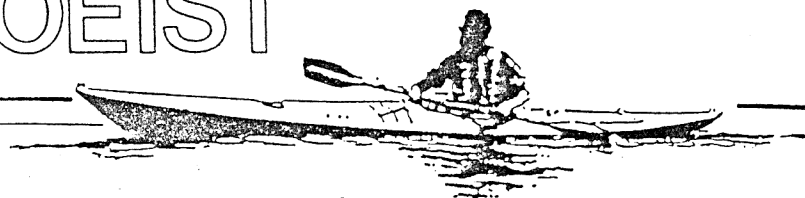


# THE SEA CANOEIST NEWSLETTER

30

JULY 1991

P O Box 26  
NELSON  
NEW ZEALAND



## DEEP WATER RESCUES - Part I KAYAK RECOVERY

Deepwater rescues constitute the single most important safety and survival skill for sea kayakers, yet it is often a skill that is omitted from many basic canoeing courses. When sea kayakers gather, there is usually much discussion on solo recovery techniques, particularly paddle-float systems, yet the vast majority of sea kayakers paddle in company with others. I suspect that the attraction of the paddle-float system is that it involves gear and arranging a technically sophisticated system of attachments on the aft deck of the kayak - most sea kayakers are technocrats!

Before I begin, I wish to acknowledge that in presenting this material to you, while the words are my own, I have borrowed the diagrams from other publications, particularly from Derek Hutchinson and the British Canoe Union Handbook. I trust he will not object. However, as the text is my own, please do not assume that Derek would agree with the opinions that I have used his diagrams to illustrate.

### SEA KAYAKS vs RIVER KAYAKS

In the mid 1970's when visiting Nelson I called upon an old paddling friend, Steve Bagley, who was fired up with excitement as he and three friends had convinced Grahame Sisson, who had recently begun building river kayaks as a

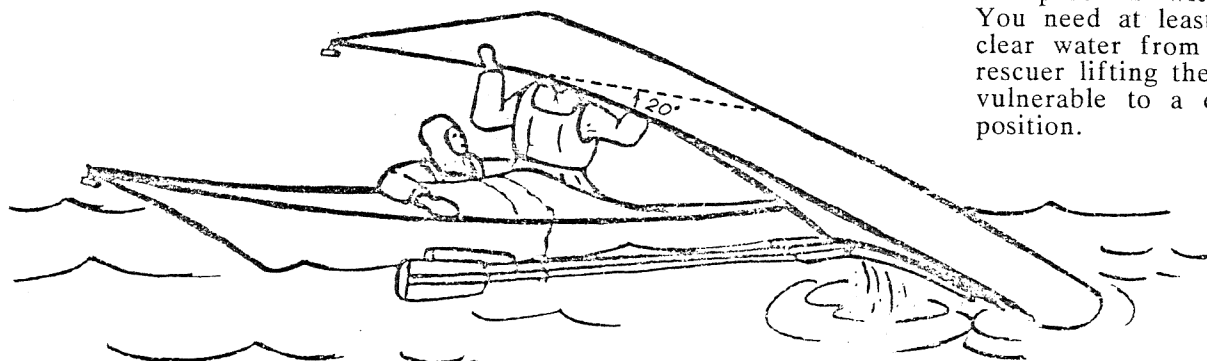
sideline to an industrial fibreglass operation, to purchase the manufacturing rights to the Nordkapp Kayak. At that time this boat had only just been designed and had been used on the Nordkapp Expedition and the designer, Frank Goodman was still planning his Cape Horn trip. This group of paddlers had been planning a Fiordland trip for some time and had decided that the Nordkapp was the boat for them. The mould arrived in due course and the first three boats off the mould were fully fitted out with bulkheads and all the fittings needed for a major trip along an exposed coastline. Many trips were spent testing out the boats, equipment systems, and techniques (one of which was the towing system that Grahame Sisson mentioned in his letter published in issue #28 of this newsletter). Shortly after this, Grahame built himself a Nordkapp but in his haste to try the boat out, had the boat on the water in typical river-kayak form - that is, hull and deck with no more than seat and footrest fitted. It had no bulkheads fitted. It wasn't long before Grahame and a group of paddlers, also in Nordkapps, experienced a wonderful day of surfing off Tahuna Beach during a northerly storm and there was the need to recover a capsized and swamped boat out beyond the surf-line. The Nordkapp was one of the earliest sea kayaks in New Zealand to have the upswept bow and stern, and these paddlers found it very difficult

to get the upturned hull high enough to empty water from the very ends of the kayak. In fact, with the sea running at the time, they were obliged to leave the boat swamped and swim it in through the surf. Not a problem this time, but on an exposed coastline in cooler weather, such an event could well have resulted in a fatality. From this point on, Sisson Industries refused to supply the Nordkapp without rear and fore bulkheads. A decision that although of some annoyance to paddlers who wanted cheaper boats, has at least assured that the Nordkapp has had a good safety record in New Zealand.

The moral of this tale, is that sea kayaks which have ends higher than any other part of their deck, must have bulkheads fitted as standard, not as an optional extra. In fact, I would go further and state that any kayak to be used on the sea must have fore and rear bulkheads.

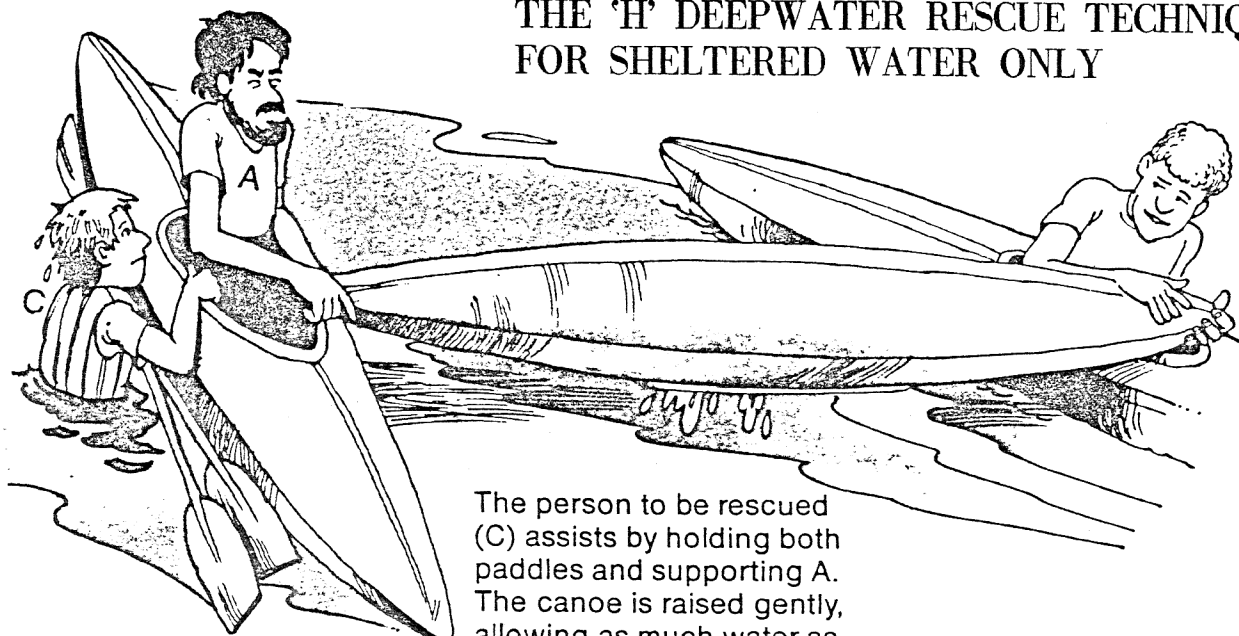
River kayaks, without bulkheads, while easier to empty by deep-water rescue techniques because their bow and stern points are lower than their cockpits, and with decks that slope down to the ends, still present problems during recovery in anything other than calm conditions. All available space in the river kayak must be filled with buoyancy to displace as much bilge-water as possible.

The diagram below illustrates the problem with sea kayaks. You need at least a 20° lift to clear water from the bow. The rescuer lifting the kayak is very vulnerable to a capsize in this position.

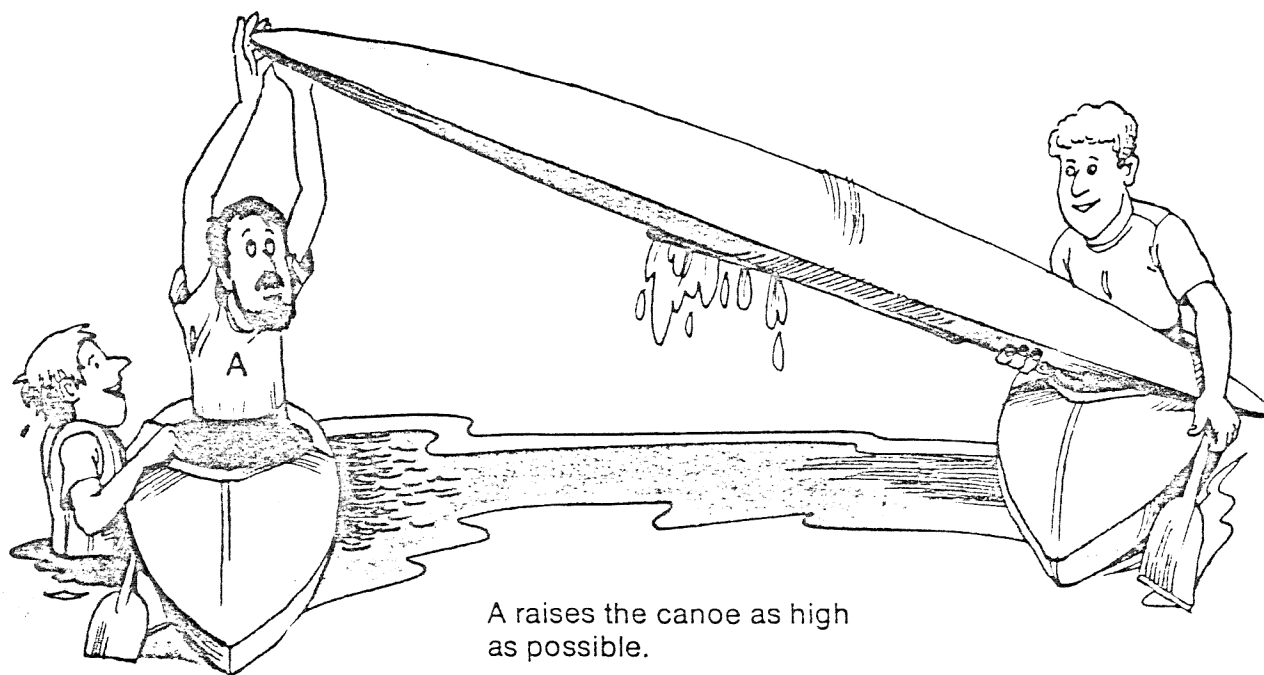


## LIFT & FLIP TECHNIQUE

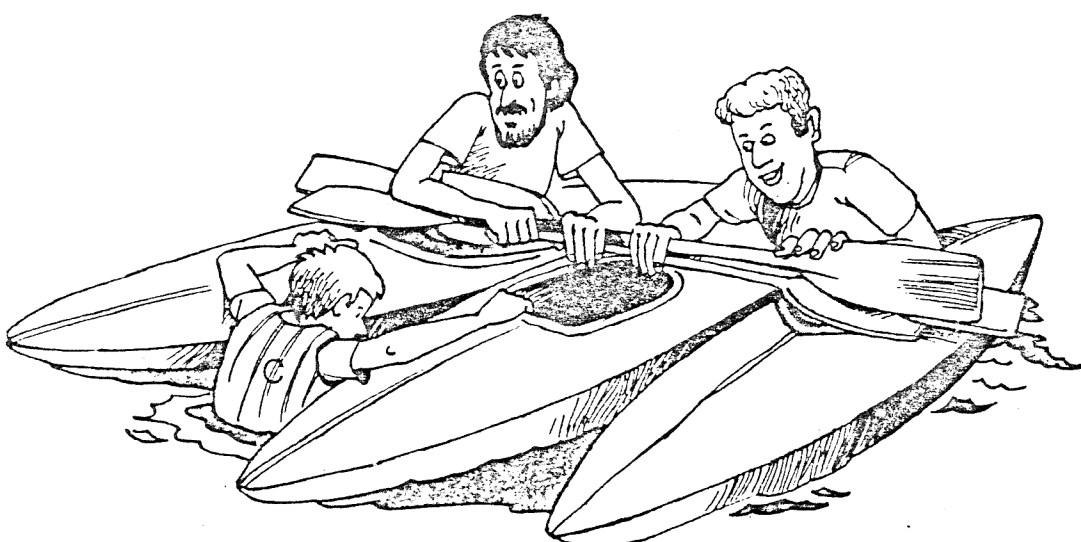
## THE 'H' DEEPWATER RESCUE TECHNIQUE FOR SHELTERED WATER ONLY



The person to be rescued (C) assists by holding both paddles and supporting A. The canoe is raised gently, allowing as much water as possible to escape before it is raised above the surface.



A raises the canoe as high as possible.



C's canoe is turned upright and supported with the assistance of linked paddles and the hands of A and B gripping the coaming of C's canoe as well as their own paddles. C then climbs astride the stern of his canoe and slips his legs into the cockpit.

## THE RESCUE OF A SEA KAYAK WITH BULKHEADS FITTED

The kayak with fore and rear bulkheads presents the easiest method of recovery, particularly if the rear bulkhead is immediately behind the seat, or in the case of more recent sea kayaks, the seat forms part of the bulkhead itself. The method of recovery is to approach the bow of the swamped boat, ensure the boat is upside-down, and lift the boat by the bow, and flipping it rightside-up as you lift. The water in the boat will pour down to the seat and spill, leaving little in the boat itself. With the bow of the swamped boat light (the fore bulkhead keeps water out of the end) this empty-and-flip will take about 5 seconds and can best be done as the boats lift to an approaching wave. As the fore-deck, between the bulkhead and the cockpit rim, rises steeply in most sea kayaks, the swamped kayak need not be lifted much above the water to clear bilge water completely. In most cases, if the boat is lightly loaded as on a day-trip, a life-jacketed swimmer floating at the bow, can do the job unaided by a rescue boat.

With the volume of a sea kayak limited by bulkheads placed immediately in front of the footrest/rudder controls and the rear bulkhead built into the seat so that there is no space for water behind the seat, even if the cockpit cannot be cleared of water, the kayak will still float level with decks clear of the water so that the paddler can re-enter, his body displacing most of this water in the swamped cockpit, and most importantly, the kayak can still be paddled without needing to be emptied. This is a crucial safety feature that every sea kayaker should aspire to achieve when fitting out his kayak - it renders the need for deep-water rescues, and therefore the possibility of damage to either the swamped kayak and the rescuer's kayak, redundant.

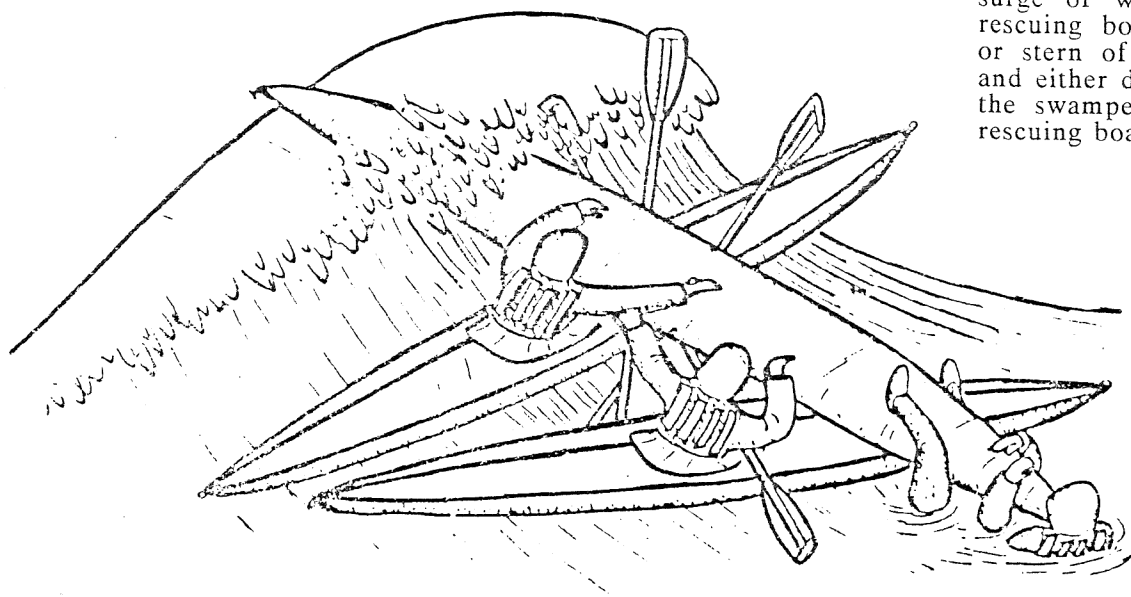
The following rescue techniques (recovery of swamped boats) are required for kayaks not fitted with bulkheads, or having large volume cockpits - generally when river kayaks are used on open water.

### THE 'H' RESCUE

This is the basic of all the deep water rescues but is only suitable for sheltered waters.

Unfortunately, as the most basic technique it is often the only technique taught. It is ideal on river gorges where there are no beaches on which to recover kayaks, but on open water it is next to useless. The best description of this technique is given in Graeme Dingle's book 'The Outdoor World of Graeme Dingle'. Over the page I reproduce his diagram. Note that at the point at which the canoe is lifted from the water, both assisting kayakers are vulnerable to capsize, particularly in either wind or waves. The swimming paddler shown in the diagram has a sea-anchor effect on the group, swinging the group beam-on to the waves and making the recovery process even more difficult. It is a fast and efficient rescue on calm and sheltered water and is therefore of considerable value to the river paddler, but not for the sea kayaker. When reading the notes that accompany this diagram, ignore the advice about re-entering the kayak along the rear deck - I will discuss re-entry techniques later.

Another problem with this technique is well illustrated below by Derek Hutchinson's diagram of problems of rescue in the surf. When the two rescuing boats approach the swamped boat, a wave or a surge of water can throw the rescuing boats against the bow or stern of the swamped boats and either damage the rudder of the swamped boat, or hole the rescuing boats.



PROBLEMS IN SURF AND ROUGH WATER

### THE 'X' RESCUE

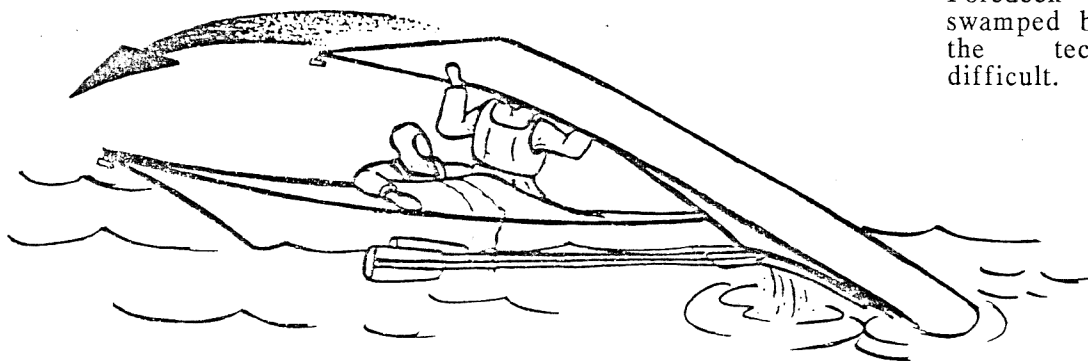
This is the most useful of all the deep-water rescues as it requires a single rescuing kayak. The rescuing kayak takes the swamped boat by the bow and hauls it across the cockpit area of his own until the cockpit of the swamped kayak rests on the cockpit area of the rescuers' kayak, thus the two boats form an 'X' and hence the name. The

swamped boat is then rocked to empty all water, flipped over, and slid back into the water right-side up and ready for the swimmer to re-enter.

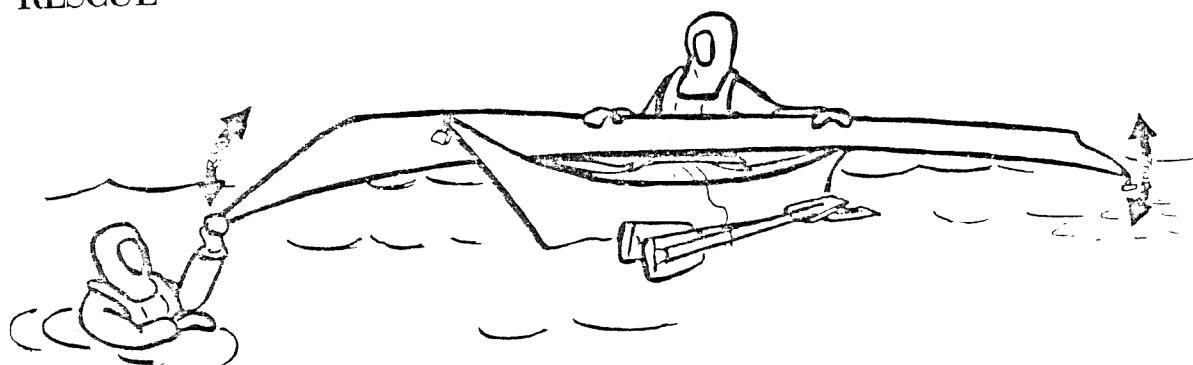
The great advantage of this technique is that it requires a single rescuer, and it is fast.

Disadvantages are that it can only be done with a kayak that has not taken a great amount of

water aboard and is still light. The other problems are that the rescuing boat still has to approach the swamped boat as in the 'H' rescue where a wave can throw the rescuing boat against the swamped boat, and hole the rescuing boat. Thirdly, there is also a high likelihood that the spraydeck of either boat can be damaged as the cockpit of one boat rests on the cockpit of the other. Foredeck equipment on the swamped boat may also render the technique extremely difficult.



### THE 'X' RESCUE



### THE 'TX' RESCUE

If the capsized craft has swamped and lies low in the water, a single rescuer will find that the 'X' rescue is far too difficult. The 'TX' rescue (also known as the 'XT' rescue) was devised as a variation. In this technique the rescuing boat approaches the swamped boat at a right-angle so that the two boats form a 'T' shape with the rescuing boat's bow against the cockpit of the swamped boat. The swimmer from the swamped boat then twists his boat so that it lies on its side in the water, and lifts the boat a little until

the bow of the rescuing boat enters the cockpit. The swamped boat is then lifted again until it lies across the bow of the rescuing boat. It may then be rocked to empty, or slid further up the rescuing boat until it reaches the cockpit area and the rescue can be completed in the manner of the 'X' rescue. Deck gear on the rescuing boat can make this technique extremely difficult, and there is the possibility that the weight of the swamped boat can stove in the deck of the rescuing boat. Coming up into the 'T' position in a surging sea will most likely damage the swamped boat.

### THE 'HI' RESCUE

This is the most stable of all the rescue techniques and is the only one that really works in rough conditions when a fully swamped boat needs to be recovered. It requires two rescuing kayaks.

The two rescuing kayaks raft up either side of the swamped boat, and place all three paddles across the raft. The swimmer holds onto the bow of one of the rescuing kayaks so that the raft swings bow-on to the wind and waves. The swamped boat is then slid back until the bow clears the paddles, the swimmer

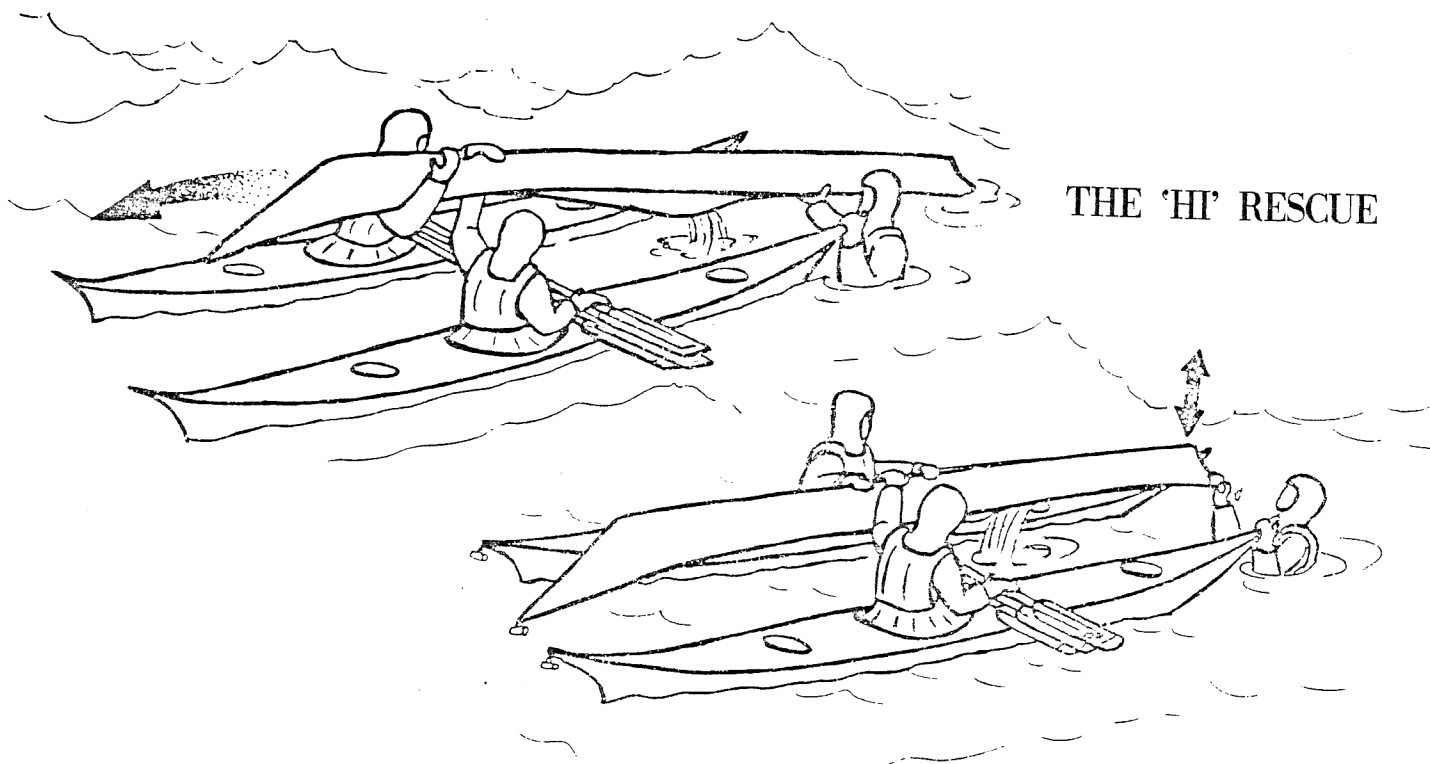
adds his weight to his end of the swamped kayak (usually the stern), lifting the bow which can then be slid back on top of the paddles. The rescuers can now reach forward and haul the swamped boat up until its cockpit rests on the paddles and the boat can be rocked to empty the water.

The kayak can now be flipped over and brought back into the centre of the raft ready for the swimmer to re-enter. The great advantage of this rescue is that you have three kayaks solidly rafted up, side-by-side with the paddles keeping the raft solidly tied together.

The two rescuing paddlers can lean over and hold the kayak on the far side by its cockpit, thus adding further stability. Any bumping of the kayaks together will merely rub their sides, not damage rudders and other gear as is the case with the other rescue techniques. The swimmer, acting as a drogue, will keep the raft head-to-sea.

Perhaps the greatest value of the 'H' rescue is its ability to recover totally swamped kayaks, and those with a swamped end and floating in the 'Cleopatra's Needle' attitude - one end pointing skyward. I don't have a great deal of sympathy for

paddlers who end up in this situation - either you haven't checked out your paddling partner's buoyancy, or his hatches were suspect. However, these things do happen! If you have this problem, bring the skyward end (let us assume it is the bow) onto the paddles as for an ordinary 'HI' rescue, then the swimmer, holding onto a bow of one of the rescuing kayaks, can reach down and slowly haul up on the cockpit while the bow is held on the paddles by one of the rescue paddlers. Eventually the water will empty from the stern end and the boat will lie on the surface ready for the 'HI' rescue.



### THE CURL

I have found that this rescue method really only works with a boat with bulkheads, or a boat with ample buoyancy - not a fully swamped boat. The rescue boat, (you need only one,) comes alongside the swamped boat. The swimmer reaches over the foredeck of the rescue boat and takes hold of his own, swamped, kayak by the cockpit.

The swamped boat is then hauled up slowly, allowing the water to flow from the cockpit. The rescue boat can lean towards the swimmer to assist in the final stage of hauling the boat further out of the water. The kayak, once empty, can be allowed to flop back right-side up ready for a re-entry. My experience with this technique has been that a swamped boat tends to be difficult to haul up

in a level attitude, generally all the water flows to one end and you can end up with a Cleopatra's Needle problem. The rescuer can assist by holding the end near him, and keeping the kayak level. Never-the-less, the Curl is much better than the 'X' rescue in rough or choppy conditions as the two boats lie side-on to each other and there is little risk of damage as the boats surge in the waves.

Next month I will look at the re-entry techniques.