

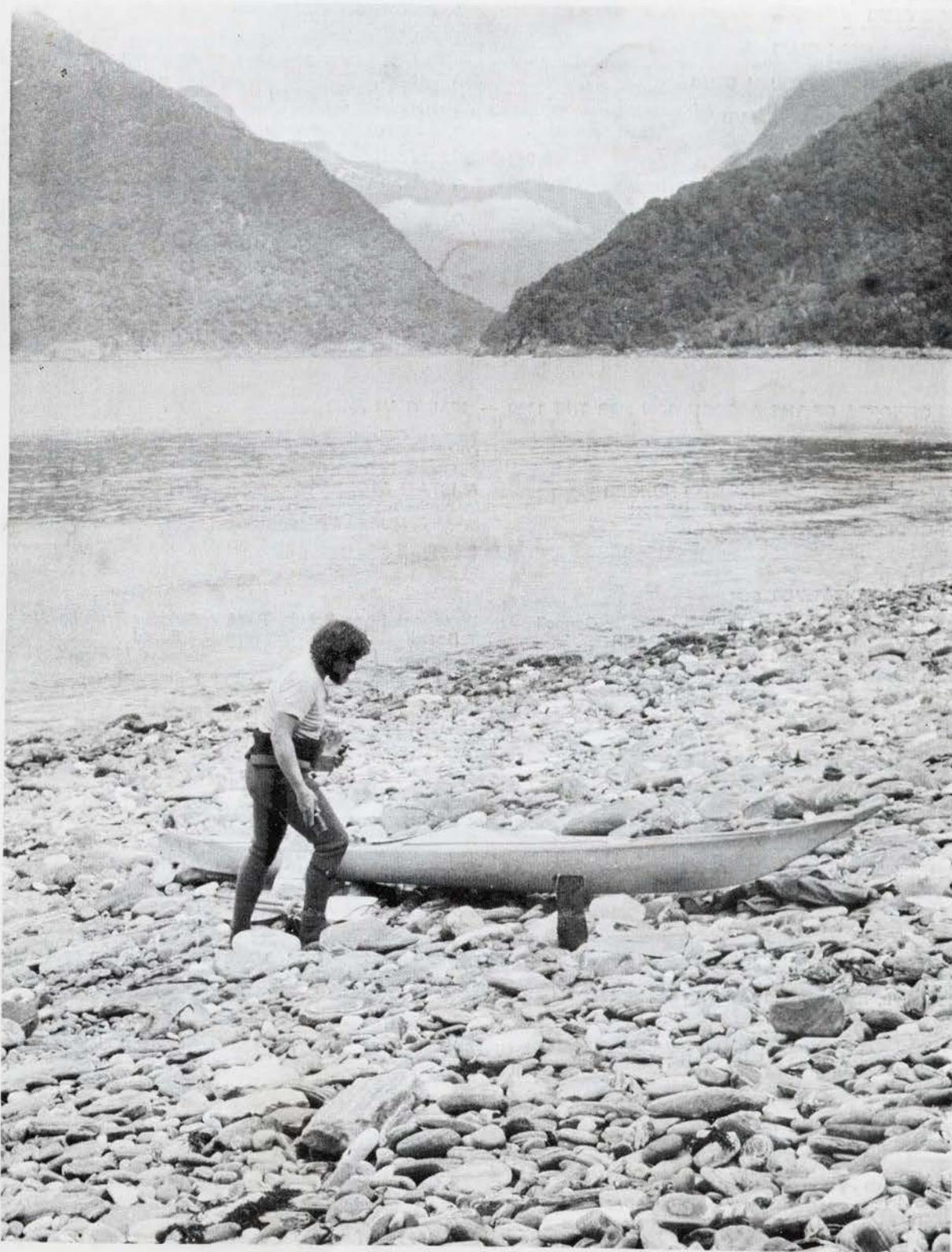
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CANOEING



1981 JANUARY No. 20

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EDITORIAL:

This edition of 'New Zealand Canoeing' completes five years of continuous production. We have not always kept to deadlines, but at least we have kept our promise of producing four issues a year. Costs are certainly escalating, but we have managed to keep going despite that. Costs are, in fact, the most important limitation on canoeing activities. I can well remember buying my first glassfibre canoe for \$50. At the moment you have to pay around \$300 unless you get a perk job somewhere. Even to build a boat, materials cost around \$100. But canoe cost is not itself the limiting factor. Transport costs have certainly put a damper on our sport. The river canoeist has the biggest transport cost as he has to run a shuttle service between the put-in and the get-out point, often the fastest road route is much longer than the river route itself. Perhaps that is why we have seen a tremendous growth in sea canoeing over the last few years. In this edition of 'New Zealand Canoeing' we bring you two exceptional accounts of sea canoeing.

Transport costs, however, seem destined to cause a cut-back on competitive canoesport, too. At a recent training camp for slalom canoeists, a four-day camp, only two potential team members turned up; both were from Wellington, whilst the others from clubs near at hand never showed. This is a deplorable situation, and one that has been blamed on transport costs. I am inclined to believe that apathy had a greater part in the affair, however, transport costs have meant that canoeists now think in terms of value for money and would rather spend a full day on a river than spend two runs down a slalom course for their effort of travelling hundreds of kilometres.

We are likely to witness greater activity by the river touring canoeist in the next few years, and certainly there are more canoeists tackling rivers that only a few elite would tackle a few years back. A few years ago, not many paddlers had ever done the Mohaka from the Napier-Taupo highway, now it seems that every weekend sees a party on this river and canoeists are seeking the more remote rivers. Pelham Housego, who has done more 'uncanoed' rivers than any other canoeist in this country, has a story in this issue of a recent trip on the very upper Mohaka. And talking of the Mohaka; the fight to save our rivers is hotting up in the face of the government's proposed aluminium smelter needing vast amounts of energy. While the Minister for the Environment talks of the need to protect rivers the Minister of Works is steadily destroying every 'unkempt river gorge'. While the Soil and Water Division of the Ministry of Works assures us that they are protecting our interests, they are going behind our backs and encouraging Catchment Boards to use obscure legislation to take our rivers from us in a manner that prevents us placing an appeal before the appropriate planning appeal board. Such is the nature of the democratic process!

River runners, whether you be a kayaker, canoeist or rafter, we need your support to save our rivers and protect our sport. Our magazine is one way of keeping in touch.

Rafters, we need more stories, can you help?

Our cover photograph for this issue was taken by Paul Caffyn during his Fiordland expedition. The canoeist is Max Reynolds who was drowned in a canoeing accident on January 19, 1980 on the Aorere River.

Graham & Jan Egarr — Editors.

BARRY AND BARBARA ANDERSON

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PHONE 64-747 TAURANGA

A PADDLE IN THE FAR NORTH — From Cape Reinga to Kerikeri — Stu Arnett

This trip started as an idea during the Hauraki Kayak Group's Christmas trip to Great Barrier Island. I was tossing up between doing the top of the South Island or the top of the North Island and mentioned these possibilities to Derek Cox. Considering the time, lack of transport; Cape Reinga to the Bay of Islands seemed the most probable. It all became a reality when the club opted for a trip to Whangaruru for Easter. Transport problems were not entirely solved however, for the total demise of my Rover before Easter turned my thoughts to raising a sum of money to obtain a car for the trip. We solved the problem by the Saturday two weeks before Easter. We merely selected a car from the list offered in the paper, offered the owner \$200 less than he wanted, raised the cash, and ended up with a blue 3.4 Jaguar which we now drive around in.

Some friends in Kerikeri agreed to look after the car for us when we were on the trip and Ross, although he could not come on the trip itself, offered to drive the Jag back from Cape Reinga to Kerikeri where we would pick it up; thus planning was completed on the Thursday before Easter with the addition of a new set of Warrick Smith paddles for Derek.

The Jag was loaded up with all the gear we had for the trip and we were off for Whangaruru on the Good Friday, stopping at the top of the Brywderwyn for a cuppa and arriving in the late afternoon. Saturday morning saw Ross, Derek and myself in the queue for petrol at Russell; lunch at Kerikeri, and off for Cape Reinga and Tapotupotu Bay.

After a walk down to the lighthouse at the Cape and to look at the sea, we set up camp in Tapotupotu Bay in a strong Northerly wind. Sunday broke with a foul wind from the sea. It was raining hard. Today we were to paddle around Cape Reinga; we didn't, but did manage to spend the day in bed reading all the books we had brought to read on the entire trip. Fortunately Monday came fine with a light onshore breeze and a fairly heavy North-West swell. After discussion, we donned our canoeing suits and set off for the beach, dragging our boats behind us. Several campers came down to the water's edge to see us off; hoping to see us can out I think.

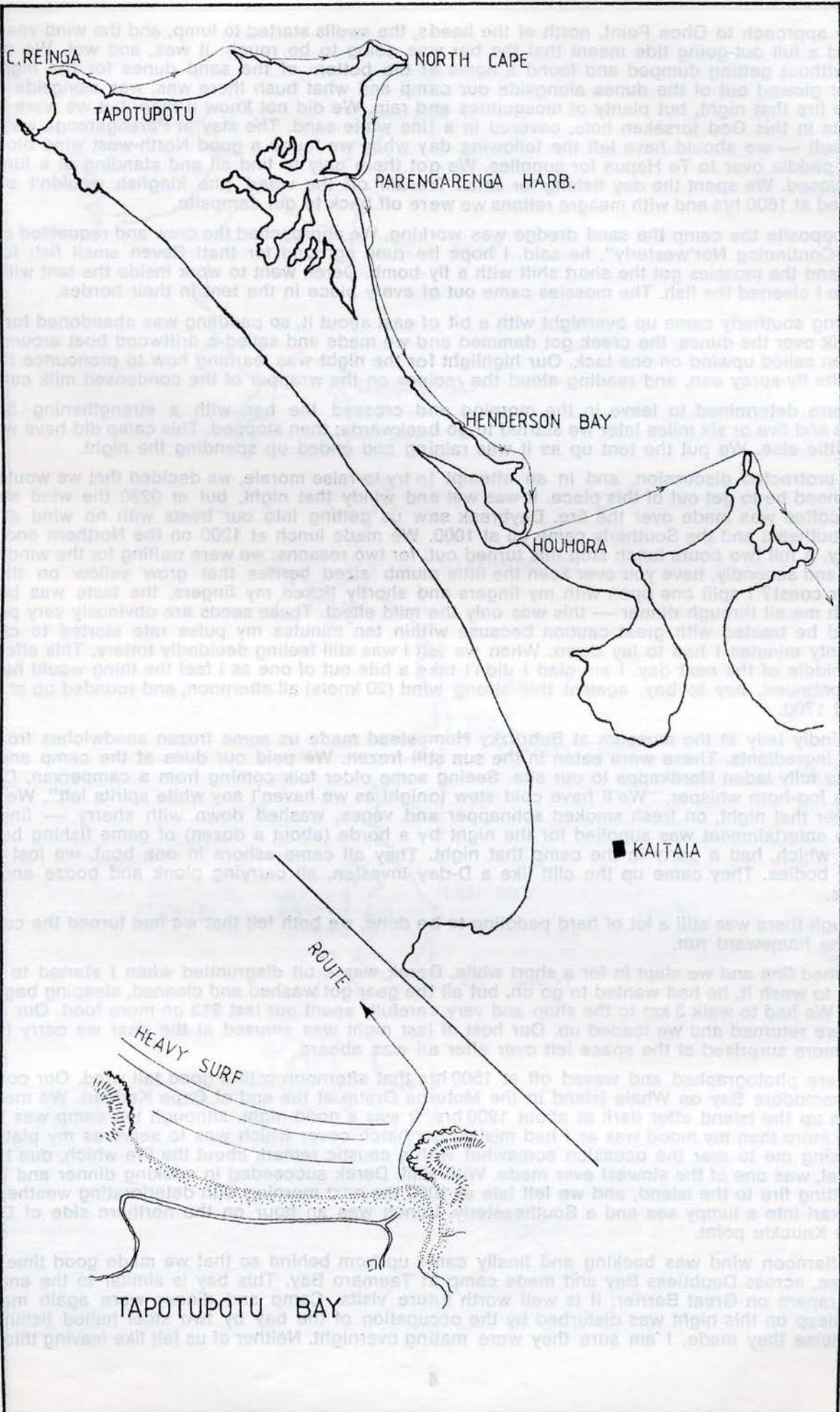
The surf was breaking over the whole mouth of the bay; thumping at the western end but more rolling at the eastern end. As the surf seemed to be lighter at the eastern end, close by the rocks, we escaped there through the surf with little more than a good soaking. With a strong tide behind us we set off into the swell for the Cape. As we approached the Cape we could see, from the tops of the swells, a strong off-shore tide-race which was making the swells build up and break. Derek had a Kodak stop and photographed the Cape and by the time he was finished we were well off the Cape and drifting into the tide-race. We skirted along the side of the breakers as much as possible until we could see Motuopao Island, Cape Maria van Diemen and Te Werahi Bay. This put us west of the Cape and therefore we had rounded the Cape. It was dicey turning around and when we had to paddle back we found the tide was very fast to paddle against. Derek and Ross stayed off-shore and found a back-eddy, while I went closer to the Cape and play in the waves off the rocks. A fisherman almost fell over in surprise at seeing me as I appeared out of the glare of the sun. On the way back to Tapotupotu I had a look at Ngangawhiti Bay, the last beach before the Cape. There is no road to this bay and it is so enclosed by rocks at its entrance that there is very little surf, I decided not to land there although it was much more hospitable than the later landing at Tapotupotu. A short time later I joined Ross and Derek for the paddle back to Tapotupotu where the campers were waiting like vultures on the beach for us to land. The landing was accomplished in great style without a can-out. I had to do it again so that Derek could take a photograph of the surf.

After a cold shower and lunch Ross packed the Jag while we packed our boats — the trip proper had started! My Nordkapp was so heavy that the stern deck was awash for most of the time. Derek and I were now alone on a rather unlikeable sea, heading east along the rocky coast towards Spirits Bay, or Piuhane Bay. We moved further offshore at Spirits Bay and continued across to Hooper Point where I started to feel a little stuffed. I had had a funny tummy for most of the weekend and poor Derek came in for a few rude remarks. The coast from Hooper Point to Tom Bowling Bay is very steep and rocky; it was great canoeing and just before Tom Bowling Bay we found a nice cosy bay to land in. The bay has no name on the map but a stream enters it by the name of Pakohu Stream, so for the sake of a name we called the bay Cox's Bay, seeing as Derek found it.

The grass above the beach provides good camping for one tent and with wood for a fire we were set for a good night. I tried one of our flares out here, and discovered that it did not work. Further tests showed that all the flares were faulty so we burnt them on the fire. A mare and foal were in residence at this place and overnight one or other of them ate a vast chunk of our cheese. The seagulls had the rest.

With a beautiful morning and a light westerly we headed for Surville Cliffs, the most Northerly part of the North Island and visible from where we were at Tom Bowling Bay — another Kodak stop! The swells were still large and rolling along; with the bounce-back off Surville Cliffs, were quite fun and spirits were high. The swells were breaking at North Cape and we had to be very careful.

North Cape is the most easterly point of Murimotu Island on the top of which is the North Cape light. We landed on the mainland side of the island and after a rest and lunch, climbed to the top for photographs and a look south to the way ahead. We were horrified to see the size of the bar across Parengarenga Heads.



C. REINGA

NORTH CAPE

TAPOTUPOTU

PARENGARENGA HARB.

HENDERSON BAY

HOUHORA

■ KAITAIA

ROUTE

HEAVY SURF

TAPOTUPOTU BAY

At the approach to Ohoa Point, north of the heads, the swells started to lump, and the wind veered east. All this and a full out-going tide meant that the bar was going to be rough; it was, and wet. We made the crossing without getting dumped and found a home at the bottom of the sand dunes for the night. Good fresh water flowed out of the dunes alongside our camp and what bush there was, was alongside our tent. We had no fire that night, but plenty of mosquitoes and rain. We did not know it then, but we were to spend three nights in this God forsaken hole, covered in a fine white sand. The stay at Parengarenga was entirely our own fault — we should have left the following day when we found a good North-west wind blowing but elected to paddle over to Te Hapua for supplies. We got there only to find all and standing at a funeral and the shop closed. We spent the day fishing for small Trevalli off the wharf (the kingfish wouldn't bite). The shop opened at 1600 hrs and with meagre rations we were off back to our campsite.

Just opposite the camp the sand dredge was working. We approached the crew and requested a weather forecast. "Continuing Nor'westerly", he said. I hope he runs aground for that! Seven small fish for dinner that night and the mossies got the short shift with a fly-bomb. Derek went to work inside the tent with the fly-spray while I cleaned the fish. The mossies came out of every place in the tent in their hordes.

A strong southerly came up overnight with a bit of east about it, so paddling was abandoned for the day. After a walk over the dunes, the creek got dammed and we made and sailed a driftwood boat around in 'our' lake, it even sailed upwind on one tack. Our highlight for the night was learning how to pronounce the ingredients of the fly-spray can, and reading aloud the recipes on the wrapper of the condensed milk can.

We were determined to leave in the morning and crossed the bar with a strengthening Southerly. Four hours and five or six miles later we started to go backwards; then stopped. This camp did have water, but precious little else. We put the tent up as it was raining and ended up spending the night.

After protracted discussion, and in an attempt to try to raise morale, we decided that we would paddle at night if need be to get out of this place. It was wet and windy that night, but at 0230 the wind started to drop and coffee was made over the fire. Daybreak saw us getting into our boats with no wind at all. We paddled Southeast and the Southerly came up at 1000. We made lunch at 1200 on the Northern end of Henderson Bay. A full two hours lunch stop this turned out, for two reasons: we were waiting for the wind to abate (it didn't), and secondly, have you ever seen the little plumb sized berries that grow yellow on the plants around our coast? I split one open with my fingers and shortly licked my fingers, the taste was bitter and stayed with me all through dinner — this was only the mild effect. These seeds are obviously very poisonous and should be treated with great caution because within ten minutes my pulse rate started to climb and within twenty minutes I had to lay down. When we left I was still feeling decidedly tottery. This effect lasted until the middle of the next day. I am glad I didn't take a bite out of one as I feel the thing would have killed me. We continued, bay to bay, against this strong wind (20 knots) all afternoon, and rounded up at Houhora Harbour at 1700.

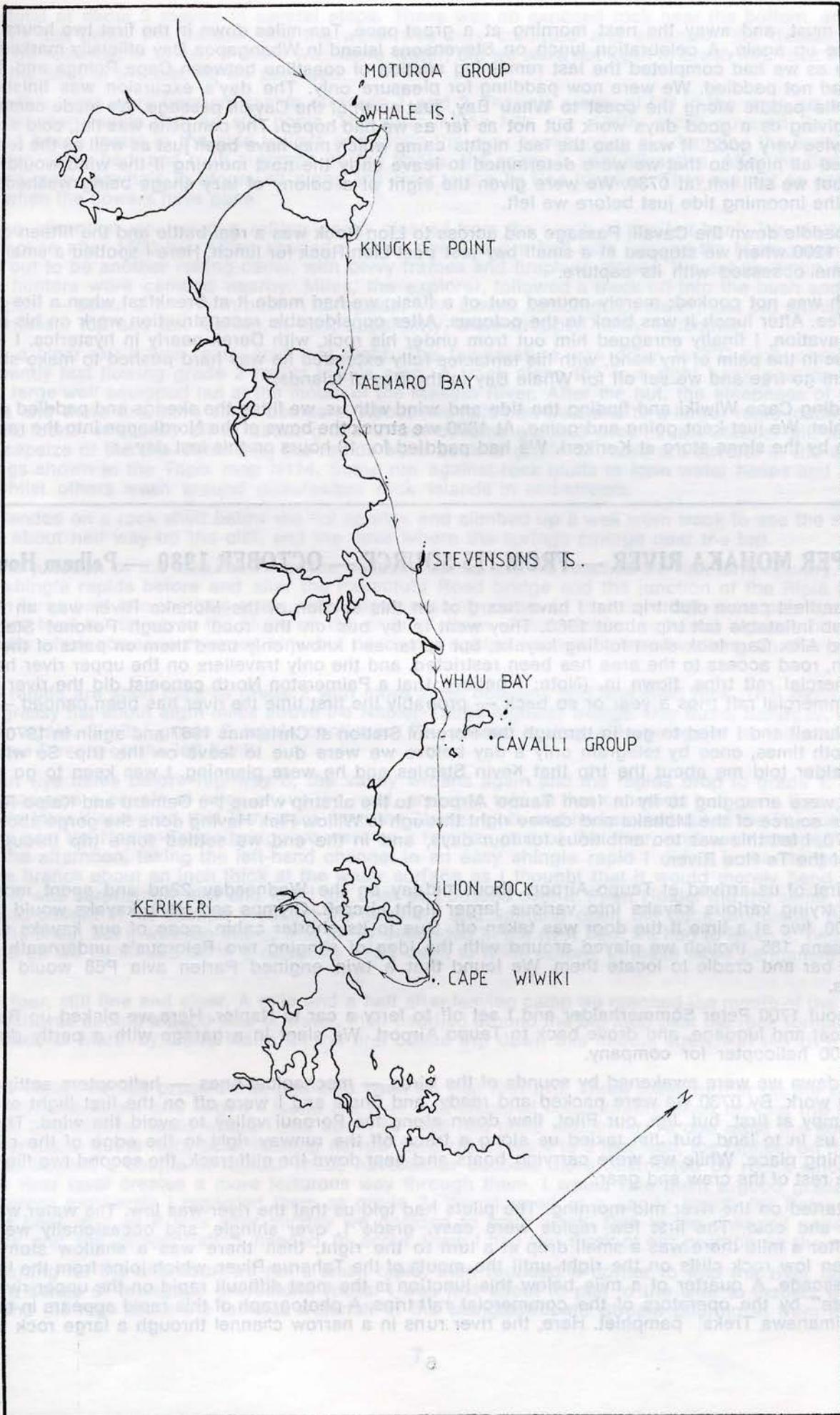
The kindly lady at the museum at Bubritzky Homestead made us some frozen sandwiches from frozen bread and ingredients. These were eaten in the sun still frozen. We paid our dues at the camp and started to carry our fully laden Nordkapps to our site. Seeing some older folk coming from a campervan, Derek declared in a fog-horn whisper, "We'll have cold stew tonight as we haven't any white spirits left". We dined in their camper that night, on fresh smoked schnapper and veges, washed down with sherry — fine people these! The entertainment was supplied for the night by a horde (about a dozen) of game fishing boats. The people off which, had a party in the camp that night. They all came ashore in one boat, we lost count at forty three bodies. They came up the cliff like a D-day invasion, all carrying plonk and booze and in very high spirits.

Although there was still a lot of hard paddling to be done, we both felt that we had turned the corner and were on the homeward run.

It dawned fine and we slept in for a short while. Derek was a bit disgruntled when I started to take the gear away to wash it, he had wanted to go on, but all the gear got washed and cleaned, sleeping bags as well as myself. We had to walk 3 km to the shop and very carefully spent our last \$13 on more food. Our gear was dry when we returned and we loaded up. Our host of last night was amused at the gear we carry (so am I) and even more surprised at the space left over after all was aboard.

We were photographed and waved off at 1500 hrs that afternoon with a good tail wind. Our course was set for Commodore Bay on Whale Island in the Moturoa Group at the end of Cape Karikari. We made camp about 20 m up the Island after dark at about 1900 hrs. It was a good night, although the camp was elevated, which was more than my mood was as I had mislaid my hatch cover which was to serve as my plate for the night, causing me to mar the occasion somewhat with a caustic remark about the fire which, due to lack of suitable fuel, was one of the slowest ever made. With skill, Derek succeeded in cooking dinner and breakfast without setting fire to the island, and we left late at 1000 the next morning with deteriorating weather, around Cape Karikari into a lumpy sea and a Southeasterly. Lunch was an hour on the northern side of Doubtless Bay inside Knuckle point.

The afternoon wind was backing and finally came up from behind so that we made good time, if not a good course, across Doubtless Bay and made camp at Taemaro Bay. This bay is similar to the entrance to Whangaparapara on Great Barrier; it is well worth future visits. Camp and dinner were again made after dark and sleep on this night was disturbed by the occupation of the bay by two steel hulled fishing boats. With the noise they made, I am sure they were mating overnight. Neither of us felt like leaving this bay, but



leave we must, and away the next morning at a great pace. Ten miles down in the first two hours then the wind came up again. A celebration lunch on Stevensons Island in Whangapoa Bay officially marked the end of the trip as we had completed the last remaining section of coastline between Cape Reinga and Auckland that we had not paddled. We were now paddling for pleasure only. The day's excursion was finished by a short 5 mile paddle along the coast to Whau Bay, just north of the Cavalli passage. We made camp early at 1600 hrs giving us a good days work but not as far as we had hoped. The campsite was flat, cold and windy, but otherwise very good. It was also the last nights camp which may have been just as well as the tent rustled and flapped all night so that we were determined to leave early the next morning if the wind would let us. It wouldn't but we still left, at 0730. We were given the sight of a colony of lazy shags being washed off their perch by the incoming tide just before we left.

The paddle down the Cavalli Passage and across to Lion Rock was a real battle and the fifteen odd miles took until 1200 when we stopped at a small bay just past Lion Rock for lunch. Here I spotted a small octopus and became obsessed with its capture.

Lunch was not cooked; merely poured out of a flask; we had made it at breakfast when a fire had been lit for coffee. After lunch it was back to the octopus. After considerable reconstruction work on his pond and some excavation, I finally enraged him out from under his rock, with Derek nearly in hysterics. I looked at my octopus in the palm of my hand, with his tentacles fully extended he was hard pushed to make six inches. So I let him go free and we set off for Whale Bay in the Bay of Islands.

Rounding Cape Wiwiki and finding the tide and wind with us, we fitted the skeggs and paddled down into Kerikeri Inlet. We just kept going and going. At 1800 we struck the bows of the Nordkapps into the rapid under the bridge by the stone store at Kerikeri. We had paddled for 10 hours on this last day.

THE UPPER MOHAKA RIVER — FROM ITS SOURCE — OCTOBER 1980 — Pelham Housego

The earliest canoe club trip that I have heard of on this section of the Mohaka River was an Auckland Canoe Club inflatable raft trip about 1960. They went in by bus on the road through Poronui Station. Jim Mason and Alex Carr took short folding kayaks, but as far as I know, only used them on parts of the journey. Since then, road access to the area has been restricted, and the only travellers on the upper river have been the commercial raft trips, flown in. (Note: I believe that a Palmerston North canoeist did the river with one of the commercial raft trips a year or so back — probably the first time the river has been canoed — editor).

Bill Nuttall and I tried to get in through the Poronui Station at Christmas 1967 and again in 1970 but were refused both times, once by telegram only a day before we were due to leave on the trip. So when Peter Sommerhalder told me about the trip that Kevin Staples and he were planning, I was keen to go along.

They were arranging to fly in from Taupo Airport to the airstrip where the Oamaru and Kaipo Rivers join to form the source of the Mohaka and canoe right through to Willow Flat. Having done the gorge above Willow Flat in 1970, I felt this was too ambitious for four days, and in the end we settled for a trip through to the junction of the Te Hoe River.

The first of us arrived at Taupo Airport about midday on the Wednesday 22nd and spent most of the afternoon trying various kayaks into various larger light aircraft. Olymps and Hahn kayaks would go into a Cessna 206, two at a time if the door was taken off. Due to its shorter cabin, none of our kayaks would go into a Cessna 185, though we played around with the idea of slinging two Pelorous's underneath, using a rook-rack bar and cradle to locate them. We found that a twin engined Parten avia P68 would take two Pelorous's.

At about 1700 Peter Sommerhalder and I set off to ferry a car to Napier. Here we picked up Russ Hawken, his boat and luggage, and drove back to Taupo Airport. We slept in a garage with a partly dismantled Hughes 500 helicopter for company.

Next dawn we were awakened by sounds of the birds — mechanical ones — helicopters setting off for their daily work. By 0730 we were packed and ready, and Snow and I were off on the first flight of the 206. A little bumpy at first, but Jim, our Pilot, flew down along the Poronui valley to avoid the wind. The Parten avia beat us in to land, but Jim taxied us along a track off the runway right to the edge of the cliff above our launching place. While we were carrying boats and gear down the cliff track, the second two flights came in with the rest of the crew and gear.

We started on the river mid-morning. The pilots had told us that the river was low. The water was sparkling clear and cold. The first few rapids were easy, grade 1, over shingle, and occasionally we scraped bottom. After a mile there was a small drop at a turn to the right, then there was a shallow stony section with broken low rock cliffs on the right until the mouth of the Taharua River, which joins from the left over a sloping cascade. A quarter of a mile below this junction is the most difficult rapid on the upper river, called "The Chute" by the operators of the commercial raft trips. A photograph of this rapid appears in the centre of the 'Kaimanawa Treks' pamphlet. Here, the river runs in a narrow channel through a large rock shelf and

drops a total of about 3 metres in several steps. There was an exposed rock near the bottom, and at least one nearby just below the surface, and the water was very confused and aerated. We decided it would probably be reasonable to run if there was more water, but we were not keen to crash that rock with loaded boats at the start of the trip, so we portaged.

After this there were frequent rapids of grade 1 and 2. There is plenty of fall in the river, so water flows steadily between rapids with no still pools. The surrounding hills are mostly scrub covered, but there are patches of beech forest in the side valleys and along the river banks, often overhanging the water; with the clean water, rocky bed, and rock outcrops on the banks, the scene is very attractive. After the first ten miles there were many kowhais in bloom all along the river to the Te Hoe junction. They are not so noticeable in summer when the flowers have gone.

In the afternoon we found a rafting camp cleared from the scrub on the left bank. We started looking for a campsite after 1500 hrs. Miles spotted a likely one about a half mile beyond the Maungatamoka River. It turned out to be another rafting camp, with bivvy frames and fireplace stones. We set up camp, then found that two hunters were camped nearby. Miles, the explorer, followed a track off into the bush and discovered a hot pool — about 2 m - 1½ m built in fibreglass, with almost scalding hot water, just big enough to cram in six canoeists top and tail fashion. It had, apparently, been dropped in by helicopter.

With a clear sky it was really cold that night. The temperature was down to 3°C next morning. There are frequently fast flowing grade 2 rapids in this area. A track along the true right bank passing this camp runs to a large well equipped hut at the mouth of the Makino River. After the hut, the steepness of the rapids increases and there are more small boulders. About two miles on we came to a larger rapid leading towards a left-hand bend. It started off at about grade 2, but became grade 3 over its last steeper bit, and caused the first capsizing of the trip. After this, the rapids were back to grade 2. There are several in the area of the hot springs shown in the Topo. map N114. Some run against rock bluffs to form water heaps and backwater swirls, whilst others wash around picturesque rock islands in mid-stream.

We landed on a rock shelf below the hot springs and climbed up a well worn track to see the small bathing pool about half way up the cliff, and the cave where the springs emerge near the top.

At the junction of the Makahu River the valley widened and we reached the first farm country. There are grade 1 shingle rapids before and after the Pakaututu Road bridge and the junction of the Ripia River. The river then turns east into the hills again, with ridges running down to end in small rock points, and small rapids here tend to run up to the bluffs on the ends of them. Peter Holder capsized against one of these small bluffs when someone rammed him, but he coolly righted himself by hand-walking up the rock alongside.

The rapids are soon back to grade 2 with more small boulders and less solid rock. That night we camped on a grassy flat about eight miles above the Napier-Taupo highway bridge. Day three, Saturday, was bright and clear again. Similar grade 2 rapids continued. We passed a very nice campsite at the mouth of the Punewetoro Stream on the left bank.

About five miles before highway 5, the valley widens again and the rapids drop to grade 1. We talked to some campers a couple of miles above the road, and they told us that canoeists had gone through the day before. We later discovered that they were from the Napier club, and had started out at the Pakaututu bridge.

Once past the Napier-Taupo bridge we were on a familiar part of the river, and soon stopped for lunch. Later in the afternoon, taking the left-hand channel in an easy shingle rapid I didn't bother to go around a small tree branch about an inch thick at the water surface as I thought that it would merely bend out of the way, but it was surprisingly stiff and lifted my boat as I passed over it. Peter Holder did the same, but it tipped him and caught in his cockpit breaking the coaming and splitting open the deck alongside. We tried to remove the snag, but it was too strong and firmly embedded in the river bed; we had to leave it. With the damage taped up we continued on to a campsite I had been to twice before, to make more permanent fibreglass repairs.

Day four, still fine and clear. A mile and a half after leaving camp we reached the mouth of the Waipunga River which was adding a good flow of water, then paddled around the big loop past the rock formation called 'The Surface of Mars' by Gerry Maire on the first canoe trip down this middle stretch of the river at Easter 1963.

Miles Usher, on this present trip, had also been on that first trip. Three miles further on the boulders in the river became larger and larger. I found the river had changed considerably since my last trip almost ten years ago. One familiar rapid where I had swum in 1965 had gone altogether. At one rapid the flow concentrated over close to the right bank forming narrow pyramid waves 4 to 5 feet high, the highest on the trip. We stopped to inspect a couple of rapids. These have either become more obstructed by rocks since 1970, or the lower river level creates a more torturous way through them. I would rate them a good grade 3 at this level, whereas previously I regarded them as grade 2. We stopped at a sandy beach for Peter Holder to empty his boat, and as it was after midday we decided to have lunch. Due to the changed appearance of the rapids and the concentration needed to scout them I had lost track of our position on the map.

Restarting for the afternoon we ran a small rapid, then rounded a corner to find the river falling away between a series of triangular gravestone rocks. I was just about to pull to the side to inspect this when I saw beyond the high rocks the familiar waterfall of the Mangakurupatu Stream pouring in from the left, so

I paddled on. We were a couple of miles further on than I had thought. This was very encouraging as I was getting a bit concerned about being able to reach the Te Hoe River before evening. Here again, with the river low, the rapid was changed — the approach through the high rocks was less direct, the pressure waves narrower and less regular, and you weren't fed right under the waterfall as we had been in the past. This rapid managed to separate Snow from his boat, so we did a deep-water rescue in the calm waters of the first narrows which follow this rapid.

After this is the series of drops that had caused my capsize on the previous trip. I had set my mind on making a success of the move that hadn't worked in the less manoeuvrable penguin. However, lower water had exposed more rock, and caused a new stopper area at the second to last drop, so we all portaged. Russell pointed out later that we probably could have run right down the left-hand side, hurdling the rocks in the last drop in order to avoid a traverse at the last pool, but the boats were already portaged by then. We inspected the next longish rapid, which had a straight pressure wave run, then split either side of a rock island. Some took the easier left-hand channel, and three took the right-hand channel. Peter Holder almost didn't make it when he was almost swept against the island, but did a good deep brace to recover.

A mile or so of comparatively easy water follows. A spectacularly rocky hill, looking like a miniature of a peak in the 'Dolomite Alps' is directly ahead as the last rapid before the second narrows approached. A rock island like the hull of a World War I warship warns of this rapid which is normally grade 3 and the most difficult above the Te Hoe. We got out to inspect. I eyed the stopper about one third of the way down, trying to assess how strong it was, as a couple of rapids earlier in the day had proven to be more difficult than I had expected. However, Russell said that it would be no trouble and ran it first, followed by Miles. When I ran it, it turned out to be just a fun run, about grade 2+ at this level. The stopper didn't 'stop' — just shows how you can be psyched out by a rapids' reputation. The two least experienced in the party capsized, but both guided their boats successfully through the rest of the way, so no damage was done. Incidentally, the water in the lower part of the river was a reasonable temperature, in contrast to the upper river.

My memory of the section after the following calm narrows, down to the Te Hoe River was of grade 1 rapids with very small waves. Now there is one rapid that is reasonably long, and has big enough waves to wet you a little — still only grade 1 for skill. It seems to be caused by a 'slump' type slip which is moving down the hillside just upstream on the left, and gradually feeding earth and rock into the river.

I stopped to talk to a shooter on the left bank, and he pointed out a wrecked kayak just downstream. We all went to look at it. It was a Platypus broken in two at the cockpit. We decided to take it with us; Russell took the bow section in tow behind him; I slipped the stern section over the bow of my boat.

When we reached the mouth of the Te Hoe, Miles was alongside me, and I pointed out to him where we had camped on the previous trip. We were preparing to stop, but then decided we might as well go on to Haliburton's landing where I thought we were meeting the cars, rather than having to reload our boats for the short trip in the morning. Peter Sommerhalder and Kevin were out ahead, and the fact that they had paddled on past the Te Hoe confirmed this decision in my mind. A mile and a half later, when we were nearing the landing, I wondered to myself. "How is Peter going to recognise the place, he has never been here before?"

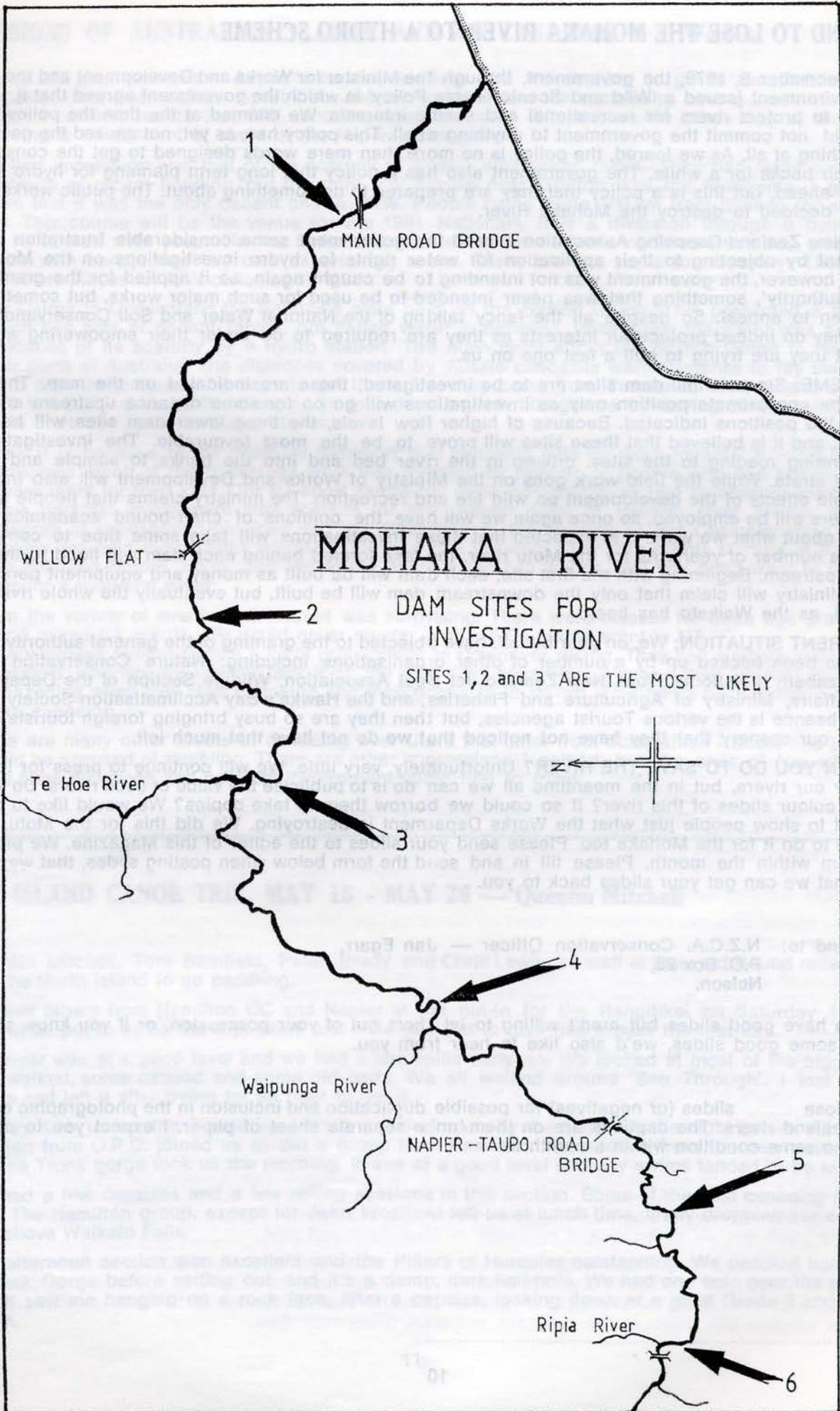
We pulled up at the end of the tractor track. Russell soon arrived and said, "We're on the wrong side of the river, the cars are coming in from Tutira". Sudden depression. We had paddled too far and had to walk almost two miles back upstream.

We abandoned the broken Platypus on the bank and set off, finally arriving at a good camp site at the end of the road through Waitere Station, two hours after we had passed it before. Next morning we crossed the Mohaka by kayak, then walked up the Te Hoe for a couple of miles — another Mohaka in miniature. On the way we disturbed several hares that sprinted off across the flats. Kevin tried fishing. None of us felt too energetic, so we returned to camp for lunch. The cars to take us home soon arrived, and after hurried packing, we were on our way. The road out is steep and narrow, and the views towards the Mohaka from the Mangahururu Range are quite spectacular.

At Tutira we met the other party that had been preceding us on the lower part of the river, and informed the owner of the Platypus where we had left it. I forgot to ask him how he had got himself out! We didn't talk for long though as we were due back in Auckland that night.

STATISTICS: Start at 2000 ft A.S.L.
Oamaru Airstrip to Pungaruhi is 36 miles with 1000 feet of fall.
Pungaruhi to Te Hoe is 21.5 miles with 400 feet of fall.
The river level on the gauge at Pungaruhi was estimated at 1.35 m.

THE PARTY: Peter Sommerhalder paddling a pelorus.
Kevin Staples paddling a penguin.
Russell Hawken paddling a pelorus.
Miles Usher paddling a pelorus.
Peter Holder paddling a Hahn.
Snow Stacey paddling an Olymp V
Pelham Housego paddling an Olymp V.



WE STAND TO LOSE THE MOHAKA RIVER TO A HYDRO SCHEME

On December 6, 1979, the government, through the Minister for Works and Development and the Minister for the Environment issued a 'Wild and Scenic Rivers Policy' in which the government agreed that it would be necessary to protect rivers for recreational and scenic interests. We claimed at the time the policy was not law and did not commit the government to anything at all. This policy has, as yet, not caused the government to do anything at all. As we feared, the policy is no more than mere words designed to get the conservationists off their backs for a while. The government also has a policy that long term planning for hydro schemes should go ahead, but this is a policy that they are prepared to do something about. The public works vandals have now decided to destroy the Mohaka River.

The New Zealand Canoeing Association caused the government some considerable frustration and embarrassment by objecting to their application for water rights for hydro investigations on the Motu River. This time, however, the government was not intending to be caught again, so it applied for the granting of a 'general authority', something that was never intended to be used for such major works, but something that is not open to appeal. So despite all the fancy talking of the National Water and Soil Conservation Authority that they do indeed protect our interests as they are required to do under their empowering act, it appears that they are trying to pull a fast one on us.

THE SCHEME: Six potential dam sites are to be investigated, these are indicated on the map. The arrows point to the approximate position only as investigations will go on for some distance upstream and downstream of the positions indicated. Because of higher flow levels, the three lower dam sites will be investigated first, and it is believed that these sites will prove to be the most favourable. The investigations will involve forming roading to the sites, drilling in the river bed and into the banks to sample and test the geological strata. While the field work goes on the Ministry of Works and Development will also investigate the possible effects of the development on wild life and recreation. The ministry claims that people skilled in such matters will be employed, so once again we will have the opinions of chair-bound academics making decisions about what we want. It is expected that these investigations will take some time to complete — probably a number of years. As for the Motu river, the lake formed behind each dam will flood to the foot of the dam upstream. Beginning with the first site, each dam will be built as money and equipment permits. Initially the Ministry will claim that only the downstream dam will be built, but eventually the whole river will be developed, as the Waikato has been.

THE CURRENT SITUATION: We, on your behalf, have objected to the granting of the general authority. Our objection has been backed up by a number of other organisations including: Nature Conservation Council, Queen Elizabeth II National Trust, New Zealand Jet Boat Association, Wildlife Section of the Department of Internal Affairs, Ministry of Agriculture and Fisheries, and the Hawke's Bay Acclimatisation Society. Notable for their absence is the various Tourist agencies, but then they are so busy bringing foreign tourists out here to look at our scenery that they have not noticed that we do not have that much left.

WHAT CAN YOU DO TO SAVE THE RIVER? Unfortunately, very little. We will continue to press for legal protection for our rivers, but in the meantime all we can do is to publicise the value of such rivers. Do you have any good colour slides of this river? If so could we borrow them to take copies? We would like to make up a slide set to show people just what the Works Department is destroying. We did this for the Motu, and we would like to do it for the Mohaka too. Please send your slides to the editor of this Magazine. We promise to return them within the month. Please fill in and send the form below when posting slides, that way we can be sure that we can get your slides back to you.

Please send to: N.Z.C.A. Conservation Officer — Jan Egarr,
P.O. Box 26,
Nelson.

If you have good slides but aren't willing to let them out of your possession, or if you know some one else with some good slides, we'd also like to hear from you.

I enclose slides (or negatives) for possible duplication and inclusion in the photographic collection of New Zealand rivers. The captions are on them/on a separate sheet of paper. I expect you to post them back in the same condition within a month to:—

Name:

Address:

IMPRESSIONS OF AUSTRALIAN SLALOM AND WW CANOEING — T. Warren

In May this year we were in Australia to visit relatives and we decided to go to the National Slalom Championships too, near Cairns. Apart from the competition and the socializing among these friendly sociable people I came to realize that WW canoeing was somewhat different on the other side of the Tasman. The following is an account of some of the impressions gained.

The first impression was that of the scarcity of Aussie whitewater rivers. They had large areas of flat water because of recent flooding, but the only WW course near Grafton was the Nymboida. I gained the impression that it was the only decent one in NSW. People came some 700 km from Sydney for a weekend canoeing. This course will be the venue for the 1981 Nationals. It is a diversion through a hydro station from the Nymboida river proper in the hinterland. The water flows down a modified creek bed, swift, shallow and narrow with bonejarring (my own experience) rocks. There are few pools for recovery. There appear to be no better places for WW canoeing in NSW.

Near Cairns in Queensland the Nationals were held on the Barron Gorge. This presented a better WW course with two sets of decent rapids, but flatish water in between. Here again the water was tightly controlled because of its scarcity by a hydro station. The main point about the Barron Gorge is the distance from other parts of Australia. The distances covered by Aussie canoeists were immense to my insular eyes. You had to drive continuously for days to get there. Yet they came from Tasmania, Victoria and all parts of NSW. The WA team covered the distance in four days and two kangeroos by driving continuously. I grizzle if I have to drive five hours to Waikeretaheke.

I think it is because of the need for transport that canoeing gets far more parental support over there. At the Nationals much of the backstage work was handled by parents or people who had not been canoeists but were there for their kids. Our NZ sport seems far more competitor, or late competitor managed than theirs. This parental involvement may account for the greater level of training their juniors attain, the greater degree of sponsorship obtained and the difference in the running of the Championships. Whereas our Nationals are held over Easter weekend, theirs was a leisurely affair with events starting at 9 or 10 a.m. and often finishing before 3 p.m. and the whole affair lasted two weeks. Still you don't want to travel over 5000 miles for a weekend event.

Again the variety of events and classes was surprising. There were classes for three age groups; men, women and mixed C2 events. We could never muster a mixed C2 teams event in NZ.

The Australians appear to give a lot of prominence to Downriver racing. They had a whole week of it, before the slalom, whereas we usually tack it on the end if we have time. It seems they are first involved with down river racing when they start canoeing and then graduate to slalom. This might be a better way to start youngsters canoeing.

There are many other facets of canoeing over there that differ from ours, which I would like to mention but I would be accused of rambling. There are other impressions I gained, but the ones of few white water rivers, the huge distances and parental involvement come first to mind.

NORTH ISLAND CANOE TRIP, MAY 18 - MAY 26 — Quentin Mitchell

Quentin Mitchell, Tom Bamfield, Peter Brady and Chris Lewis, all staff at Outward Bound recently made a trip to the North Island to go paddling.

We met others from Hamilton CC and Napier at the put-in for the Rangitikei on Saturday 19. Eleven paddlers in all put in to do the trip. Chris and Pete decided to give this a miss the first day.

The river was at a good level and we had a few spills early on. We looked at most of the bigger rapids — some walked, some canoed and some did parts. We all walked around 'See Through'. I lost a paddle below this and left it after trying for an hour to get it.

Sunday saw us on the Tongariro having mended boats by the camp fire the night before. Ali Ward and Dick Wattan from O.P.C. joined us as did a group from Hamilton. The section from the new power installation to Tree Trunk gorge took us the morning. It was at a good level and any swims tended to be long ones.

We had a few capsizes and a few rolling sessions in this section. Some of the best canoeing anywhere, I reckon. The Hamilton group, except for John Woolford left us at lunch time, firstly dropping our cars at the take-out above Waikato Falls.

The afternoon section was excellent and the Pillars of Hercules outstanding. We paddled back up into Tree Trunk Gorge before setting out, and it's a damp, dark hell-hole. We had one epic near the end of the day which saw me hanging on a rock face, after a capsize, looking down at a good Grade 3 and not keen to drop in.

We stayed at O.P.C. on Sunday night and went to the Rangitikei on Monday. 'Jeff's Joy' must have been the highlight and I managed to roll over it — a 'first', maybe? I got a bloody hard knock for my efforts. Tom and John ran it successfully.

We spent Tuesday on the Whirinaki which was at a low level and we found it a very scenic, pleasant paddle, not too demanding. Tom and John ended their trip here and Pete, Chris and I went to Full James for Wednesday.

We had a look at the Aratiatia Rapids on the way but decided not to bother. It was the first time for all of us at the famous Full James and we found it at a high level. We spent all morning playing on it and Pete spent a good deal of time behind the camera. After lunch I knocked the end off my boat so we called it a day and headed for the hot pools at Tokaanu. We had a look at the Huka Falls on the way but also decided not to bother.

Wednesday night was at O.P.C. and we spent Thursday morning on their climbing wall. Pete and Chris headed south then for a rest, and I stayed to fix my boat.

Friday, I canoed the upper section of the Tongariro with Stu Allen and Ali Ward and although slightly lower it was again great sport. It's a pity we are going to lose a great section of river. I again lost my paddle and was delighted to get to the end of that first rapid with fast action hands. Stu picked up my paddle. The rest of the day was quiet except for the odd roll from Stu. We paddled the Rangitikei on the Saturday on my way back and John Davidson also joined us. It was much lower than the previous week and not too difficult although we spend some time looking at the 'S-bend' rapid before we all did it. Stu rolled in the middle. Ali smashed the end of her canoe on 'Max's Drop' and we again walked around 'See Through'.

I lost my paddle, a new Mark G, above 'See Through' and got down hands only for the rest of the rapid. I later found the one from the previous week still stuck and managed to get it easily with the lower river level.

A good trip and thanks to those who joined us and the hospitality of O.P.C.

SUMMARY OF THE FIRST GREAT BRITAIN KAYAK CIRCUMNAVIGATION — Paul Caffyn

Participants: Paul Caffyn, New Zealand 32.

Nigel Dennis, Wales 25.

Support Party: Lesley Hadley, New Zealand 29.

We set off from Holyhead, Anglesey, Wales on the 5th May, 1980, to paddle north-about around England, Scotland and Wales. Both paddlers were using Frank Goodman designed and built Nordkapps, with bulkheads, hatches, decklines and bilge pump. Both Nordkapps were of the extended skeg model; a modification to the stern which obviates the need for a detachable skeg. Lesley was driving a sponsored 4-wheel drive Subaru stationwagon, with tents, sleeping bags, food and other equipment.

Only a low mileage was achieved for the first two days around the northern coast of Anglesey into strong North-easterlies. Then followed four days of paddling on calm seas to Liverpool, passing Blackpool to Whitehaven on the south side of Solway Firth. The Firth was the first of the open sea crossings, giving strong tidal streams, lots of shipping and poor visibility (10 miles on a good day). The first two hours of the firth crossing (25 miles) was on calm seas then a strong North-easterly came away against a flood tide (tide against the wind) causing a steep capped chop. Relieved to sight Scotland after another hour, we landed for lunch below a tank gunnery range — a danger for British sea canoeists which fortunately New Zealand does not have.

For these sea crossings I worked out the tides carefully, setting off with the top half of the flood tide catching slack water mid-firth, and working the first half of the ebb tide to the other side. Sticking to a compass bearing meant a dog-leg course, but it worked every time.

Now in Scotland we had an eventful following day paddling through a laser-beam range and rounding the Mull of Galloway. Fortunately I had rung the local coastguard who halted firing on the range as we crossed Luce Bay. The Mull of Galloway was the worst tide race that we encountered around Britain. Two options were open to us — hard against the cliffs of the Mull, or a mile out to sea. I opted for the former, but underestimated the strength of the tide — we went through at about half a mile out, through a 9 to 10 foot breaking sea; the worst being a 200 yard wide band where the sea streamed through at an estimated 10 knots. This was a calm day — no wind and no swell — imagine a bad day!

We had uneventful paddling up the south-west coast of Scotland; a warm reception from the townsfolk of Ballantrae (where Sir Bernard Fergusson, former Governor General of New Zealand and now Lord Ballantrae, lives), and a rounding of the Mull of Kintyre with the paddles scraping the rocky cliffs we were so close; yet another tide race at the northern entrance of the Irish Sea.

Enjoyable cruising up to Oban under blue skies on glary calm seas, down the sound of Mull, passing inside the Isle of Skye. Three days of Northerlies, wind, and rain slowed progress on choppy seas, but the weather came right as we neared Cape Wrath. Now we were starting to feel the North Atlantic swell and Nigel was violently seasick one afternoon, not long after he had told me, "my paddle is bending like a piece of rubber." I thought that he was hallucinating and wondered what Lesley had put in our lunch. After this episode Nigel resorted to seasickness tablets until we left the swell behind.

Two vicious tide rips and a lumpy 12 foot swell sent the adrenalin racing as we rounded Cape Wrath, the Northwesterly most extremity of Scotland, and we landed through a three foot surf at Durness. A strong northerly held us up for a day — a good excuse to sleep in. With the long Scottish days we would be up at 0430 in the morning, paddling by 0500 and ashore by 2100 with twilight until 2300 hrs.

The next two days along the exposed northern coast of Scotland was the crux of the trip. A 15 foot swell rolling down from the Atlantic Ocean, strong tide races off the prominent headlands, and an acute shortage of lee-sheltered landings. The local inhabitants said that conditions were, "... about average ..." and so we paddled away from Durness through a 5 foot surf. We had gripping times off Whitten Head and Strathy Point; fighting wind, swell and tide races to stay upright. But the swell and wind eased as we reached Scrabster, the port Thurso, and I sought advice from a local deep water fisherman for the passage through Pentland Firth. At dawn we paddled out of Scrabster and waited in the lee of Duncansby Head for the ebb tide race there to ease. We picked up the first part of the flood tide and shot through the Pentland at **15 knots** (helped by a spring tide stream of 12 knots). Under a sunny sky with no wind and only a slight swell it was a bit of an anticlimax after all the stories that I had heard.

Kind weather and conditions persisted down the east coast of Scotland, with wide crossings of the Moray Firth and the Firth of Froth. We spent six hours in a pea-soup fog navigating by compass and ear, and another day we paddled through a fierce electrical storm.

But paddling in English water again, our weather luck ran out and we lost two days each at both Amble, Newcastle-on-Tyne, Spurn Head and at Clacton-on-sea. From Clacton we did a 29 mile long crossing of the Thames Estuary navigating using compass, buoys, and the old W.W.II anti-aircraft forts. Coastguard were given an E.T.A. of 1400 hours at Recculver (near Margate) and the two chaps waiting couldn't believe it as we landed at the appointed rendezvous at 1400 hours — 5 hours and 40 minutes for the 29 miles. Now we were well into 'Groyne' country, wood, metal, or stone barriers every 50 yards or so which, supposedly, stops coastal drift of sediment. Talk about an eyesore! Shingle and gravel beaches (between the groynes) with no surf; means that you can land just about anywhere.

At Dover, which has the highest frequency of shipping around the British coast, the harbour pilot launch made us wait for clearance to enter. What with huge hover-craft ferries coming through the Western entrance at 40 knots, and cross-channel ferries every few minutes passing in and out of the Eastern entrance, there was plenty to occupy our interest.

Along the South coast of England there is a higher frequency of 'Danger areas' than for the rest of Great Britain. These areas include R.A.F. bombing and missile ranges, naval gunnery and underwater demolition areas, small arms ranges, and tank and artillery ranges. The danger areas extend up to 15 miles out to sea, which would have meant long detours as the ranges open up at 0800 hrs and closing sometimes not until 2350 hrs. We tried working by official means; ringing the gunnery and range control, but too often we were held up, so we were told of an obscure by-law whereby as bona-ride travellers, the ranges were obliged to cease firing as we passed through. This worked well on all bar one occasion when the range look-out failed to see us.

At Portsmouth we declared a rest day and continued the next day to Plymouth under leaden skies. I had anticipated a rough passage around Lands End, but on a glorious day we cleared the Lizard at slack water, picked up a north-going tide off Lands End and almost reached St. Ives before night fell. This northern coast of Cornwall has some beautiful coastal scenery. The combination of strong tidal movement in the approaches to the Bristol Channel, with long stretches of cliffs made exciting paddling. At Boscastle we were held up for 3½ days by a decent blow. This is a former fishing village that is now reliant on the summer tourist trade. We camped in the harbour superintendent's boatshed and sampled scrumpy at the local pub.

From Boscastle a 50 mile day took us to Ilfracombe from where we crossed the Bristol Channel to Worms Head, continuing to Tenby the same day. We were now back in Wales with challenging canoeing, with strong tide races and even a surf landing at Freshwater West beach (near Milford Haven). Just like home to me, a big offshore break, a calm gap, then the main break. Poor old Nigel did a loop in the 6 to 7 foot outside break, rolled, and went over twice in the main break, rolling neatly each time. This was the only serious landing during the whole trip!

The next day we turned onto the West coast of Wales, passing through the Southern entrance to the Irish Sea. We had been warned about two nasty tide races; Jack and Ramsey Sounds, with overfalls and whirlpools! But we pushed through the first against the tide, and picked up the tide through the second. There being no swell, these tide races were easily overcome — just like working a slalom boat upstream in a rapid, hugging the shore and working the back-eddies. Two days of paddling including a 59 miler and a 57 mile day took us to Trearddur Bay, Nigel's home village and only 8 miles from Holyhead and the end of the trip. During the previous 7 days from Boscastle we knocked up an average of 44.4 miles per day.

Suffering from a terrible hangover (Champagne and homebrew) we worked the flood tide through the tide races off North and South Stacks of Holy Island, turned into Holyhead harbour with lifeboats in front and astern, and a R.A.F. helicopter overhead. A warm reception and both Lesley and I were sad that it was all over. A fantastic trip!

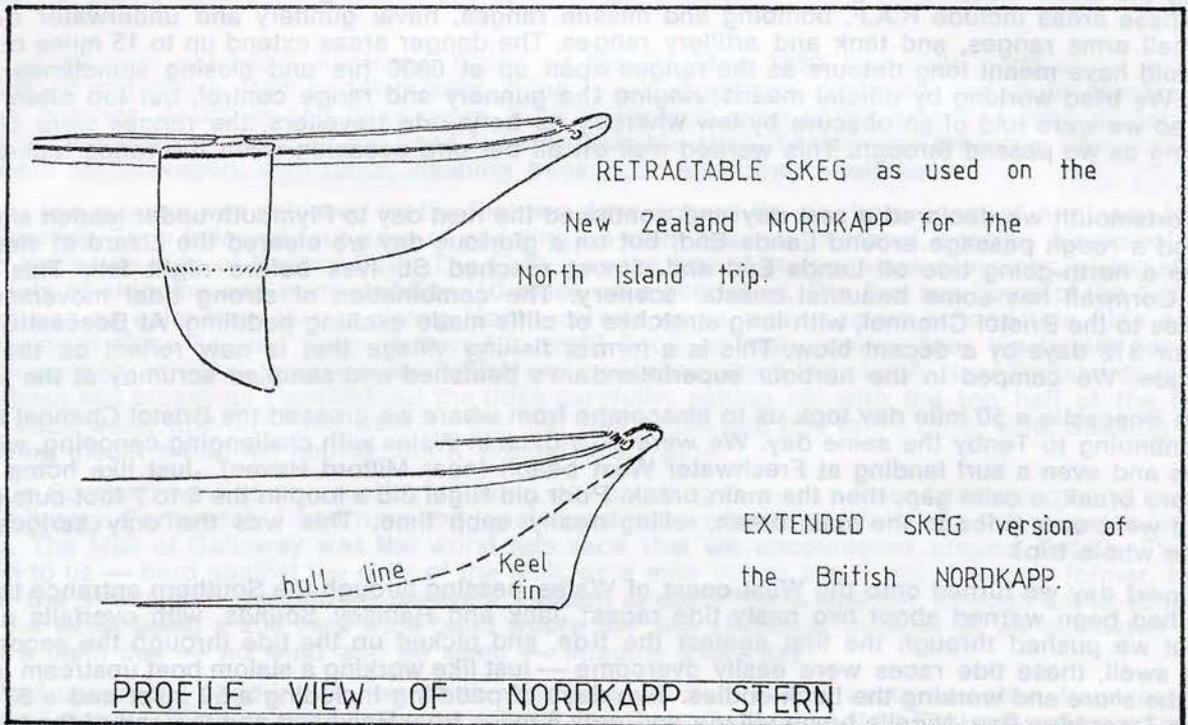
STATISTICS:

- Total distance paddled: 2200 miles.
- Total time: 85 days.
- Weather-bound days: 15 days.
- Declared rest days: 2 days.
- All-up average: 26 miles per day.
- Paddling days average: 33 miles per day.
- Support vehicle mileage: 5600 miles.

A BRIEF COMPARISON TO NEW ZEALAND SEAS:

OPEN SEA CROSSINGS: There were 8 crossings during the Great Britain trip when we were out of sight of land for up to 3 hours. In New Zealand only Foveaux Strait and Cook Strait are in the same category — but I consider these two straits to be a far more serious proposition than any of the Great Britain ones. The longest crossing was the Thames Estuary (29 miles) and our longest single stint, whereas I did a 35 mile stint during the South Island trip and a 40 mile stint along Ninety Mile Beach during the North Island trip — but both along the coast.

VISIBILITY: Visibility around the British coast is poor, due to industrial pollution. It was as low as 6 miles on a sunny day, and up to 12 miles on good days. This requires a greater reliance on compass, marine chart, and tidal information.



SWELL: We encountered 'serious' swell on two days off the North Scottish Coast. Whereas on the West coasts of both the North Island and South Island, the swell is rarely absent.

LANDINGS: Following from the above notes on swell, landings during the Great Britain trip were always a 'piece of cake' with the exceptions mentioned in the account. Only the Freshwater West Beach landing compared to the West Coast of the North and South Islands. Thus, this Great Britain trip was more enjoyable without the incessant worry about landings.

TIDES: The tidal range is higher for Britain than it is for New Zealand (+30 feet in the Bristol Channel area) causing stronger tidal stream movements and requiring a close watch on tide times. Tidal stream movement around the bulk of the New Zealand coastline has little influence on the sea canoeist. But on the very ends of the Islands, the tidal stream movements are very much on a par with Great Britain, for example a measured 11 knots off Cape Terawhiti near Wellington.

MAN MADE DANGERS: In some ways our closest shaves came from paddling through danger areas and in avoiding shipping. Both of which are not a problem around New Zealand.

SKEGS: The extended skeg version of the Nordkapp runs true in light to moderate winds and light swell — even with a wind 'up your chuff' or quartering from the stern. But, on a medium to heavy swell or a decent chop when the stern is out of the sea over half the time, it is useless.

Any queries or comments on this article should be directed to:

Paul Caffyn, 4 Walker Street, Runanga, Westland, N.Z.

CANOE AND KAYAK CONSTRUCTION — PREFACE — Graham Egarr

We have been asked so often for information on building kayaks in glassfibre that it seems that we will have to repeat the series of articles we ran in this magazine some years ago. It had been our intention to publish those articles in a single volume as a manual on canoe building, however, we have not been able to do this. Consequently we now intend to rerun the original articles, updated and considerably expanded, in a series of articles.

Most of the information contained in these articles is not my own, but has been gleaned from conversations with our more successful canoe builders, from experimentation and in building a number of canoes for myself and my friends, and from reading as much as possible on the subject. Because this information has been gradually collected over a number of years I have long forgotten from whom I obtained it, hence I find it next to impossible to acknowledge all sources of that information. I hope that the anonymous donors will not be too upset.

Although I have built well over 100 single kayaks, and half a dozen C2 slalom craft, and a number of boats in wood and glass covered, that does not make me an authority on glassfibre construction. I have certainly used the majority of materials and techniques that will be mentioned in these articles, and there will undoubtedly be many more alternatives that I do not mention. Every builder will have his own favourite methods and techniques, and ideas as to what makes for the best boat — I am as biased as anyone else is on this matter, but I hope that you can look as objectively as possible at what I have to say. Do not quote me as an authority, other experienced builders probably know far more, but unfortunately they are not prepared to write these articles. My experience has been very much a 'backyard' affair — building boats in a spare bedroom and in the basement, or outside on sunny days, so I hope I can shed a little practical light on the subject. My intention is to point out a method of building your first canoe by a well proven method and to point out some of the alternatives that you could try, if you wish, later.

I haven't built a boat for a couple of years now, but I often give a hand with other builders. I wouldn't wish a canoe builder's job on my worst enemy, it is a horrible, smelly and uncomfortable task. But if you insist, then these articles should help with the basic information.

PART I — INTRODUCTION

1.1 The development of the Glass reinforced plastic (G.R.P.) canoe has altered the sport of canoeing more than any other single event. Other developments have come since the 1960's when the first G.R.P. canoe appeared in New Zealand, but none have had any great impact on the sport. To have a well constructed and strong boat is the prime requirement of the sport but, unfortunately, there has appeared some craft that would hardly warrant a paddle on a duck pond. Kayaks and canoes must be strong and light to be of any great use. This requires a building technology that is well developed and used with skill, it is not a job that should be left to the slap happy fast-buck operator; we have seen a few of these in the last few years.

1.2 Kayaks must be of a certain strength to withstand the sharp rocks and shallow waters of many of our mountain streams, they must be of a certain degree of rigidity in order to avoid their being bent around boulders, trapping the paddler in the cockpit. This has led to a certain degree of strength and rigidity being expected of every kayak — what we might call the 'standard' for a N.Z. kayak. This standard is easiest achieved by building a kayak having a hull of Glass-reinforced plastic weighing around 13 kilos (28 lbs). This is typically achieved by having the hull section built of 600 gm/sq. m (2 oz) of chopped strand mat and a layer of 350 gm/sq. m (10 oz) woven rovings; a deck of 600 gm/sq. m (2 oz) chopped strand mat. This will produce our 'standard' boat and the majority of craft built for general use will be so constructed. There are however, alternatives. We could build our hull of one layer of 600 gm/sq. m (2 oz) mat and rovings, or of two layers of 300 gm/sq. m (1 oz) mat and rovings. We could build a stronger boat by using epoxy resin in place of polyester, or we could build a lighter boat, but an equally strong and rigid one by using synthetic fibres such as Kevlar 49. But these are all simply alternatives, none is any better than any other — it is all a matter of what you want and what use you intend to put the boat to. The experienced paddler will know what sort of boat he requires and the experienced builder will know how best to meet these requirements. There is no substitute for experience. These articles are designed to give you the basic information needed to build a boat to your own specifications — assuming you know what you require. It is not a substitute for care and skill, it is not a substitute for experience.

1.3 Boat building is a demanding job. It is complex, it demands patience, the materials are obnoxious, expensive and are not readily obtainable. Moulds are essential, hard to find, reluctantly lent by their owners, easy to damage and difficult to repair. Building a kayak can be compared to standing in a sewer, trying to thread a needle — frustrating and smelly, tedious and damaging to your health; it will make you irritable and grumpy for weeks. All for a cheaper boat, and one that suits your purposes better. Is it all worth it? Personally don't think so, but that is your decision.

1.4 Methodical planning, and craftsmanship, are the keys to a good boat. It comes from care, pride and patience. Do not rush the job but you will need to work fast. Remember that what you are building is your boat, you have to live with the finished product, you may have to paddle it for hours on end, looking at it feeling it for mile upon mile. It costs no more to do a good job than a bad one.

1.5 Keep these thoughts in mind as you work — you will trust your own work more than that of an anonymous builder who has only one aim in mind — to make a living; he cares not for your comfort and ease of mind as you run a Grade 4 rapid. Once his product has left his factory he has only his reputation at stake.

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PART II— THE CURRENT STATE OF BUILDING TECHNOLOGY

2.1 The 'standard' kayak, as I have mentioned, ought to be of a certain rigidity and strength. This requires that sufficient materials of the right kind are used. These materials must be used to the maximum of their potential. The plastic must be of the right kind, it must have the required components so that it becomes chemically stable, it must be cured correctly (needing the right temperature at the right humidity). The reinforcing material must be compatible with the plastic, it must be as free of moisture as possible and it must be in its correct ratio with the resin. This ratio is the most important aspect in all RP construction. The individual fibres must be surrounded by a plastic material, but only by the right amount. If too little, then there will be dry fibre left unstuck to its neighbour, giving a flexible, spongy and weak laminate. Too much resin and you have a heavy and brittle laminate that will not flex sufficiently to withstand impact. Only careful laminating will achieve resin/glass maximum potential.

2.2 Supposing your requirements were other than that obtainable from the standard kayak. These requirements might be:

Additional impact strength for running exceptionally rocky rivers.

Additional rigidity for bouldery rivers.

Reduction in weight for competition slalom, white water racing or for long portages.

Reduction in weight for flatwater racing.

To meet these requirements we could:

1. Provide extra strength and rigidity by increasing the thickness of the laminate — thus incurring the disadvantage of extra weight.

2. Provide extra strength and rigidity by using a stronger and more rigid resin such as epoxy resin or vinyl ester resin and having the disadvantage of increasing costs by around 600% for the resin.

3. Increase impact strength by using a synthetic fibre such as Kevlar 49 or Diolene. Costs would increase by some 1000% for the fibre component.

4. Increase rigidity by using ribs of carbon fibre, increasing the cost significantly and creating potential stress/fracture points when used on rocky rivers.

5. Increase rigidity by using foam-sandwich construction, increasing costs only slightly, weight would be increased and construction complexity and times increased.

6. Reduce weight by using a thinner laminate, losing strength and rigidity (may be acceptable for flat water craft).

7. Reduce weight and maintain strength and rigidity by using a thinner laminate but of synthetic fibre and/or epoxy resins, but increasing costs by some 750%.

So, apart from merely increasing or decreasing laminate thickness, all other methods of altering the weight/strength ratio come down to using exotic and expensive synthetic resins or fibre. The question to be asked is, whether the additional cost is worth the advantages to be gained? To answer that, many variables will need to be considered, such as how long you intend to keep the craft (or how many miles per dollar you will get from it). Is the weight reduction in competition craft a mere substitute for lack of fitness and stamina? The problems you will meet with, and the possibilities of failures, increase as you move away from the standard G.R.P. kayak. Let us face it, the standard 900 gm/sq. m (3 oz) kayak is standard because it has proved to be the best of all the alternatives, the best compromise, and because builders build this particular lay-up of kayak so often they have built up an experience able to cope with all expected problems. Introduce an unfamiliar resin, or fibre, and problems start to occur and costs to escalate. There must be strong reasons for any deviation from the standard model.

2.3 Before going on to describe the construction of a 'standard' kayak, I wish to dispose for the meantime, of the new variations being experimented with mainly for the competitive market. Firstly, dealing with the exotic resins — epoxy or vinyl ester as opposed to polyester resin. Epoxy and vinyl ester have the following advantages:

lighter; stronger; more water resistant; not affected by ultra-violet light to the same degree; bonds better to other materials, including glass and synthetics; will flex further without fracture.

At the moment, epoxy is about six times the price of polyester; vinyl ester is even more expensive. It should be pointed out, however, that resin constitutes by no means the major portion of the cost of materials in a canoe and if you want a super-light boat, or an extra strong boat, epoxy resin may be the answer. (Vinyl ester is almost unobtainable.) No matter what the experts say, polyester resin is affected by moisture — it can soak up water to 15% of its weight, and if, when in this state it is flexed, the dampness penetrates into the glass fibre itself, causing delamination. If you leave a canoe upright with water in it for some time you may notice the glassfibre hull going slightly milky where the water is lying — this milky-coloured resin has reduced strength and if it is left long enough exposed to water the actual glass fibre will become exposed to it, causing delamination. Epoxy resin is not so prone to this effect and this is the reason why many of the latest jet-boats have epoxy resin bottoms with polyester topsides. Epoxy resin fumes can be toxic — so look out.

2.4 I have experimented with various types of polyester resin. At the present moment most canoe builders are using a standard laminating resin for marine use — generally either PolyLite 61332 or Stypol 40-6109. I had asked the advice of two of New Zealand's experts in polyester resins and their comments were:—

"... A good quality orthophthalic resin will undoubtedly do the job and its extensibility can be modified by the addition of flexible resins, if necessary . . ."

“... My suggestion would be that you use a high quality orthophthalic laminating resin modifying it with between 20 to 30% of flexibilising isophthalic resin...”

It had seemed to me that the existing standard laminating resins were quite good enough and did not need an increase in flexibility. However, I experimented with a mixture of 75% PolyLite 61332 and 25% PolyLite 61-041 (a resin with high flexibility qualities). Tests on the canoe I built and paddled some 200 miles showed that while the laminations stood up well I got stress cracks along the keel line as I had built-in localised strengthening here that was less flexible than the hull laminate, and the Gel-coat I used was not of the same degree of flexibility and tended to crack. I do not honestly feel that the extra effort of mixing the two resins was worth it as canoeists tend to change their canoes every few years despite their condition and a flexible resin will not add a great deal to a canoe's life.

2.5 High strength reinforcing materials available to any degree consist of various types of plastic fibre — mainly nylons and a plastic known as Dynel, and carbon fibre. There is a new fibre known as Kevlar 49 and it is the strongest so far available. Glass fibre is, of course, the most common material. It is cheap and provides us with sufficiently strong and rigid craft at around 10 to 15 kg (25 to 33 lbs). Dynel cloth will give a laminate far stronger but less rigid. Nylon, polypropylene and diolene are all similar but with greater tear strength and they use less resin to wet out. Most of these materials, except Dynel and Kevlar are next to impossible to obtain in N.Z. and must be imported directly by the individual. Carbon fibre is used by the high performance yacht builders and because of its great strength and rigidity for weight, it must be considered in the construction of racing craft, but its low flexibility rules it out for river craft unless you were prepared to build a boat wholly of this material.

2.6 One experiment I conducted involved trying to produce a canoe of strength and weight equal to those currently produced but more rigid so that foam blanks could be eliminated as a structural member. My experiment was with foam/glassfibre sandwich construction — namely using two layers of 300 gm/sq. m (1 oz) chopped strand mat with another material in between as a spacer. This material has traditionally been Polystyrene foam, end-grain balsa, or Polyurethane foam. These materials would have produced a laminate thickness far too great for my purpose and so I used a foam consisting of polyester resin mixed with hollow, low density sphere-shaped particles known as silicate microspheres. This material is sprayed or brushed on to the first glass layer before placing a second layer of glass over it, creating a total laminate thickness of around 6 mm (1/4 inch). I had the devil's own job of getting a uniform thickness of the stuff by brushing it on and the resulting test panel was too stiff and flexible so that it cracked under impact rather than flexing and absorbing the shock. Test panels of glass/cardboard sandwich which I had produced tended to flex better but the cardboard became soft and split, causing delamination and allowing moisture to creep in. Mike O'Donnell did build a C2 from foam/sandwich using Bulstrode or Airex foam of about 5 mm and he got a good rigid canoe with built-in bouyancy. The labour involved in the project was high, needing a variation of vacuum-bagging to keep the foam in place while the resin cured. I do not think that Mike is too keen to repeat the experiment. The shape of the smaller single kayaks would almost rule out the foam/sandwich technique except with very flexible, centre-core material.

The hollow silicate microspheres mentioned above, are marketed in New Zealand as 'Q-Cell' and a relatively new product has appeared which is made up of a kind of chopped strand mat and Q-Cell called 'Core-mat'. This is produced in a number of thicknesses, but most importantly, in thicknesses that are far thinner than we can obtain Airex foam. A number of canoe builders are using this in their boats to give greater rigidity than would glass-fibre unless laminate thickness and weight are increased. In particular, kayaks having fairly flat bottoms and open Canadians are ideal craft for this material. Boats such as the Canadian canoe rely upon the rigidity of their hull for strength as they have no deck to give the hull support, and these craft need materials such as Core-mat. Core-mat has also been used as strengthening ribs in the decks of slalom and surf kayaks.

2.7 Very thin end-grain balsa has not been tried to any great degree in New Zealand, but is used extensively in the U.S.A. by the 'Old Town' Company for their large Open Canadian Canoes. We have used pine sandwich/glassfibre for Canadians and this makes a most attractive and strong job. I shall discuss this at a much later date.

PART III — TOXICOLOGY AND SAFETY CONSIDERATIONS

3.1 There are many workers whose lives have been dramatically affected by asbestos — lungs punctured or abdomens rotting with mesothelioma. Taylors' lungs have been known to be choked with fine linen dust; coal and gold miners' lives have been cut short by inhaling coal/gold dust. It is known that inhaling glass fibres of the minute size that float in the air can cause silicosis, a disease in which the glass punctures the alveoli of the lungs, reducing their effectual surface area, making breathing difficult. Resin fumes can cause impotence and temporary personality changes — it may well be a cumulative poison. Although Polyester resin smells awful, the milder smelling epoxies are more toxic. Long exposure has been known to be a direct cause of cancer, blindness and lung damage.

3.2 The following precautions are recommended:—

1. Avoid contact with resins and fibre dust over any prolonged period — that is, do not build too many boats.
2. Work in a well-ventilated area. Ventilation except outside must be provided by fans, one blowing in fresh air on one side of the workshop, and one the other side, one sucking out air. When joining boats, have a tube sucking out fumes from the boat by means of a fan, so that fresh air is flowing into the boat.
3. Wear a respirator at all times when using resin in enclosed areas — (joining boats, fixing seats, etc) and always wear a dust mask when cutting mat and sanding laminate.
4. Do not store or keep food or drink anywhere near the fumes of the resin as it will be contaminated. Eat outside your workshop. Do not build in the same building you live in, (that includes basements).
5. Wear goggles when mixing catalyst with resin as a splash of MEKP can cause permanent eye damage. Goggles are also needed when joining boats and fixing seats.
6. Both polyester and epoxy can produce a sticky mess so that you and your clothes become sticky, not at all hygienic. Dermatitis can rapidly set in, especially when using epoxy. Acetone can dry out the skin, allowing infection to gain an easy hold. Never wash your hands in Acetone or Styrene. Fibreglass dust can cause severe skin irritations (known as glass-itch).
7. Have a tap, or a squeeze bottle handy to wash out dust or MEKP from your eyes. If MEKP is splashed into your eye, flush immediately with fresh water for 15 minutes, avoiding contamination of your other eye with the water. Severe progressive destruction of eye tissue can result if flushing is not carried out immediately.
8. Wear overalls or similar body covering and be prepared to throw out any clothes you wear while building. Long trousers and a football jersey are a good combination.
9. Wear a plastic bag or a hat over your hair when joining or fitting a seat, use barrier cream on your face to prevent skin burn from splashes of resin. Never touch sensitive skin areas with your hands that might have resin on them. (That is a problem when going to the loo when building!)
10. Always wear gloves when mixing and laminating and spread barrier cream on hands and arms first.
11. When working with dry fibre use plenty of barrier cream to avoid glass-itch. Always wash with plenty of hot water and soap, particularly to get all dust particles off your skin. Never wash with acetone — it dries the skin too much, leading to dermatitis. Cover all cuts before working with resin.

3.3. Almost all plastic materials used in R.P. work are poisonous so keep **all** materials out of reach of children and other people who may be unaware of the dangers. A locked cabinet may be needed, especially for the catalysts.

3.4 Fire is, perhaps, the greatest danger. As a general rule, the resins and fibre materials do not readily burn while the catalysts, promoters, accelerators, hardeners and solvents (Acetone and styrene) are all highly inflammable. Fumes from the catalyst mixed with resin fumes that contain the promoter may self-ignite, spreading fire to the other materials such as the resin. The exothermic heat created by a bulk of resin which is curing can also create a fire hazard. The catalyst, MEKP, is an oxidising agent; it gives off oxygen especially when heated. Normal fire extinguishers are useless against such oxidising agents and the only way to prevent fires spreading is to isolate MEKP from all other materials. MEKP also gives off poisonous fumes when on fire. If a fire catches hold of MEKP the only solution is to run. MEKP can also self-ignite if stored in metal containers, especially steel — stainless steel seems to be the only metal that does not affect it. It is probably best to store MEKP in plastic containers. Store all materials in a cool, dry place in air-tight, leak-proof containers, properly marked as to their contents. (It is easy to confuse Acetone and Styrene.) All volatile liquids should be stored in plastic containers with a small airspace so that there is room for expansion. Do not allow a build-up of fumes in the working or storage area. Certainly, never smoke near your materials or near fumes from the materials. Electrical equipment such as drills, fans and lights can cause fires if used in an atmosphere of fumes. TAKE CARE.

3.5 Contamination of components by other materials can also be a major hazard, especially by dirt and water. Water dissolves the finish on most fibreglass products and contaminates resin so that they will not cure. Excessive humidity can cause the same results so never work with resin on a humid day. Glass mat may store moisture amongst its fibre, preventing a complete bond between resin and fibre. Kevlar 49 fibre is notorious for absorbing moisture from the air; for example, when stored at 22°C (room temperature) at 55% relative humidity, the fibre contains 3.5% by weight of water. Kevlar should be dried prior to laminating and this will apply to all other fibres that have been stored for any length of time. Rolls of glass mat should be stored on end and sealed in their plastic bags to avoid moisture build-up. Wrap all cloth and mat to avoid dust contamination. Resin and MEKP will keep best if stored in a cool, dark and dry place. Never leave resin in the sun, and allow resin to warm up to room temperature before use. Ensure that all containers are clean before use. When working outside (to solve the ventilation problem), never work in direct sunlight and cover any work when not actually working with it. Dust on moulds can completely spoil a finish, fingerprints on a released mould have been known to cause the laminate to stick in the mould — the ruin of many good moulds. Keep your work place clean, especially the floor and all tools, wash your hands regularly to avoid as much contact with the resin as is possible. Never, never allow catalyst and promoter to come into contact with each other — they will explode!

3.6 SUMMARY:

Watch for: RESPIRATORY AND SKIN HAZARDS.
FIRE DANGER.
POISONING.
CONTAMINATION OF MATERIALS.

After the European tour of the racing team and the three Olympic paddlers went to Moscow the other member, Paul MacDonald, returned to London to spend some time training and paddling and experiencing the racing scene there before returning to meet up with the team in Singapore on the way home. He was fortunate however, in London, to get the opportunity to go to Spain for further competition.

SPANISH EXCURSION — Paul MacDonald

Forget 20 clubs in the country, forget 2 clubs in the main cities, forget 100 entries at the Nationals, forget 100 spectators, forget nice clubhouses, forget nice boats, and forget a minority sport. Forget canoeing New Zealand style and think on a whole different wavelength — —Think SPAIN.

I returned from Germany to London and Richmond Canoe Club to find that I had lost my bed to Keith — a Canadian. The other beds in the loft where we had stayed before were also taken. Colin, Hugh & Preston (also from Canada) and Grayson Bourne (the top British 500 m paddler). So I was resigned to a half deflated lilo for a few nights. Keith left for home after two nights and thus I had a bed.

Why I am setting this scene is to tell you how I scored a free trip to Spain.

It was all planned for the Canadians to go to Spain to compete in a Long Distance series. However, they were one man short and thus Martin Harvey (Britain) offered his services. But then Colin got itchy feet (living out of a suitcase for three months can make one homesick, irritable and poor) so he decided that a speedy return to Canada would be the solution and that's where a second opening occurred in the Canadian team. Thus yours truly stepped in. Colin was still undecided and so a little international gear trading convinced him. I finally knew my position 24 hours before we left. To quote Colin, "Don't feel bad, you've got a T-shirt and a trip to Spain for a towel". It was no surprise that we were soon known as the Commonwealth team.

Spain has got to be just so different to whatever you think. I knew it would be like that from the point where we were sent to the back of the plane to wait and see if we had a seat or not. How often have you heard a plane load of passengers clap when a plane finally stopped. Roller coasters ain't got nothing on Spanish plane flights.

We arrived at Pontevedra in the northwest of Spain on Saturday afternoon. The K4 ocean race was scheduled for 4 p.m. on Sunday. A K4 is a 4 man racing kayak 36 ft long. Boats were to be picked up at the start on Sunday morning. Our boat was a near new Spanish made fibreglass K4. It was in perfect nick except for the steering mechanism, but a good one was kindly made available by some temporarily indisposed Swedes. Steering checked and pump fitted in number three seat left only a water test and crew training time. The four of us had never paddled together before. Hugh Fisher led (Hugh is an expatriot New Zealander), Ronnie Barrie, myself and Martin were 2, 3 and 4 respectively.

Apart from the chop of the ocean, and falling out while trying to get a little water in to test the pump, all went well. Preston Fisk, the other member of the Canadian team was a Junior and had been brought along as our "Team Manager". He was roped in to paddle for Sweden when one of their team fell ill. (The plot thickens.) Race time approached and activity around the bay of Portonova increased.

At 3.30 all crews were being called to the start line. At that stage we were just climbing through our spray decks. All spray covers were taped to the cockpit coaming to ensure a perfect seal. We were number 14. The line up just blew me away and topped up my adrenaline supply.

72 K4's! What can I say! 288 paddlers.

When all the boats had lined up they began to inch . . . then creep . . . and then we were off. A cannon fired and we sprinted and it fired again and we slowed and looked around but we weren't going to stop and neither was anyone else. The 3000 or so people at the start went nuts at the spectacle and the 30 or so launches (ranging between 15 & 60 ft, some with 40 people on board) began with us.

The journey was rough with about a 3 ft cross chop. After about 1 km we lost our early established lead to the top Spanish crew in their brand new wooden K4. With Martin acting as the extra rudder we caught the Spaniards but eventually dropped about 3 lengths behind. It was just before half way that we breezed past them with Dennie calling for "fast stroke, less power."

All the way an escort boat led us around marker buoys as we followed the coast heading for Pontevedra. About 1000 people greeted us at half way with cannons, screams, cheers and fireworks. We had won the half way prize. Why do they have a half way prize? Don't know. Interesting to note though. The first year the race was held nobody finished.

From this point it was basically plain sailing, paddling (and pumping) the final 8 km. It was 2 km from the finish that we started to buzz. All along the waterfront were parked cars, and people just sitting and watching. (Something like the Auckland waterfront on One Ton Cup day). The finish line, the local bridge, was just absolutely packed. All my energy returned and I felt ready for another race. What a buzz!

I won't go in to the 3000 dollars worth of trophies we won, or the huge prizegiving where the first fifteen crews were given awards. But I will tell you we met up with Preston after the race. He and the Swedes had had tremendous steering problems and had eventually finished 19th after breaking their rudder off on some rocks.

I will tell you that an estimated 100,000 people watched the race.

Spain has about 400 Long Distance races annually and to attract competitors offers great prizes. Canoeing ranks as the second largest national sport and although facilities and equipment are extremely poor the following is tremendous.

We raced in two other races. One 8000 metre race where there were 130 starters (double and single). I finished 7th overall and 1st in Senior singles. The other race had about 70 starters and was a doubles race. 20 minutes earlier there was a singles race which Hugh won. Now he teamed up with me and we won this 5000 metre race.

Perhaps the climax of the whole tour was the "Descent de Sella" the annual race down the Sella River in the north of Spain. This year being the 50th anniversary, it attracted many international paddlers. Coinciding with the race is a huge festival running for just on a week.

The race starts at 11 a.m. with a "Le Mans" style start — positions being drawn prior to the race. Hugh and I, racing the prestige event for this race, senior doubles, drew position 55. At 9.30 a.m. the highway following the river is closed and made one way so that spectators can follow the race. A train is also organised to follow the race and carries up to 1000 spectators.

The start of the race is also an eyeopener. 800 boats lined up the side of the river numbered 1 - 800 and placed below their respective numbers on an overhead wire. Boats were laid out 30 boats to every 20 yards. You've got it — organised bedlam was looming. All competitors were to line up behind their boats. The National anthem of all attending countries was played and during the last one a cannon was fired. Because of the cramped situation we pulled our boat back behind the others as this enabled us to pick the boat up early and then run with it to a suitable place to get in. We had previously practiced our start and adopted a double surf ski type of start. Thus due to our skill and quick thinking we took the lead after 200 metres but then due to our pump breaking, and the fact that we were without spray covers and that we were getting unfit we dropped back eventually to finish ninth.

For the statistically minded. The race was 18 km long (down river), had over 200 senior K2's and attracted a quarter of a million spectators.

(I can't write too much about something we didn't win.)

To close I want to thoroughly recommend that N.Z. look at the possibility of going to Spain (courtesy of the Spanish Canoe Federation) as part of future overseas trips.

CANOE SCHOOL

A Canoe School for potential canoe instructors is being run for the N.Z. Canoeing Association by the Timaru Canoe Club at Timaru on February 6, 7 & 8. Persons interested in becoming certified as Canoe Instructors should contact the Secretary of Timaru Canoe Club for further details. Only those persons who are members of canoe clubs affiliated to the N.Z.C.A., and who have a recommendation by their own club as being suitable for the course, should apply to attend.

AN APOLOGY

In the last issue of N.Z. Canoeing you may have noted a similarity between the advertisements on pages 11 and 19. It appears that photographs of Dane's rafting expeditions have been used by Mr Taylor to promote a rafting trip in Australia.

RESULTS — SLALOM

(Only the first six placings are shown)

ROTORUA CANOE CLUB SLALOM ON THE RANGITAIKI RIVER, SEPTEMBER 13 & 14.

DIVISION I:	1	S. Chapman	Kupe C.C.
	2	D. Johnstone	Ruahine W.W.C.
	3	N. Kirkham	Palmerston North C.C.
	4	A. Martin	Kupe C.C.
	5	M. Grant	Ruahine W.W.C.
	6	C. Teal	Kaimai C.C.
DIVISION II:	1	P. Calcott	Tokoroa C.C.
	2	R. Schuitz	Kaimai C.C.
	3	N. Eyon-Richards	Tokoroa C.C.
	4	C. Bailey	Kaimai C.C.
	5	S. Allen	Ruahine W.W.C.
	6	D. Hull	Kupe C.C.
LADIES:	1	G. Warren	Hamilton C.C.
	2	L. Goodwin	Hamilton C.C.
	3	A. Ward	Ruahine W.W.C.
C2	1	de Rijk/Teal	Kaimai C.C.

KUPE CANOE CLUB SLALOM ON THE MANGAHAO SITE, SEPTEMBER 21.

DIVISION I:	1	N. Kirkham	Palmerston North C.C.
	2	D. Hunt	Ruahine W.W.C.
	3	D. Johnstone	Ruahine W.W.C.
	4	A. Martin	Kupe C.C.
	5	B. Vickers	Ruahine W.W.C.
	6	S. Chapman	Kupe C.C.
DIVISION II:	1	C. Wallace	Palmerston North C.C.
	2	P. Sutcliffe	Palmerston North C.C.
	3	T. Power	New Plymouth K.C.
	4	S. Allan	Ruahine W.W.C.
	5	D. Hull	Kupe C.C.
	6	P. Morrison	Kupe C.C.

ARAWA CANOE CLUB SLALOM ON THE SELWYN RIVER, SEPTEMBER 20.

DIVISION II:	1	W. Turner
	2	R. Hastie
	3	R. Treeby
	4	C. Stevens
	5	P. Morris
	6	P. Mehlhopt
DIVISION II — C1:	1	C. Hines
	2	A. McCarthy

TE MARUA CANOE CLUB SLALOM AT BIRCHVILLE, HUTT RIVER, SEPTEMBER 27 & 28. No results available.

NEW PLYMOUTH KAYAK CLUB SLALOM AT 'MEETING OF THE WATERS RESERVE', OCTOBER 11 & 12.

DIVISION I:	1	B. Vickers	New Plymouth K.C.
	2	A. Terzaghi	Palmerston North C.C.
	3	D. Johnstone	Ruahine W.W.C.
	4	G. Oke	Ruahine W.W.C.
	5	M. Grant	Ruahine W.W.C.
	6	Agerton	River City C.C.
DIVISION II:	1	T. Power	New Plymouth K.C.
	2	Dodunski	New Plymouth K.C.
	3	J. Velvin	New Plymouth K.C.
	4	P. Eldershaw	New Plymouth K.C.
	5	T. Burke	South Taranaki C.C.
	6	Jones	River City C.C.
NOVICE:	1	Cole	New Plymouth K.C.
	2	Bilinghurst	New Plymouth K.C.
	3	Evans	New Plymouth K.C.

NORTHSHORE/AUCKLAND CANOE CLUB SLALOM AT MURUPARA, OCTOBER 25 & 26.

DIVISION I:	1	D. Johnstone	Ruahine W.W.C.
	2	S. Chapman	Kupe C.C.
	3	H. Vlaar	Te Marua C.C.
	4	E. Horwood	Tarawera C.C.
	5	N. Kerham	Palmerston North C.C.
	6	A. Martin	Kupe C.C.
DIVISION II:	1	I. Jones	Hamilton C.C.
	2	S. Allan	Ruahine W.W.C.
	3	D. Noorland	Hamilton C.C.
	4	C. Bailey	Kaimai C.C.
	5	T. McBride	New Plymouth K.C.
	6	N. Faulkner	Kaimai C.C.
C1:	1	G. Bristow	Palmerston North C.C.
C2:	2	D. Johnstone	Ruahine W.W.C.
	1	Teal/de Rijk	Kaimai
	2	Goodwin/Warren	Hamilton

OTAGO CANOE AND KAYAK CLUB SLALOM ON THE POMAHAKA RIVER, NOVEMBER 1 & 2. No results available.

HAWKE'S BAY CANOE CLUB SLALOM/WHITEWATER RACE, WAIKARETAHEKE RIVER, NOVEMBER 8 & 9.

DIVISION I:	1	H. Vlaar	Te Marua C.C.
	2	N. Kerkham	Palmerston North C.C.
	3	E. Horwood	Tarawera C.C.
	4=G.	Bell	Palmerston North C.C.
	4=D.	Johnstone	Ruahine W.W.C.
	6	C. Teal	Kaimai C.C.
DIVISION II:	1	W. Scheuber	Hamilton C.C.
	2	D. Noorland	Hamilton C.C.
	3	I. Hughes	Gisborne C.&T.C.
	4	R. Button	Ruahine W.W.C.
	5	R. Dykeman	Palmerston North C.C.
	6	G. Croasdale	Kaimai C.C.
C1:	1	G. Bristow	Palmerston North
	2	D. Johnstone	Ruahine W.W.C.
C2:	1	Teal/de Rijk	Kaimai C.C.
	2	Grant/Vickers	Ruahine/New Plymouth K.C.
	3	Grant/Grant	Ruahine W.W.C.

WHITE WATER RACE 1:

W.W.K.1 Men:

- | | | |
|---|--------------|-----------------------|
| 1 | C. Coppins | Gisborne C.&T.C. |
| 2 | B. Fletcher | Hawke's Bay C.C. |
| 3 | C. Wallace | Palmerston North C.C. |
| 3 | G. Walker | Christchurch C.C. |
| 5 | P. Sutcliffe | Palmerston North |
| 6 | N. Kirkham | Palmerston North |

W.W.K.1 Women:

- | | | |
|---|-------------|------------------|
| 1 | L. Goodwin | Hamilton C.C. |
| 2 | S. Fletcher | Hawke's Bay C.C. |
| 3 | G. Warren | Hamilton C.C. |

Slalom K.1 Men:

- | | | |
|---|--------------|-----------------------|
| 1 | D. Johnstone | Ruahine W.W.C. |
| 2 | R. Schultz | Kaimai C.C. |
| 3 | W. Anderson | Ruahine W.W.C. |
| 4 | B. Hutchings | Ruahine W.W.C. |
| 5 | N. Oppat | Palmerston North C.C. |
| 6 | A. Gardiner | Ruahine W.W.C. |

WHITE WATER RACE 2:

W.W.K.1 Men:

- | | | |
|---|--------------|-----------------------|
| 1 | B. Fletcher | Hawke's Bay C.C. |
| 2 | G. Walker | Christchurch C.C. |
| 3 | C. Coppins | Gisborne C.&T.C. |
| 4 | C. Wallace | Palmerston North C.C. |
| 5 | P. Sutcliffe | Palmerston North C.C. |
| 6 | M. Fletcher | Palmerston North C.C. |

W.W.K.1 Women:

- | | | |
|---|------------|----------------|
| 1 | L. Goodwin | Hamilton |
| 2 | A. Ward | Ruahine W.W.C. |

TARAWERA CANOE CLUB SLALOM ON THE TARAWERA RIVER, NOVEMBER 15 & 16. No results available.

KAIMAI CANOE CLUB SLALOM ON THE WAIROA RIVER, NOVEMBER 29 & 30.

DIVISION II:

- | | | |
|---|--------------|---------------|
| 1 | D. Noorland | Hamilton C.C. |
| 2 | N. Faulkner | Kaimai C.C. |
| 3 | S. Cooney | Tarawera C.C. |
| 4 | G. Croasdale | Kaimai C.C. |
| 5 | N. Knight | Kaimai C.C. |
| 6 | B. Webb | Kaimai C.C. |

NOVICE:

- | | | |
|---|-------------|---------------|
| 1 | G. McDonald | Hamilton C.C. |
| 2 | T. Knight | Kaimai C.C. |
| 3 | M. Hayter | Kaimai C.C. |
| 4 | A. Duff | Hamilton C.C. |
| 5 | G. Carlson | Tarawera C.C. |

WHITE WATER RACE:

- | | | |
|---|-------------|---------------|
| 1 | N. Rogers | Tarawera C.C. |
| 2 | M. Arns | Hamilton C.C. |
| 3 | P. de Rijk | Kaimai C.C. |
| 4 | C. Teal | Kaimai C.C. |
| 5 | D. Noorland | Hamilton C.C. |
| 6 | R. Tallon | Kaimai C.C. |

RACING NEWS

1. ALTERATION TO MARATHON RULES.

In line with I.C.F. Marathon rules which have been accepted as final boats coming within the specifications for White water racing may compete in the classes for K1, C2 & C1 respectively.

Other minor changes will be notified as soon as they are known.

Paddlers should note that it is not permissible for W.W.R. craft to have steering devices.

2. MARATHON SERIES FOR 1981.

Name of Race	Organising Club	Proposed Date	Championships
Mokoia Island Race	RCC	21st March	TK1 Sen; TK2 Ladies
Waikato Marathon	NSCC	25th April	K2 Sen; K4 Jun.
Ballance to P.N.	PNCC	3rd May	WWR Sen; TK2 Jun
Rangitikei River	RWWC	9th May	WWR Jun
Cambridge to Hamilton	ACC	23rd May	K2 Ladies; TK2 Sen
Waimata River Race	GCC	27th June	K1 Jun; TK1 Ladies
P.N. to Opiki	PNCC	11th July	WWR Ladies
Wairua River Race	NCC	8th August	TK1 Jun
25,000 metre	NSCC	12th September	K4 Sen
Atiamuri to Whakamaru	TKC	3rd October	K2 Jun; K1 Ladies
Waipa River Race	NSCC	7th November	K1 Sen

WWR includes TK1 unrestricted.

Trophies will be provided for 1st, 2nd & 3rd place championship and will be kept by the winners.

3. SPRINT REGATTAS

Over the period January to February two spring regattas will be organised in Auckland and One in Gisborne. Dates are yet to be finalised.

INFORMATION REQUIRED

The fight to save your rivers from hydro dams goes on. However, we must have some idea as to when rivers are at their best, and how much water is required to provide each river with the best conditions for canoeing. We must be able to give the hydrologists some idea of the volume of water they should leave flowing in our rivers for our use.

In order for us to calculate the amount of water we should ask for, we ask **all** canoeists, rafters and river people to fill in and return to us, the form below, after each river trip.

(The date is most important.)

----- TEAR OFF -----

To: RIVER PROTECTION COMMITTEE,
N.Z. CANOE ASSOCIATION,
P.O. BOX 26,
NELSON.

NAME OF RIVER: SECTION OF RIVER FROM

DATE CANOED/ RAFTED/SEEN a.m./p.m. TO

COMMENTS ON RAPIDS: (Tick one or more).

- ☆ RIVER DANGEROUSLY HIGH.
- ☆ RAPIDS DROWNED
- ☆ RAPIDS PERFECT
- ☆ RAPIDS ACCEPTABLE
- ☆ RIVER CANOEABLE/RAFTABLE BUT LOW
- ☆ RIVER TOO LOW TO BE USED

AVERAGE RAPID GRADE

SIZE OF PARTY

OTHER COMMENTS:

CONTACT ADDRESS:

PRE-WORLD CHAMPIONSHIPS FOR SLALOM — John Quirk

Slalom world championships are held every second year, the next being at Bala, Wales this year. In August 1980 a 'pre-world championship' was held on the site at Bala and this event was attended by Palmerston North canoeist John Quirk who has sent this report in for those interested in attending the world champs.

North Wales is much like New Zealand. English is spoken and the food and customs are not too different. The weather is worse, the fish and chips are greasy, and Welsh is spoken by the locals amongst themselves, or to annoy the English. Otherwise you could well be in Taranaki. Bala is situated in the heart of North Wales. It is the cultural, social, and economic centre of the surrounding district and is also a popular tourist centre. The slalom site is on the river Tryweryn about five miles outside Bala, while the Down River course starts just above the slalom site and finishes in the town.

A great deal of work has been carried out both on the river bed and the banks by paddlers and the local authority. Because the water had not been running in the months prior to the event, nobody knew exactly what it was going to be like until the training day. We had made several trips out to the site only to be greeted by something like Mangahao with the water off; before all the artificial rocks had rusted away.

Various accommodation was available at the pre-world champs, scattered around Bala and nearby towns. Many teams decided to camp which, in the beginning seemed like a good idea, but on reflection was not such a good idea as it was an extremely wet and muddy experience. A hotel, or Bed and Breakfast would definitely have made life easier.

Training day, August 27 gave unbelievably good weather, blue sky, sun shining, the first day of the English summer, a mere three months late! We arrived at the site about 1030. The sun glistened off the numerous white pommie bodies. The water was just coming on. The people waited. It was not terrifically big, but continuous and in places very confused. All the gates were up but to the side of the river. Armed with the manager's course map and loads of insect repellent, I set off to work out where the gates were going to be for my one hour of practice.

The insects at Bala are bad to say the least. You cannot see them or feel them bite but you sure come out in large welts, and talk about itchy! Not even the local Welshmen seem to be immune. The water turned out to be most enjoyable, not unlike the good sections of Mangahao, Waikere and Tauranga all strung together with a quota of flat sections for sprints. After three runs down the course, which was rather long, my hour was up, and besides, I had had enough. I did, however, feel reasonably fit and as though I had everything under control. Sunburnt and tired, sleep came easily; in fact I nearly drove off the road on the way home.

Practice Runs, August 28. Another good day, high spirits and a carnival atmosphere, especially in the trade fair where business was booming. The course which the day before looked as though it would foster many clean runs, had everyone fooled. Overnight the gates were put into position. They must have done it in the dark, because while the gates generally followed the course map they were placed in the most awkward of positions and at the most difficult angles. Practice runs were disastrous; gates missed out and hit everywhere, not only by the likes of myself, but by favourites like Sattler, Wain, and Fox who had their fair share of fifties.

Slalom Individual Runs, August 29. Overcast and drizzling with worse weather forecast. The competition started at 0830 with second runs starting at 1430 after a lunch break. First runs were generally very poor. There were some extremely fast times, but most paddlers had numerous penalties. I had 60 penalties, a slow time, and was lying around 53.

By the time the second runs came around it was cold as well as wet, and all the neat walking tracks had turned into deep slippery bogs. Getting up to the start was itself quite an achievement. Most people seemed to improve in their second runs— except me and I dropped from 53 to 66.

The fact that Shane Kelly, from Ireland, won, came as a shock that most of the canoeing world of Europe has yet to get over. It was not just a one off lucky run, he did well in both runs. In fact he was the only person to get two clean runs.

The British did very badly. Best placed was Nicky Wain who was 17. The British camp were not at all happy, but it will teach them for having such a long and difficult course. On the whole, results were very surprising and somewhat unexpected.

By evening Bala was well and truly awash, including our tent, so we drove back to Chester.

Down River Practice and Slalom Team runs, August 30. Again wet and muddy, however, overnight we had acquired an umbrella which was just the thing but gummies would have been an excellent idea. The Down River Practice lasted all morning. The condition of many boats deteriorated rapidly on the rocky and reasonably technical course which was about 30 minutes long. After a few mishaps on a weir at the start of the course, it was decided that the race would start below the weir.

The team slalom was excellent spectator value. Unfortunately the organisers would not allow composite teams, so I couldn't paddle. The event was won convincingly by the Australians. Second was France and West Germany third.

Down River Event, August 31. When compared to our own Nationals at Tauranga, the Down River Race was a bit of a let down as far as spectating went. The placings went to the British, which probably shows how well you need to know this course.

All in all, it was an interesting and very enjoyable event, apart from the weather.

Information for the 1981 World Championships:

Boat design is not changing rapidly. New boats by Prijon and Pyranha are not significantly different from previous models, although this may change before next July.

The most significant thing, perhaps, in the way of equipment, is the extensive use of lifedecks.

A boat cost between £150 and £300, a lifedeck £27, wooden paddles £30 to £40. Bed and Breakfast cost are around £4 per night and eating out about £3 per meal.

Paddlers at the top are very very fast and fit.

The NEW ZEALAND CANOEING magazine



P.O. Box 26,
NELSON, N.Z.
Telephone — Mapua 532

The quarterly magazine of the New Zealand Canoeing Association for kayakers, canoeists and rafters.

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THIS IS RESCUE BREATHING

The oldest and best method of resuscitation — the use of a rescuer's breath to revive a victim unable to breath for himself.



In an unconscious person with head slumped, the tongue blocks the throat and little or no air can get into the lungs.



Hold the head fully tilted with chin pulled forward. Take a deep breath, open your mouth wide.

Begin At Once — Delay May Be Fatal



Seal your lips on the cheeks, round mouth or nose. Then blow until you see chest rise. If you are rescue breathing through the mouth, seal your lips round opened mouth, blocking nostrils with your cheek — or pinching them with your fingers — to prevent air leakage. Through nose — press lips together with your thumb — to prevent air leakage.

Make the first 4 to 5 breaths deep and rapid. Then continue with 12 to 15 breaths a minute. When the victim starts trying to breathe, keep your breath in time with his or her efforts.



Remove your mouth and, whilst turning your head to watch the chest fall, listen to the victim breath out.



Rescue breathing for children

Keep the head tilted back, seal your mouth around the child's mouth and nose and blow gently, fig. (a). Use only puffs from your cheeks for infants. Stop blowing as soon as the chest starts to rise. Repeat breaths at least 20 times a minute.



Shows a practical alternative position for supporting victims during rescue breathing.

For all victims who have stopped breathing in such accidents as:

WHEN SHOULD YOU APPLY RESCUE BREATHING

DROWNING	SMOKE SUFFOCATION	HEAD OR CHEST INJURIES
ELECTRIC SHOCK	CARBON MONOXIDE GAS	HEART ATTACK
SMOTHERING	OTHER GAS POISONING	STROKE
CHOKING	OVERDOSE OF DRUGS	POISONING



For further information please contact your nearest Surf Club, Royal Life Saving Society, Red Cross, St John's Centre or Water Safety Committee.