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WHITEWATER

the Journal of the American Whitewater Affiliation



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(Continued on p. 179)



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Contents

ARTICLES

Why Do We Run Rivers?	Scott Holzhauser	149
Study of Whitewater Fatalities	Carl Trost	150
Offset Gate Techniques	Dave Kurtz	165
Tribute	C. Walbridge	171
"Third Hand" Theme	O. K. Goodwin	172
ARCC: 1973-1974	Brent Blackwelder	177

DEPARTMENTS:

Affiliates	146, 179, 180	Classified	164
Letters	148	Racing Tips	165
Hahn's Honchos	153	Race Results	169
Dean's Voyageurs	163	Book Reviews	174
Try This	164	Editor's Soapbox	178

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Letters from Readers

Dear Iris,

Perhaps it would be of interest to the AWWA members to know who was the first modern person to develop the modern kayak and perfect the roll.

Since my association with kayaks goes back to 1922 I became exposed to the roll through a book by Edi Hans Pawlata (**Kipp Kipp** Hurra! im Reinrassigen Kajak) published in 1928 in German.

My copy of 53 pages not only describes the technique by word and pictures and diagrams, but in addition it has a scale pattern for a rigid as well as a folding kayak designed by Pawlata.

In 1930 I built the folding kayak, and using Pawlata's instructions my friend Stannard Baker mastered the roll technique in this kayak in 1930.

Cordially,

Lothar Kolbig
323 Coffeepot Dr.
Sedona, AZ 86336

(In a later letter Mr. Kolbig mentions that he and "Sneakin Deacon" Kiehm had been canoeing friends for some 50 years and includes this tantalizing paragraph: "Here in the West with its few rivers, especially the Southwest, canoeing or white water sport is not strong. Our sport

here is backpacking into the remote wilderness areas of the canyons that are the tributaries of the Colorado. Despite being past 70 my interest and activity in this is undiminished. For fear of becoming boastful I'll open the curtain just a little bit and admit of having stood on the banks of the Nile, the Oxus and the Indus Rivers and rafted down the swift tributaries of the Amazon and on the Arctic Ocean, and this fall will be on another trek into Sikkim and Bhutan." Here's hoping we can persuade this unique man to write down some of his adventures so that we may enjoy them vicariously. – Ed)

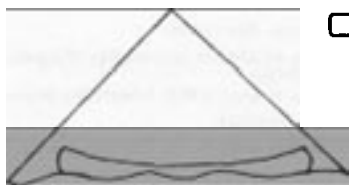
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WHY DO WE RUN RIVERS?

by Scott Holzhauser

When you're out in the middle of a river, and the wind is blowing 35 mph (upstream as usual), the sun is going down, and the gale winds are frosted with little particles of water, sand or dust; when you look around and everyone is freezing and camp or vehicle is miles away; have you ever wondered WHY? Just what is it that drives us to enjoy such pleasures? A streak of masochism?

I think not. I have eaten enough sand over the years to evolve my appendix into a gizzard, but I can't honestly say I enjoy it. No, savoring the culinary possibilities of different species of sand grains is not the *raison d'être* of a river trip. But I digress.

Certainly we all share a love of the outdoors. But so do hikers, climbers, campers and many others. Each of these activities requires certain skills and certain physical stamina. River running, however, like skiing and a few others requires a skill not common to the others: that of making decisions under pressure of time. Here is where we get hooked. Once we have done it for a while, and have developed a skill at it, it is hard to give it up. This feeling is eloquently described by professional river runner **Gaylord Staveley** on running a few rapids after an absence that was too long. "It was wonderful to be apprehensive again, to have to listen critically and look sharply and have so little time to make the right decisions before the Moment of Truth at the head of each rapid.*

There are two types of people that run

ivers, the passive participants, or passengers, and the active participants, the boaters themselves. The first are probably in the majority, but nearly everyone who reads this journal is an active participant, and we tend to forget the passenger.

A river trip seen through the eyes of a passenger is much different than one experienced by a boatman. Both experience joy, exhilaration and excitement but for different reasons. The typical passenger gets his thrills from riding the rapids where he can see the danger and feel the stinging water in his face. He is doing something he probably never thought he would have nerve to do but may have nevertheless looked forward to for a long time. And he is excited and happy.

~~The~~ boatman, however, who is charged with the responsibility of the trip and the safety of the passengers experiences a different sensation entirely. He must interact with both the passengers and the river. He is happy when the passengers are happy and satisfied. He is (or should be) despondent when they are not and it is his fault. As a boater, even when running private trips with my friends I usually have some inexperienced people along whom I feel responsible for, so it is inevitable that some of my emotions on the river are experienced vicariously through them. Passengers or no, the boatman is always exhilarated after a difficult and successful run, and dejected when it could have been better, for the boatman has to read the river, and he has to do it right or he may find his passengers, equipment and himself in bad trouble.

I consider myself a boatman, and with or without passengers, the greatest highs I have ever felt have been on the river and have come from sharing with others the excitement of a successful and difficult run. It's not hard for me to understand why I run rivers.

* *Staveley, Gaylord, (1971) "Broken Waters Sing" Little, Brown & Co. pp. 116-117*

A Study of Whitewater Fatalities

California Drownings Soar

by Carl Trost, 257 Pacheco Street, San Francisco, CA 94116

At least 28 people died in California in 1973 as a result of river-running accidents, most of them involving inflatables. This is more than three times the figure for any previous year. No member of any river-touring club was involved.

Suspecting that accounts in metropolitan newspapers were giving only a superficial picture of what might be happening on our rivers, early in 1973 I began a statewide tally with an appeal to our club members for clippings from their local papers on river-running fatalities. Accuracy of my file has been reasonably verified and augmented as well as possible with data issued by California's Department of Navigation and Ocean Development (they are prohibited from giving dates and details). The 28 fatalities, classed according to the type of vessel being used, are 18 with inflatable rafts, 2 canoes, 1 kayak, 2 rowboats, 3 inner tubes, 1 air mattress, and 1 on a log (the last two were both reported as attempting to ride rapids on the Kern River). Newspaper editorials overlooked the inclusion of reservoir accidents in the D.N.O.D. statistics, and I further discounted two boys, aged 4 and 14, who apparently had not intended to run the river when their raft was drawn into the current. D.N.O.D. guidelines do not include inner tubes and such, nor 3 in my count that drowned indirectly but definitely as the result of rafting mishaps (fording a stream after being stranded, retrieving paddles).

Ages of the victims ranged from 13 to 50 years, with a median age of 23 and an average age of 24. Half of the victims were between the ages of 19 and 25, and those that were older account for another

quarter. Two of the victims were women, ages 25 and 27.

Only 2 of the 28 victims wore life jackets, however, this leads to a dangerous over-simplification about safety on rivers. The circumstances show that perhaps 19 people would still be alive had they been wearing life vests, some of the 9 that were trapped in snags, reversals, and tunnels would have suffered their same fate, and 6 of their companions might have drowned in the same reversals had they, too, been wearing life vests. Clearly, a flotation vest is essential, but it is no cure-all.

Fifteen rivers and streams and one canal figured in the fatalities, the Kern River above Lake Isabella leading with 6, double that of any comparable river fork.

About half of the victims drowned in flat water or gentle streams (class I and II), although some of these streams were at their high-water stages, with consequent difficulties for the inexperienced. This and lack of life vests support my belief that many people have no understanding of the hazards and deceptive power of mild water, believing that the risk is to others running the "dangerous" streams. This underestimation continues right up the scale, with "good" swimmers failing to recognize the treachery in "easy" white water, and with people that are misled by the easier appearance of a river at the put-in.

The dates and locations of the accidents in my file followed a very familiar and predictable pattern during the first half of the year, starting with the coastal streams when they swelled with rain in February, then moving to the Sierra rivers

Figure 1. Number of river-running fatalities in California by year and type of craft.

Year	Raft	Canoe	Kayak	Tube	Misc.	Total	Runoff, %
1971	4	1	1	1	1	8	110 – 56
1972	0	3	1	3	0	7	70 – 29
1973	18	2	1	3	4	28	95 – 167

Runoff shows the range of snowmelt in percent of normal between April 1 and July 1 in the most popular Sierra region from the American River (central) to the Kern (southern), respectively. 1971 and 1972 raft, canoe, and kayak data from Cal. Dept. of Navigation and Ocean Development. Inner-tube data may be incomplete.

in April and increasing with the crest of California's snow melt in late May, as shown in figure 2. There was one drowning on each of the two Monday holidays in February; six on the Memorial Day weekend. 6 of the 8 July drownings occurred on weekends, but the week and weekends encompassing July 4 (a Wednesday) took only 2 lives (Only 2 lives!).

ACCIDENT REPORTS

There are possible shortcomings in state and national boating statistics. Public health agencies count death certificates in broad categories, such as "recreational drownings." The Coast Guard and cooperating state agencies require a boating accident report in case of a death, injury that incapacitates for 72 hours, or damage over \$100. Reporting is routine on many reservoirs, but a county sheriff may not associate the river-drowning victim that spilled from a small raft with a boating accident report. Thus the weekend contingent of untrained lake paddlers and their less stable canoes may be contributing more than a fair share to the statistics on their craft. There is the question of when a raft made up of inner tubes becomes a vessel, and the problem as to how a deputy might classify an "inflatable canoe" or the plywood "kayak."

The accident form and even the thinking of officials filling out or classifying

these reports is geared to a long tradition of motor and sail craft on open waters. Hours of "Operator's Experience" tells nothing compared with "Had you run the river before? – At the same level?" The primary cause of a raft accident is likely to be attributed to "Capsizing" or "Collision With a Fixed Object," with the "Lack of Personal Flotation Device" listed as only a contributing factor. Indeed! We could argue that capsizing is a common and accepted part of our sport, and that these are not even boating accidents but swimming accidents in which the lack of a flotation vest was the primary cause! (Unfortunately, the person so inexperienced as to be without a life vest very likely is the victim of an unforeseen "boating accident.")

ACTUAL CASES

It is easy to dismiss these accidents as inevitable in a risky sport, destined to happen to a small percentage of participants, perhaps to those lacking in common sense, careless, or less competent. This attitude in itself probably contributes its share of victims (since we all consider ourselves sensible, the implication is that accidents happen to others). It is important to remember that, as with our own river decisions, to every victim, what he or she was about to do made sense at the time. Our statistics show that three-quarters of the victims were in a mature age bracket. The several surviving

companions to whom I talked were intelligent, capable people. Each had missed that particular knowledge or learning experience that would have alerted them to what was to come. One near victim, an experienced canoeist, expressed the crux of many river accidents simply and exceptionally well: "It looked so innocent."

The mere numbers belie the circumstances and the personal tragedies involved. A review of some of the accidents is of value in understanding the problem. (Note that newspaper accounts, on which many of these cases are based, are not necessarily accurate).

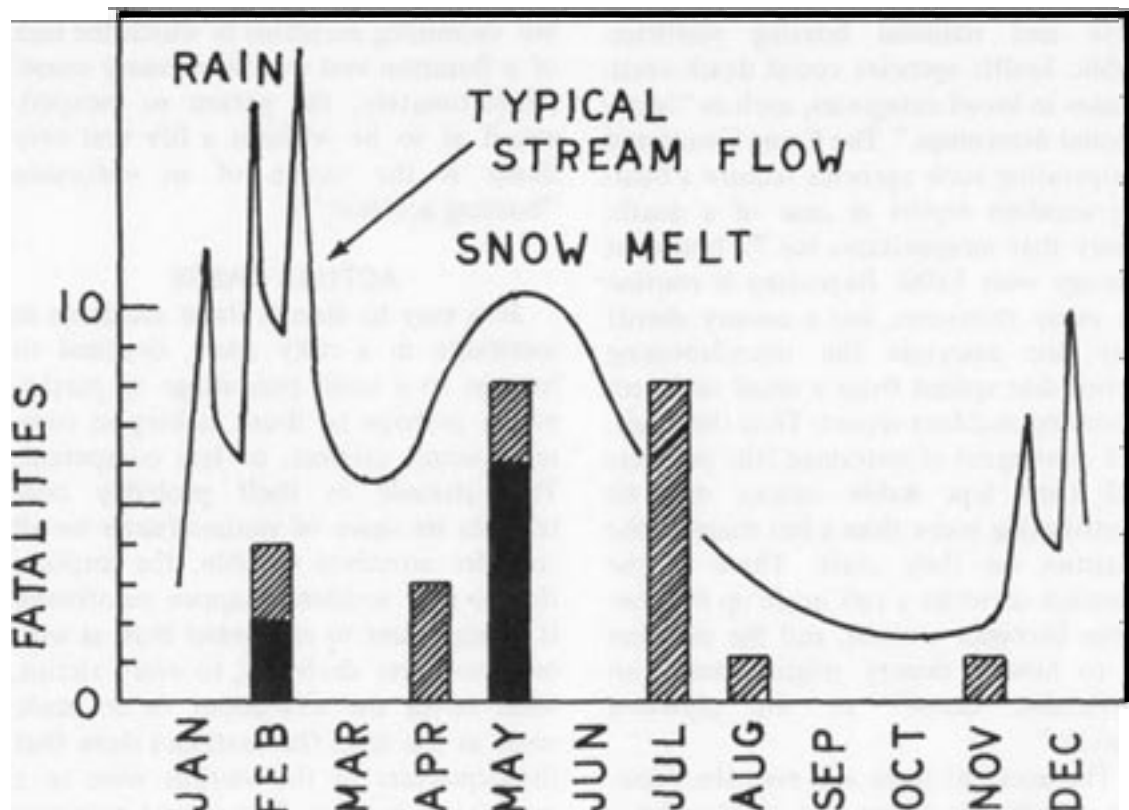
Dam Reversal

In February the coastal streams run high but inclement weather discourages the weekend traveler. The predictable pattern is for accidents on the ephemeral

streams that now serve as drainage channels for our urban communities, with the excellent coastal rivers snaring only an occasional local resident that ventures out with kayak or canoe. 1973 exceeded expectations.

Early in February two men and a woman, all wearing wet suits but not life vests, launched their 8-man raft at the town park in the Bay Area community of Walnut Creek. At the mid-point of the 3-mile run the creek enters a concrete channel with 12-foot vertical walls. The channel ends after a smoothly curved, 45-degree, 6-foot descent to the level of the take-out pool. With rain run-off running 6 feet high in the channel, the drop could have been as much as 10 feet. The raft dove under the reversal wave at the base of the drop and was held there. The

Figure 2. 1973 river-running fatalities seem to follow a hydrograph of California streamflow strongly influenced by holidays and fair weather. Solid bars represent deaths on three-day weekends.



passengers eventually washed out, first the woman, who was pulled to shore by nearby workmen, then an unconscious man floated by and was lost, and finally the second man was pulled to shore. They specifically chose to run when the water was high. At whatever level they examined the reversal, the surviving man predicted that they would be stopped; his companion insisted the raft would ride through. The surviving man tried to fight the reversal current, then clung to the raft (he estimates 10 minutes – he could watch workmen being frustrated by a wire fence in their attempts to throw him a rope). Resigned to his fate when his strength gave out, he was swept under and emerged downstream.

Comment: While I procrastinated for a year before contacting the surviving man, several people 'phoned him within weeks of the drowning to inquire about the run, insisting that they had adequate life vests. It was all the man could do to talk them out of it and convince them that a life jacket would be of no help against the reversal. The experience of the party consisted of an easy canoe run and one previous raft run below the dam. It is curious to note that their activities included sky diving, drag racing, and drag-boat racing, and that the survivors now consider our sport dangerous. One of our expert kayakers subsequently ran the dam with only a few inches of water (much to the consternation of local police), and even at that low level, with virtually no reversal wave, his kayak was stopped. He reports that at high water the reversal is a horror, with debris and tumbling logs.

Local Creeks

The following weekend, Lincoln's Birthday, the troubles centered around San Jose and Carmel, 60 miles to the south. Two young men had to be roped across upper Coyote Creek after being

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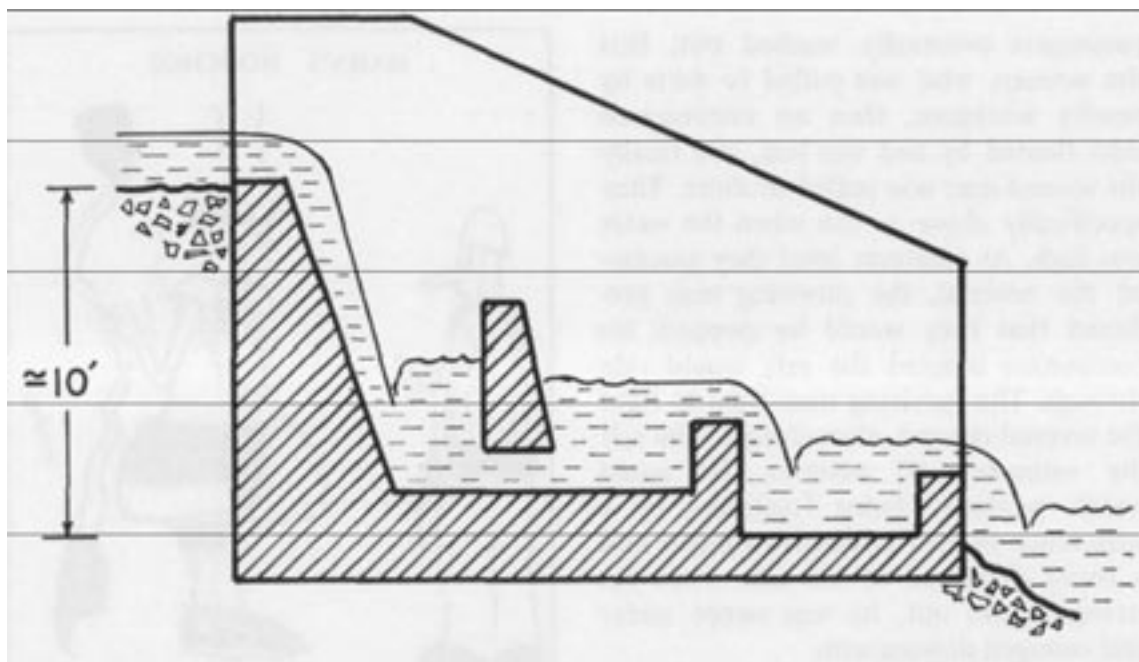


Figure 3 Check dam that caused injuries on Stevens Creek. Note box trap that exists at low water and underwater drain to next pool. Dimensions could not be estimated accurately enough to determine the problems these might present.

stranded by their raft. One man in a party of four drowned when their raft capsized in the rain-swollen Carmel River. He was not wearing a life vest.

Two men were pulled up the steep embankment of Stevens Creek in a litter and treated for back injuries after a 6-man raft in which 5 people were riding went over a concrete check dam. I visited the site and found the stream almost impossible to scout because it was closed off by freeways and houses, the approach was blind due to the heavy brush lining the narrow stream, and the dam was a 10-foot drop in three steps, resembling a giant fish ladder (Figure 3). It is my guess that the raft flipped in the first drop, throwing its occupants onto the next concrete barrier.

Source: Newspaper accounts

Comment: Local suburban creeks, because of brush, debris, check dams, and an all-or-nothing flash flow, are a poor choice.

No Spare Oar

On the Sunday of the Washington's Birthday weekend, a father, his 19-year-old son, and a 15-year-old companion boarded a small, rented raft and entered Cache Creek via two miles of the North Fork, commencing a little-known, 19-mile wilderness run between state highways 20 and 16. The son was a paraplegic who enjoyed scuba diving and rafting despite leg braces. All were wearing wet suits and preservers. At about 1 p.m. they snagged on bushes, dumping the son into the water. The fifteen-year-old went to his aid, losing a shoe in the process. The group made shore, but a lost oar forced an end to their trip, according to newspaper accounts.

At 4 p.m. the 15-year-old went ahead for help, arriving at a submerged low-water bridge some 10 miles away at 10:30 a.m. the following day, where he was brought across the river by Scouts with kayaks and a raft. Meanwhile, the

father and son huddled and shivered beneath their raft throughout the night. Believing that their friend had run into trouble, and unable to stand another freezing night, it appears they struggled along the river until they came within sight of Highway 16 (three miles upstream of the low-water bridge). They attempted to ford a wide part of the stream, but the youth slipped from his father's grasp and drowned.

Body recovery required two days and involved deputies of two counties, two helicopters, a rescue unit, and reduction of the flow at Clear Lake dam to lower the river three feet.

Sources: Newspapers (which placed the group on the wrong fork); Coroner's report.

Comment: This would not be included in state statistics because the group reached safety after the boating mishap. However, we consider this the direct result of a raft trip leading to exhaustion, desperation, and the death, and seemingly involving a number of elements common to river accidents – high water, brush, isolated canyon, lack of secured spare oar (a common shortcoming of rental equipment), and lack of a companion vessel that could have assisted or gone for help. Cache Creek, where it finally parallels highway 16, is a very popular summer run, class II+ at 500 cfs (782 cfs yearly average; 955 square-mile drainage). What this group knew of the upper section (same rating), whether they had been deceived by the 670 cfs in their first 2 miles on the North Fork, or had observed the main flow of over 3500 cfs at the take-out prior to starting, is not known to US.

Surf

Late in February, five people successfully paddled a 12-man raft down 8 miles of Pescadero Creek, a small, rain-swollen coastal stream. However, rather than land

their raft amid the debris lining the banks near the mouth, they decided to run a mild surf, hardly more than 2-foot waves, and let the surf wash them back onto the sandy ocean beach. The raft, driven by what survivors said was a 14-knot current, capsized in the surf. The survivors then found themselves driven by the same relentless current while the waves smashed at them brutally from the opposite direction. One survivor said the battering was so severe he feared he would be knocked unconscious. He tried to dive, but had to remove his parka with its entrapped air before he could submerge. Four of the party managed to get through the surf, away from the current, and back to shore south of the river's mouth. The victim was last seen clinging to the raft, which apparently was trapped in the doubly vicious surf.

Source: Interview with survivor.

Comment: None of the party had the added buoyancy of life jackets or wet suits, which, in this unusual situation, may have been fortunate, at least for the survivors. The accepted practice is to wear life vests and to avoid reversals. In this unique incident we have a warning that peculiar, reversal-like conditions may exist in the opposition of river and ocean currents. Flow that produced this condition was only 800 cfs (yearly average, 43 cfs; 46 square miles drainage).

Spring Run-off

The Stanislaus River has 14 miles of the most popular white water in California. On a flow sustained throughout summer and fall at 700 cfs by a hydro-electric development, 18,000 people floated the upper and lower runs, and another 13,000 people made overnight trips as paying passengers with 12 commercial raft companies during 1973. The river starts with a two-mile series of pools and drops rated as a "forgiving" class IV,

then tapers off. Most outfitters take 4 or 5 passengers per 10-man raft equipped with rowing frame. Passengers wear life vests, usually the large, maritime type.

On Saturday, May 19, the river had risen to 8,600 cfs from 5,000 cfs the day before, probably due to a shower on the ripe snow pack in the high country. One commercial outfitter had a rope across the main channel to one of his rafts, which was pinned to a rock midstream in Death Rapids (named after a drowning a decade ago). A second outfitter attempted a last minute change to the far channel to avoid the rope and capsized two of his rafts.

Upstream, after the first few rapids, a commercial raft had become unmanageable because of water it had taken on in the unusually heavy rapids. It capsized in a hole where normally there is a well-exposed and easily avoided giant boulder. A 50-year-old passenger died of a heart attack, suffered, it is believed, during the first moments of the swim.

Reports of the small inflatables indicate chaos, capsizings, and innumerable rescues by the professional crews. During normal high water the outfitters claim they pull out a half-dozen people each weekend.

Sources: Newspapers and friends on the river that weekend.

Comment: The establishment of a "hazardous" level is arbitrary and can only be done on a personal basis considering one's own equipment, ability, and philosophy of risk. The insidious aspect is that each weekend every person sees everyone else preparing to run the river in an April-into-October season that must inevitably meet with high water (and in some years, unusually high water). Even the most individualistic commercial boatman is not likely to decide that 25 paying passengers, having reserved space months in advance and driven several hundreds

miles, and for whom the food has been purchased, are to be denied their trip when everyone else is running. Indeed, it is the boatman with some favorable big-water experience and confidence who is likely to overlook the statistical nature of river running. Perhaps the best answer would be a sign at the put-in posting the present flow against a scale of advisory cut-off levels for various craft.

Retrieving Paddles

On the Stanislaus River in mid July, a man of 26 reportedly removed his life vest to swim after an oar or paddle. There is an adequate recovery area between rapids, but he was apparently swimming downstream when most of us would prefer not to delay in reaching shore and was swept into the Widow Maker (named only for its fearsome appearance – a steep, powerful incline with several strategic boulders enroute during moderate flows). He was recovered face down and artificial respiration attempted, with no response, and he was turning blue. A doctor coming downstream in a C-2 stopped and administered adrenalin, restoring vital signs. The victim was hospitalized and died four months later.

Source: Newspapers.

Comment: This and the next account are included in our files as fatalities that were the direct result of raft trips, but would not be counted in state statistics.

The American River is a pleasant, afternoon's drift on just about anything that will float for hundreds of people in the vicinity of the capital city of Sacramento. San Juan or "Lunch Stop" rapids, one of the two "notorious" exceptions to this placid but moving river, is a ledge that creates a "stopper" wave and several tongues of fast water alternating with turbulence and eddies in its span across two-thirds of the river (class I to II). A raft passenger dropped his paddle, then beached the raft on the bar adjacent to

the rapid. His companion, leaving his life jacket in the raft, swam out to retrieve the paddle and drowned.

Source: Person who knew the victim.

Comment: It has been my theory that reports of inexplicable drownings of people swimming across rivers could be attributed to the victims being taken by surprise by the downward currents at eddy lines. Also, this run may typify the life-jacket problem. About half of the several hundred people that float this river on a weekend do not wear life jackets for such a mild stream. Some intend to don jackets if they encounter rapids, but never get around to it. Too many get their initial experience in terror in San Juan rapids, first when their rafts are held and pitched about by the wave, and again when they find what it is like to be submerged without a life jacket, even in an easy rapid.

Trapped

There were no reports of the usual tree-snap and wooden-bridge-piling drownings, but the year was not without fatalities in the general category of entrapment.

The Russian River is traveled by some twenty or thirty thousand canoeists each year, most of them renting from a nearby agency. One canoe, attempting to ride the waters funneling through permanent pilings where a summer dam is sometimes installed, apparently struck a previously submerged canoe and broached against a piling, trapping the sternman between the canoes and the piling. Deputies had to use a winch to remove the canoe.

An inflatable kayak with two life-jacketed men, and a raft with one man, not wearing a life jacket, capsized while running the drop in an old, breached dam on the North Fork of the American River between Highway 49 and Folsom Lake.

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Deputies claimed that the two men bobbed free because of their life jackets but that the third man was trapped in the old timbers. It took the volunteer fire department three hours to extricate the body.

Source: Newspapers

Comment: Under what conditions a life vest might have lifted a person so that at least the head was above water and whether the vest might at times contribute to the problem in snags is an old and highly speculative subject among boaters. I have not seen this dam since it has broken away to the point of being runnable, but I feel that generally the buoyancy of a jacket would be overwhelmed by the force of falling water and would make little difference in this type of situation. Boaters must be alert for fallen trees, the possibility of broaching against boulders, and have enough river technique to avoid these problems or take out before they are in currents beyond their capabilities (a common oversight when a river is higher than normal). Timbers and steel rods are common where dams have been breached or bridges washed away.

Deceiving Appearances

From the freeway a hundred feet above the Sacramento River, the 30-mile stretch from Lake Shasta upstream to Dunsmuir looks like a sparkling Class II stream, especially with its low July flow. Freeway speed also makes distance deceptive. Two young men attempted a 16-mile run in a small raft starting at 2:30 p.m., carrying but not wearing life jackets because of the mild appearance of the stream. At 6 p.m., about 5 miles downstream, their raft became pinned against a large boulder at the brink of a 2 or 3-foot falls. According to newspaper accounts, unable to free their raft, they climbed onto the boulder and decided to let the water carry them over the falls. The first

man looked back and saw the hand of his companion clinging to the raft. Neither he nor deputies could find his companion, but the life vests were found with the pinned raft. The body was recovered 10 days later about a mile downstream near Sims.

Source: Newspapers.

Comment: We speculate that this may be a good example of how people are deceived into not wearing life vests, of how they probably put off donning them with each successful rapid, and of the shortcomings of scouting a river from a road. At best this river is shallow but rocky and swift (an expert's class 11), turns into class III where the trip started, then in the two miles above Sims has a class IV, a 3-foot drop (the accident site?), and an abrupt, double falls of 6 and 4 feet. The final 15 miles are class IV and III despite glimpses from the road.

Irrigation Canals

On a Sunday in July a happy float trip down an irrigation canal turned into what must be the classic boaters' nightmare when the water entered a mile-long tunnel hewn through a granite hill. Eight men and women (ages 18 to 26) in a flotilla of six inner tubes and two yellow rafts started down the waters diverted from the Stanislaus River at Goodwin Dam. They reportedly attempted the trip on the recommendation of friends, who apparently had made the trip when the water was lower. They had come three miles, passing through three short tunnels, when they rounded a bend in the vertical-walled channel and were confronted with a black tunnel with a jagged roof clearing the water by barely two feet. The swift current pushed them on as the roof closed down, until rafts, tubes, and riders were jammed up about 30 feet from the entrance. One fellow tried to bite through his tube to deflate it. One by

one they were forced to let themselves be carried into the unknown. At times there was air space at the ceiling, but jagged granite or reinforcing steel battered and cut them. Two of the men drowned. The others emerged with barely enough strength to climb out before entering an even worse tunnel.

Source: Newspapers.

Comment: A waterway can be drastically different from one's past recollections or a friend's description. Changes in flow are the rule, not the exception. Reports of canal fatalities of people who failed to scout or anticipate screens, tubes, weirs, siphons, and unclimbable sides have appeared in newspapers for at least a decade.

Helmets

The bulk of the clippings in my file are extremely brief accounts. Most of them seem to be simple cases of people venturing out on lakes and rivers, often rather respectable rivers during the high-water season, without life jackets. That the circumstances behind these reports may be more complex is shown in our final case history. I had hoped to develop some statistics on the need for helmets. Three or four accounts did mention that "companions believed the victim might have struck his head on a rock."

Comment: It is only a personal hunch that shocked and disbelieving companions, having previously convinced themselves that life jackets were not necessary, are groping for an explanation more in keeping with an "unfortunate accident." Consequently, I tend to discount these statements. Coroners' reports are not likely to establish the sequence between head injury and drowning. Our best observation seems to be the helmets that several of my kayaking companions have cracked in the same waters being run by inner tubes and small rafts.

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Life-Jacket Mix-up

On the weekend that the Stanislaus was having its high-water problems, the South Fork of the American was flowing 3800 cfs, not overly hazardous compared to summertime power releases of 1500 cfs on Saturdays, but a decided change from 400 cfs typical on Sundays (1100 cfs average for 673 square miles). A group of four men, using a medium-sized raft and canoe paddles, started from the put-in at California's gold-discovery site at Coloma, accompanied by two others in an inflatable kayak. Only one member of the group (not the victim) had been on the river before. He had heard about the river from friends and had made four runs, one on the previous weekend when the water was not quite as high.

The first 5 miles is a popular beginners' run (class II at normal flows). In this reach one of the inflatable kayakers broke a paddle, and the group put to shore. The kayak team packed up their gear, inadvertently taking away three life jackets between the two of them. This was discovered with some concern. One member volunteered to leave, but the victim-to-be, an experienced small-boat sailor, insisted that he would not need a life vest and gave his to one of the other members.

The raft group resumed their trip down the river, this time heading into a 10-mile, class III+ canyon run known as the "Folsom Gorge." At the mid-point the raft upset in Satan's Cesspool, a 5-foot plunge into cross currents. One of the survivors saw the victim swimming a short distance behind the raft, but moments later the raft and survivors drifted into the next rapid and no one saw the victim again.

Source: Accounts by survivors, and our own run, about two hours behind the ill-fated group.

Comments: Familiarity with the river,

the big water to come, and the difficulty of swimming in rapids, even at normal flows, might have led to a different decision on the life jacket. Those familiar with this notorious hole know the urgency of getting to shore before the next drop, but whether the victim was in any condition to do so or expired in the succeeding rapid is not known. (The second rapid is a straightforward drop of 7 feet in a distance of 50 feet, actually less turbulent at the higher flows).

Additional Comment: While pondering the possible attitudes that have led to so many drownings, I was shocked by some movies circa 1964 showing me and my contemporaries running the American and more difficult rivers without life jackets, many of us without helmets. That we survived establishes the value of back-up procedures, some of which are unavailable to or ignored by people with inflatables: the Eskimo roll, self rescue, team rescue by fast and maneuverable kayaks, progressive experience in swimming rapids, and the statistical nature of the sport (luck).

ANALYSIS

One significance of this study is that it is probably the first comprehensive collection of data for an area or season that confirms what experienced boaters already know about high water, cold water, reversals, and being trapped against snags or boulders. Even California accidents are too small a statistical sample to assign proper emphasis to some of these dangers (not that knowing that a fallen tree is a more common hazard is of any value to the boater going down a river toward a weir). The surprising revelation (for me, at least) was the matter of flotation vests. Wearing of a flotation vest is so routine among club boaters that the lack of one does not come to mind in recounting the hazards to an outsider.

Lacking in this study is an analysis in terms of exposure to the hazards. The number of people engaged in the sport is at best a guess. While the number of fatalities on easy rivers roughly matches those in white water, the number of accident-free canoeists may be far greater than the number of white-water floaters. Then there are the well-known, fixed hazards, such as a weir or wooden bridge, that seem to take lives regularly and somewhat independently of traffic. It is interesting, however, that by far the most heavily traveled rivers in the state, the Russian and the Stanislaus, account for no more than the one or two drownings per year that occur at random on any one of the less-frequented streams. (The Russian has always been heavily traveled, but

apparently has had a number of years without fatalities. Considering the large number of inexperienced canoeists that meet with snags and junk in the stream, that there have been so few fatalities is generally regarded by serious canoeists as proof of miracles.)

It is reasonable to assume that the dramatic rise in fatalities in 1973 was due to the rise in popularity of river running during the past several years masked by the low flows in 1972. The 1974 snow pack was about 20% above normal. The rainy season has been free of fatalities (because of the warnings in last year's local headlines?), but otherwise 1974 is shaping up as a carbon copy of 1973. There were at least 11 raft drownings as of May 31, including 2 in reversals and



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one canoe passenger held by current against a fallen tree. In addition, a mother and infant son were sucked into a canal siphon, reportedly while using a raft.

After the 1974 Memorial Day weekend, newspapers carried banner headlines about the 23 statewide drownings and 9 Kern River drownings. One sports writer had caption and copy that suggested to the less-than-careful reader that this was largely due to river running, particularly as exemplified on the Kern. He deplored the contribution of river runners to the otherwise declining accident record of "California's half-million responsible (small-craft) owner skippers." (Actually, the state's weekend drowning total exceeded 32, only 6 of which involved river running.) The numerous problems on the Kern were attributable to the influx of 20,000 people along a 20-mile stretch of the upper river (a white-water stream at 2800 cfs that weekend – nearing a normal May peak). People took to the river to escape the heat, some of them undoubtedly taking with them tubes, air mattresses, or rafts. Two people were seen thrown into the rapids from a tub or raft and are believed to have drowned*; the other fatalities were swimmers or waders. How this relates to serious river running or small-craft statistics has little more to do with anything than whether or not the victim happened to have a paddle in his hand. In the one case, he is a small-craft statistic, the concern of a state agency legally charged with responsibility in that area. In the other case he or she is forgotten, along with the larger number of swimmers, waders, and fishermen that

drown as certainly but less glamorously in both lakes and rivers, to join the still larger statistics to which we have become accustomed on holiday weekends.

There is now a suggestion of restrictive legislation in the air. Being overlooked is the right of an individual to choose an activity that has an element of danger, possibly chosen for that very reason, and wherein the only danger is to that individual. This is being confused with the need to protect the public from complex products and the actions of other people in activities (such as motorboating) that are presumed to be safe. Indeed, in California each year 300 to 400 motorboats crash into one another in spite of such legislation.

In round numbers, registered boats (75% motorboats, 25% sailboats over 8 feet) kill 100 Californians every year. Inflatables add 20 to that figure, but could just as well be considered part of over 100 miscellaneous "recreational" drownings (there are also 450 "unspecified" drownings). This amounts to 1 death per 5,000 registered boats, compared to 1 death per 15,000 participants on the Russian or Stanislaus. Multiplying the rate by the total that drowned would indicate that as many people are using inner tubes, rafts, and canoes as own motorboats. While the calculation is questionable, the product is not altogether unreasonable. What is unreasonable is that these deaths seem concentrated in that group of casual boaters, and the rest of us know when and how they will occur and how they can be prevented.

**This is an example of drownings that may never become official statistics. The raft has not been found, bodies may never be recovered, and two other bodies were positively sighted in the Kern, and no one has been reported missing (a problem when a number of lone transients hitch rides into the area).*

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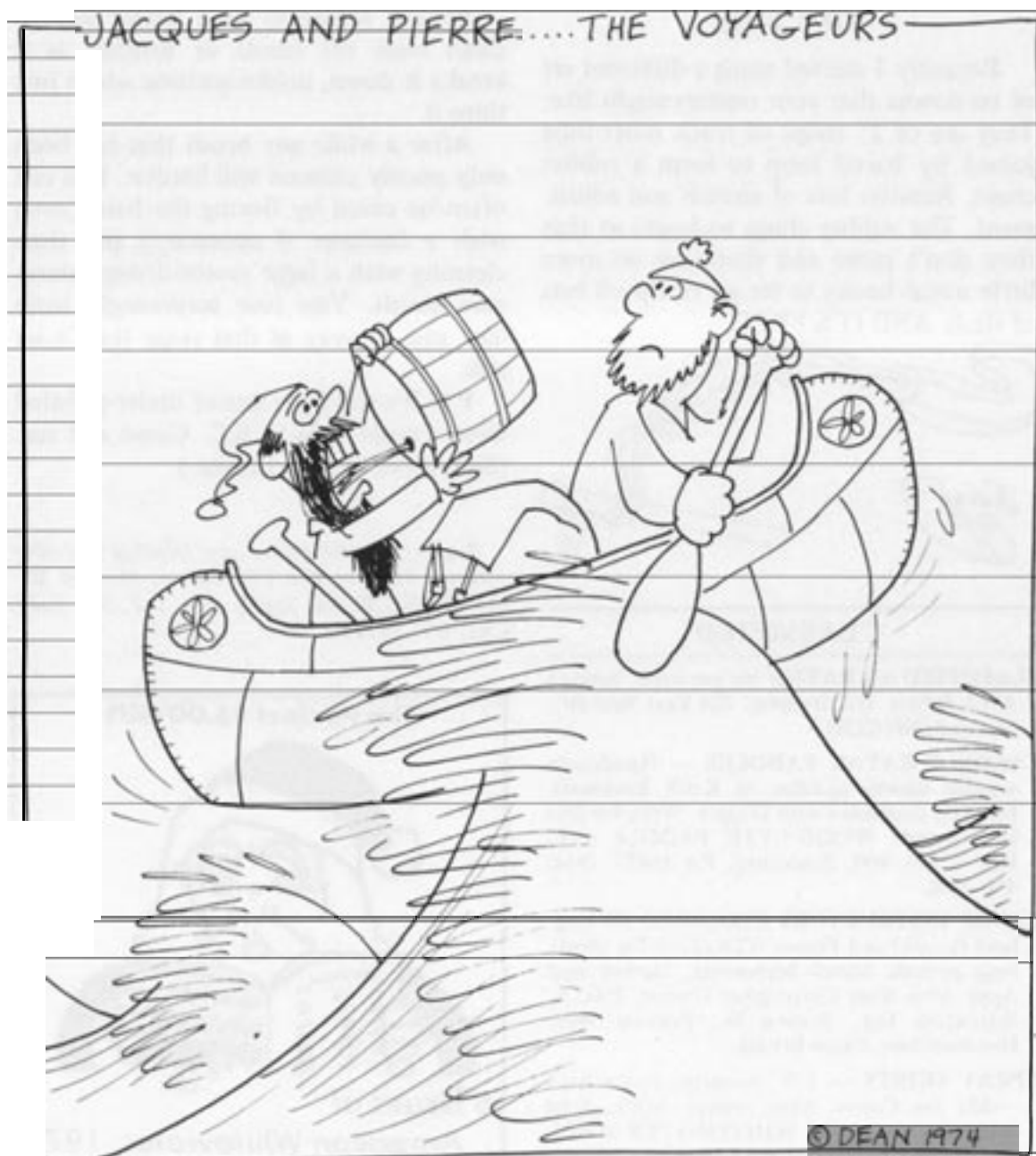
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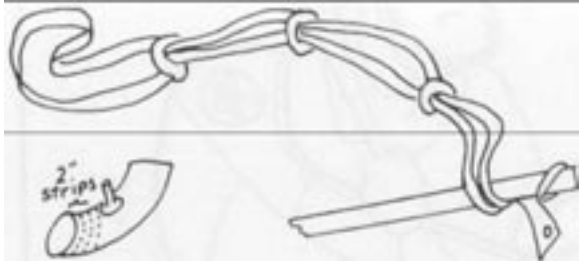
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Boraxo seems to be a better way to clean resin off hands or brushes as it breaks it down, unlike acetone which just thins it.

After a while any brush that has been only poorly cleaned will harden. This can often be cured by flexing the hairs (even with a hammer if necessary) and then cleaning with a large motor-driven coarse wire brush. You lose surprisingly little hair and anyway at that stage there's no risk.

P.S. We still have lots of under-paddled rivers (grade 1-5) in B.C. Come and see. (Submitted by Ben Lemke.)

Readers' contributions are solicited for this column. Send to Try This Editor, Michael W. Mutek, 446 E. 3rd South, Apt. B-2, Salt Lake City, UT 84111.

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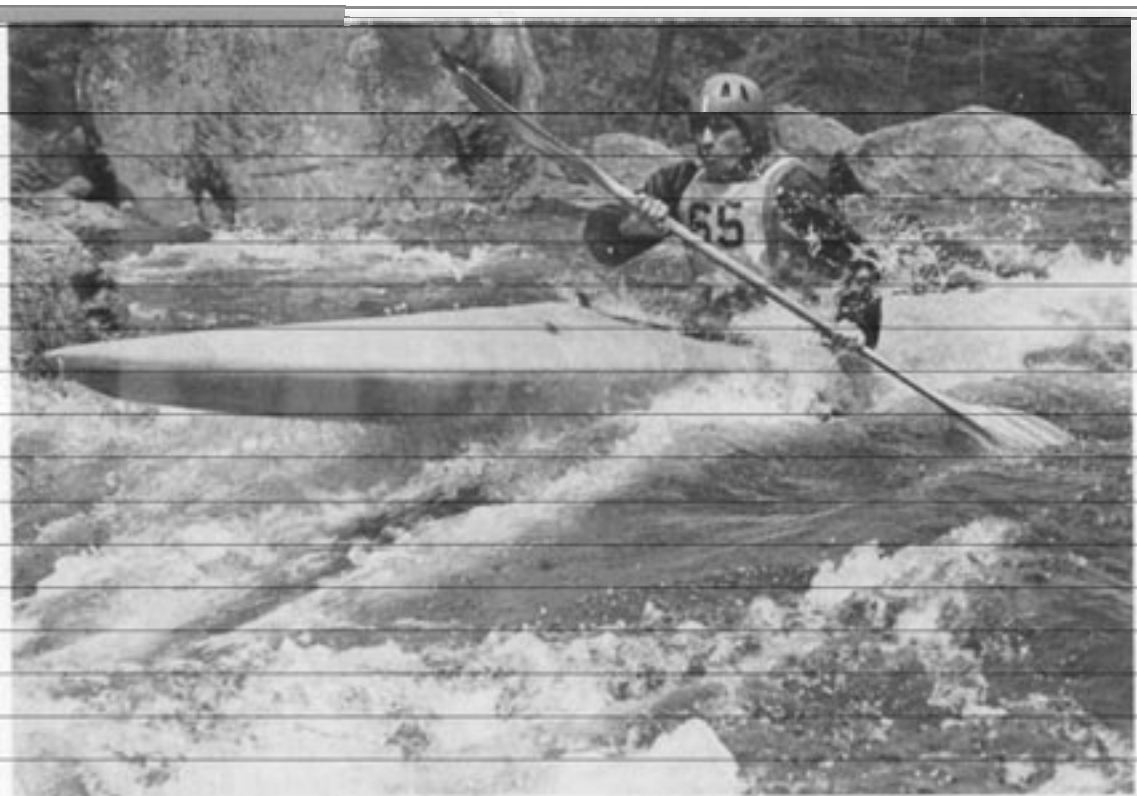
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Dave Kurtz at West River, Jamaica, Vt. Photo by Stowe Photo.

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*Ray Gabler, AWA Racing Editor
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OFFSET GATE TECHNIQUES

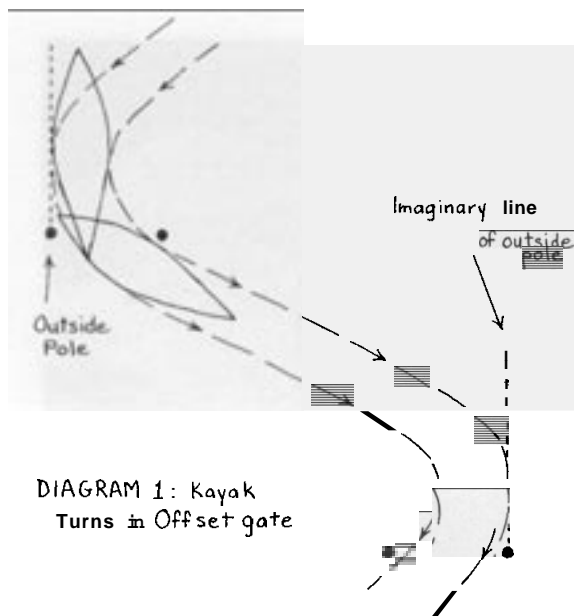
By Dave Kurtz

Eddy turns, ferries, and reverse motion: these are the basic maneuvers that the slalom boater uses. Not to be left out from this list of skills is the offset gate technique. This technique is of great importance, but many paddlers do not know it as a specific technique. Its appli-

cation, however, is needed at many points of a slalom race.

A group of offset gates can be most fully described as a series of three downstream gates with the first and third being on one side of the stream and the second on the other side. The prescribed pathway takes the form of an S shaped curve. This kind of sequence is usually placed in a calm stretch of the slalom course to keep the line of gates continuous, and to add interest to an otherwise lackluster situation.

When the gates are properly set, good paddlers are able to paddle directly through each gate. However, less experienced paddlers will use one or more backferries to complete the maneuver. Back ferrying is slower and actually puts one in a bad position for the next gate from the standpoint of momentum. The technique for kayak is balanced and symmetrical; that for canoes is unbalanced



and depends on the side(s) of the boat paddled and the handedness of the turn. To describe the technique, the pathway for the boat will first be shown, then later, the actual strokes. the pathway can be thought of in terms of the movement of the center of the boat, and in terms of the direction of the boat.

The Kayak Offset Technique

The pathway of the middle of the boat, essentially the pathway of the paddler himself, is one of making the turn, or change of direction, before passing the gate (see Diagram 1). The outside of the boat just touches an imaginary line directly upstream from the outer pole. Attention is then given to the inside of the boat such that the edge of the boat just misses the inside pole. As the kayaker passes through the gate, he is already heading toward the next gate on the opposite shore. Observing the direction of the whole boat, we see that at a point up to a full boat length upstream from the first gate, the boat is heading directly towards the gate. Its outside edge is also in line with an imaginary line drawn upstream from the outside pole. Then, as the boat nears the first gate, it turns towards the second gate.

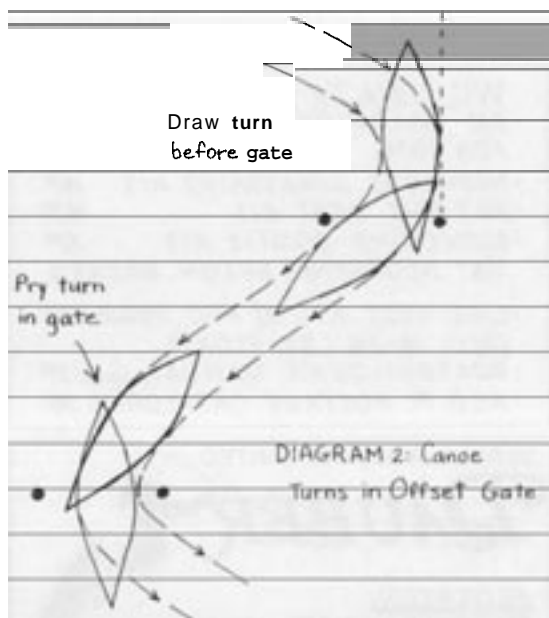
How about the strokes to accomplish this? There are three important strokes, two before the gate and one after. The first is a sweep on the outside, the second is a draw on the inside, and the third is another sweep or forward stroke. The first sweep actually changes the direction of the boat well before the gate. The draw is initiated in the bow and gradually moves all the way to the stern. The draw is held long enough to allow the stern to clear the pole before the third and final stroke is started. If the outside pole is to be ducked," the second stroke or draw is cut short and followed quickly by the duck-under sweep stroke. This duck-under sweep stroke is a quarter sweep done in the stern on the outside such that water is scooped up (boat pushed down).

That is really all there is to an offset maneuver: a three stroke technique where the turn is completed before the gate. When properly done in a well designed course, there is no need to back ferry between gates. Timing and execution are both important and they both take lots of training. Practice on smooth channel flow before expecting it to work well in a big race.

The Canoe Offset Technique

Because of the unsymmetrical nature of canoe paddling, the offset technique is somewhat different from that of the kayak. For this discussion, let's imagine a C-1 competitor paddling on the right hand side. The movement of the boat for turns to the right is the same as for a kayak. The turn is completed before the gate. The stroke for the right turn is simply a draw. Initiated in the bow, it continues all the way to the stern. For-

**refers to the technique of intentionally ducking the end of the boat under the pole – a recent addition to slalom racing made more practical by the new slalom boats with low volume ends – Ed*



ward motion is also developed during this stroke. Recovery is done in-water and is followed by a combination draw and forward stroke. At the next gate, for a left turn, however, the turn is vastly different (see Diagram 2). In this case the turn is done exactly in the gate itself. It is hopefully, a rather sharp turn. The stroking for the left turn is such that the key stroke is made when the boat is in the gate. While still heading away from the next gate, a pry is placed just forward of the paddler and the boat should turn sharply in the gate. The paddle recovery is quick, and the following stroke is really straight ahead. For C-1, the entire turn is one stroke, a pry.

For doubles, the movement is similar to that for a C-1. Let us suppose the C-2 team is paddling bow right and stern left. Gates where right turns are required are done as right-handed C-1 paddlers would do them. Turn before the gate. Left turn gates are executed in the gate as with left turns for C-1 paddlers who paddle on the right side.

The stroking for the right turn gate is as follows: At the point well above the gate, where the turn is started, the bow draws and continues to draw up to the gate. The bow recovers in water sharply

around the gate in a semi-circular pattern. On the other side of the gate, the bow continues the draw with a very strong forward attack, pulling the whole boat through. The stern starts with a sweep. When the outside is on the imaginary line upstream from the outside pole, the stern stops the turn with a pry, and quickly chugs* forward ending each stroke with a sharp, quick pry. The stern may need 1-2 strokes to get up to the gate. At this point he prys through, being careful to miss the outside pole with the stern tip.

For left turns, the paddlers chug forward through the gate until the bow is just past the gate. At this point the boat is at an angle in the gate headed away from the next gate. The bow puts in a sharp pry and when the turn is completed, moves to short forward strokes, **Chugging is very strong, quick and short paddle stroking.*

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possibly leaning out of the boat. When the bow places his pry, the stern executes a **pushaway** (reverse sweep). Just before the completion of the turn, the stern switches quickly to a draw so as to stop the momentum of the stern preventing a hit of the outside pole. This must be a strong stroke. As the stern person slides the paddle around the left pole, he continues to paddle forward to the next gate.

Here again, as in the kayak maneuver, the technique requires precise timing. The need for much practice on smooth channel flow is quite evident.

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DIG! Sorry, folks, don't know who this grim visage and hairy forearm belong to . . . Photo by Stowe Photo.

1974 RACE RESULTS

COLORADO RACES

POUDRE DOWNRIVER, JUNE 1

1. Nat Cooper
2. Brian Fitzpatrick
3. Tom Ruwitch
4. Ron Mason
5. Mark Macon

POUDRE SLALOM, JUNE 2

1. Ron Mason
2. Tom Ruwitch
3. Brian Fitzpatrick
4. Nat Cooper
5. Mark Mason

SALIDA DOWNRIVER, JUNE 16

1. Gunter Hemmersbach
2. Art Vitarelli
3. Tom Ruwitch
4. Johnny Evans
5. Nat Cooper

SALIDA SLALOM, JUNE 15

1. Ron Mason
2. Tom Johnson
3. Mike Jones
4. Brian Fitzpatrick
5. Steve Ruhle

SNOWMASS DOWNRIVER, JUNE 22

1. Dave Nutt
2. Billy Nutt
3. Bill Stanley

SNOWMASS SLALOM, JUNE 23

1. Sandy Campbell
2. Ron Mason
3. John Holland
4. Billy Nutt
5. Steve Ruhle

COLO CUP DOWNRIVER, JUNE 29

1. Dave Nutt
2. Billy Nutt
3. Bill Stanley
4. Tom Ruwitch
5. Nat Cooper

COLO CUP SLALOM: K1 SR

1. John Holland
2. Billy Nutt
3. Nat Cooper
4. Ron Mason
5. Dave Nutt

COLO CUP SLALOM: K1 W

1. Candi Clark
2. Linda Harrison
3. Carol Fisher
4. Bonnie Losick
5. Mary Hesselgrave

COLO CUP SLALOM: K1 JR

1. Steve Kohler
2. Tom Vosburg
3. Hans Hoefnagel
4. Mark Mason
5. Matt Eland

COLO CUP SLALOM: C1

1. Chip Queitzsch
2. Rodney Flynn
3. Drew Hunter
4. John Lugbill
5. Eland

COLO CUP SLALOM: C2M

1. G. Lhota & R. Dentremont
2. R. Lugbill & J. Lugbill
3. M. Garvis & S. Garvis

COLO CUP SLALOM: TEAMS

1. Bill Nutt, Dave Nutt & Steve Ruhle
2. Nat Cooper, Mark Mason & Bill Clark
3. Candi Clark, Linda Harrison & Carol Fisher
4. Tom Ruwitch, Brian Fitzpatrick & Ron Mason
5. Sandy Campbell, Chris Wilson & Peter Wilson

1974 U.S. NATIONAL KAYAK SLALOM CHAMPIONSHIP RESULTS

Arkansas R., Buena Vista, CO, July 13-14
30-gate course, 9000 cfs.

K1

1. Eric Evans	(NH)	171.91
2. Bill Nutt	(NH)	179.55
3. Ron Mason	(CO)	183.28
4. Peter Wilson	(NH)	184.71
5. John Holland	(CA)	185.25

K1W

1. Candi Clark	(CA)	233.85
2. Jean Campbell	(VT)	254.28
3. Carol Fisher	(IL)	275.88
4. Linda Harrison	(PA)	280.45
5. Cindi Goodwin	(VA)	291.45

K1J

1. Dan Isbister		211.63
2. Eric Furrer		230.90
3. Bill Cardoza		259.66
4. Mike Terry		283.33
5. John Sessler		297.68

KIM

1. Bill Clark		210.27
2. Tom Johnson		276.47
3. Manfred Parker		294.17
4. Dave Kurtz		298.60
5. Monte Smith		404.70

ATLANTIC DIVISION SLALOM CHAMPIONSHIPS

Esopus R., Phoenicia, NY, June 1-2

K-1

1. Fred Hesselgrave
2. (?)
3. Will Siegfried

C-1

1. Ed Bliss
2. Richard Church
3. Warren Yeisley

K-1W

1. Mary Hesselgrave
2. Audrey Alexander
3. Joan McIntyre

C-2M

1. Yeisley/Yeisley
2. Hesselgrave/Hesselgrave
3. Stemmler/Thomas

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1974 U.S. NATIONAL KAYAK WILDWATER

CHAMPIONSHIP RESULTS

Arkansas R., Buena Vista, CO, July 6-7
5-mile course.

1. Dave Nutt	K1 (NH)	24:33:27
2. Bill Nutt	(NH)	25:10:24
3. Tom Ruwitch	(CO)	25:30:66
4. Bill Stanley	(CA)	25:36:24
5. John Holland	(CA)	25:38:21
K1W		
1. Carol Fisher	(IL)	27:19:03
2. Candi Clark	(CA)	27:20:65
3. Linda Seaman	(IL)	30:00:27
4. Mary Hesselgrave	(NJ)	31:10:86
K1J		
1. Ron Pardee		26:55:64
2. Hans Hoefnagel		27:46:37
3. Steve Kohler		27:49:43
4. Bill Cardoza		28:29:69
5. Tom Vosburg		29:03:86
C1		
1. Charles Steed	(WI)	30:49:51
2. Fred Young	(IL)	32:08:36
3. Robert Schuetzler		32:11:40
4. Steve Parsons		32:13:13
C2		
1. G. Lhotz/C. Queitzsch		29:26:24
2. S. Feldman/M. Smith		29:49:20

TRIBUTE

Those of us who know the small, steep streams of the Cumberland Plateau were shocked and saddened this **spring** by the death of Martin Begun, who took his own life on March 26, 1974. Martin was a boater of unusual courage and skill. While a quiet person, he seldom carried a drop. He was a part of many of the exploratory runs on what is considered to be some of the most technically demanding white water in the East. Although best known as a cruiser, he was also ranked number one in **C-1 Wildwater** for 1973. While none who knew him can ever understand why he chose to end his life, we all know that we have lost a paddler upon whose strength and friendliness we came to rely. His spirit remains in the rivers he paddled and loved so well, and in the hearts of those who knew him.

C. C. W.

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THE WAYS OF WHITE WATER — II "THIRD-HAND" THEME

O.K. Goodwin,
AWA Safety Chairman

Everybody knows that in a boating accident you rescue people first, boats and equipment later. Sometimes this happens simultaneously but on occasion, while the swimmer is being rescued, his boat goes on down the river — to almost certain destruction — unless a quick salvage effort is mounted.

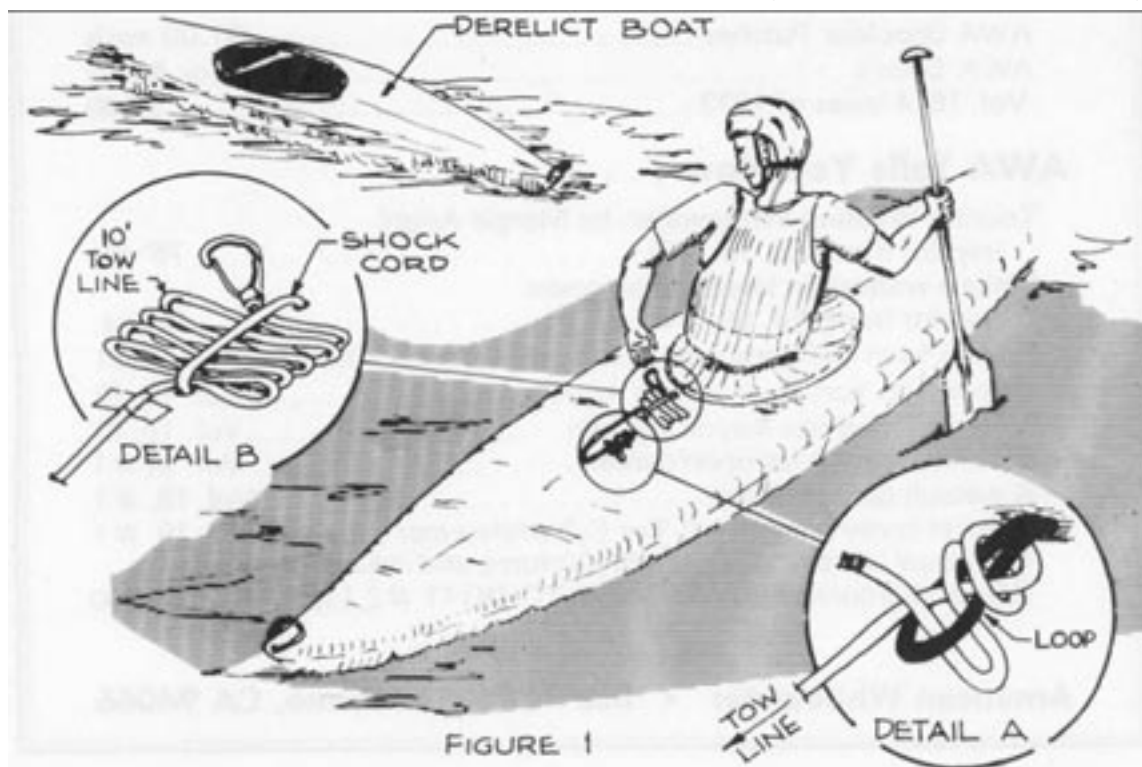
Heaving lines and reach poles are useless in this situation. a tethered-swimmer would be quick and sure (if one is available), but it is more frequently the personnel in rescue boats who bring in the derelict. Any who have tried it know that it is quite difficult to coax a swamped boat from the river current into a sympathetic eddy. (These are the people who most appreciate a boat with maximum flotation; a boat that

floats high is much easier to land than is the deep one.)

Tandem rescue boats have a slight advantage over the solo boats in that one of the paddlers (usually the stern-man) can grasp the end of the swamped boat while his partner paddles for shore. Without special equipment, the rescuer in a C-1 or in a Kayak **needs three hands** — one for the loose boat and two for his paddle. Without the extra hand, he can only use his boat to nudge the drifting derelict along.

In Figure 1, the rescue boat is shown outfitted with a special tow-line that serves as the third hand. This rig is similar to one designed by Frank Daspit of the Canoe Cruisers Association in Washington, D.C., which Frank has used effectively at slalom races. It would be equally useful in any boat-rescue effort.

The tow-line consists of a length of rope with a large, easy-to-handle, snap-hook secured at one end. It should be about 10' long to allow 3-4 feet of space between towing boat and derelict. To rig



this on the boat requires only two things:

1. A secure loop attached permanently to the boat to which the bitter end of the tow line can be tied (Detail A).

2. A length of shock cord to hold the small, flat coil of line and snap-hook (Detail B).

Both of these must be within easy reach of the paddler.

The tow-line should **not** be threaded through the grab loop (or any other guide) at the stern of the towing craft. Doing so seems desirable at first glance but when towing a load from this point (stern) the attitude or direction of the towing boat is difficult to control.

To use this tow-line, the rescuer paddles to the derelict, reaches back to grasp the snap-hook, frees it, quickly attaches it to the end of the derelict and lets go. With his hands free, he can then strike out for shore.

In the event the rescuer cannot reach shore quickly and finds that he is drifting downstream into a dangerous situation, he **may** need to be free of the boat he is towing. To release this tow-line he simply gives a sharp tug on the free end of the (modified) slip-hitch (Shown in Detail A).

A derelict lying low in the water exerts a very strong pull on the tow-line. This causes the tow-line to angle downward from the deck of the towing boat and this in itself restricts the maneuvering of the towing boat. With practice, the paddler will learn that to move the stern of his boat under this line from one side of it to the other, will require slacking the line and flipping it over the stern by hand.

Practice will teach many things:

- Speed in approach and in attaching the tow-line is important.

- The attitude of the towing vessel in the current is very important.

- The direction that the rescuer should take after the hook-up is important.

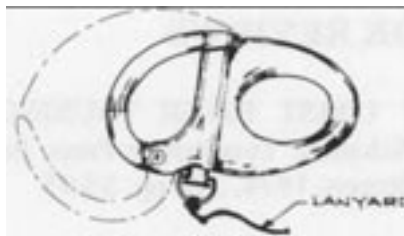


FIGURE 2 DETAIL C
SNAP SHACKLE

The type of paddle stroke to use:

Long, powerful strokes ahead of the paddler, preferably on the downstream side of the boat, instead of the short, racing, "chop" stroke.

Help at the shoreline is desirable.

Awareness of the proximity of downstream hazards is imperative.

The slip-hitch (Detail A) **may** have a tendency to bind as the bight of the line emerges from the loop. As an alternative, Frank suggests a new model snap shackle available at most sailboat hardware stores. This shackle (Detail C) is released by tugging the lanyard attached to the release pin. (An older model was faulty in that the end of the shackle still "hooked" after release.)

Anyone who might be inclined to try this tow-line salvage should be aware that securing their boat to a derelict in any way can be dangerous. In the more difficult water it is imperative that he be able to release the line quickly if necessary. Frank considers this so important that he now holds the free-end of his tow-line **in his teeth**. This has resulted in some head snapping, but he hasn't lost any teeth, so far.

One last point — in boat salvage efforts the idea is to get the job done with the least difficulty. There are occasions when the water, although fast, is shallow. A different approach is suggested for this. Jump out (literally) of your boat and you have two free hands for the two boats.

BOOK REVIEWS

WEST COAST RIVER TOURING, by Dick Schwind. Touchstone Press, **Beaver-**ton, Oregon, 1974. 224 pp, \$5.95

This is not merely the first authentic guide book to California's coastal rivers, it is the culmination of one person's determination to systematically explore every **boatable** stream from Oregon's Rogue River 500 miles south to the Nacimiento River near **Paso Robles**, including those rivers flowing east from the Coast Range into California's Central Valley. The book details 174 runs on 43 streams covering 1700 miles of waterways — an incredible accomplishment! This represents five years of averaging 200 miles of driving on Friday nights during the season, kayaking as many miles of river as possible, and returning to spend week nights writing up notes and preparing for the next weekend. For the author's wife, Jan, it meant many weekends camping in the rain, paddling C-2, or driving shuttle, to say the least.

It is the author's conviction that each river had to be run personally, specifically with the intent of writing a guide book description, in order to guarantee accuracy, reliability, and a consistency in the ratings of difficulty and scenic beauty. The data at the head of each description not only give the standard information on the length and difficulty of the trip, but the flow in cubic feet per second on which the difficulty is based, date of the author's run, an estimated optimum flow, notes on the suitability of the run for rafts and open canoes, and the type of seasonal flow (dam-controlled, snow-melt, rain-fed). This is in sharp contrast to several books by professional writers and would-be river runners that have relied on second-hand river information and have only a superficial understanding

of the vagaries and critical importance of flow. Even when such books give the typical season, the reader has a good chance of arriving at a river that is dry or dangerously high.

The coastal streams, in particular, present a problem in seasonal flow that often cannot be expressed in calendar dates. Into a dozen pages that belie the work, Schwind has packed an original study of stream flow, and that alone is well worth the price of the book. Graphs and tables enable the reader to correlate rainfall at principal towns with the flows that can be expected and the number of days it will take for those flows to decline to reasonable river-running levels (this may not be applicable to other regions unless the climate, vegetation, and soil are similar, but the methodology is of interest). The wild and dangerous fluctuations of a typical stream where precipitation can alternate between rain and snow are illustrated with hydrographs (flow versus time) showing the striking dissimilarity between two consecutive boating seasons. A table lists many of the Spring-runoff (snow-melt) streams and the earliest, average, and latest dates on which optimum flows have occurred over a six-year period. Hydrographs for a dozen **dam-controlled** rivers show their yearly flow patterns and reveal a curious uniqueness to each of the programmed releases.

The information and research in this book would be a steal at fifteen dollars. It is available in soft cover, with top quality paper, printing, photo reproductions, and maps, at \$5.95.

— reviewed by Carl Trost

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American **WHITEWATER**

WILD RIVERS OF NORTH AMERICA, by Michael Jenkinson. Photography by Karl Kernberger. E. P. Dutton & Company, Inc., New York, 1973. \$12.95, 413 pp.

Don't wince at the title and the usual blurb on the jacket ("First, it is a guide to . . . running our magnificent rivers by canoe, kayak, or raft"). First, it is a fascinating account of nine classic waterways and river systems — their histories, legends, tall tales, headwaters, early explorations, indian wars, river characters, wildlife, and scenery — 300 pages, with quality reproduction of the photographs. Some accounts give details on the rapids, each concludes with a page of guide notes: location, access points, length, difficulty, season. The author has canoed at least part of the Buffalo (in Arkansas), Suwanee, and the boundary lakes of Minnesota, outboarded the Yukon, and run a small raft down the Big Bend country of the Rio Grande. He apparently was a raft passenger on the Rogue, Main and Mid Salmon, Lodore and Grand Canyons, and (I would guess) at the very least he took extensive notes from his raft crews about the Gunnison, Westwater, Dolores, Canyonlands, and Cataract. There is an interesting account of the Tarahumara Indians and how the author and friends, a camera crew, and Indian porters packed into a spectacular canyon of the Sierra Madre and ran, lined, and portaged the boulder fields of the Rio Urique with inflatable kayaks while the porters carried their gear along the shallows and bars.

Then there are 60 pages describing 106 river runs from Alaska to Central America. This required a lot of painstaking research of agencies, guidebooks, outdoor magazines, and the back issues of AWW. There are no pretenses — a listing of these sources, state by state, is given in an appendix, and

the reader is exhorted to consult them. There is also a fine bibliography for additional reading on the principal rivers in the main text.

How good is the book as a river guide? This would take a committee to guarantee. Boaters with several years of experience within a region are always concerned as to how to explain the vagaries of seasonal flow and how to establish the difficulties of each river in proper relation to the others. The guide notes in the main text seem surprisingly good in this respect, yet the limitations of a one-time-adventurer/researcher do at times show through. Admittedly, this is an almost impossible problem for such a broad scope and general readership. For example, a warning of the "dangerous drops" for "experts" on the Rogue is not exactly amiss. However, the four-thousand "experts" that somehow get themselves flushed down the Rogue (mostly class III) each year could be in for quite a surprise on the other expert runs. When the book substitutes a "favorable season" of late May and most of June for Bill Winn's 850 to 1000 cfs (The Animas of the Colorado, AWW, Spring, 1968) how many readers will grasp the significance of "80 feet to the mile" and that there may be a critical range of snow melt whose occurrence can vary by more weeks than it is long? The 106 secondary descriptions inherently can be no better in vital information and selection than the existing literature available for a given area.

The author's work apparently predates the quota and advance reservation systems now being imposed on many classic western rivers, so take note.

Chapter one, "River Running," looks like a publisher's afterthought. It consists of nine pages, mostly on camping and equipment (fine for the commercial raft passenger), but the novice that

needs this kind of advice finds little about the hazards of river running than the nonsense about being in a "great deal more danger" while driving to the river.

Wild Rivers of North America is good reading and a tantalizing introduction to what the other regions of our continent have to offer. It is a quick and easy way to the lore that will enrich your river vacation. It is a valuable reference book and list of sources. And that is exactly what I believe the author intended it to be. — Carl Trost

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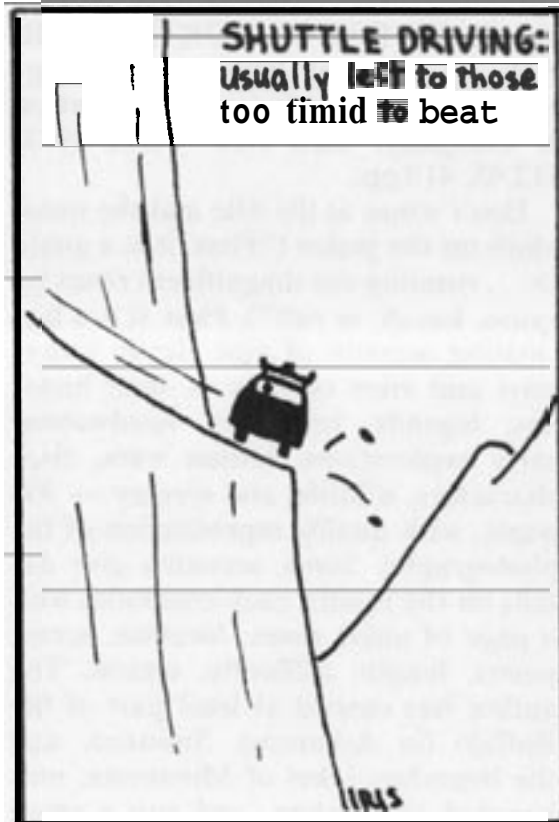
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During its first year of existence ARCC (American Rivers Conservation Council) has established an impressive record of achievements. As Chairman of ARCC's Board of Directors, I am appealing to all those who love and enjoy rivers to join and support ARCC and help us continue these important efforts.

Here is a brief list of the highlights of ARCC's work in 1973 and 1974 river issues:

- helped formulate and then secure the passage of strengthening amendments to the Wild and Scenic Rivers Act.
- aided in getting bills introduced to have several rivers studied for possible inclusion in the Wild and Scenic Rivers System and testified at Congressional hearings in support of this legislation.
- carried out the major conservation lobbying to beat back weakening amendments to the flood insurance bill which is now law, and prepared an action guide to help citizens implement this most important new tool for river protection.
- helped in the successful effort to have the Chattooga River included as part of the Wild and Scenic Rivers System.
- made vital input to those working on land use and strip mining legislation to make sure these bills would provide maximum protection for rivers.
- presented testimony to scenic river field hearings on the Obed, St. Joe, Gasconade, Upper Delaware, Salmon, various Colorado rivers, and the Rio Grande
- spoke out at annual authorization and appropriations hearings against disastrous water projects of the Corps of Engineers, Bureau of Reclamation, and the Soil Conservation Service which threaten riv-

ers and streams

- helped compose the fact reports "Disasters in Water Development" and the 95 THESES which tell what the federal agencies are doing to destroy America's rivers
- sent out timely alerts notifying concerned citizens of important upcoming hearings and votes on rivers
- involved in workshops on river preservation in a number of sections of the country
- provided assistance to administrators of various state scenic river programs
- published a quarterly newsletter dealing with a wide variety of river conservation issues.

If ARCC is to continue its work, financial support must increase. If you are not already a member, please complete the form below. ARCC members are to recruit new memberships or to send in a special contribution.

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EDITOR'S SOAP BOX



With our first year as a bi-monthly fast drawing to a close, we have been evaluating the problems past and present in hopes of eliminating them from the future. The problem drawing most complaints has been *distribution*, so solving that is the main goal of our staff at present. This problem has three facets: 1) We have been working with a new printer this year and *naturally* there have been some rough spots to work out in getting onto a regular schedule. We hope that this problem has been taken care of. 2) We switched this year to a computerized mailing service and were previously too complacent about the accuracy of this service. Now we are aware of the necessity of close double-checking and are confident that this will be much less of a problem in the future. 3) Our overburdened Circulation Manager, George Larsen, has had to contend with inadequate help, sporadic renewals and the fact that the mailing this year has been done from the other side of the Continent, *i.e.* here in

Concord, NH where the printing is now done. George has requested relief from this thankless task, so from now on *Circulation* will be handled at this end while George continues as Membership Chairman and Surfing Reporter. He deserves a huge thanks from all of us for the incredible number of hours he has spent on AWA Circulation.

Please don't forget that *American Whitewater* is still manned by a VOLUNTEER staff and that your support and cooperation are needed now more than ever. Keep those letters, photos, articles and drawings coming so we can still offer you the best. Help insure that AWA Safety Codes are distributed as widely as possible. Show paddling friends your copy of the latest *AWA Journal* and encourage them to subscribe, too. And SEND IN YOUR RENEWALS BEFORE DECEMBER 31 so we won't have to pull your name out of the computer list only to reenter it later on. You will save us valuable time and effort, and yourself much exasperation, by renewing promptly. Remember to send renewals to this address:

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Albuquerque, NM 87123

NEW YORK

Adirondack Mt. **Club**
Schenectady **Chapter**
Betty Lou Bailey
Schuyler 16, Netherlands Village
Schenectady, NY 12308

Hadley Whitewater Club
Richard Lange
1339 Rowe Rd.
Schenectady, NY 12309

Ka-Na-Wa-Ke Canoe Club
Arthur Miller
407 Beattie Street
Syracuse, NY 13224

Niagara Gorge Kayak Club
Doug Bushnell
41-17th St.
Buffalo, NY 14213

Adirondack Mt. **Club**
Genesee Valley Chapter
Smith, Rep.
7th John Glenn Blvd.
Webster, NY 14580

Genesee River Paddlers
Al Carlin
RD-2 Proctor Rd.
Wellsville, NY 14895

NORTH CAROLINA

Carolina Canoe Club
Tom Erikson
Box 9011
Greensboro, NC 27408

Nantahala **Outdoor Center**
Payson Kennedy
Star Rt. Bx. 68
Bryson City, NC 28713

OHIO

Columbus Council, AYH
Joe Feiertag
1421 Inglis Ave.
Columbus, OH 43212

Toledo Area Canoe & Kayak
John Dunn
5837 Elden St.
Sylvania, OH 43560

Keel-Haulers Canoe Club
John A. Kohak, Rep.
1649 Allen Dr.
Westlake, OH 44145

Cuyahoga Canoe Cruising Club
Chuck A. Tummonds
10465 SR 44, Box 1
Mantua, OH 44255

Wilderness Adventures
Charles Comer
256 Forrer Blvd.
Dayton, OH 45419

(Cont. on Back Cover)

AWA Affiliates, *continued*

OREGON

Oregon Kayak & Canoe Club
Box 692
Portland, OR. 97205

PENNSYLVANIA

Canoe, Kayak & Sailing Craft
Douglass Ettinger
701 Wood Street
Wilksburg, PA 15221

Oil City Canoe
Rt. 62 N Rd. 2
Oil City, PA 16301

Allegheny Canoe Club
Walter Pilewski
131 Park Ave.
Franklin, PA 16323

Penn State Outing Club
John R. Sweet
118 S. Buckhout St.
State College, PA 16801

Wildwater Boating Club
Robert L. Martin
LD 179
Bellefonte, PA 16823

Appalachian Trail **Outfitters**
29 S. Main St.
Dovlestown, PA 18901

Philadelphia Canoe **Club**
Dr. David Knight
4900 Ridge Ave.
Philadelphia, PA 19128

RHODE ISLAND

Rhode Island Whitewater Club
Rist Bonnefond
10 Pond St.
Wakefield, RI 02879

SOUTH CAROLINA

Carolina WW Canoeing Assoc.
Jerry L. Paul
3412 Harvard Arc.
Columbia, SC 29205

Savannah River Paddlers
Explorer Ship 121
Sea Scout 404
Jim Hill
1211 Woodbine Rd.
Aiken, SC 29801

TENNESSEE

Tenn-Tucky Lake
Canoe-Camping Club
Calvin Phillips, Jr.
612 Shelby Ave.
Nashville, TN 37206

Tennessee **Scenic Rivers Assoc.**
Box 3111
Nashville, TN 37219

Sewanee Ski & Outing Club
Hugh Caldwell
University of the South
Sewanee, TN 37375

TENNESSEE (Cont.)

Tennessee **Valley** Canoe Club
Geo. M. Marterre
Box 11125
Chattanooga, TN 37401

Carbide **Canoe** Club
Herbert Pomerance
104 Ulena Lane
Oak Ridge, TN 37830

E. Tenn. WW Club
Tom Berg, Bx 3074
Oak Ridge, TN 37830

Choto Canoe Club
Anne Phillips
3811 Woodhill Pl.
Knoxville, TN 37919

TEXAS

Down River **Club-Dallas**

Paul W. McCarly
1412 Oak ~~lea~~
Irving, TX 75061

Texas Explorers Club
Bob Burleson, Rep.
Box 844
Temple, TX 76501

Explorer Post 425
Joe D. Giddens III
7445-Aberdeen Dr.
Ft. Worth, TX 76116

Explorer Post 151
Tom Sloan, Scoutmaster
2008 Bedford
Midland, TX 79701

UTAH

Wasatch Mt. Club
J. Duxell
56 N. 800 West
Woods Cross, UT 84087

VERMONT

Marlboro College
Outdoor Program
Malcom Moore
Marlboro, VT 05344

Northern **Vermont Canoe** Cruisers
Eduin Amidon, Jr.
Bx 254
Shelburne,
VT 05482

VIRGINIA

Canoe Cruisers Assoc.
John Sessler
1623 Seneca Ave.
McLern, VA 22101

Blue Ridge **Voyageurs**
Ralph T. Smith, Rep.
8119 Hill Crest Dr.
Manassas, VA 22110

Coastal Canoeists, Inc.
Tom Frink
319-65th St.
Newport News, VA 23607

Explorer Post 999
R. Steve Thomas, Jr.
3509 N. Colonial Dr.
Hopewell, VA 23860

WASHINGTON

U of W Canoe Club
IMA Bldg.
University of Washington
Seattle, WA 98105

The Tacoma Mountaineers
Kayak & Canoe Comm.
Rob **Hammond**
3512 Crystal Spg.
Tacoma, WA 98466

Whitewater-Northwest Kayak Club
Box 1081
Spokane, WA 99201

WEST VIRGINIA

Wildwater Expeditions Unlimited
Thomas Dragan
Bx 55
Thurmond, WV 25936

WISCONSIN

Sierra Club
John Muir Chapter
Jim Senn
10261 N. Sunnverest Dr.
Mequon, WI 53092

Kayaks Ltd.
John Weil
5980 Dawson Ct.
Greendale, WI 53129

Wisconsin **Hoofers** Outing **Club**
Wisconsin Union Directorate
800 Langdon St.
Madison, WI 53706

Wolf River Canoe Club
R. Charles Steed
Wolf River Lodge
White Lake, WI 54491

CANADA

B.C. Kayak and Canoe Club
1606 W. Broadway
Vancouver, B.C., Canada

Federation **Quebecoise** de
Canot-Kayak Inc.
881 Est. Boul. de Maisonneuve
Montreal 132, P. Q.
Canada. H2L 4L9

AUSTRALIA

Indooroopilly Canoe Club
Box 3h. Indooroopilly,
Queensland, Australia

NEW ZEALAND

Gisborne Canoe & Tramping **Club, Inc.**
Tony Geard
Box 289
Gisborne, New Zealand

Palmerston North Canoe Club, Inc.
Box 1126
Palmerston North, New Zealand

SWITZERLAND

Kanu Club Zurich
Otto Kosma
8008 Zurich Dufour Str. 3
Switzerland