
TAKE OFF - NORMAL



Diag. III
TAKE OFF - BOTTOM TURN



Diag. IV
SHADED AREA SHOWS WHERE SUFFICIENT ENERGY IS AVAILABLE FOR SURFING. CROSS-HATCHED AREA = MAX. ENERGY. ONLY BRIEF SORTIES BEYOND SHADING ARE POSSIBLE IF THE RIDE IS TO CONTINUE.



IN ALL DIAGRAMS, DIRECTION & SPEED OF KAYAK
ARE SHOWN: THICK ARROW, SLOW. THIN ARROW, FAST.

ACCELERATION: 
DECELERATION: 



Photo D. Too late! The wave is closing out and the canoeist is locked in. He is invisible to the two board surfers on the next wave.



Photo E. Made it! Notice the secondary break starting on the extreme left. The canoeist has seen it too and is pulling out over the top in good time.

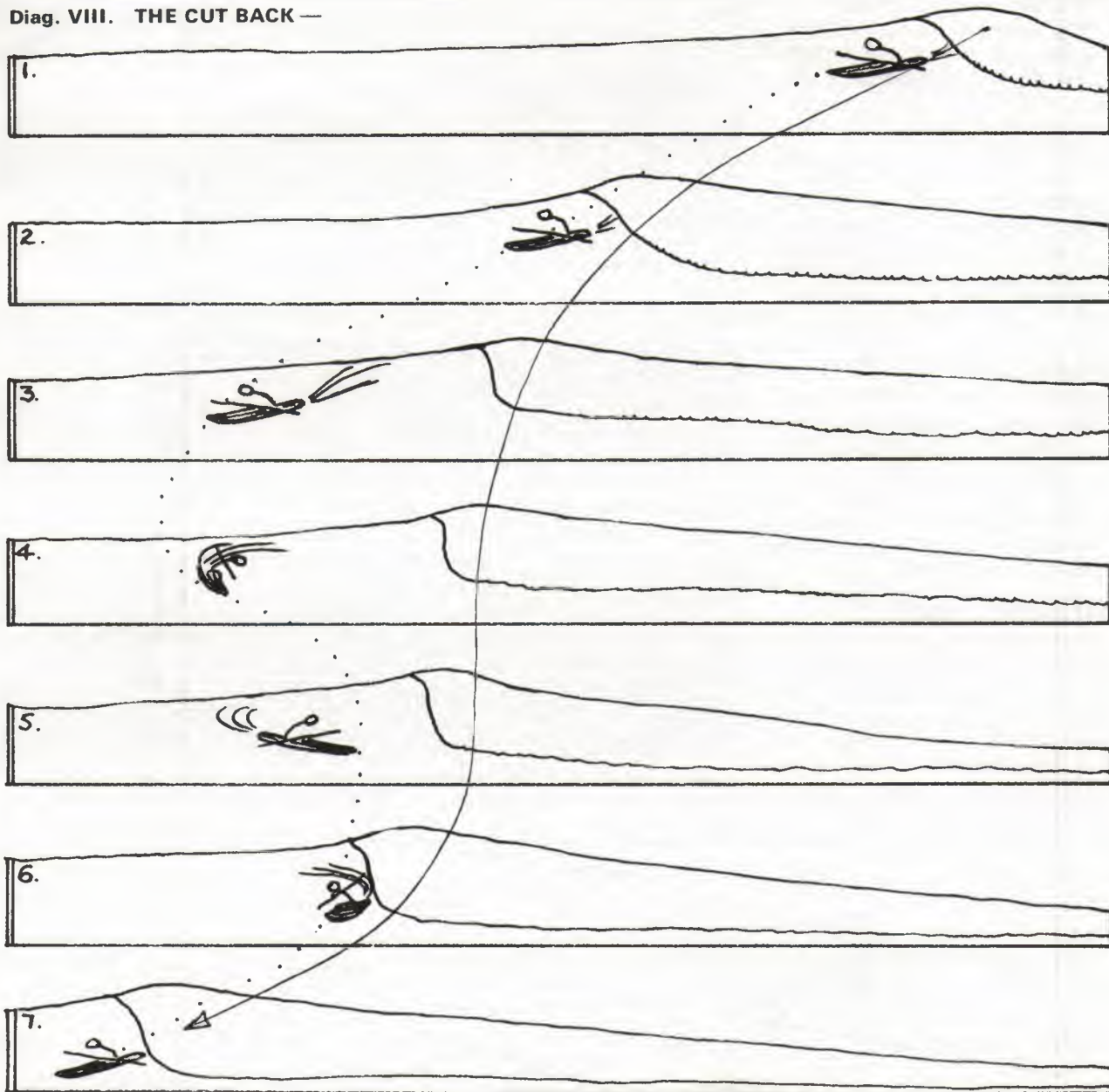
break slows, he must slow with it. This can be done in three basic ways.

a) Stalling the kayak. Lean back, sink the stern—this is the most primitive way. **b) Climbing and Dropping.** By body lean, and a minimum steering with the paddle, the kayak can be made to climb the face of the wave and then drop into the *tough* in a series of graceful curves. The overall speed is not much reduced, as speed lost in climbing is available as potential energy to accelerate the kayak down again, while the actual distance travelled is greater and therefore the shoulder will catch up. This manoeuvre is useful when the shoulder is only slightly behind you. See Diagram VII and Photo F.

c) The Cut-back. When the kayak is moving considerably faster than the shoulder, cut back toward it by dropping down the wave and turning sharply back toward the shoulder, another quick turn will bring you into the slot and your ride can continue. See Diagram VIII.

When on your run, remember that the lower down the wave you surf, the less slope there is on the surface and the slower you will go. On a green wave the maximum slope is about two thirds up the wave, while

Diag. VIII. THE CUT BACK —



READ FROM TOP TO BOTTOM:- 1 and 2 SURFER STAYS WITH FAST BREAK. 3 - AS SHOULDER SLOWS, KAYAK RACES ON AHEAD OF IT. 4 and 5 - CANOEIST TURNS SHARPLY DOWN-WAVE AND BACK TOWARDS THE BREAK. 6 - ANOTHER 180° DOWN-WAVE TURN PUTS CANOEIST BACK INTO POSITION. 7 - AS SHOULDER GATHERS SPEED AGAIN CANOEIST CONTINUES IN THE SLOT.

at the shoulder the top of the wave is vertical and beyond! Check the cross sections in *Diagram 1*.

A good shoulder run, using the varying form of the wave to maximum advantage, staying close to the maximum energy source, picking up the wave as it first breaks, and milking it until the final well timed pull-out, is the hallmark of good surfing.



Photo F. *Climb and Drop.*

continued overleaf

ADVANCED MANOEUVRES

When the shoulder holds well, the surf is big, the wind slight or off-shore, and the energy available to the surf canoeist is high and constant, other manoeuvres can be worked into the shoulder run. It must be made clear that conditions in this country seldom allow these manoeuvres to be performed properly and I have only seen some of the advanced manoeuvres noted here performed on the perfect surf at Steamer Lane, Santa Cruz, and Rincon in California.

SWEEP AND CLIMB

The Sweep and Climb is possible only when the shoulder is moving rather slowly. Drop down the wave, turn into the trough in front of the soup, turn through 180° and climb back onto the shoulder, continuing the ride without hitting the soup. See *Diagram VI.* and *Photo G.*

CATHERINE WHEEL

The Catherine Wheel is performed when travelling at speed. Stab a bow rudder into the up-wave side of the kayak, and at the same moment trim the kayak until it is 'flat' on the wave surface. The kayak will then spin horizontally through 360° without much loss of forward speed. A poor



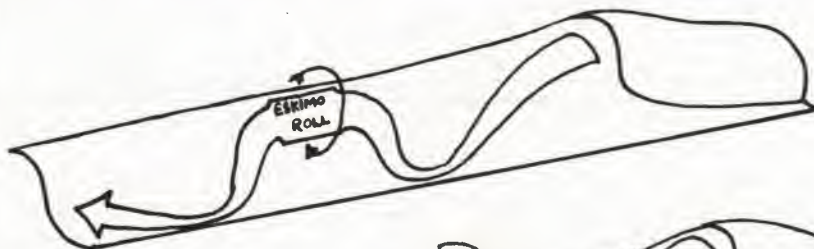
Photo G. Sweep and Climb. This is rather small surf and therefore the canoeist has insufficient energy to move far into the trough. He is turning through 180° to regain the shoulder before he loses too much momentum.



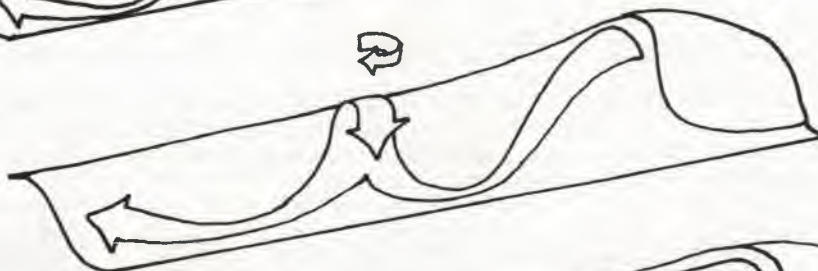
Photo H. Halfway through a Catherine Wheel. Notice how far the stern is clear of the wave, a sure sign of speed!



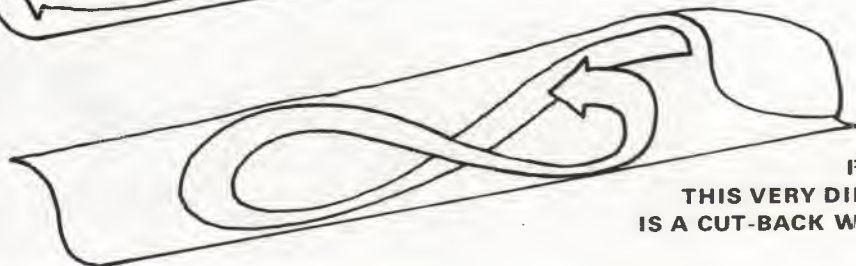
Photo I. The end of a Catherine Wheel, I suspect this was a slow one and he needed a second push round, as his paddle is on the wrong side for a first stroke.



Diag. IX.
FACE ROLL



Diag. X.
**FACE REVERSE
LOOP OR PIROUETTE**



Diag. XI.
**FIGURE OF EIGHT-
THIS VERY DIFFICULT MANOEUVRE
IS A CUT-BACK WITH UP-WAVE TURNS.**

attempt may take the canoeist only slowly through 180° or less, while a good one will spin the kayak so quickly that a cloud of spray will fly from the bow and stern—hence the name. Several complete spins are possible on one run, even if the shoulder is running fast. See *Photo H and I*.

FACE ROLL

In this manoeuvre the canoeist climbs the wave, stalls the kayak, Eskimo Rolls down-hill (Screw or Screw Styr), drops down the wave to pick up speed, and continues the run. Very hard! Unless the wave is big and the shoulder slow, the time spent rolling means that the wave passes by or the shoulder catches up. I have never seen it done successfully in this country. See *Diagram IX*.

FACE REVERSE LOOP

Again the canoeist must climb the wave, stalls and allows the kayak to loop backward down the face of the wave, Eskimo Rolls and continues run. A backward pirouette or a very tight 180° turn are variations which are quicker than actually rolling after a reverse loop, and are therefore better employed when the shoulder is running fast. On a right slide, a left hand pirouette is easier than a right hand one. See *Diagram X*.

FIGURE OF EIGHT

This is probably the most difficult manoeuvre of all. A swift, angled descent of the face of a wave is followed by a climb which curves up the wave and continues—in a complete circle until the descent is angled back toward the break. As the break is neared, the climb is again commenced and the kayak, turning left continues left, up and round to drop away to continue the run. The whole idea of this manoeuvre is that it is done in one continuous sweeping turn. See *Diagram XI*.

Sometimes when the condition of the surf or surfer is not perfect, the first part of the Figure of Eight is continued as a complete circle and the second reverse curve is omitted. Sometimes it is impossible to complete the curves smoothly or before the *curl* is upon you. I once saw the beginning of the Figure of Eight that was forced to finish as a Sweep and

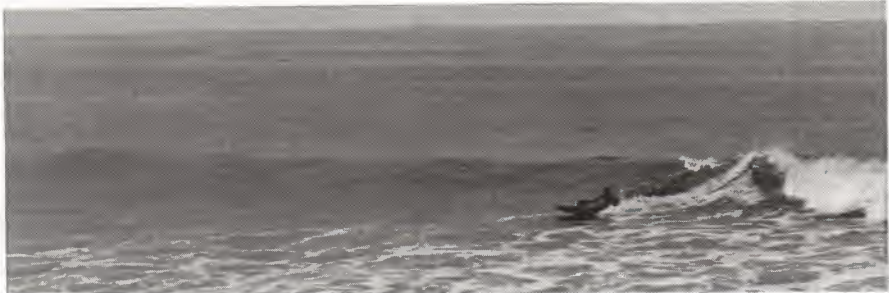


Photo J. A crisp line of foam from the preceding wave marks the path for Mike Johnson as he races away from the break.

Climb, as the shoulder was too close. Quick thinking turned potential disaster into a brilliant sequence.

While all these manoeuvres are possible on first class surf, it should always be borne in mind that a good flowing shoulder run, executed with intelligence and panache, is the basis of surfing. When the surf is poor and wind blown, even a shoulder run becomes well nigh impossible. Try a forward run, a few quick zig-zags, then make for base and tell everyone just how good it was yesterday . . . !

SAFETY

Since a surf kayak doesn't need to be ridden broadside on when in the soup, isn't sharp at both ends, and is more manoeuvrable than a slalom kayak, the danger from a kayak completely out of control is much less than was the case with less specialized craft. However, it is still essential to watch out for two ob-

jects—*Rocks and Swimmers*—the first for your sake and the second for theirs! Other canoeists too must obviously be approached with caution, though as they can more easily be kept in control it is reasonable to surf quite close on occasion, as long as one remembers that the first person on the wave should have priority, but that if there is a good shoulder, then the surfer nearest the shoulder should have precedence.

While people paddling out should give way to canoeists riding a wave, remember that a surf kayak on the plane is both fast and manoeuvrable, whereas before planing speed is reached it is very sluggish. Commonsense and common courtesy are the keywords for safe surfing. It also goes without saying that plenty of kayak buoyancy, a footrest that cannot trap you, end toggles, a crash-hat, and personal buoyancy are

continued overleaf



musts. It may be felt that personal buoyancy can be restricting, but while sky-divers too are restricted by their parachutes, they usually wear them!

COMPETITIVE

While all the previous notes apply to competitive surfing as well as surfing for fun, it is worthwhile remembering one or two other points:

SAFETY—it is usual to have the rule of one wave one surfer, for competitions. Boats and surfers are usually scrutinized by the beach marshall, thus don't turn up only to find your kayak isn't fit to enter.

BEING JUDGED—surfing is not a science, but an art. It is not enough to complete a manoeuvre, it must be done with flair, grace and rhythm. Any judging scheme will always have marks both for completed figures and for style, just as in figure skating. Check out the judging sheet before the event and memorise it. However much you may agree or disagree with the allocation of marks within any scheme, they are the rules, and a good surfer will make sure that his programme will satisfy the judges and put marks on his score sheet by working within the scheme being used. A competition can never decide who is the best surfer, merely which surfer can interpret the rules most intelligently.

Take a waterproof wrist watch with you so that you can check the time allowance, and to be on time for your run.

Help to judge other events. There are never enough judges! Enjoy yourself, and remember that surfing is more important than the event.

SCORING SURF

Because of the vague nature of British surf, it is hoped that a standard judging form will be brought in showing two separate parts. If the surf is good, with good shoulders and general form, then the competitors will be marked for A Class conditions. If the surf is poor, and few decent runs can be attempted, then the judges and competitors can decide between them immediately before the event that only B Class conditions apply.

On both parts, marks are given for variety of manoeuvres. There are no

Sketch 6.



KEEP A SHARP LOOKOUT FOR SWIMMERS

marks for paddling out, and once the surfer enters the soup, scoring ceases. However, if a competitor regains the shoulder after moving across the front of a wave in the soup, scoring begins again, and these marks considered part of the competitors mark for the one run. Thus, if a competitor can regain a shoulder and add manoeuvres, these will count to his score, and the judge may also add marks for a longer shoulder run although taken in two parts. It can therefore be an advantage to enter the soup, but only if you can be sure of regaining the shoulder later.

The judge must always decide how well each manoeuvre is accomplished, and the major number of marks must go the surfer who makes a well judged shoulder run.

THE THRILL OF SURF

The surf kayaks can give the canoeist some of the most thrilling rides it is possible to take on surf, and is probably more versatile than any other surf craft, including boards. They will hold the shoulder perfectly, as will a board, but the necessary techniques of Eskimo Roll, Stern Rudder, Hanging Draw, High Telemark, etc., are still very much basic canoeing. While body movement

plays a large part in surfing, the restriction of the cockpit makes it impossible to use weight alone for manoeuvres as the board surfer does. Indeed, the psychological difference between canoeing, where you are 'in a boat' and not of the water, and board surfing, where you are a swimmer using a board, is immense.

However, rides taken by a Surf Kayak Enthusiast will be closer in style to board surfing than they will to slalom kayak surfing. Once you get a good shoulder ride in a surf kayak, especially when slalom kayaks are on the same wave, you will soon understand why board surfers get fed up with other canoeists!

Because surf kayak performances are close in style to board surfing, many of the board surfers' terms are useful to the surf canoeist. I therefore include a glossary of terms that have become basic to the surfers' vocabulary, although I have purposely omitted many expressions that come and go as waves on a surfing beach!



SURF GLOSSARY

BLOWN OUT—Non-surfable conditions caused by strong winds.

BOTTOM TURN—A turn made at the bottom, or well below the crest of a wave.

BREAK LINE—The line where waves begin to break.

CLIMBING AND DROPPING—Sliding up and down the face of a wave, as an interesting manoeuvre and also to slow down.

CLOSE OUT—A wave that breaks all along its length at the same time and thus cannot be ridden. Also used when a whole bay is useless for surf as the waves are too big, broken, etc.

CREST—The top of a wave.

CURL—The top of a wave that is spilling and breaking next to the shoulder.

CUT BACK—Turning back towards the shoulder.

DUMPER—Waves that are too steep to ride owing to a steeply shelving beach.

FACE—The smooth unbroken front of a wave.

HUMPER—Large, unbroken wave.

INSIDE—The area between the break-line and the shore.

LEFT RUN—Riding a wave, the surfer moving to his left.

LINE-UP—The place where surfers wait to catch a wave.

LOCKED IN—Unable to pull-out over the top of a wave. Used in two senses: a) When the wave closes out and traps the surfer inside. b) When the surfer is in a good position in a tube. Used as 'in the slot'.

OUTSIDE—The area of sea beyond the break-line. When shouted, indicates a large set of waves approaching. A warning, as 'fore' in golf.

PEAK—The highest point of a wave.

PEARL—The nose of the kayak burying in the water.

PULL OUT—Ending a ride by turning up and over the wave crest to paddle out again. (Also kick-out, cut-out, in board surfing.)

RAIL—The sharp angle between the flat hull and the deck of a surf kayak. Really the gunwale line. A slalom kayak has the softest of rails. Surf kayaks have hard rails.

RIGHT TURN—Riding to the surfers right.

RIP—Water travelling seaward in a well

defined river, usually quite narrow but moving at several knots. Useful, but dangerous to the swimmer.

ROCKER—Lengthwise curve of a kayak hull.

SET—A group of waves usually bigger than normal.

SHOOTING THE TUBE OR CURL—Riding high on the wave, close to or in the tube or curl.

SHOREBREAK—Dumpers on a steep beach unsuitable for surfing.

SHOULDER—The unbroken portion of the wave next to the white water.

SLOT—'In the slot'. Surfing in just the right place on the shoulder.

SOUP—The white water after a wave has broken.

STALL—Slowing the kayak either by leaning backwards or pointing up the wave.

TAKE OFF—The start of a run.

TRIM—The balance of a kayak to give maximum speed and stability.

TROUGH—The lowest part between waves.

TUBE—The hollow formed in the crest of a wave when off-shore winds force the break to leap forward without touching the face of the wave, forming a tube. Sometimes big enough to ride in.

WAVE THEORY

Many text books on hydrology give basic information on waves, but it is often of a highly mathematical nature. Without going into too much detail, it is helpful to know something of wave generation and the effect of shallow water on them.

1. The best surfing waves derive from long low waves that are generated by strong winds blowing for a long time.
2. The waves must travel at least 900-miles across open water to reach maximum length.
3. The longer the wave the faster it moves, thus long waves will outstrip short ones, and also the wind that generates them. A storm way out in the Atlantic may well give good surf in windless conditions on Cornish beaches.
4. Offshore winds will not create surf, but existing surf will have its wave crests thinned by this wind causing it to 'pipe' (the crest of the breaking wave leaps forward without touching the front face, forming a pipe or tube, sometimes big enough for the surfer to remain inside).

5. In deep water waves are almost perfect surf waves in shape. The molecules of water at the surface are not carried forward to any extent, but rotate in perfect circles as in *Fig. i*.

6. As the water shallows, the wave form changes to a trochoidal shape. It gets higher and thinner, while the trough flattens. The water moves forward quickly on the crest of the wave, and slowly backwards in the trough. The wave length reduces and the whole moves less quickly (see 16 below). The molecules of water at the surface describe ellipses.

7. The wave shape in shallow water is not due to friction on the bottom (a very common but false belief), but is the result of the bottom distorting the circular orbits of the water into elliptical ones. See *Fig. ii*.

8. When the depth shallows until it is only $1\frac{1}{3}$ the wave height, the wave becomes unstable and breaks. The water molecules moving forward quickly at the crest no longer have sufficient thickness of wave crest to move forward into (especially when the wave has been thinned by an off-shore wind). The particles of water try to continue their elliptical orbit, and

burst forward from the top of the wave.

9. Water in a breaking wave moves up the beach and the elliptical path flattens until it becomes the backward and forward swash up and down the beach.

10. Because the water is still moving forward more quickly in the crest than backwards in the trough even long after the wave has broken, more water arrives on the beach than is carried away. This is the prime cause of rip currents, flowing back to deep water. See *Fig. iii*.

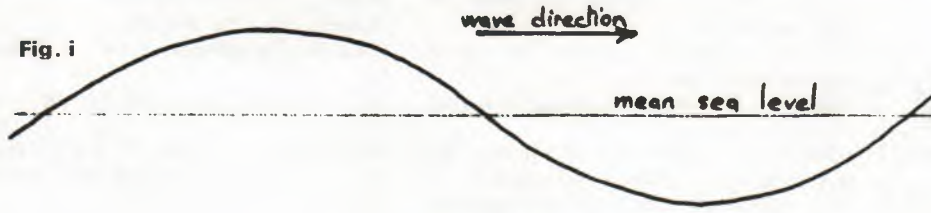
11. Mean sea-level is not half-way down a trochoidal wave, but approximately two-thirds of the way down. Thus the crest of a three foot wave will be two feet above the water's edge at the beach and the trough will be one foot below, just before it breaks.

12. From the notes 8 and 11 above, it is possible to calculate wave height and water depth at the break as follows:

Stand on the water-line. If the wave just peaks the horizon, then it is level with your eyes. Assuming eyes are

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Fig. i

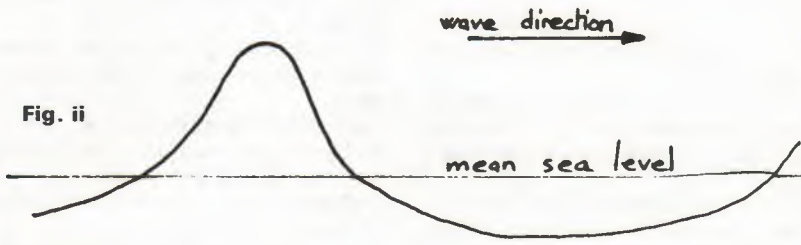


DEEP WATER WAVE
Sine



MOVEMENT OF WATER

Fig. ii



SHALLOW WATER WAVE
Trochoid

fast forward at crest.

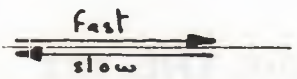


slow backward in trough
MOVEMENT OF WATER

Fig. iii

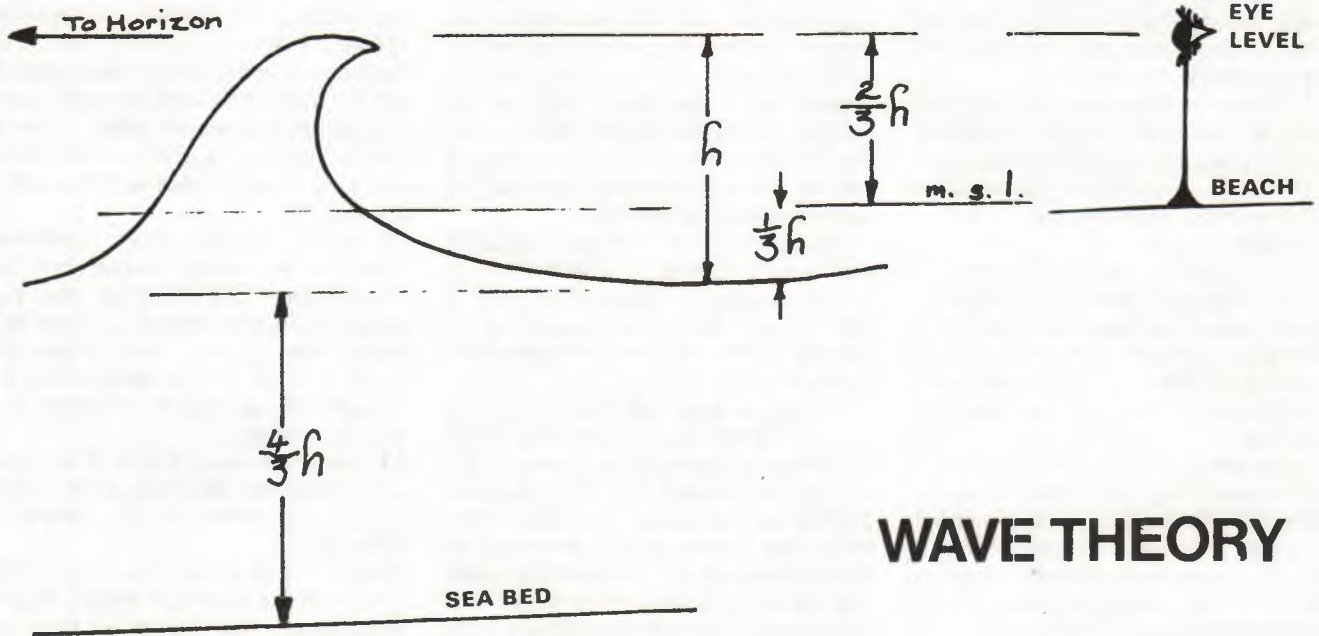


BREAKING WAVE ALMOST SPENT



MOVEMENT OF WATER

Fig. iv



WAVE THEORY

66" above the water, the wave crest to mean sea level then equals +66" while wave trough to mean sea level equals -33". Total height of the wave is $66 + 33 = 99" = 8\text{ft } 3\text{ins}$. A breaking wave, peaking the horizon as above will have $4/3 \times 8'3"$ depth of water below the trough, this is 11-feet. See Fig. iv.

13. These figures above are approximate, but an eight foot wave is quite big and should be treated with respect.

14. Where a beach shelves steeply, the change of wave form happens very quickly indeed, and dumpers or 'shore-breaks' are the result.

15. The best surf is where beaches are flat, but with shoals to give shoulders.

16. From note 6 above, waves tend to turn parallel to the beach as they enter shallow water, slow down and are bent by refraction.

17. All the above points can be verified by not only noticing the waves and the motion of your kayak on them, but also by observing very small ripples beaching on a calm day—everything is there in miniature. You can often see tiny bores flowing up rip-channels as the flood tide fills them.

18. Waves usually come in sets of three or four, one after the other, followed by a lull before the next set or group move in.

Note: After writing these notes, I looked up in another reference book the heights and depths dealt with in 11 and 12. Here the breaking wave height was quoted as $2/3$ the depth of the water below mean sea level, but did not say whether the height of



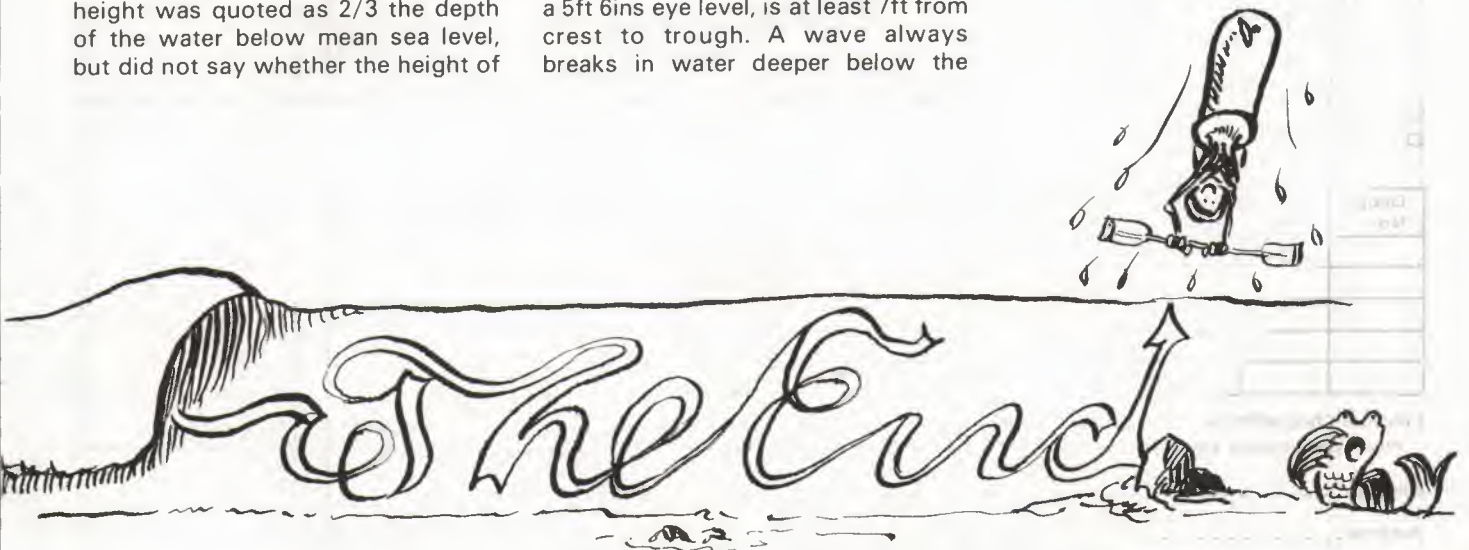
Mike Johnson, designer of the Surf Shoe and surfer featured in the instructional photographs, is seen here on small surf at San Onofre beach, California on his new short Surf Ski.

the wave was taken above m.s.l. or above the trough. From these figures a wave of 8ft 3ins will break in 9ft 9ins of water.

Another text book gave the fractions of a trochoidal wave above and below m.s.l. as $7/9$ and $2/9$, not $2/3$ and $1/3$ as I show. This means that a wave just peaking the horizon as in note 12 is 7ft 1in high, and not 8ft 3ins as shown. Further checks did not completely clarify the position, as complete data could not be found. As there is an element of mathematical doubt when waves become turbulent anyway, it is clear that the following is true: A wave peaking the horizon at a 5ft 6ins eye level, is at least 7ft from crest to trough. A wave always breaks in water deeper below the

trough than the wave crest is above the trough.

Wave structure and surf conditions are determined not only by wind and tide, but by beach slope—the bottom contours, shoals, bars and 'bumps'—the geological structure and currents. Thus surf characteristics are exclusive to a particular beach or bay. A good surfer always takes time to study the surf formation before going on the water, and takes note of advice from local experts.



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