

American

WHITEWATER

the Journal of the American Whitewater Affiliation



JUL/AUG 1974 Vol. XIX, No. 4

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The Staff and committee members listed above are unpaid Whitewater enthusiasts who volunteer their time and efforts to bring affiliate/member subscribers this journal. Your contribution of articles, letters, race results and schedules, photos and drawings are essential for their continued efforts and the timely publication of the American Whitewater Journal.

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COVER: John Bauer descending rapids on the South Fork of the Eel R., Calif. Story and more photos on p. 130. Photo by Joe Bauer.

Letters from Readers

Dear Sir:

Here in Panama we are at present experiencing our annual dry season. During this time of the year our canoe club is prevented from using many of the rivers because of the low water level. To take up the time between rain and dry seasons we are looking for some special activities.

Our purpose in writing to you is to inquire as to where we may buy or rent slides and movies dealing with all aspects of canoeing. Any information you can give us will be very much appreciated.

Yours truly,
Nicholas L. Unger
The Isthmian
Canoe Club
Box 588
Balboa Canal Zone

Dear Iris:

In 1973 when I received the Winter issue of American Whitewater I was recuperating from a shoulder dislocation. My paddling companion and I paid close attention to the article by Dr. Walt Blackadar on shoulder dislocation and this June 1st put the information to use.

On June 1 I dislocated the same shoulder on the same river but this time as soon as I got ~~out~~ of the river we relocated ~~my~~ shoulder. The discomfort of this recent dislocation is only a fraction of the discomfort I experienced last year. Last year my shoulder was out 4% hrs. before reduction.

I would like to thank you and Walt for presenting this information.

Yours truly,

Phil Klotz
Box 21
Westbank B.C.
VOH 2AO CA'NADA

May 20, 1974

Dear Iris,

I recently had occasion to study my back issues of American Whitewater, and I noticed something which I had not caught in reading on an issue-by-issue basis. Consider the following articles: "I Dig Hair—Big, Not Long" (Winter, 1971); "A Mouse-Hole on the St. Regis" (Spring, 1972); and "Chattooga!" (Autumn, 1973). These articles shared three obvious characteristics: (1) they were excellent, (2) they were written by knowledgeable paddlers, and (3) they were written by physicians.

So? you ask. So. I'm glad they were good: so. I respect the expertise of the authors: so, I don't give a damn if they were written by physicians or physicists . . . or plumbers or dentists or astronauts or teachers or maintenance engineers. Ours is a journal of paddle-sport. and when a person speaks as a paddler he/she is a paddler—no more, no less. Professional titles have their places **only** when one is speaking as a professional. If degrees were given in rapid-running (RR.D. ?), I would have no quarrel with the paddler who appended his/her byline with same . . . unless, of course, it were on a medical articles in a medical journal. (Please note that I am not referring to the medical articles which have appeared in American Whitewater—here, professional degrees are quite appropriate. since the authors are speaking as physicians.)

I have an advanced degree in physics. but since that has little—if anything—to do with whitewater boating. I never tack the letters onto my byline when writing canoeing articles. Gerald Meral has a Ph.D. and so does J. Calvin Giddings, yet their bylines never treat us to a thumbnail sketch of their academic accomplishments. Who would care? These guys are good paddlers and good writers, and that's all that should concern anyone who reads this Journal.

Academic and/or professional snobbery have no place in our sport. Or in our Journal.

Sincerely,
Garv E. Myers
28 W 136 Hillview Dr..
Rte. 1
Naperville. IL 60540

Dear Iris:

A number of us have been buying inexpensive made-to-measure wetsuits from Skindiver Suits. 1632 S. 250th. Kent. WA 98031. Costs about \$40 for two pieces. Quite satisfactory. I've had no luck getting them to advertise. However perhaps you'd like to tell the readers about them anyway but ask that any inquiries mention the Journal.

Sincerely,

Fred Dietz
1590 Sleepy Hollow Dr.
Coshocton. OH 43812

June 6.1974

Dear Editor.

Over the memorial day weekend we Eastern paddlers discovered, unhappily, that our equipment is no longer safe even on the shores of a wilderness class V river. Two kavaks and four paddles were stolen from the banks of the Gauley River at the mouth of Peter's Creek during the night of May 27. This is the usual stopover on this very popular but long run, the usual procedure being to paddle the canyon the first day and walk a mile down the railroad tracks to a small camp site for the night. Boats are customarily left by the river for the second half of the run the next day.

Several fishing camps were spotted in the canyon as we paddled down the first day. otherwise the river is basically wilderness. the only access to the Peter's Creek take out being a long carry up or down the tracks, then a fairly long drive back to civilization: Summersville, W. Va.

Paddlers should be aware that it is no longer wise to leave equipment un-

guarded anywhere, and to watch for signs of the missing boats:

Old Lettmann Mark IV with patched orange deck, white hull, Yough 74 and Petersburg 73 stencils, Hipp and CCA decals. Iliad paddle. blue handle.

New Kurtz design with mold modification marks in bow and stern, blue hull. clear deck with green frog and blue dragonfly design, 1/2 length etha-foam walls. New Kober 210R with green boat tape on blade edges.

Norse canoe paddle: green handle. orange grip, white blade.

Please report sightings to this author or the Summersville. W. Va. police. immediately. Find out the name of the paddler occupying the cockpit!

Yours truly,
Richard McKee
717 S. Allen St.
State College, Pa. 16801
814 238-5769 or 865-2538

OPEN LETTER TO WHITEWATER SLALOM RACE ORGANIZERS, OFFICIALS, PADDLERS, ETC.

The I.C.F. rules state in no uncertain terms that boats must be fitted with grab loops, toggles or painters and specify the size of loop and size of line from which loop is made. Loops must be "large enough to allow entire hand to pass through them." This is further amplified by some race rules which add that: "Loops will be easily accessible."

It is apparent that **many** paddlers are violating the rules when they flatten their grab loops against the decks of their boats and tape them down.

I.C.F rules also state that it is the responsibility of **every** race **official** to see that safety measures are adhered to.

It is obvious that this duty is being neglected.

There is some argument for the taping of loops but taping in any form violates the purpose for which the loops are intended and, until the rules are modified, it violates the rules.

I respectfully suggest that:

1. A.C.A. officials are responsible to see that rules are observed at those races that are sanctioned by A.C.A.
2. The worst offenders are the better paddlers.
3. It will take a firm, mature ("hard-nosed") individual to enforce the rules with the paddlers.
4. Disqualification of a few paddlers will correct the situation.

Sincerely,
O.K. Goodwin
Safety Chairman
A.W.A.

P.S. Compliance with the safety rules should be enforced **prior** to a run and **without undue harrassment** to a paddler. Spot checks at the finish line may help in enforcement but have little value from a safety standpoint.

O.K.G.

OBITUARIES

Martin Begun, 24, of Oak Ridge, Tenn., died in his apartment March 23.

AWA readers will remember Martin as the Potter's Falls-jumper on the controversial cover of the Summer, 1973 AWA Journal and also in several photos in the May/June 1974 Journal.

Julie Wilson, of Atlanta, Ga. (See storp. p. 117 this issue.)

CANOEIST DROWNS IN TRUCKEE

Stefan Umberger, 24, an experienced white-water canoeist who was originally from Pennsylvania, drowned May 31 while attempting to run an abandoned diversion dam on the Truckee River in Reno, Nevada. According to the newspaper accounts, he was caught in the reversal at the base of the dam, was unable to complete a roll, came out of his C-1, and kept going under. Umberger had run the river a number of times but sometimes had to run the river alone because of the lack of white-water boaters in the area. His wife, Pamela, following the river by car, witnessed the

accident.

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THE DAM DICKEY-LINCOLN

by Su Borden, Epsom, N. H.

"I'm coming, I'm coming." the raspy voice called from inside the cabin. Soon his white, grizzled head was poking through the door. It took him a moment to recognize me, then he was at me so fast that I hadn't realized he'd moved until I felt his hand (which was made of red pine bark) grabbing mine.

"I wasn't sure I'd find you here." I said, coming out of the shock.

"But ~~you~~ did, you did. and I sure am glad to see you. Haven't seen anyone for—well more'n a month now. I guess.

"What! Do you mean you stayed here all summer?" It was hard for me to imagine this rugged old man being happy while doing anything other than being a river guide on the river he knew intimately enough to call his own—the St. John River—the beautiful river to which I planned a return after six years, to experience again the feeling of being part of nature, a feeling which was hard to find back in '75 when I had gone there first, a feeling much more difficult to find today.

A sad look crossed the old man's face and he took a step back.

"What? You haven't heard yet?"

"Heard what?"

"About the dams—don't you realize? oh—well. sit 'down." He motioned to a moss-covered rock, and sat facing me. "Do you remember, back in the mid-sixties, when they were talking about building a couple of ~~dams~~ on the St. John in order to make more electricity?"

I thought for a while—and vaguely remembered something of the sort being discussed. "Yes," I said, "but didn't the environmentalists quickly put that to rest?"

"Well. yes, they did, back in the sixties they'did. But then. in the seven-

ties—do you remember the energy crisis?" How strange. I thought, thinking of my solar-heated home, that ten years ago we were so dependent on other types of energy. "Well, just about that time, a bunch of them fancy city slicker-type politicians decided they'd better make it look good—like they was doing something about the fuel shortage. A few years before. when everybody was talking about ecology. they wouldn't have dared mention a plan that would destroy so much good land. Why, there was fifty-seven miles of great canoeing in that river, and fish to boot. But then came that energy crisis. and suddenly everybody forgot how good it was to keep the land natural. Everybody was scared they might not have enough electricity to run their TV sets and these politicians were going to do something about it."

"But couldn't something have been done to stop them?"

"Oh, we tried. We tried' to keep um from it. We got up a petition against it, and even demonstrated at some of their rallies. But there just weren't enough of us. So, they built the dams. Yep, some of the younger river guides helped on the construction of those dams. Me. I just couldn't make myself do it. I just stayed home, like I always do now, doing some whittling when I feel like it, and livin' off my savings. Others though, like Bill, the lumberman, they had to go south and find some other kind of work. The land just weren't no good for lumbering no more—used to bring in 660,000 dollars per year. All the animals started leaving, too. Huge amounts of land. they say thirty thousand acres, are under water sometimes—then they just suddenly go dry. and then they'd flood up again. So,

of course, the animals had to get out. Hardly ever see a moose or a deer up there nowadays.

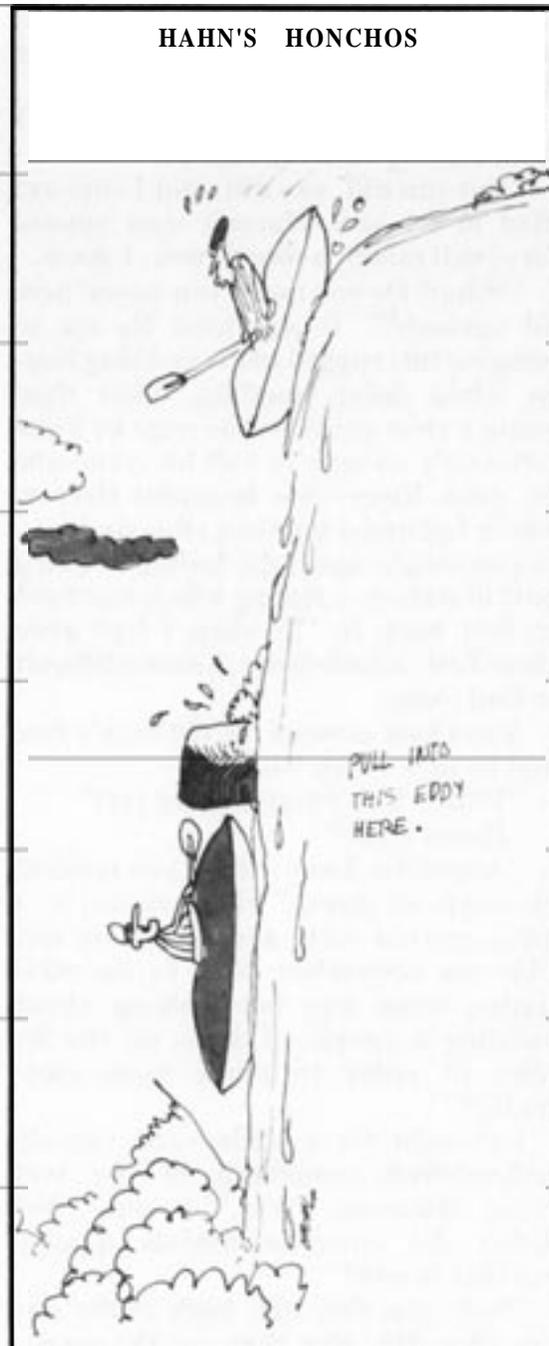
We thought at first that it was just two dams they was building, but as it turns out, they had to build ~~five~~ dikes at other places to keep the dams from fouling up other rivers. And they had to build a hundred and fifty miles of power lines to get the electricity distributed.

Well, they say you can't stop progress—but sometimes I just don't know what is progress, and what ain't. Now, we're paying over seventeen million dollars a year for these dams and will be paying that much each year for longer than I'll ever live. Now, when they first built those dams they said we was getting one and one half percent of our electricity from them. But now, what with solar energy being used for most everything, those dams can't be giving us more than one percent of our electricity. Now tell me, is spending that kind of money to wreck a beautiful river, a whole bunch, hundreds of thousands even, of animals, and a whole lot of productive timberland, for such a measly amount of electricity, is that progress?"

Shaking my head slowly, I watched the old man pick up a piece of wood and continue some whittling. I couldn't help remembering him as I'd seen him last—sitting proudly in the stern of a heavily-loaded canoe, and maneuvering it expertly through a rapid—laughing at the water, the rocks, and the sunshine, knowing that this was where he belonged.

The above story is still fictitious, but the possi/proba dilities it proposes are not. The St. John River in northern Maine, which contains some of the best white water in the eastern U.S., as well as supporting wildlife and productive timberland, is being seriously threatened. Legislation to renew ap-

ropriations for the ~~two~~ hydro-electric dams (one at the town of Dickey, the other at Lincoln School) has gained support as a result of the energy crisis and the upcoming congressional elections. If anything is going to be done to save the St. John, it must be done now. What can you do? Write to your congressperson and express your feelings on this issue.



JULIE WILSON FALLS

by Walt Blackadar

"MISSING KAYAKER IN BRU-NEAU RIVER RUN lost in ride over falls. We came upon a fallen juniper tree in the river and by the time we had paddled around it we were committed to the falls."

So read the headlines of the first tragedy to befall a top kayaker in America. I was there, in fact I was her leader and as such must necessarily bear much of the burden of the tragedy. This would of course have been much easier had she not been my paddling friend; actually she was my fun girl, thirsting for more knowledge and trusting me implicitly. The night before her death she told me I was the safest boater she knew. How then could I have betrayed this trust and not led her "beside the still waters?"

This nightmare began when Julie Wilson and her close friend Boni decided to leave the comforts of Atlanta, Georgia and visit the West, expecting eventually to tour Alaska with our group. Earlier I had planned to repaddle the Chattooga River near Atlanta where I first met Julie and her man, David Truran, in March of last year. but cancelled at the last minute because I was still short of breath following major surgery (unfortunately I was the patient).

So Julie and Boni headed West, skiing and playing as they came, arriving in Idaho between winter and spring. To satiate their paddling desires we had to dump ice cubes into our rivers and follow them down.

Having a five day weekend I gathered three fellows who I knew were tops in big water to strengthen our trip down the wild Bruneau River Canvon. I had

run the lower Main Bruneau some five times but the West Fork, also occasionally known as the Upper Bruneau, only once. This is the prettiest, wildest and most spectacular small canyon that I know and I longed for Julie to love it as I do. The Gorge is rumored to be 2000 feet deep and narrow enough to throw a stone across the top — but I am sure both statements are slight exaggerations. Actually the wildest rapids are all in the lower Bruneau where I know the river well — I considered the upper Bruneau safe but with a number of arduous portages. We carefully checked the water gauge at Bruneau finding it 6.8 — well under the 7.8 limit I feel is boatable, so drove to the headwaters in Nevada where Boni left us to shuttle back downstream eighty miles through a violent snowstorm. The night went by slowly as the water roared by my tent. I feared the river was rising since on my previous trip I had entered farther downstream but the gauges were right and the water level correct and decreasing daily.

After a hearty steak breakfast we all paddled down starting at noon but all boated poorly and after a series of minor upsets I called an early halt for the night. We rechecked equipment which failed during the day and learned to trim our boats so that while loaded they balanced at the same fulcrum as they did empty. Most importantly I lightened Julie's boat about fifteen critical pounds for I could see that she was not yet strengthened to the task of a full boat. Contrary to the sleepless first night I relaxed and died all night awakening to a sun filled sky — cloudless at least for the first hour. It snowed again shortly afterwards.

We slowly and carefully worked our way downstream carrying several times, usually only for a few feet, never over three hundred. Julie and my friends had smoothed out their paddling technique and were doing superbly. I had only been down once but had led on the first trip and remembered most stops and the hard rapids. After the toughest carry of the day I thought we were basically below all of the falls and had just a couple of easy stops for Class V rapids where most would have to carry but which I might possibly run.

On the first trip down this river, using our usual safety attack at the ~~to~~ totally unknown river, the leader of the moment (of course, the first boat) had the complete control. No following boat could challenge this control in clutch situations. Frequently during the day the lead changed from one to another. Often a relatively inexperienced boater would be first in easy water and as the difficulty increased would pull aside and let someone else proceed. The leader of the moment however was in absolute control of his own fate and no one else's. Being first boat on much of the trip I decided never to commit myself to run until I had safely scouted what lay ahead. Usually this meant that as I rounded a bend and heard a roar I searched ahead, not for the way to negotiate the rapids but for the possible stops. When I could see a way to drop part way down a severe drop to a tiny eddy I proceeded. From that eddy I could cross and stop again on the other side and thus see a drop of a few feet which landed on rocks and had to be carried. Thus up went my paddle in a vertical wave which told the others ~~to~~ scout and proceed only after looking for themselves from the bank. At no time during my attack at this unknown water below could my lead position be challenged nor could any following

boater commit himself to have to stop where I did until I had time to vacate my spot either by paddling on or by lifting my boat out of the water. He had to hold indefinitely at least one eddy above me. I frankly paid no attention to the following boat assuming that without a signal of any kind, boat No. 2 would come only to the eddy I had vacated and hold there until I had proceeded to the next eddy. Frequently this stair step approach to the river would be attained by paddling straight down and never pausing in an eddy but potential stops were there, constantly seen by the leader and the follower.

Several times each day on any strange river the leader could not see the way to a new eddy from his last safe stop, so of course hopped out of his boat and scouted and then waved to the boaters above to scout or follow depending on the difficulty of the drop.

On this second trip, as I previously indicated, some of this safety* disintegrated. We relaxed a bit because I thought we were below all the portages. Also I knew that there were no surprises on the river and all stops were easy to spot and to stop the group. Julie also felt safe by being close, knowing of my rescue strength and, thirsting for information, wanted me to point out all of the intricate bits of nature lore which filled my life's experience. We approached a chuckar partridge unaware within a few feet and looking up saw three deer watching us. Shortly afterwards I spotted a small pile of Indian arrowhead chips piled neatly near a portage.

Somewhat earlier that day I was suddenly stopped in mid river — trapped in a reversal which required all of my concentration but which had no danger

**Was ~~safety~~ ~~procedure~~ ~~explained~~ or merely assumed? — Ed.*

except for the spear-pointed kayak which bore down on me with its terrified rider. Julie. Forewarned by her scream, I was able to divert her bow over my lap where she safely went over my boat. Julie was so apologetic for this incident but I shrugged it off as a mishap which happens daily. I did, however, caution her about the dangers of following a boater too closely. The biggest risk a kayaker has in a hole is a fellow behind crashing in. So on we went with Julie as happy as I have ever seen her, reveling in the fact that she had four guys to carry her boat and vie for her attention. Her fun however was soon stymied by an act of nature — a freshly fallen juniper tree nearly blockkd the river.

As I approached the tree in Class III water I saw a calm eddy on my right but charged around the tree to stop in a tiny half-boat eddy on the left just beyond the tree tip. After clutching the shore and stopping I glanced at Lower Falls, (now regrettably named "Julie Wilson Falls") which I recognized instantly. I looked around to see which side we should portage but this was a useless gesture for Julie and another boater were already past the tree and on the way over. I peeled out immediately and led trying to pick a safe route through the hell below. This proved to be an impossibility for I soon flipped and had to wait forever upside down until things were right before coming up. Thereafter I was so busy surviving as I plunged on down that I saw no one else. The third boater — Ken Collins — saw Julie flip and roll almost up and then immediately swim. It was early in the spring and none of us were as sharp or mentally conditioned as we would have been later in the summer. But Julie should have hung tight and rolled again and again and again. She should have used her last breath trying to roll up in



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spite of broaches, head bangs, rocks or any of the other terrifying hells that haunt us while under water in such horrible situations. Once out of her boat she was helpless even though she got a breath or two as she tried to swim over. Actually, I gushed down a chute at the bottom into a slit eddy, then saw Julie and her boat go by as I glanced back over my shoulder. Ken tried to catch my eddy but missed and slipped sideways down the next drop, broached a rock breaking his boat, and swam to safety. I turned and paddled around the corner and tried to collect the pieces, of which there were none except for a useless boat. Julie never surfaced and though I paddled and searched for ten miles I found no trace of her body. Several hours later we did find her empty life jacket three miles below the falls, still zipped and tied, having eluded previous intensive searches.

For the first ten days the loss of Julie was almost more than I could take. I quit boating a thousand times that week, but not now. I am going on, and I will continue kayaking and leading trips. but I'll learn from Julie and for her sake try to prevent a similar accident.

What actually went so wrong as to cause five skillful boaters to be swept over such a falls and why couldn't all survive? We committed at least four errors which I will try to detail logically.

1. Inadequate life jacket: Julie wore a foam-filled 13+ pound flotation jacket. She was light — 105 pounds but once swimming needed at least the 35 pound buoyancy in my Grand Canyon Jacket. Julie refused to try my style and being a skillful roller on either side, she felt that her roll was so good that she shouldn't louse it up with a huge jacket. That I partially agree with, but she would have had time, once swimming, to look at the falls ahead and pull two CO² rip-

ords and add to her flimsy buoyancy enough flotation so that she was sure to survive the plunge. Also the resulting tightness of the inflated jacket would insure against its loss in violent water and would add extra cushion protection from rocks. To my knowledge this jacket does not exist but we must perfect it immediately. Meanwhile I have taught light boaters to roll in our huge jackets by reaching way out and up on the side of the boat they are floating and pry up. Actually I occasionally even find myself buoyed up sideways by the jacket's flotation and just reach out on a high brace and scull or pry up. Light boaters can do this every time with practice.

2. The second error, of course, was following too close, crowding the lead boat.

3. The third error was not hanging in there mentally and physically and rolling up. In life or death situations your roll is your only salvation and swimming is not the safe way out. This sounds like I am critical of Julie for swimming. Not in the least. This was a real terror of a place! Not over one in a hundred gals would even try to roll there and-if any gal could have rolled up, Julie would have. But this was early in the season and we had just started getting our heads conditioned to the abuse one must accept to successfully roll in clutch situations. Also most importantly I am sure she saw me tlip and not roll up directly in front of her for I stayed down sometime before everything was right for my roll. That alone has psyched out several other boaters in lesser peril. I know Julie tried — butnot hard enough!

4. The fourth error was mine seen only in the 20-20 vision of hindsight but a valuable lesson for the future. I stopped in the only eddy I could see and thought it was the only stop possible.

But I now know that if I had screamed "Stop! Stop! Stop!" all could have found a haven within fifty feet or so. They were all good boaters and all would have found their own hole in the rocks and stopped. At the time I didn't honestly think Julie could stop and told her to follow me as I led over. I was afraid that I would screw up her mind by making her stop where she might be swept down backwards and upside down. I'll never basically regret that decision or blame myself for it, but again in a similar situation I think that I will try to stop the gang and chase the pieces over the falls. As it was, I helped no one and saw no one's plight. Had I been chasing even the remains I might have been able to help for I could see what was going on, and once able, could proceed in the direction where help was needed.

After the accident our group spent two days searching the river before paddling out. Eventually I took off alone for Bruneau, Idaho, reading the gauge at 5.9 while I waited tearfully for Boni. I had the other three stop fifty miles upstream where my friends retrieved them by jeep at three A.M. After organizing a more formal search we returned with steel brackets and erected Julie's boat high above the approach to the falls to warn others of the danger ahead — lettering on the bottom in large letters, "JULIE WILSON FALLS."

Boni sadly voiced our feelings when she said — "It's not professional. but it was done with love!"

Julie had remarked a couple of times that she shared my desire to be buried near the river in the wilderness should an accident befall her. So with her parents' permission and their formal power of attorney over her body, I selected the ideal quiet spot high above the falls and sadly opened her grave with the

help of my daughter and a friend so that all would be ready whenever we recovered her body. Three weeks after the accident while I was attending a huge memorial service in Atlanta, friends in Idaho, who could not attend, chose to visit the grave. They found Julie's body within one hundred feet of the falls, under a log. Following my instructions she was gently buried after reading the Episcopal burial service from the prayer book we left nearby.

A memorial fund has been established with donations to the American Rivers Conservation Council, 24 C St. S.E., Washington, D.C. 20003. to help protect the rivers she so loved.

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THE LEHIGH PROBLEM

by Wm. G. Huber, Dover, N.J.

In March the Philadelphia Canoe Club regrettably notified registrants of the Lehigh River Wild Water Canoe Race that the race was cancelled. The Penn Haven Rod and Gun Club had closed the river!

Oh, they didn't string barbed wire across the water. But they might as well have.

The Lehigh — except for seven dams — is a free-flowing, navigable waterway from Francis E. Walter dam above White Haven to the Delaware River, 82 — miles downstream. From the town of Jim Thorpe the river ambles through rolling farm lands of lush Eastern Pennsylvania. The water here is flat and calm, contrasting sharply with the tumultuous, Class III rapids above Jim Thorpe.

It is the 26-mile stretch from White Haven to Jim Thorpe that is of interest to white water canoeists and kayakers. Here the river cuts through the Broad Mountains. The canyon walls rise 800 feet. Peregrine falcons nest in the sharp outcropping of rocks. The scenery is majestic. Indeed, it is some of the finest in the mid-Atlantic region.

The river itself drops 570 feet between the two towns, giving rise to interesting Class III rapids. Here calm, there plunging through boulder fields and frothing water, the Lehigh is the only river of intermediate level difficulty readily accessible to the Philadelphia — New York Metropolitan area.

Ed Bliss, chairman of the Kayak and Canoe Club of New York and a past national champion canoeist, laments the loss of the Lehigh. "It is the first white water river I ever paddled," says Ed. "It is the finest training river within a two-hour drive to New York. I just do

not understand why the hunters want to prevent us from using it. We rarely step on the land and we never fish. It is a shame that a few have closed the river for so many."

Indeed, many have enjoyed running the Lehigh. Scores of canoeists and kayakers run the river whenever the water is up. With spring rains this may be every weekend, but in the summer it is limited to the once-a-month water releases by the Army Corps of Engineers at the Francis E. Walter dam.

White Haven is the usual put-in spot, while Rockport, 10 miles downstream, is the recommended take-out. The alternative is a grueling, physically-tiring and thereby dangerous 26 mile trip to Jim Thorpe.

To save paddling all the way to Jim Thorpe, one must take-out at **Rockport**. The take-out place was never ideal. The paddler must take advantage of a break in the rapids and quickly maneuver his boat to the west shore. Then, it's hand-over-hand as one helps the other pull and push boats up the 20-foot rock and cinder embankment of the now unused Reading Railroad bed. Once on top, it's a quick walk across the cinder railroad bed to a public parking area.

The Penn Haven Rod and Gun Club now forbids anyone to walk across the old railroad bed. By blocking this 80-foot wide corridor, they have effectively closed the river.

Their authority to block access to the river rises out of a lease with the Reading Railroad. The railroad, apparently pleased to rid itself of legal responsibility for suits arising out of injuries to trespassers and seeing a way of stopping vandalism by having a group police the area, leased approximately seventeen miles of unused railroad bed running along the west bank from Lehigh Tannery to below Rockport. The

club has posted this property and members stand guard on week-ends to enforce the rule.

"Sure I can make the run to Jim Thorpe," says a member of the Philadelphia Canoe Club, "but what happens if there is an accident? And, quite frankly, I am a little scared. Who knows how far these surly hunters will go? When out there on that river, I am totally defenseless."

Paddlers are not the only ones affected. Hunters and fishermen have been barred along with hikers, sightseers, picnickers, and anyone else not a member of the Rod and Gun Club except several residents of Rockport. To date, at least six anglers have been arrested for trespassing.

The State of Pennsylvania, although sympathetic, is powerless to act at the present time. Money to acquire property for the Lehigh Gorge State Park is limited and assigned to the purchase of desirable farm lands. Acquisition of the precipitous west bank walls will be

possible only after passage of a separate funding bill.

Information about legislation affecting the Lehigh Gorge State Park is available from Margaret Cass, Philadelphia Canoe Club, 4900 Ridge Avenue, Philadelphia, Pa., 19128. Mrs. Cass urges all persons interested in the Lehigh problem to write to Governor Milton Schaap, Pennsylvania State House, Harrisburg, Pa. 17100.

Further, investigation has disclosed that the lease contains a clause providing for it to be modified or vacated upon 60 days notice by either party. Canoeists do not believe that the railroad sought to close the river. By writing Mr. Drew Lewis and Mr. Joseph L. Castle, Trustees, Reading Railroad, 12th and Market Streets, Philadelphia, Pa. 19100, canoeists may help persuade the railroad to modify the lease so that paddlers may again use the Rockport take-out.

In the meantime, the Lehigh River is closed!

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1974 RACE RESULTS

MIDWEST DIVISION WILDWATER CANOE & KAYAK CHAMPIONSHIPS PESHTIGO RIVER April 20, 21, 1974

Class 3-4, 4 Miles

K-1 Wildwater

1. Allan Button	29:50.07
2. Peter Cary	29:53.38
3. Jim Rada	30:20.99

K-1W Wildwater

1. Lucy Honula	34:21.02
2. Jo Artz	35:23.40
3. Marlene Bertolozzi	58:20.35

C-1 Wildwater

1. Allan Button	30:17.05
2. Charles Steed	31:20.84
3. Steve Parsons	32:18.88

K-1 Cruising

1. Boh Siegrist	31:41.96
2. Jim Stohliquist	32:03.72
3. Tom Regner	32:13.89

C-1 Cruising

1. Boh Schuetzler	33:56.70
2. Peter Cary	34:27.35
3. Roger Taylor	37:56.64

C-2

1. Allan Button-Boh Schuetzler	30:30.64
2. Fred Young-Steve Rock	31:56.83

NATIONAL CANOE SLALOM CHAMPIONSHIPS YOUGHIOGHENEY RIVER May 4, 5, 1974

C-1

	Penalty	Time	Total
1. Angus Morrison	0	261.8	261.8
2. Jamie McEwan	20	259.4	279.4
3. Tom Irwin	10	278.7	288.7

C-2

1. Al Harris-Dave Knight	0	278.0	278.0
2. Chuck Lyda-Joe Sedivec	30	294.4	324.4
3. Sid Feldman-Paul Liehman	30	331.4	361.4

C-2M

1. Paul Liehman-Leena Mela	70	382.4	452.4
2. Barn McKee-John Sweet	90	363.2	453.2
3. Bonnie Pinney-Joe Sedivec	90	367.5	457.5

1974 NATIONAL CANOE WILDWATER CHAMPIONSHIPS YOUGHIOGHENEY RIVER April 27, 1974

C-1

1. Allan Button	34:28.8
2. John Sweet	34:29.2
3. Tom Irwin	34:30.0

C-2

1. Steve Chamberlin-Joe Stahl	31:55.7
2. Jim McConeghy-Reuben Clark	32:55.2
3. Victor Wolmer-Herbert Burnham	33:20.1

C-2M (all in slalom boats)

1. George Lhota-Rasa D'Entremont	36:54.0
2. Mary Ann Walkup-Roy Goetner	37:55.2
3. Andrew Smith-Perrie Lee Prouty	39:13.4

K-1

1. Dan Isbister	32:10.8
2. Dan Demaree	32:31.0
3. Dave Hartung	32:34.8

K-1W

1. Donna Berglund	34:41.6
2. Bonnie Losick	35:41.5
3. Barbara McKee	39:16.2

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WOLF RIVER SLALOM May 11, 12, 1974

C-1

1. Charles Steed	40	261.65	301.65
2. Norm Holcombe	60	256.67	316.67
3. Bruce Weber	160	252.46	412.46

C-2

1. Holcombe-Weber	70	233.49	303.49
2. Rock-Young	120	250.38	370.38
3. Bryson-Siegrist	260	301.0	561.0

K-1

1. Chuck Frame	30	207.24	237.24
2. Robert Obst	30	221.38	251.38
3. Peter Cary	40	226.79	266.79

K-1W

1. JoAnn Artz	160	258.62	418.62
2. Lucy Honula	190	259.61	449.61
3. Barbara Holcombe	310	265.69	575.69

C-2M

1. Holcombe-Holcombe	50	244.12	294.12
2. Artz-Young	220	308.02	528.02
3. Honula-Rock	250	285.23	535.23

NEW ENGLAND SLALOM CHAMPIONSHIPS SWIFT RIVER

K-1

1. Bill Nutt	0	231.8	231.8
2. Steve Ruhlle	20	246.8	266.8
3. Nat Cooper	30	247.0	277.0

K-1W

1. M. Bourdon	150	377.0	527.0
2. Sue Merchant	400	334.8	734.8

C-1 (2 boats)

1. Ned Jose	180	324.2	500.2
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AWA Safety Code

Revised 1974

I. PERSONAL PREPAREDNESS AND RESPONSIBILITY

1. BE A COMPETENT SWIMMER with ability to handle yourself underwater.

2. WEAR A LIFEJACKET.

3. KEEP YOUR CRAFT UNDER CONTROL. Control must be good enough at all times to stop or reach shore before you reach any danger. Do not enter a rapid unless you are reasonably sure you can safely navigate it or swim the entire rapid in event of capsize.

4. BE AWARE OF RIVER HAZARDS AND AVOID THEM. Following are the most frequent KILLERS.

A. **HIGH WATER.** The river's power and danger, and the difficulty of rescue increase tremendously as the flow rate increases. It is often misleading to judge river level at the put-in. Look at a narrow, critical passage. Could a sudden rise from sun on a snow pack, rain, or a dam release occur on your trip?

B. **COLD.** Cold quickly robs one's strength, along with will and ability to save oneself. Dress to protect yourself from cold water and weather extremes. When the water temperature is less than 50 degrees F., a diver's wetsuit is essential for safety in event of an upset. Next best is wool clothing under a windproof outer garment such as a splashproof nylon shell: in this case one should also carry matches and a

complete change of clothes in a waterproof package. If, after prolonged exposure, a person experiences uncontrollable shaking, or has difficulty talking and moving, he must be warmed immediately by whatever means available.

C. **STRAINERS:** Brush, fallen trees, bridge pilings, or anything else which allows river current to sweep through but pins boat and boater against the obstacle. The water pressure on anything trapped this way is overwhelming, and there may be little or no whitewater to warn of danger.

D. **WEIRS, REVERSALS, AND SOUSE HOLES.** The water drops over an obstacle, then curls back on itself in a stationary wave, as is often seen at weirs and dams. The surface water is actually going UPSTREAM, and this action will trap any floating object between the drop and the wave. Once trapped, a swimmer's only hope is to dive below the surface where current is flowing downstream, or try to swim out the end of the wave.

5. BOATING ALONE is not recommended. The preferred minimum is three craft.

6. HAVE A FRANK KNOWLEDGE OF YOUR BOATING ABILITY. Don't attempt waters beyond this ability. Learn paddling skills and teamwork, if in a multiple-manned craft, to match the river you plan to boat.

7. BE IN GOOD PHYSICAL CONDITION consistent with the difficulties that may be expected.

8. BE PRACTICED IN ESCAPE from an overturned craft, in self rescue, in rescue, and in ARTIFICIAL RESPIRATION. Know first aid.
9. THE ESKIMO ROLL should be mastered by kayakers and canoers planning to run large rivers and/or rivers with continuous rapids where a swimmer would have trouble reaching shore.
10. WEAR A CRASH HELMET where an upset is likely. This is essential in a kavak or covered canoe.
11. BE SUITABLY EQUIPPED. Wear shoes that will protect your feet during a bad swim or a walk for help, yet will not interfere with swimming (tennis shoes recommended). Carry a knife and waterproof matches. If you need eyeglasses, tie them on and carry a spare pair. Do not wear bulky clothing that will interfere with your swimming when water-logged.

II. BOAT AND EQUIPMENT PREPAREDNESS

1. TEST NEW AND UNFAMILIAR EQUIPMENT before relying on it for difficult runs.
2. BE SURE CRAFT IS IN GOOD REPAIR before starting a trip. Eliminate sharp projections that could cause injury during a swim.
3. Inflatable craft should have MULTIPLE AIR CHAMBERS and should be test inflated before starting a trip.
4. HAVE STRONG, ADEQUATELY SIZED PADDLES OR OARS for controlling the craft, and carry sufficient spares for the length of the trip.
5. INSTALL FLOTATION DEVICES in non-inflatable craft, securely fixed, and designed to

displace as much water from the craft as possible.

6. BE CERTAIN THERE IS ABSOLUTELY NOTHING TO CAUSE ENTANGLEMENT when coming free from an upset craft, i.e. a spray skirt that won't release or tangles around legs; life jacket buckles, or clothing that might snag; canoe seats that lock in shoe heels; foot braces that fail or allow feet to jam under them; flexible decks that collapse on boater's legs when a kavak is trapped by water pressure; baggage that dangles in an upset; loose rope in the craft, or badly secured bow/stern lines.
7. PROVIDE ROPES TO ALLOW YOU TO HOLD ONTO YOUR CRAFT in case of upset, and so that it may be rescued. Following are the recommended methods.
 - A. KAYAKS AND COVERED CANOES should have 6 inch diameter grab loops of $\frac{1}{4}$ inch rope attached to bow and stern. A stern painter 7 or 8 feet long is optional and may be used if properly secured to prevent entanglement.
 - B. OPEN CANOES should have bow and stern lines (painters) securely attached consisting of 8 to 10 feet of $\frac{1}{4}$ or $\frac{3}{8}$ inch rope. These lines must be **secured** in such a way that they will not come loose accidentally and entangle the boaters during a swim, yet they **must** be ready for immediate use during an emergency. Attached balls, floats, and knots are NOT recommended.

- C. RAFTS AND DORIES should have taut perimeter grab lines threaded through the loops usually provided.
8. RESPECT RULES FOR CRAFT CAPACITY and know how these capacities should be reduced for whitewater use. (Life raft ratings must generally be halved.)
 9. CARRY APPROPRIATE REPAIR MATERIALS: tape (heating duct tape) for short trips, complete repair kit for wilderness trips.
 10. CAR TOP RACKS MUST BE STRONG and positively attached to the vehicle, and each boat must be tied to each rack. In addition, each end of each boat should be tied to car bumper. Suction cup racks are poor. The entire arrangement should be able to withstand all but the most violent vehicle accident.

III. LEADER'S PREPAREDNESS AND RESPONSIBILITY

1. RIVER CONDITIONS. Have a reasonable knowledge of the difficult parts of the run, or if an exploratory trip, examine maps to estimate the feasibility of the run. Be aware of possible rapid changes in river level, and how these changes can affect the difficulty of the run. If important, determine approximate flow rate or level. If trip involves important tidal currents, secure tide information.
2. PARTICIPANTS. Inform participants of expected river conditions and determine if the prospective boaters are qualified for the trip. All decisions should be founded on group safety and comfort. Difficult decisions on

the participation of marginal boaters must be based on total group strength.

3. EQUIPMENT. Plan so that all necessary group equipment is present on the trip: 50 to 100 foot throwing rope, first aid kit with fresh and adequate supplies, extra paddles, repair materials, and survival equipment if appropriate. Check equipment as necessary at the put-in, especially: life jackets, boat flotation, and any item that could prevent complete escape from the boat in case of an upset.
4. ORGANIZATION. Remind each member of individual responsibility in keeping group compact and intact between leader and sweep (capable rear boater). If group is too large, divide into smaller groups, each of appropriate boating strength, and designate group leaders and sweeps.
5. FLOAT PLAN. If trip is into a wilderness area, or for an extended period, your plans should be filed with appropriate authorities, or left with someone who will contact them after a certain time. Establishment of checkpoints along the way at which civilization could be contacted if necessary should be considered. Knowing location of possible help could speed rescue in any case.

IV. IN CASE OF UPSET

1. EVACUATE YOUR BOAT IMMEDIATELY if there is imminent danger of being trapped against logs, brush, or any other form of strainer.
2. RECOVER WITH AN ESKIMO ROLL IF POSSIBLE.

3. IF YOU SWIM, HOLD ONTO YOUR CRAFT. It has much flotation and is easy for rescuers to spot. Get to the upstream end so craft cannot crush you against obstacles.
 4. RELEASE YOUR CRAFT IF THIS IMPROVES YOUR SAFETY If rescue is not imminent and water is numbing cold, or if worse rapids follow, then strike out for the nearest shore.
 5. EXTEND YOUR FEET DOWNSTREAM when swimming rapids to fend against rocks. LOOK AHEAD. Avoid possible entrapment situations: rock wedges, fissures, strainers, brush, logs, weirs, reversals, and souse holes. Watch for eddies and slackwater so that you can be ready to use these when you approach. Use every opportunity to work your way toward shore.
 6. If others spill. GO AFTER THE BOATERS. Rescue boats and equipment only if this can be done safely.
- V. INTERNATIONAL SCALE OF RIVER DIFFICULTY (If rapids on a river generally fit into one of the following classifications but the water temperature is below 50 degrees F., or if the trip is an extended trip in a wilderness area, the river should be considered one class more difficult than normal.)

CLASS I. Moving water with a few riffles and small waves. Few or no obstructions.

CLASS II. Easy rapids with waves up to 3 feet, and wide, clear channels that are obvious without scouting. Some maneuvering is required.

CLASS III. Rapids with high, irregular waves often capable of swamping an open canoe. Narrow passages that often require complex maneuvering. May require scouting from shore.

CLASS IV. Long, difficult rapids with constricted passages that often require precise maneuvering in very turbulent water. Scouting from shore is often necessary, and conditions make rescue difficult. Generally not possible for open canoes. Boaters in covered canoes and kayaks should be able to Eskimo roll.

CLASS V. Extremely difficult, long, and very violent rapids with highly congested routes which nearly always must be scouted from shore. Rescue conditions are difficult and there is significant hazard to life in event of a mishap. Ability to Eskimo roll is essential for kayaks and canoes.

CLASS VI. Difficulties of class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts only, after close study and with all precautions taken.

This AMERICAN WHITEWATER SAFETY CODE, in lots of 50, is available at a low cost to cover printing and mailing: Write AWA, P.O. Box 1584, San Bruno, CA 94066. Send self-addressed, stamped envelope for a single copy.

(Prepared by the AWA Safety Code Revision Committee: Jim Sindelar, O. K. Goodwin, Carl Trost and Dick Schwind, with help from numerous other paddlers.)



Photo 1: Ten Mile Creek, approx. 600-700 cfs. Pictured: Lowell Levenger (Banana). Photo by Joe Bauer.

OUZEL HEAVEN —

South Fork of the Eel

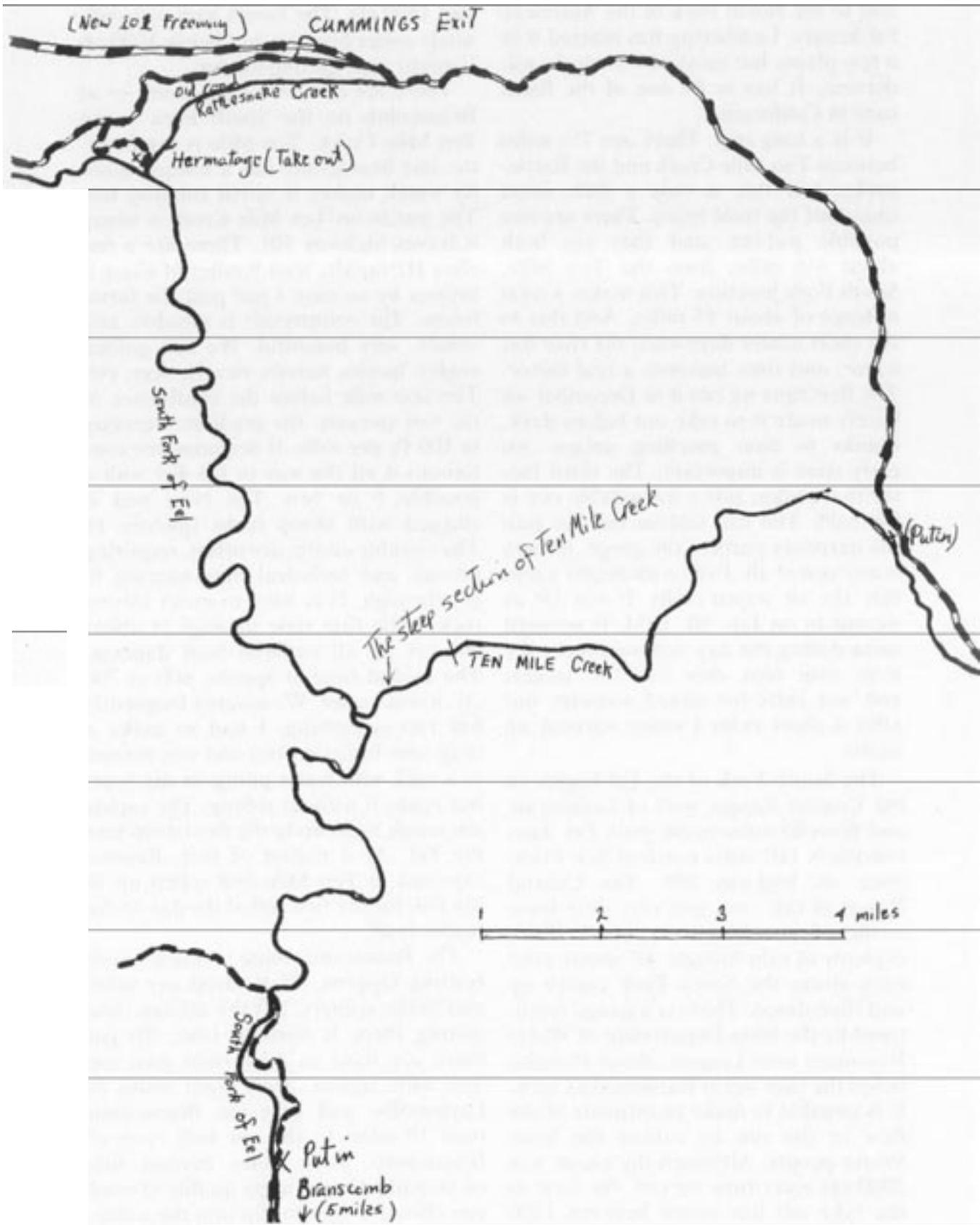
by John Bauer, Olema, CA

An Ouzel is a small gray wrenlike bird. Its range is from the Black Hills of South Dakota west and from Canada to Mexico. It is born behind waterfalls or in rockpiles in nests of moss and lives its life in the middle of falls and rapids. Another name for this bird is Dipper. This refers to its habit of feeding off the bottom of raging rapids. I have seen them flying a few inches above a rapids and then fly right into the water, or hop from a rock into the torrent. They will sometimes land on a submerged rock with the water splashing at their breast with just their heads showing. They are said to fly under water using their wings to propel themselves. Their call is zee-zee and it is plainly audible even in the middle of the loudest rapids.

I overlooked them for years, being involved in running the rapids, but once aware of their presence they add a new magic and awe to wherever they appear.

I have seen an Ouzel or **two** on the Middle Fork of the American and other Sierra Rivers, but on the South Fork of the Eel between Ten Mile Creek and Rattlesnake Creek there have been over a dozen Ouzels each of our three trips this year. This section is truly Ouzel Heaven. It is inaccessible except by kayak. The canyon walls are steep and covered with moss and ferns. The side creeks tumble to the river in a series of waterfalls. The river itself rushes through one class IV rapids after another with only short pools in between. It is no wonder then that the Ouzels are drawn to this undammed wild river just as the Tomales Bay Kayak Club has been this winter.

Each trip has been a profound and new experience. This run compares to the Tuolumne in whitewater excellence



and to the North Fork of the American for beauty. Lumbering has marred it in a few places but most of it is virgin wilderness. It has to be one of the finest runs in California.

It is a long trip. There are 7% miles between Ten Mile Creek and the Rattlesnake, but this is only a little more than half the total miles. There are two possible put-ins, and they are both about 6% miles from the Ten Mile, South Fork juncture. This makes a total mileage of about 15 miles. Add this to the short winter days when the river has water, and time becomes a real factor. The first time we ran it in December we barely made it to take out before dark. thanks to boat patching delays. An early start is important. The third factor that makes this a formidable run is the cold. The sun seldom reaches into the narrower parts of the gorge, if there is any sun at all. Even with bright warm sun, the air stayed chilly. It was 35° as we put-in on Jan. 20, 1974. It warmed some during the day, but not much. We wore rain tops over our life jackets and wet suits for added warmth, but after a short swim I never warmed up again.

The South Fork of the Eel begins in the Coastal Range, west of Laytonville and flows 85 miles to the main Eel. Laytonville is 160 miles north of San Francisco on highway 101. The Coastal Range in this area gets very little snow so there is no spring snow runoff. There is plenty of rain though. All winter after each storm the South Fork comes up and then drops. There is a gauge monitored by the State Department of Water Resources near Leggett. about 10 miles below the take out at Rattlesnake Creek. It is possible to make an estimate of the flow in the run by calling the State Water people. Although the gauge was 2000 cfs every time we ran, the level at the take out has varied between 1200

and 1500 cfs. The lowest level was definitely easier boating, but below 1000 cfs it might start getting harder.

There are two possible put-ins — at Branscomb on the South Fork or on Ten Mile Creek. Ten Mile is my favorite, but Branscomb has a unique quality which makes it worth running too. The put-in on Ten Mile Creek is where it leaves highway 101. There are a few class III rapids, then 5 miles of Class I, broken by an easy 4 just past the farmhouse. The countryside is meadow and woods, very beautiful. We saw golden eagles, hawks, herons, ouzels, deer, etc. The last mile before the confluence of the two streams, the gradient increases to 100 ft. per mile. It becomes one continuous 4 all the way to the Eel with a possible 5 or two. The river bed is clogged with sharp rocks (picture 1). The runnable chutes are offset, requiring precise and technical maneuvering to get through. It is hard to avoid hitting rocks. The first time through at about 500 cfs we all suffered boat damage. The second time at approx. 600 or 700 cfs. it was easier. We scouted frequently but ran everything. I had to make a deep save brace or two and was pinned to a rock with water piling on my boat, but made it without rolling. The rapids are tough right up to the final drop into the Eel. As a matter of fact, Banana capsized in Ten Mile and rolled up in the Eel, for the first roll of the day at the higher level.

The Branscomb route is much easier boating (approx. 25 ft. drop per mile) and better scenery, but the driving time getting there is hard to take. To get there you have to drive right past the Ten Mile put-in, drive eight miles to Laytonville, and take the Branscomb road 13 miles to the saw mill town of Branscomb. Four miles beyond this on steadily deteriorating quality of road you choose a spot to slip into the water.



Photo 2: We ran this one on the right. Photo by Joe Bauer.

This is all private land and you should be careful not to offend land owners and jeopardize access to this magnificent run. The river flows into Nature Conservatory land. Virgin redwoods have been saved from the loggers. Much of the North Coast was once like this. Now there are only a few areas where the virgin woods remain. This would be an excellent intermediate run if there was a take-out before the hard Class IV below. There are evenly spaced II's and III's. The redwoods block out all the sun. This stretch has to be run early in the morning so it is really cold. Just before reaching Ten Mile Creek you come to a tough Class IV that should be scouted. We portaged, but with more water it would be runnable. Portage to the left.

At the confluence of Ten Mile and the South Fork the water volume doubles and the river changes its character. Suddenly the waves get bigger and the jets get faster. From here on the gradi-

ent is approximately 50 ft. per mile. It is an exhilarating and challenging $7\frac{1}{2}$ miles of white water.

The first difficult rapids arrives quickly after a couple Class III turns. The river is completely obstructed by large boulders, except for one runnable chute on the right. Just before this drop the river starts falling, making scouting from the boat difficult. The way we ran it was to hit the chute diagonally with good speed punching into the eddy to the right below the drop; thereby avoiding a jumble of rocks, waves and ferocious holes. At the higher water level this eddy has to be grabbed decisively or you will be sucked back into the Ugly Hole. Several times boaters in our party hung on the edge of this eddy paddling furiously before breaking the end of the boat loose from the hole. Once in this turbulent eddy, this many staged rapids is just begun. Next you work your way out the end of the eddy, avoiding the nasty holes on the left and



Photo 3: Portage discussion. Photo by Joe Bauer.

paddle hard across the main stream to catch a chute to the left in the second and last drop. It is easy to get swept over a big rock at the bottom which rolled one in our party. This rapids is typical of the seven miles to come and can take you by surprise after the less punch of the lead-in streams.

The pools are short and the rapids many. We scouted several in the first few miles. It is a pleasure to get out of the boat and have a chance to look at the beautiful surroundings. The river has sculpted the many colored rocks magnificently and there are waterfalls everywhere. There is never much time to lose on this long run so the stops are short and kept to as few as possible. It is hard to remember many of the rapids except for a few outstanding ones but they are almost continuous.

Estimating distance is a tricky thing in this twisting canyon, but, close to half way through, the canyon walls get

steeper and more shaded and damp. Ferns and moss cover trees and rocks above the scoured high water marks. This is where the Ouzels are the thickest and where another noteworthy rapids comes (picture 3). It is a short two-stage drop between large boulders. The runnable chutes for the first drop don't match up with the one runnable of the second drop and the in between is a boiling mess. The danger of bridging one of the narrow chutes made us decide to portage the first two times, on the right. The third time there was slightly more water and a strange thing happened. The first drop all but disappeared. The greater volume of water couldn't get through the lower narrow chutes and backed up, filling between the drops. The lower drop increased in height, but the routes to it became much easier. We ran it two different ways, but with good adrenalin charges. It is a powerful spot. I rate this one a 5.

Another noteworthy rapids is a few miles further down the gorge. Picture 4 is from above looking down stream. Picture 5 (on cover) is the same rapids seen from below.

I have only made it through this rapids once without rolling or swimming. The first time we decided to follow most of the water to the right of the final midstream rock. There is a hole directly in front of the rock which ate Joe, then the current slammed him into the large rock on the right bank breaking the metal nose plate off his Klepper before he rolled up. I came down right after, missing the hole but was pinned against the same rock and rolled to get off.

The second and third time through we decided to take the chute to the left of the bottom midstream rock. This is a better route.

In picture No. 5 at the highest water level I have just come through the entrance chute to the right of the largest rock in the first drop, passed to the left

of a big hole (not in either picture) and am about to be eaten by the hole on the left directly below me. I finally get my roll together just as I hit the hole in front of the bottom midstream rock. My swim began there. This is a powerful rapids and I rate it a class 5. It is best scouted from left and can be portaged only with great difficulty on the right.

There are many more class 4 rapids to the take out. Several we scouted from the bank first time through. They are full of large boulders and big drops and holes that hold. Everytime when I have reached the point where the canyon walls widen, I have been worn out. The big ugly road cuts up the mountain for highway 101 tell you the end is near. This last long class 4 stretch is more open but powerful and demanding right to the end where Rattlesnake Creek comes in.

The take out is private property. It is reached by turning off 101 at the Cummings exit, taking the old road a mile or



Photo 4: Same rapid as on cover, at top looking down. Photo by Joe Bauer.

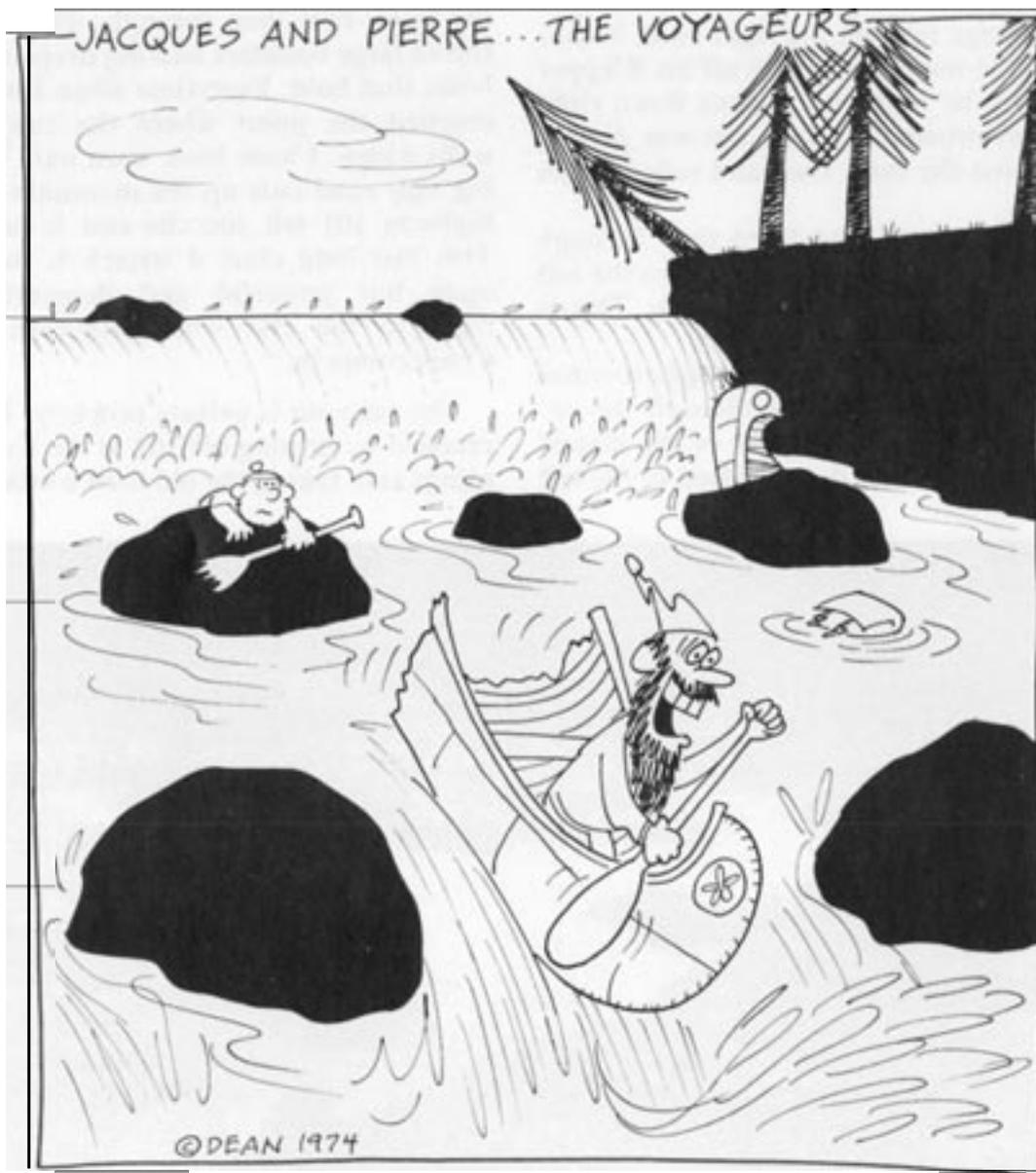
so to the Hermitage sign. The road has a gate which has always been unlocked. At the end of the road there are several houses. The caretaker lives in the trailer and his permission should be obtained before proceeding.

I can't praise this run enough. It has everything, beautiful scenery, clear green water, wild life and lots of white-water that is all runnable. If you get the chance — run it.

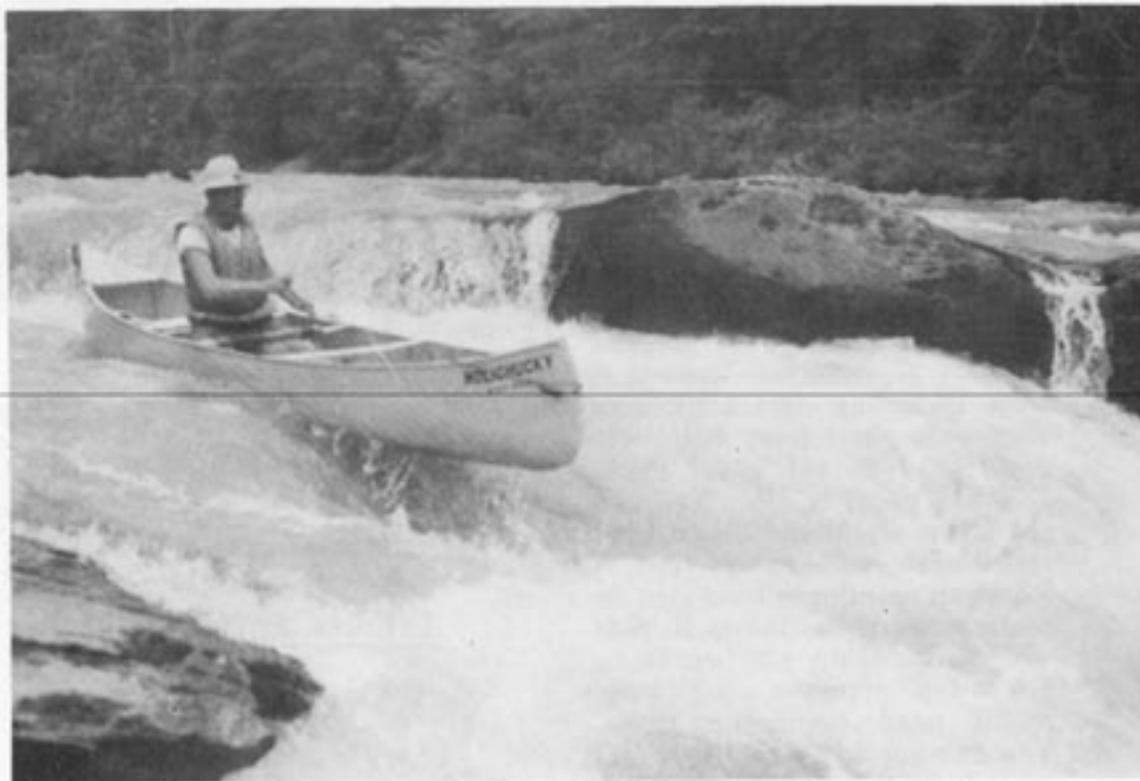
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"By gar, Pierre, I think we're gonna make it!"



Steve Thomas entering Keyhole Rapid on the Chattooga. June 1973. Photo by McKeldon Smith.

REPAIRING ALUMINUM CANOES

by R. Steve Thomas, Jr., Explorer Post 999 (Wildwater), Hopewell

This article is based on the American Red Cross canoeing textbook (pages 406-4081, on information from Grumman Allied Industries, Marathon, N.Y., 13803 and on my experience in repairing boats belonging to myself and Explorer Post 999. My boat "Nolichucky" still runs after 3 serious broaches. The 5 post boats have survived many broaches as each year brings a new crop of novice explorers.

I will describe repair techniques for the following damages: (A) Dents, Cracks and Holes, (B) Bent Keels, Ribs and Gunwales, (C) Broken Ribs. and (D) Broken Gunwales.

(A) Dents, Cracks and Holes

1. Dents

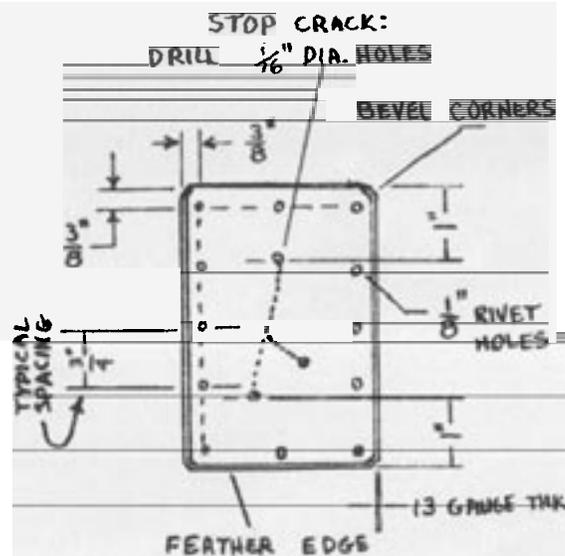
Straighten out the dent by holding a sandbag against the hollow side and pounding the

raised bump with a rubber or plastic mallet. Pound around the perimeter of the dent, working toward the center, until the dent more or less matches the original contour of the boat. The aluminum skin will have been stretched by the dent, so the shape will not be quite the same as new, but so what, it marks an "experienced" boat! I use a section of inner tube packed with clean, dry, fine sand for the sandbag. Tie a cord on each end of the tube with a clove hitch. A little neoprene cement (wet suit glue) placed in the inside of the ends before tying, helps keep the sand from leaking out. The rubber mallet sometimes isn't enough so I resort to a steel hammer. Use the steel hammer

with extra care. It leaves tracks as it permanently stretches the skin. It also thins and embrittles the aluminum.

2. Cracks

Straighten the dent around the crack. This should pull the crack edges back together. Once the dent and crack are back to original contour, drill $1/16$ " holes at all ends of the crack to keep it from spreading. Get a piece of aluminum sheet from $1/16$ " (16 gage) to $1/8$ " (11 gage) thick. $3/32$ (13 gage) is best. You can get scrap aluminum sheet from your local junk metal yard. I found an aluminum road sign on the bottom of the James R. that will provide many patches. Get a box of $1/8$ " diameter x $3/8$ " long, round head aluminum rivets. You can get a box of 1000 from an industrial supply house (such as Southern Railway Supply Co., 1321 E. Main, Richmond) for about \$4.00. Cut the sheet into a rectangle 2" longer and 2" wider than the crack. Bevel the corners and feather the edges with a sanding disc so your knees won't be cut by the patch. Drill $1/8$ " holes $3/8$ " from the corners of the patch then additional holes $3/8$ " from the edges, spaced about $3/4$ " apart. Center the patch over the crack, on the **inside** of the boat and trace around the edges with a felt tip marker. This will leave an outline on the skin of the boat to help you keep the patch centered while riveting. Hold the patch over the outline and pound it to match the contour of the boat. Don't forget to back it up with the sandbag. Hold the patch centered in the outline and drill one top corner hole through the skin of the boat. Clean the underside of the patch and the skin of boat (in the outline) with medium



TYPICAL PATCH DETAIL

grit sandpaper. Coat the 2 cleaned areas with about $1/32$ " of silicone rubber cement (G. E. auto seal or Sears silicone rubber at about \$2.00 per tube). Hold the patch on the outline. Push the first rivet through the corner holes from the outside. The round head of the rivet should be on the outside of the boat as the head resists rubbing off on rocks better than the peened end. If the end of the rivet sticks through more than $1/8$ ", cut off the surplus, down to $1/8$ ", with diagonal cutters (pliers). Hold a 10 lb. sledge hammer, or equivalent chunk of metal, against the head and peen down the inside end of the rivet with a steel hammer. Peen around the edges of the rivet end working to the center to form a mushroom. This is a 2 man job with one holding the sledge hammer (bucking) and one peening. When the mushroom is almost flat, the patch should fit tightly and the silicone should start to

ooze out. Check the rivet head to make sure it is pulled tightly against the outside skin. Next, do the other top corner. Drill through the skin and rivet. Then do the remaining top of patch rivets and start working down from the top with a rivet first on one side and then on the other. As you proceed down, it may be necessary to pound the patch some more to fit the contour perfectly. When the riveting is complete, wipe the surplus silicone around the edge with your finger to form a fillet that further smoothes the edge of the patch. As a final touch, I print the initials of the river that did the damage and the date on the patch with a felt tip marker. The patch is put on the inside of the canoe, so it won't be rubbed loose when you graze rocks.

Do not, repeat, **do not weld the tempered aluminum** boat. The T 6061 heat temper is destroyed by welding. The metal on each side of the weld becomes very brittle and this brittle area is surrounded by dead soft aluminum. It usually cracks and it is quite difficult to put a patch over a weld bead.

3. Holes

Repair a hole (i.e. missing metal) the same way as a crack. However, if the hole is large, it **may** be necessary to put patches on both outside and inside the boat. Try to use 1/16" (16 gage) sheet for the outside patch and feather the edges extra well to resist rubbing loose on rocks.

(B) Bent Keels, Ribs and Gunwales

1. Bent Keels

Clamp a 2 x 4 board or a 2" x 2" steel angle across from gunwale to gunwale above the high spot of the bent keel. I use C clamps to hold the angle to the gunwales. Get out your car's

bumper jack. Place a wood block over the high spot and put the jack's foot plate in the block. Jack the claw of the jack up until it engages the underside of the angle. Then **slowly** continue jacking until the bent keel is displaced about 1 inch below its original horizontal position. Release the jack and the keel will spring back a little, hopefully into its original horizontal position. Turn the canoe over and sight down the keel to see if it is straight enough. If not, reposition the jack and jack it one notch (click) further than the first time. Don't expect to get a perfect removal of the bent spot and don't jack the keel out too far from the horizontal as it may break the keel or pop rivets loose in a nearby rib.

2. Bent Ribs

Straighten these the same way as a bent keel. Don't be too surprised if the rib cracks or breaks as it is made of much thinner metal than the keel. Get it reasonably straight, but don't expect a like new shape. If it breaks, go to instruction (C).

3. Bent Gunwales

If the bend is inboard, jack it out much like you did with the keel. However, you will be jacking from the opposite gunwale and you may bend the opposite gunwale outboard too much, unless you reinforce it. I clamp a 3 ft. long 2 x 4 inside the opposite gunwale to use as a jack base to distribute the force along the opposite gunwale. It is easier to do the jacking, if you turn the boat on its side with the bent gunwale **up**.

If the bend is outboard, use a cable and turnbuckle to pull it in, or wrap a stout rope twice around the canoe over the bent section of gunwale. Twist it with a stick the same way you would tighten a

tourniquet.

(C) Broken Ribs

I developed (I think) this technique and I am pleased with how well it has held Nolicuckv's broken rib. Professional repairers will tell you to replace the broken rib or to leave it alone and rivet a new rib along side. You can buy the ribs and flat top rivets from Grumman. However, I find it expensive and time consuming and it will probably leak a little. Do **not** weld, it ruins the metal, **and** the rubber gaskets between the keel and the skin.

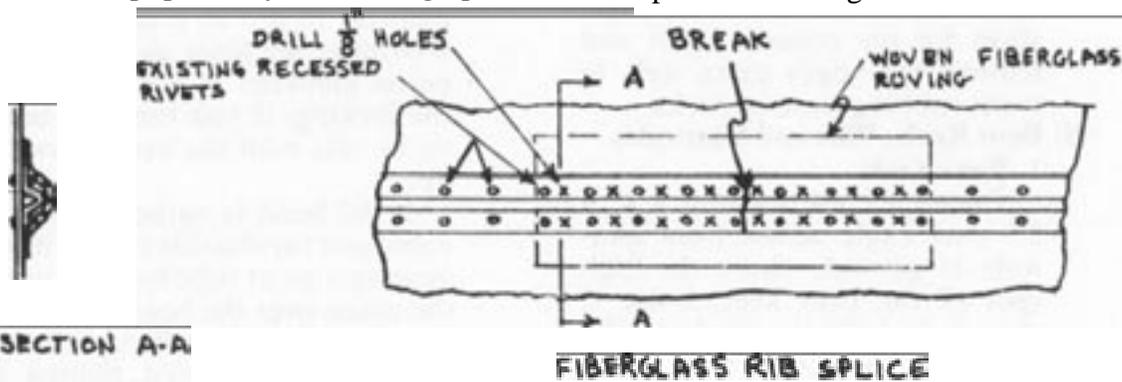
Cut two 4" wide by 12" long pieces of 26 oz./sq. yd. chrome treated, woven fiberglass **roving**. This is the strongest form of fiberglass cloth. You can probably get it from a boat repair shop for about \$3.00/yd. Get 4 liquid ounces of epoxy resin and enough curing agent. If you can't find epoxy, get 4 oz. of polyester resin and enough catalyst (mek peroxide) to cure it. Drill 1/8" "pilot" holes, spaced halfway between each rib rivet head, through the rib, and skin of the boat. There should be about four holes on each side of the break, on each side of the rib, a total of 16 holes.

Center the 4" x 12" roving "splice" over the break and outline it on the bottom of the boat with a felt tip marker. Clean the skin in the marked area with sandpaper. Lay one roving splice

over the marked area. Mix resin and catalyst. One inch (deep) of resin in a sawed-off 2 quart milk carton should be enough. Pour the resin on the roving and work it in with an expendable paint brush. You may have to build a masking tape levee around the splice to keep the resin from running out the edges. Put on the next layer of roving and wet it out with resin. If you have some 6 or 10 oz. fiberglass cloth, cut a 4 1/2" x 12 1/2" piece and put it on top of the 2 layers of roving. It helps smooth out the rough edges and appearance of the splice. **Let the splice cure 48 hours.**

Get 16 1/2" outside diameter by 1/8" or 5/32" hole diameter metal washers. Stainless or aluminum are best. Steel will do, but it corrodes and stains. Get 16 1/8" x 3/4" round head aluminum rivets. Turn the boat upside down. Use 1/8" drill and drill through the 16 pilot holes, and the FRP (fiberglass reinforced plastic) splice. Push in a 1/8" x 3/4" round head rivet from the outside. Put a metal washer over the inside end. Buck the head and peen the end as explained in (A) 2. Put in all 16 rivets this way. Use a sanding disc to feather the rough edges of the patch so your feet won't hang on it.

This method forms an integrally fitted splice. Properly peened and tightened rivets seal



the pilot holes, and "marry" the FRP splice to the rib. While the splice will not necessarily bond to the aluminum, it doesn't matter since the rivets hold it in place.

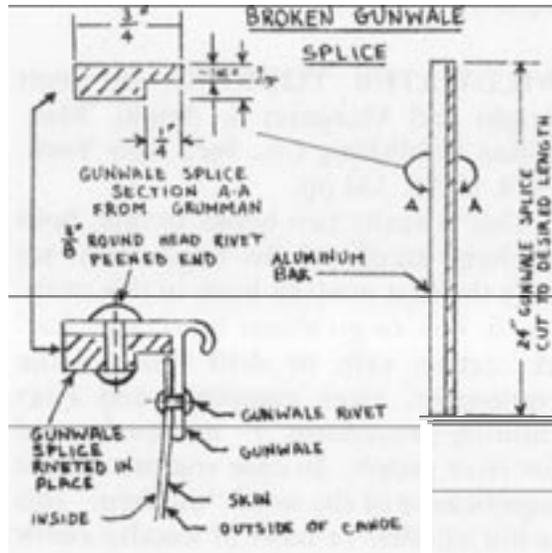
(D) Broken Gunwale

Purchase 17 ft. canoe gunwale splices from Grumman (or from Lou Mataria, Box 32, Oakton, Va. 22124 phone 703-281-4833) for about \$1.50 each. Cut to desired length and push under gunwale as shown. Pull in flush and hold with C clamps. Drill 1/8" holes on about 1 1/2" centers through gunwale and splice. Push 1/8" x 3/8" round head rivets up from below. Buck the head and peen the upper end into a neat mushroom.

General

You can purchase rivet type patch kits, thwarts, ribs, seats and most other parts from Grumman Allied Industries. Marathon. N. Y. 13803 for reasonable prices. Be sure to order ribs, thwarts, etc. by length or by part number (see a dealer's catalog). There are different lengths for 15 ft. versus 17 ft. boats. They will also send repair instructions. if you ask. However, the preceding article has more details.

A serious broach with say 4 cracks, many dents, a broken rib and 5 gunwale breaks will require 30 to 40 hours to repair. So, if you pay a repair man \$5/hour, the repairs will cost \$200.00. Therefore, you may decide to scrap the boat and get a new one. If you do decide to scrap, and the boat is in one piece, consider giving it to my Explorer (Scout) Post 999 or to Larry and Hope Gross' Explorer Post 1421 in Fredericksburg (or to other Boy or Girl Scout Units). We have the know how and boy and girl power to do repairs. Incidentally, Post 1421 does canoe



repairs as a money earning project to **buy** boats. The gift will be deductible, at fair market value, as a gift to the Boy Scouts of America. It will enable more kids to enjoy canoeing.

If you have questions. ask me on the next trip we share. I'll show you Nolicucky's scars and operations. Good luck. See you on the river!

(from CaNEWS, published by Coastal Canoeists, Inc. Special Edition: Canoe Repairing, June, 1974).

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BOOK REVIEW

WILDWATER TOURING, by Scott Arighi and Margaret S. Arighi. Macmillan Publishing Co., Inc., New York, 1974. \$8.95, 334 pp.

This is really two books in one, both of them excellent! To begin with, we have the first modern book in this country on how to go about touring by kayak, canoe, raft, or drift boat — the equipment, river camping, and river running procedures — written by and for river people. In case you missed the significance of the word "modern," this is not another re-hash of woodsy canoe lore, but waterway camping the way it is really done.

The second half of the book is a superb guide to a nicely balanced selection of nine tours ranging from class I through class IV in Oregon and Idaho. If that seems limited, consider this lineup of classic rivers: Rogue, Grande Ronde, John Day, Owyhee, and the Mid and Main Salmon, plus the remote lower gorge where the Salmon joins the Snake. If that still doesn't satisfy you, consider it as an ideal model of the sort of information you should have before venturing across the country, and see how you could be dangerously short changed by those abbreviated guides to the entire United States.

The book gets off to an impressive start by dealing with a most critical problem that has been all but ignored in most works: getting a person on a river suited to his capability. The first few chapters explain, largely in checklist fashion, the key questions to ask about a river, how to evaluate the reliability of information from laymen boaters and guide books, and how to match your own skills with either kayak/canoe or raft/drift boat against the demands of rapids classified by the h-step International Difficulty Scale.

The chapters discussing types of boats, boat repair, camping gear, waterproof containers, food planning, and river scouting and running procedures are sometimes brief but always very practical and to the point. Paddling techniques are left to the numerous references on the subject.

Excellent organization of the vital information in the guide section, with a standard sequence of short, captioned paragraphs, make it incredibly easy to compare rivers or to find that important item on a road or rapid. For each tour there is an informative description of the country and wildlife, a paragraph on the general nature of the rapids and the change in difficulty from the lowest to highest flows (stated in cubic feet per second) at which the authors have made their numerous runs, a river map showing the ratings of the significant rapids, and a listing by river mile of notes on campsites, rapids, landmarks, and points of interest. The likely season and preferred flow is given, along with the gaging station and the address and 'phone of the monitoring agency. This information alone could be worth the price of a vacation ruined by a river that was high or dry.

Boaters in areas where there is a paucity of good river information will find that the text and appendices cover how they can develop their own gradient and river profiles, where to obtain gaging station records and flow data, and how to interpret this information. There is also some sound advice, applicable to any guidebook or area, about obtaining overnight experience on local runs and being competent on rivers a notch higher than needed before embarking into the wilderness.

Two subjects that we feel should have been included are stoves and reversals. There are rivers where wood fires are prohibited and campsites where there

is no wood. Because of the proliferation of unsightly fire pits, the new ethic calls for the use of existing fire places or the return of even the fire pit to a semblance of the natural state. Lightweight mountaineering stoves and the new generation of camp stoves avoid these problems, don't make pots sooty, and can provide immediate hot soup to the hypothermic boater that can't wait an hour for someone to build a fire in met weather.

Wilderness rivers rarely have the small dams that drown unwary boaters in the innocent-appearing reversals at their bases. However, we see this book as a valuable text for the one-day boater as well as the wilderness tourer. It is our hope that some of the hordes of un-schooled people we find stumbling down our local streams will discover this book and learn the lessons that are so vital to their survival on any type of river. — Carl Trost

CLASSIFIED

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