

# *American* **WHITE WATER**

**JOURNAL OF AMERICAN WHITE WATER AFFILIATION**

**NOVEMBER 1955**

**RIDING CANADA'S GATINEAU**

AMC Trip by Fred Sawyer

**SIERRA CLUB AT PLAY**

American River Jaunt

**REVOLUTIONARY FIBERGLASS CANOE**

Larry Monninger & Ray Kerswill

**BOATING TERMINOLOGY**

Wolf Bauer's Dictionary

**BOATS AND SUPER BOATS**

Eliot DuBois



**"OF WILDERNESS WATERWAYS AND THE WAYS OF WHITE WATER"**

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**EASY TO TURN**

**STEADY IN  
ROUGHEST  
WATER**



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## In A Word -

### NEW EDITOR

Beginning with the February issue, Dave Stacey, 601 Baseline road, Boulder, Colo., will take over the editorial reins of American White Water. Dave, 37, or I should say "Dr. Stacey" for he holds his Ph D. as a physicist, is technical director of the University of Colorado Research Service Laboratory in Boulder.

He and wife Joan have been leaders in the growth of the boating sport in the Rocky Mountain west for over seven years. They prefer their two fiberglass kayaks now although they began in a Folbot double. They have three children, Wayne, Peter and daughter Kim.

The official address of the magazine will remain the same temporarily, but mail direct to Dave should be addressed to the above address.

### REGRETS

It is with sincere reluctance and regret that I must resign as editor for the American White Water Affiliation. I am at a loss for words to express what a profound experience it has been to see the varied interests which are the river-riding sport in America come together into a focal point in this magazine.

Perhaps the only more enjoyable phase of the job has been the stimulating letters most of you have sent in guiding the formation of our editorial policy and magazine content. Reasons for my resignation include additional professional duties, family responsibilities, graduate instructorship at the University of Denver and a heavier academic load.

### THANKS

This magazine, which incidentally is well "into the black" financially now, owes its existence to many many lovers of the boating sport. Most of you already know the role played by Bruce Grant, Eliot DuBois, Bob McNair and others who started the ball rolling for the AWWA. But now I'd like to openly thank all the others who personally helped me. Clyde Jones, Roy Kerswill and Larry Monninger have done and are doing most of the actual printing, binding and mailing of the magazine, but the wives are the ones who have done so much of the typing, record-keeping and putting up with lonely evenings. To them, Carol Jones, Dorothy Monninger, Nona Kerswill and Mayme Lacy, goes the lion's share of gratitude. God bless them.

*Joe Lacy*



Volume I  
American

Number 3

WHITE WATER

Magazine

Copyright November 1955

Published in May, August, November and February in Denver, Colorado. Address all advertising, circulation and editorial mail to: Post Office Box 8444, University Park Station, Denver 10, Colorado. American WHITE WATER Magazine is mailed to all members of the American White Water Affiliation as the official journal of the Affiliation. Membership in the AWWA is open to anyone interested in traveling America's rivers for sport and recreation. The annual membership fee is \$ 2.00. Address all memberships to the above address.

Publisher

American WHITE WATER Affiliation

Editor.....Joe Lacy  
Art Director.....Roy Kerswill  
Circulation Manager.....Clyde Jones  
Advertising Manager.....Joe Lacy

Lithographed and mimeographed in the USA

American White Water magazine accepts no responsibility for returning contributions of stories or photographs unless such return is requested in writing and accompanies the contribution.

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#### COVER PHOTO

The Grand Canyon of the Colorado river in Arizona is considered the Granddaddy of the rough rivers. However more and more sportsmen, photographers, writers and just plain thrill-seekers make the trip with the numerous river guides who tackle the Colorado each summer. This photo by Al Morton portrays a relieving passtime for Colorado river riders....swimming in Cataract canyon with one of the rapids too close for comfort. Temperature in the deep canyon is close to 100°.

TO EACH HIS OWN.....

## BOATS AND SUPERBOATS

by Eliot DuBois

Have you ever been the one person in a canoe in a party of foldboatists or vice versa? I have had both experiences several times and have sensed disapproval on the part of my companions. At least once in each situation I've kept reasonably dry and have fished out friends who tipped over in the other type of boat. The rescuees were grateful, but I'm sure they would have preferred to have been helped by someone in their own type of craft.

Partisanship and strong preference concerning boats is certainly a characteristic of white water people. The canoeist looks down on the foldboatist. The foldboat, he thinks, is a foreign intruder on our rivers, and not really sporting. He believes that a good man in a canoe can go anywhere a foldboatist can go and a few places he can't. The canoeist gets a distinct and not too well-concealed satisfaction whenever he sees a foldboat snarled on a rock or drifting downstream in an inverted position.

The foldboatist regards the canoe as an archeological curiosity, and the canoeist as a living fossil. The foldboatist thinks that once common sense prevails, the foldboat will take over

all the uses of the canoe, except that canoes could be advantageously used as planting boxes for geraniums. The true foldboatist treasures the memory of those times when he hauled canoeists out of the water.

Both the foldboatist and the canoeist look down

Eliot DuBois, Sandy Pond Road, Lincoln, Mass., was one of the founders and first secretary of the AWWA. Eliot is 33, and an engineer manufacturing spectrographic instruments. Wife Barbara and two sons, Kinny, 5, and Del, 3, are also river rats. He started boating as a foldboater in 1937 running the Middle Fork of the Salmon in 1942 before entering the service. After the war he moved to Boston where he took up the aluminum canoe. Barbara prefers her single foldboat. Eliot's attitude toward the various boats expressed in this article is the general outlook of the American White Water Affiliation.... healthy, sporting attitude that is making boating in the US the adventuresome thriving hobby it is becoming.

their noses at rubber raft men and cataract boat men. To bounce down a river in an oversized inner tube or an undersized garbage scow is uncouth, unskilled, a publicity stunt, and perhaps even depraved.

People who have this sort of opinion should try the other fellow's type of boat. They would come to realize that each type has its reasons and serves its purpose. The rubber raft is great for a long canyon voyage where wave-riding ability and carrying capacity are important, and there's always a reasonable channel between rocks.

The canoe, particularly a long guide's model, is tops for a long wilderness trip requiring a mixture of portaging, flat water paddling, and white water work, upstream and down. The aluminum canoe is just the thing for the steep, rocky New England streams, where visibility, maneuverability, and hull durability are most important. The double foldboat wins out as a yacht for the family with a storage problem but with a yen to get out on the lakes and rivers. The single foldboat is best for combined wave-riding and rock dodging. There are rivers where this is the ideal boat.

All of these boats are definitely not so hot if pushed beyond their capabilities and used for purposes for which they were never intended. The canoe reaches an upper limit in wave riding ability. After the waves get just so big, they begin to pour in. Also, the high initial stability but low final stability of the average canoe begins to work against the canoeist. He is better off in a foldboat.

The foldboat, of course, has a wide range of application, but going in the direction of rock-dodging it eventually becomes more economical to rub aluminum against rock than to rub rubberized canvas against rock. Going in the direction of bigger and bigger waves, the foldboatist reaches a point where he'd be safer in a rubber raft. And so on. Unfortunately there are many river rats who don't believe in these limitations and must learn the hard way that there isn't any one boat suitable for every river.

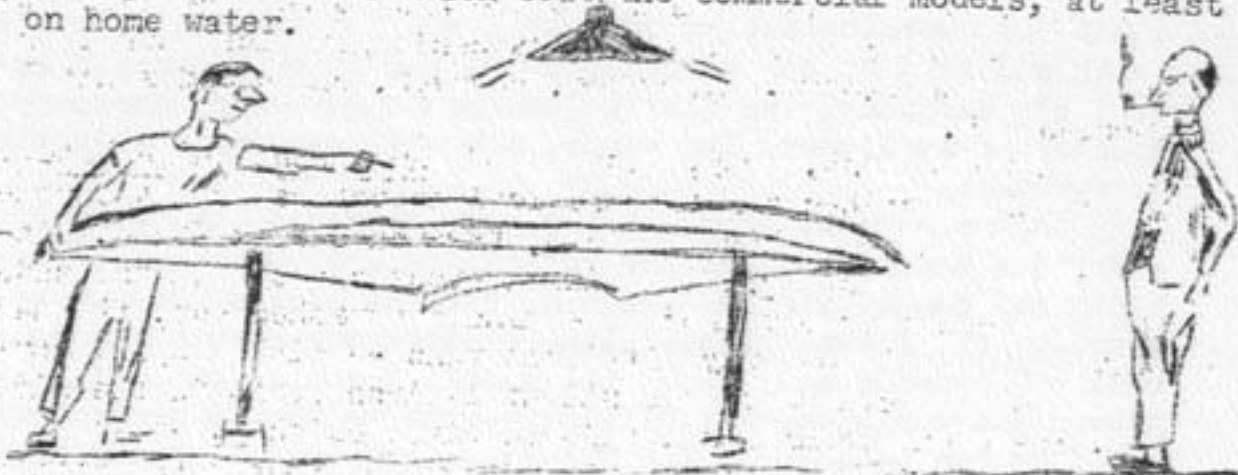
Perhaps there could be such a boat, call it a "superboat," a boat that would be equally at home on the Sockdolager on Colorado or the Alder Brook rapids on the Ammonoosuc. "Superboat" is a word I heard among foldboatists before the war. Zee Grant designed his version of the superboat. It was an overgrown foldboat and it did well in the Sockdolager. Zee took it through the Grand Canyon in very high water in 1941.

(4) But the boat wasn't suited for rock dodging.



My own superboat was a foldboat, which, I believe, was a combination designed primarily for the 1941 races on the Rapid river in Maine. It performed well in the race, but its peculiar design made it unsatisfactory as a general purpose white water boat. At least it taught me that an amateur designer and boat builder can have a great deal of fun and make a pretty good white water boat without too much effort.

The British white water people design and build their own slalom foldboats. Judging from their magazine, English White Water, they get half their enjoyment from boatbuilding and also produce boats which beat the commercial models, at least on home water.



How does one begin designing a superboat? When I start my next boat, I'll have a definite stretch of white water in mind. Perhaps I'll design it for the Upper Saco, the nine-miles from Webster Brook to Sawyer's rock that drops a total of six hundred feet.

She'll be a kayak, with a rockered bottom for maneuverability. She must have a hard bottom for durability, and that means that she'll have to be rigid. There's a long and difficult carry around the falls at Nancy Brook, and so the boat must be light. She must keep me relatively dry, rifling waves of moderate size without dousing me. This specification is important because the Upper Saco is runnable only in the early spring when the water temperature is close to freezing. Lastly, the boat must be inexpensive to build.

All these special conditions will influence my design, and the boat will be a real superboat for the Upper Saco. It may be a reasonable boat for some other rivers as well, and perhaps it will influence some other "superboat Builders". Will the eventual result of such amateur design be a true superboat? I doubt it, but the result can be better boats, a better understanding of boats, and more fun for all of us. (5)

THEY BUILT THEIR OWN.....

## REVOLUTIONARY FIBERGLASS CANOE

by Roy Kerswill and Larry Monninger

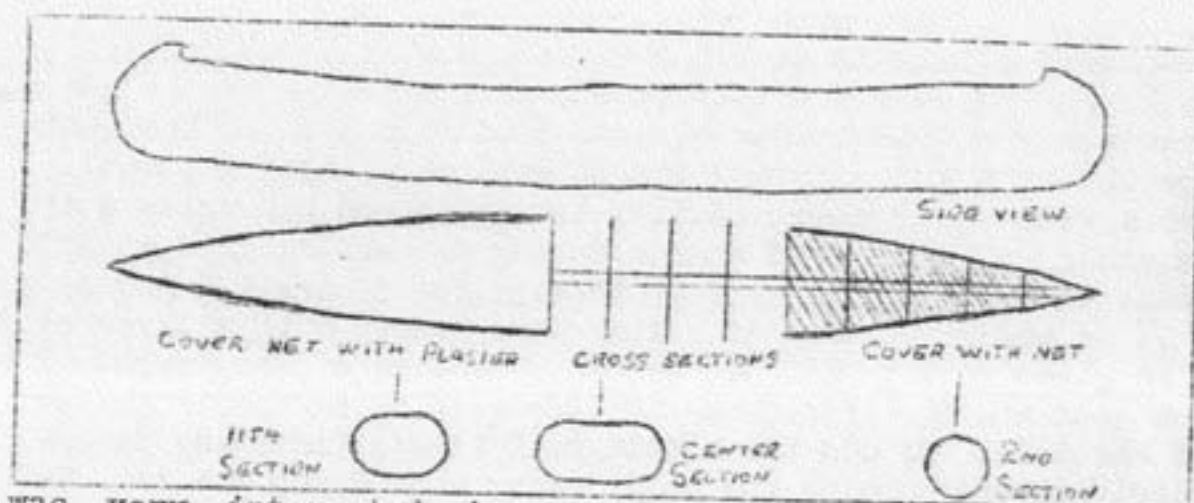
The comparatively recent American interest in white water boating, and especially the growing enthusiasm for slalom and down-river racing, has intensified the search for the perfect white water craft. The foldboats and kayaks have come a long way, and they may have already reached their limit of development -- or nearly so, for after all, one's south end is just so wide and there has to be a certain amount of buoyancy, so the kayaks can't get much narrower, shorter or shallower. The canoe, however, can stand a little improvement.

In the August, 1955, issue of American White Water, Larry Zuk described a rather radical departure from the conventional canoe in his article, "French Slalom Canoe." Appearing at first glance like a stock canoe with the ends bent up considerably and the middle squashed out, it has proven its worth on many difficult runs -- with a spray cover of course, because of the slight 11 inch draft in the middle. The high rocker enables it to pivot quickly, and the 35 inch beam gives it great stability. We thought the French canoe was the ultimate until we saw Dussett and Rossinger from Switzerland win the canoe class hands down in the 1955 Arkansas river race.

Their craft was of a revolutionary design, made entirely from fiberglass -- except for a rubberized cockpit cover and hardwood thwarts. It can best be described as an oval-shaped tube pinched together at the ends, about 15½ feet long, with a relatively small cockpit for two, beginning about 4 feet from the stern and ending about 3 feet from the bow, and with a beam of about 34 inches. Because there was practically no upsweep to the bows go give it a canoe look, the craft appeared to be the perfect marriage between the kayak and the canoe. As soon as we saw it, we knew that a canoe of this type, with certain modifications, was for us.

Making a beginning was difficult for us because we had had no experience in making boats and we knew absolutely nothing about fiberglass. With the friendly help and advice from the Fiber-Resin Corporation of Burbank, California, who





was very interested in our project and from whom we purchased our materials.

After several months of designing and redesigning, we were satisfied. It should be emphasized that this careful planning paid off in the end, and that a number of factors must be considered in designing a canoe without ribs.

The first step was to build a mold in the exact shape and size of the finished canoe. We did this by first cutting  $\frac{1}{4}$  inch plywood sections and tacking them to a 1" by 4" which held the sections in place until we could nail strips  $\frac{1}{4}$  inch thick and  $\frac{3}{4}$  inch wide about 3 inches apart along the length of the canoe. See the diagram above for a general idea of the skeleton. Our sections were 1 foot apart, and we kept in mind during the whole process that the mold had to be torn out of the inside after the fiberglass had set. This necessitated small brads being used for the strips and that wires be attached to the sections in the bow and stern so they could be removed easily.

It might be well to state here that we could have made a female mold and saved it after the completion of the boat. However, we can now use the completed canoe as a mold and make any future canoes in two halves.

After completion of the skeleton, we covered the whole thing with a layer of surplus mosquito netting, using tacks to hold it in place. Next, we covered the entire boat with about  $\frac{1}{2}$  inch of potter's plaster. We found this plaster to be the best because of its texture and smoothing qualities. By mixing small batches and working fast with a small cement trowel, it can be made fairly smooth before it sets up, which isn't very long to be quite frank. By mixing a little patching plaster with it, the setting time may be delayed.

Getting an absolutely smooth plaster surface is (?)

After much trial and error, we smoothed as much as possible while the plaster was pliable, and by planing with a drawknife and hand plane before it got rock-hard, we saved ourselves a lot of sanding. For the last operation before applying the fiberglass we used a circular and a vibrator sander, filling low spots and pin holes with patching plaster, and then covering the entire mold with 2 coats of mold release made especially for fiberglass molds.

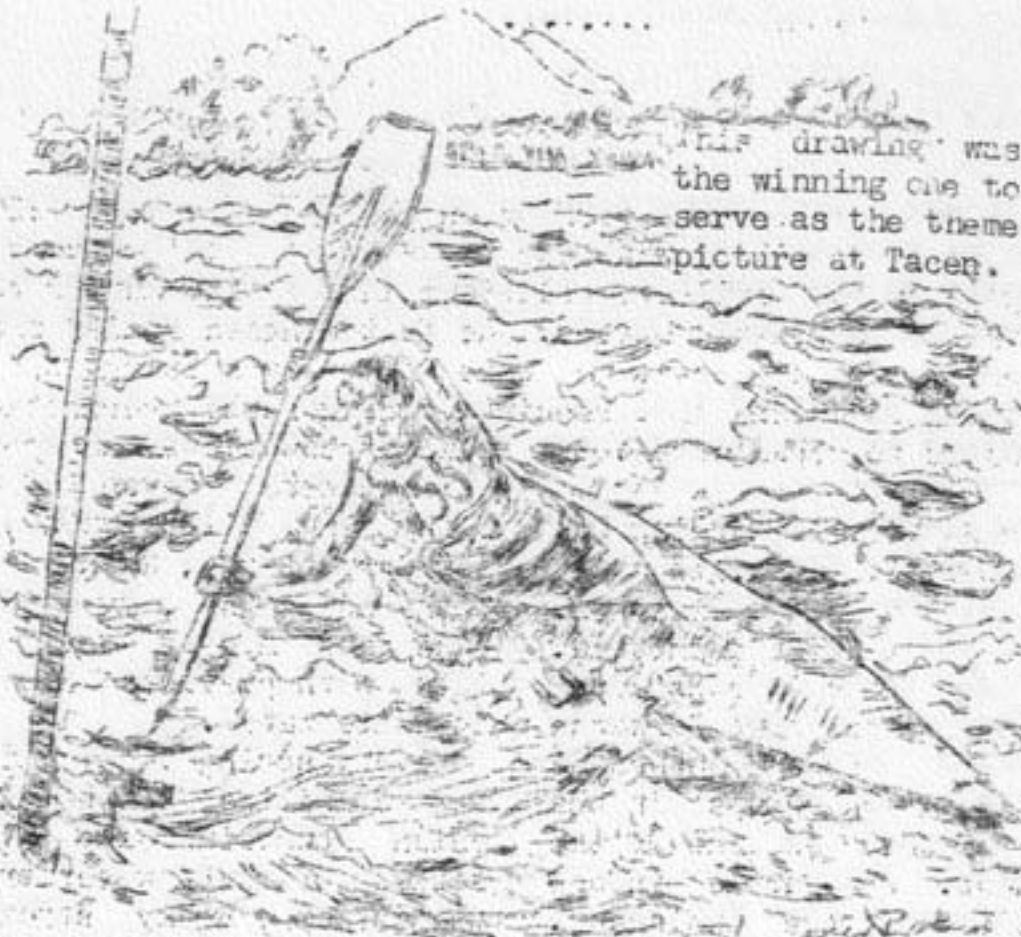
We used 2 layers of fiberglass cloth with a layer of fiberglass matt sandwiched between. Because of the weight of the mold and the difficulty of impregnating on the underside of the mold, we did the bottom half first, finishing it entirely before turning the mold over and doing the top. We found that we got a better and quicker job by impregnating the 3 layers at one time instead of layer by layer. The resin that is used for the impregnating sets at a speed determined by the amount of catalyst you add. It is recommended that a little practicing be done with the stuff before putting it on the boat.

At the seam where the top and bottom half joined, we beveled the edges by cutting the impregnated fiberglass just as it reached the "jelly" stage in the setting process. If you wait too long you will need a hacksaw to cut it, but at the jelly stage it can be cut with a knife. By cleaning the overlap area (about 2 inches) with acetone before joining the two halves, a very strong joint is obtained. Coloring may be added to the resin, or the boat may be painted later.

After about 72 hours, the mold may be torn out and any finishing work may be done. Some sanding may be necessary, and another layer of resin should be applied to give the canoe a smooth surface. We also made a slight coaming around the cockpit to hold the spray cover.

When finished, this canoe will fulfill your fondest dreams of a white water canoe. Having no keel, it will jump sideways like a rabbit, turn on a dime, and last forever, with a very minimum of maintenance. With very little rocker, and with the paddlers nearer the center of the craft, the objectional plunging in bad water is virtually eliminated. It glides over rocks easily because the fiberglass is flexible, and the overall weight is about 50 lbs. One man can easily load a 16 foot canoe onto the top of his car.

If you would like any further information concerning this canoe, please feel free to write Larry Monninger, c/o American White Water, P.O. Box 8414, Univ. Park Sta., Denver, (8) 10, Colo. A photo of this canoe appears on page 15.



This drawing was the winning one to serve as the theme picture at Tacep.

Led by Siegi Holzbauer of Munich, the slalom team from West Germany upset the favored Yugoslav team to win the world championship slalom events July 29-31 in Ljubljana, Yugoslavia. Holzbauer took first place in the foldboat single (F1) class and led the German F1 class in the team event.

Miss Bisinger of Germany won the women's singel foldboat class and Jirasek of Czechoslovakia captured the canoe single (C1) event.

Claude Neveu and Roger Paris of France walked away with top honors in the canoe double class (C2). Both are veterans of the Saida slalom and downriver race. The Czech team took first place in the canoe double mixed event.

Both days of the official races were blessed with sunshine with a crowd estimated variously between 8,000 and 15,000 spectators watching the world's top slalom artists compete.

The International Canoe Federation meeting after the races granted permission for the next bi-annual race to be held in Germany under the German Canoe Association (DKV). Augsburg is tentatively planned as the scene for the 1957 event. (9)



## WILDERNESS WHITE WATER

by Fred Sawyer

It was a cool sunny morning on the 25th of July, 7:20 a.m. when we were waiting with our three 17 ft aluminum canoes and baggage on the railroad platform in the tiny lumber town of Clova in northern Quebec. We felt mingled relief and excitement, for at last we were actually setting forth on a canoeing adventure that required considerable preparation and promised to challenge our skill as canoeists and woodsmen.

Fred Sawyer, 12 Harding Rd. Needham, 92, Mass., is chairman of the Appalachian Mtn. Club White Water Committee. The AMC group is considered one of the most forward-looking and adventuresome white water groups in the US as well as one of the oldest. For further information on the Gatineau, write Fred directly.

There were seven of us---Corny King, Will Dayton, Charley Carpenter, Ruth Irwin, Diana McIlvaine, my wife Mary Jane and myself--all canoeists with previous experience in white water.

Every spring, the White water committee of the Appalachian Mountain Club plans a series of white water trips on the steep, rocky streams of New England. Each weekend the club tries a stream further

northward to utilize the retreating snows. This year the committee extended the season by advertising a two-week white water trip in the wilderness of northern Quebec. The planners selected the Gatineau river, putting in where it crosses the northern arc of the Canadian National railroad and terminating on the shores of Lake Baskatong.

The Gatineau filled the bill for an ideal trip. Its headwaters at either Clova or Parent could be reached by overnight train from Montreal. It was all downstream with numerous rapids indicated over roughly a hundred mile run to Lake Baskatong where we could hire a truck to get to the railhead at Mont Laurier. From there, the train would take us back through the Laurentian Mountains to Montreal.

The whole trip was calculated to require two weeks and to coincide with our summer vacations. The major uncertainty was the amount of water and the possible interference from lumber operations. The Canadian International Paper Co. in-  
(10) formed us that the log drives would long be over and

that the whole branch would have better water conditions.

Our goal the first day was an easy nine-mile paddle through a series of very small lakes to a dam marking the beginning of the river. When we reached the dam it was threatening to rain, and it was a race to get the tents up and a canopy spread over the kitchen (an overturned canoe) and cooking fire. Blueberries were abundant here and at most campsites throughout the trip. We had them in every form -- plain, in pancakes, tarts, pies, cakes and cereal -- until it seemed they would come out of our ears.

It rained hard that night and cleared in the morning. We portaged around the dam on the right and put into the pool below the runoff. This was a mistake for around the next bend scarcely 200 yards away we came upon a steep rapid over ledges with too sharp a drop for canoes. We had to bushwhack back to the portage trail and carry again. This rapid was not on the maps. Had we known it was there we might have portaged both the dam and the rapid at the same time. This upset our timetable so that it was quite late when we reached our intended lunch spot at Eskwahani Depot, a Lumber Co. supply point. About a mile above the depot, there is one rapid we ran on sight.



The river changed abruptly as we left the depot in the afternoon. As it turned south, dense forests of spruce and birch closed in. Several rapids came up in quick succession. One very rocky one we stopped to scout. Upon running it, I led off with a course right of center. The keel of my canoe caught momentarily on a submerged rock, just enough to throw the canoe off course so that it went up against a large rock. As the upstream gunwale threatened to be sucked under, my wife stepped nimbly out, lightening the canoe enough to allow me to shove it off. That was enough excitement for one day and we looked for a campsite about half a mile beyond.

Most of the nights were cold, but this one was the coldest. Water left in my drinking cup overnight was almost frozen solid in the morning. Also the river valley was filled with mist so thick that it was difficult to see or pick a

course in rapids. Therefore, we made few early starts. But it was not important to do so for, unlike lake canoeing, the winds could not give us serious trouble.

The next few days we made slow progress. The rapids were increasing in frequency, pitch and length. Therefore, we had to stop often to look them over. The long ones seemed to start out easily at the top and become ferocious at the bottom. After running one such rapid unwittingly but successfully, we tried descending part way to a convenient point where we might take another look.

Not all the rapids were runnable with loaded canoes. In fact, we found it expedient to line down several and also portage as much as we did. Two days after leaving Eskwahani, we had a rugged portage for three quarters of a mile over the brow of a hill to avoid a strong rapid with haystacks too big for any canoe and walled in by a high, rocky gorge. A fold-boat probably could have done it. Except for a few such places, we were still glad to have aluminum canoes for the upper Gatineau, like our New England streams, is very rocky. The river was at its normal summer level.

At Cou Cou Depot, which we reached on the fifth day, there is an impassable chute or cascade. From there the river swings into a horseshoe curve to the north for about seven miles. At the top of the curve, Chub river enters on the left and there is a series of rough rapids which we scouted. Because the side channels were cluttered with pulp wood, we had to run down the middle. If this situation had not existed on this and many other rapids, we could have chosen a course down the side, avoiding big haystacks and sharp drops where lining or portaging was sometimes necessary.

After the Choquette river enters on the left, the Gatineau turns south again and for about four miles, there is smooth water and good current. We had a good view of a bull moose bathing on the shore in the afternoon sun. The valley, however, grows ominously narrower. The river then dips suddenly into a gorge. This is the beginning of Scenic rapids about which the paper Co. officials had briefed us at Clova. Scenic rapids is actually a series of almost continuous rapids for about five miles. The entrance rapid had too sharp a drop for a canoe. We found that the portage trail could best be reached by paddling to the very lip of the rapid, the only suitable place to unload. One man stood in the water to draw each canoe to safety for the current was dangerously swift.

(12) The portage trail was an adventure in itself. It clings



to the side of the gorge with rotten log bridges, one of which I plunged through saving myself only by spreading my arms so that the two outside logs caught me in the armpits. A few feet off the trail in a mossy dell stands a cross with the inscription, "Pierre Sauve, noyé en 14 septembre 1940." We were to see another cross at the other end of Scenic rapids, mute evidence of the hazards of this river.

When the mist cleared in the morning, we examined a mile long rapid running straight down the narrow valley with the river itself about a hundred feet wide. It looked elementary from above but presented many difficulties as we looked it over. Lining was not feasible and portaging could not be continued through the entire gorge, especially as our stamina could not have borne it and as this also appeared to be the easiest part of the gorge. We decided to run. Diana and I started down first with the others watching.

The run went smoothly although I didn't hit the pitch exactly as planned and took on a few gallons of water. I walked back while the other canoes ran it. Corny and the two girls did fine. When the last canoe with Will and Charley was out of the heavy water and on an easier section near the end, I turned to walk downstream. When I looked again, their canoe was broadside on a rock with the river pouring in. The men unloaded the canoe first by fastening each bag to a rope which the girls then drew to shore. Everything was salvaged and no food was lost except a small bag of sugar. Our packing and loading technique rewarded us here, for everything was in light waterproof bags, and these in turn packed inside canvas duffle bags to prevent abrasion. All were wedged and lashed securely into the canoes.

The accident itself was attributable to inattention and not to lack of skill for Will and Charley had come through the difficult section perfectly only to be caught off-guard as they relaxed near the end.

The problem of extricating the canoe was a difficult one. Our combined muscle power pulling on a long rope from every angle was no match against the power of the river. Resorting to engineering, we devised a



kind of winch to increase our mechanical advantage. This worked and we drew the canoe ashore. It was badly bent in the middle with a 6 in. rip in each side. We ferried it to the other side of the river and had lunch just as a thunder storm broke. It was then nearly three o'clock. The rest of the afternoon was consumed in stamping out the bend and patching the sides. We camped just a short way beyond. We had progressed only half a mile that day, a new low.

One of the canoes skittered by some big rocks in a typical Gatineau rapid. The adventurous trip proved a fine boating vacation even though the high portages required a lot of heavy carrying.  
(Photo by author)

There were two more big rapids at Scenic, much too formidable for loaded canoes and very risky for empty ones. The first we portaged canoes and baggage, the second we were able to run in the two good canoes empty after portaging the damaged one. We regained the others below where Canoe brook joins from the left.

From Canoe brook to the junction with the Bazin or east branch of the Gatineau, the going was easier. The river broadens out and the rapids become thin with the channel crisscrossing over the gravel beds about 75 yds. wide. Below the forks, the river straightens and doubles in width with a smooth fast current and only occasional rapids easily runnable. This section of about forty miles, we covered in two days and reached the end of our trip a day ahead of schedule.

In general, I would grade the rapids of the upper Gatineau from I to IV for canoes and Scenic rapids IV to V. Of course with loaded canoes in the wilderness one is wiser to take more precautions than one would with rapids of the same difficulty close to civilization.

This trip was, in a sense, a "first" in that the paper Co. manager knew of no other canoeing party from the "outside" coming to run the river in the fourteen years he had been there. The region is wilder now than it was in the thirties when the big lumber was cut.

As a white water trip this should only be attempted by a canoeing party skilled in white water and led by men experienced in reading water. Moreover, owing to the difficult portages which we did not anticipate, there should be a majority of men with husky women. I cannot recommend this as an ideal trip, but it was certainly an adventurous one.



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In skiing we have the practice hill where an instructor takes us step by step through basic maneuvers until we can master increasingly difficult situations. Rock climbers too have their pet rocks where the novice is inducted into the mysteries of the belay and rappel. The beginning boatman has a similar need for a river classroom where he can proceed through graded difficulties to master the fundamental white water skills.

For the White Water Kayak Klub of Sacramento and the Sierra Club River Touring Section from the San Francisco Bay region the American River has filled this need. The snow fields of the high Sierras feed many tributaries soon converging to form the three main branches which have each cut 1500 foot deep canyons on their way out of the mountains. Reaching the foothill regions the American becomes less violent and as it flows out into the broad valley to join the Sacramento River at the City of Sacramento it is quite sedate.

We find Grade I or Easy conditions within twenty miles of Sacramento (110 miles from San Francisco). Here the main current moves along at perhaps 3-4 miles per hour and the slope of the river bed averages about 5 feet per mile. It is here that we practice takeoffs and landings, eddy-christies, paddle-brace, eddy anchors, forward and back ferrying. We also practice swimming our boats in to shore with some individuals managing to get extra doses of this practice.

Another 30 miles upstream on the North and Middle forks near the town of Auburn the river is steeper and we have Grades II and III. Grade II or Medium conditions call upon all we have learned in Grade I while we gain experience in maintaining balanced control through easy waves and eddies, avoiding obstacles, and in judging the effect of complex currents.

In the same vicinity we can find Grade III of Difficult conditions. Here we are learning to contend with higher irregular waves, strong eddies and cross currents, and more difficult obstacles. We study rapids from the shore and experiment with different routes and procedures. In this way we are preparing for the Very Difficult Grade IV which lies on up the river a few miles where the slopes are steeper still.

The character of any river changes radically with wide fluctuations in flow. We find the North Fork of the American ideal when the flow is between 1000 cubic feet per second and 3000 cfs. This narrow canyon must have been a frightening spectacle on November 21, 1951 when it was flowing at the rate of 79,000 cfs. It is only during the



# VER.....

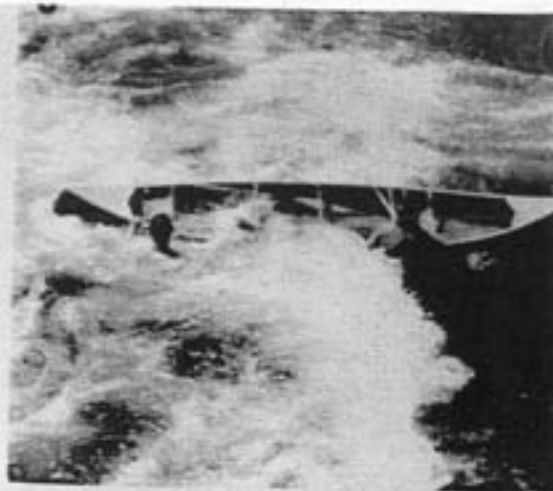
## water classroom

late spring and early summer that we can be sure to find the conditions we enjoy most--enough water so there will be good waves, but enough rocks so we must remain alert.

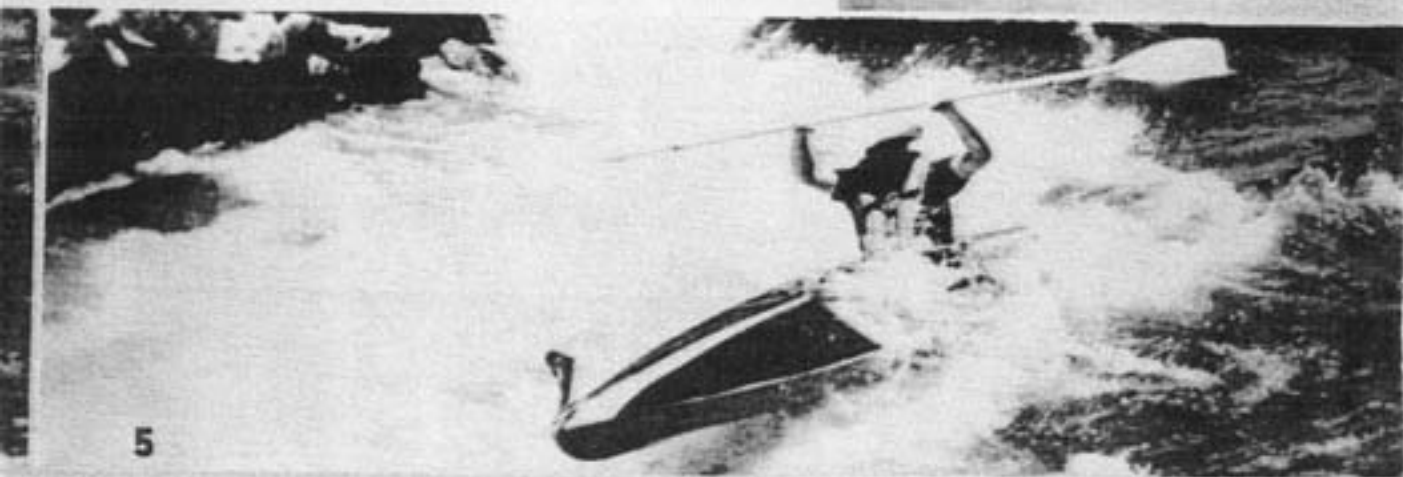
The American is the only river of that name in North America which always seems a little surprising since so many other names recur over and over throughout the country. It was on the South Fork near Coloma that gold was discovered and a hundred years ago every gravel bar was yielding gold to the busy placer miners so that we now find our maps dotted with place names such as Rattlesnake Bar, Whiskey Bar, African Bar, Texas Bar, Poverty Bar, Philadelphia Bar, Ruck-a-Chucky Rapids, and a hundred others. We are reminded of these early day activities when we find relics of mining equipment along the river. Of all the names, perhaps the most appropriate to the river runners is Murderer's Gulch. Here for a short distance the river goes wild as it is confined in a narrow, crooked channel while dropping nearly fifteen feet. We portage here!

Another exciting chapter in the history of the American River relates the period when logs were sluiced into the various branches and driven to a mill at the confluence near Folsom. This practice did not long continue for log jams were too frequent and driving them too dangerous.

When you come to California to join us on the American some week end don't be surprised if, at a rest stop, someone pulls a gold pan out from amongst the gear in his foldboat. If he is lucky he will be able to show you a few colors washed from the nearest sandbar.



1- Kayaks, foldboats, Canadian canoes aboard shuttle trailer. 2- The girls carry their own. 3- Put-in for a Grade I practice run. 4- A beginner gets her first ride through waves. 5- We used to hold our paddles up. 6- Now we use them for control and bracing. 7- Grade II. 8- These two needed more practice. Photos by Les Sipes, Oakland Tribune.







# WHITE HELL

by Roger Paris as translated by John Sibley

The entrance to the Arkansas' Royal Gorge was half a mile away. We were five small boats and seven men waiting to start.

Everyone was ready. We had checked our equipment again and again. Spray covers were tightly stretched and secured. The extra, emergency paddles were inserted in their deck pockets. The Basque, Zubiri, placed his goatskin gourde in his

kayak, lashing it to a longer-on. He would need his gourde filled with wine. He knew the water was formidable in the gorge. Two days before, with Dines and Sibley, he had shot this 12-mile course of rapids in a rubber raft.

(1) Lawrence Campton, Salida, treads water waiting for help from Pean and d'Alencon. Campton upset after an over-anxious approach caused him to sideswipe a rock. He used a Pioneer kayak on the trip.

(2) Zubiri, crouching, fondles his battered kayak, the result of the crushing power of a 100 yd jet in the Royal Gorge. Campton sympathizes with him.

We started. The current caught us up swiftly, as it snaked through a sharp bend to the entrance of the gorge itself now out of sight beyond. We backwatered cautiously as the rushing of the first rapid sounded louder and louder.

(3) The party of adventurers entering the gorge just as Campton capsized the first time. A group of cameramen and helpers followed the trip on a railroad flatcar.

Campton, in his sleek racing kayak, was in the lead. Over-anxious, he made a bad approach sideswiping a rock on his bow and upsetting. Pean and d'Alencon, following immediately behind in their canoe, rushed to his aid. Fortunately, the rapid was short, and Campton and his kayak spilled out safely in an eddy below.

(4) Pean, the author, and his partner, Serge Michel, gallop through some of the swirling water in the famous gorge. Both canoes on the trip were French slalom models.

Continuous rapids with high standing waves followed for half a mile, ending at the first impassable point. (19)

(Photos by John B. Sibley)

This was a dam built for the Canon City water intake. It was seven feet high, and the water at the foot boiled off downstream in a 50-foot pitch. We threw a tree trunk into the water at the brink. It was caught up instantly, was engulfed and did not reappear. Michel, my bowman, and I, lined our canoe over. Again in the water, after emptying the "chaussettes" (canvas wells in which each paddler kneels, and which prevent water from entering the canoe.) we entered a magnificent rapid of class V which was very swift, yet highly maneuverable. Pean and d'Alencon in their turn shot it brilliantly, waving to Campton, Zubiri and Perry to follow in their kayaks.

Now, two miles of unrelenting, unceasing rapids with standing waves, cross rolls and whirlpools provided our thrills. And then the second impassable point. It was a pitch 100 yards long ending in a narrow jette with enormous

In June, 1954, Roger Paris of France and four other of his countrymen: Andre Pean, Pierre d'Alencon, Serge Michel and Ray Zubiri joined two Salidas, Coloradoans, Lawrence Campton and Volney Perry in the hazardous excursion through the Royal Gorge. John Sibley, co-owner of Foldcraft Kayak Co., Tyson Dines of Littleton, Colo. and Zubiri had scouted the run a few days earlier in a large rubber raft. The French boatmen were in the US for the Salida boat races. This article was taken from the Nov. 8 1954 issue of Point de Vue-Images du Monde.

pressure. There was no doubt we had to portage. Yet, Zubiri, remembering how he had shot this in the rubber raft, insisted on trying it in his kayak. With faultless style he made his approach, shot the length of the jette with tremendous speed, and then suddenly where it ended in an abrupt rappel, he was sucked down and disappeared completely from sight. After a moment which seemed interminably long, the kayak flew out from the roller at the bottom of the rappel. Then an instant later Zubiri broke the surface some 60 feet further on.

He swam to the river bank apparently unharmed. His broken kayak floated downstream, twisting like taffy, first extending to its natural length, then folding sickeningly in a U-shape. While the others recovered the remains of Zubiri's kayak, and he joined the group which followed us on a railroad flat car, Michel and I went to explore a new rapid. It was about two-thirds of a mile long. The canyon wall on one side was perpendicularly overhung, and the opposite side (20) formed a jungle of jagged boulders which whipped the

river into dizzy spirals of white foam.

We came back upstream, having decided on our best approach and explained the course to Pean and d'Alencon. Those in kayaks decided to portage. We slid our canoe into the water from where we had left it pinned between two rocks. Michel and I would now paddle guided by an old principle. Man the stern first, then man the bow. Keep the nose of the boat always into the current. We drew the chaussettes tightly around our waists. We glued our knees tightly under the thwarts. We were off!!

Instantly a strong eddy veered us into the main current. It was necessary to avoid a terrible boil on the right by pressing close left stream between two triangularly peaked rocks. Once in the rapid every second was an emergency in order to avoid two whirlpools. Masses of water bore down on us. Our knees pressed against the gunwales harder and still harder to steady the fiercely vibrating hull. The walls of the gorge closed in and I knew that the end of the rapid must be near now, only a hundred yards more. Suddenly we dropped into a trough of foam and hung up crazily for an instant. Luckily back water formed by the canoe buoyed us, and we floated free almost as suddenly as we had become stuck. Another few feet and we had conquered the most formidable rapid of the day.

When it became Pean and d'Alencon's turn to run the course d'Alencon, understandably, was too frightened to proceed. Michel, wishing Pean to share the thrill of shooting this rapid took d'Alencon's place.

A mile more and we approached the great bridge over the Royal Gorge, the highest bridge in the world. We could discern flags of all nations waving in the brisk breeze and just make out the people peering down upon us.

Returning to the bottom of the gorge from the lodge at the top of the canyon walls where we had been guests of honor at an impeccable reception in the best American style, Michel and I hastened to caulk a seam in our canoe. The last rapid had taken its toll and we had sprung a serious leak.

At last setting out on the final stretch through the





Royal Gorge, our motor expedition had only gone a short distance before we had to again stop for the constant reconnoitering that is vital in order to pass through white water safely. We were above a class VI rapid, consisting of high standing waves and vicious cross rollers. One mishap and boats and crews would be smashed against the sharp, steep sides of the canyon wall. This time there was no argument about portage.

Putting in, Pean and d'Alencon went first and Campton and Perry took the middle. Suddenly, we saw Pean and d'Alencon backwatering furiously. Campton, however, couldn't stop in time. He shot into the rapid and bow of his kayak, like that of Zubiri's before him was sucked under a brutal boil as though by a giant syphon. First the kayak, then Campton reappeared and were quickly borne downstream. Fortunately, Perry had been able to stop in time.

Michel and I, however, had no time to reconnoiter if we were to help Campton. Proceeding with all speed, we literally plunged into the trough of some that completely engulfed us. Paddling furiously we spurted out trembling with cold and fear. Miraculously Campton was still floating ahead, supported in the water by his Mae West. He found a back eddy and climbed out on the bank suffering only minor bruises. His kayak which fortunately was not as badly damaged as Zubiri's, was recovered a mile downstream. Perry wisely gave up at this point.

Victory over the gorge was practically in sight now. Galvanized by the prospect of triumph, we didn't feel our extreme fatigue. We were about to be the first expedition of kayaks and canoes to descend the Royal Gorge. (Editor's note: This trip was first made in June 1949 by Robert Riss and Mr. Romer. The two Swiss boatmen switched off in the same kayak that year to win the first Salida race all the way from Salida to Canon City....some 80 miles. The river was at its record highest that year which necessitated much portaging through the Royal Gorge. Theirs was the only boat to finish, needing almost nine hours to complete the harrowing grind.)

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#### RECORD PARTY TRAVELS GRAND CANYON

Georgie White, only woman river guide on the Colorado, brought a party of 30 through the Grand Canyon in seven rubber rafts late this summer. The group, equally divided as to men and women, ranged in age from 8 to 75. Only complaint... (22) "things went too smoothly."

# Letters from Readers

DEAR JOE,

YOU WILL BE INTERESTED TO KNOW THAT INQUIRIES SPARKED BY WHITE WATER CONTINUE AT A STEADY LEVEL IN THE INTERIMS BETWEEN ISSUES. WE GET OUT TWO OR THREE A WEEK.

JOHN B. STELEY, Foldcraft Kayak Co.

Dear Joe,

The second edition of White Water looks just fine to me. I don't feel that the mimeographing materially detracts from the magazine. The pictures are well worth the sacrifice..... I believe the magazine is really doing a lot for the sport of canoeing, and that it means much to those who love the sport. Keep it up!

Arthur Bodin, 3215 Netherland ave, New York 63, New York.

Caballero:

The first issue of A.W.W. has been received with pleasure. We regret that up to today we have not been able to progress to the point where we might have a publication of our own, tho we might have a mimeographed sheet later on in the year. ....We have received from Sweden six racing kayaks for this season, and we plan to import a few more this year: they will be used for straight racing, but we also plan to do a lot of cruising around our beaches and rivers after the racing season is over.....We thank you for your magazine which is a big source of inspiration and offer you our complete cooperation in anything that might interest you from Cuba.

José R. Gato, Federacion Cubana de Canoas,  
Palacio de los Deportes, Vedado, La Habana, Cuba.

Dear Sir,

I thank you for sending me No. 1 of your new magazine. I was very pleased to learn something of American white water activities, and wish your magazine every success.

C.M. Rothwell, Chairman, British Canoe Union,  
Slalom Committee.

Dear Joe,

A few days ago I received the first issue of American White Water, and I wish to extend to you and your collaborators my best congratulations for a job well done. Of course I have read the May issue with the greatest interest and look forward for the next one.

Father Ludo van Leeuwen, Regina Coeli Parish,  
2604 Carlisle Blvd N.E., Albuquerque, New Mexico. (23)

# TERMINOLOGY

by Wolf Bauer

The following definitions were compiled by the Washington Foldboat Club under the leadership of Wolf Bauer, 5213 11th N.E., Seattle 5, Washington. Wolf has long been a leader in river boating, specializing in a foldboat. This partial compilation of definitions is the beginning of a series covering boats, boat accessories, still water (salt and fresh), running water, techniques and river touring.

## RUNNING WATER

- BACK EDDY:** The reverse reaction current behind all objects in the path of flowing water. If center of back eddy, water wells up and flows toward object causing it. Back eddy has current on each side.
- BEND:** Change in direction of the river bed and banks confining the flow channel.
- BOIL:** Upwelling water current into convex mound raised above water surface.
- CANYON:** Steep-walled deeply-gouged river bed. Canyon walls may be vertical rock or banks of steep slide material. There may or may not be landing shelves or bars along the river course.
- CHANNEL:** Normally any elongated depressed area or trough which acts to guide and confine flowing water within its course. Often denotes easiest route through river section.
- CHUTE:** A channel in which there is fast water through a low point or gap in a drop or rapid.
- DELTA:** Fan-shaped alluvial deposit of silt built out from shore at mouth of river, usually containing several meandering and changing arms or river channels.
- EDDY LINE:** Defines the boundary between the eddy and the downstream flowing water on one or each side. It may be a sharp demarcation line, or a series of small whirlpools. Water flows vertically down at this line.
- EDDY TAIL:** The downstream section of the eddy where it becomes narrow and begins to lose its upstream current flow.
- EDDY TRAP:** Narrow back-eddy in swift water preventing the turning of the boat between the opposite eddy lines, and (24) having downstream exit blocked by another obstacle.



**EDDY WALL:** The raised portion and extension of the eddy line next to and behind the object under strong turbulent conditions. Taking the form of a wall of water falling continuously into the eddy along the eddy line.

**FALLS:** Any drop over which water falls free at least part of the way, and over six feet high.

**FENCE:** Single or series of waves or rollers along eddy lines under extreme conditions, in front of head walls with impinging current, or diagonally along the edges of great vees forming the boundary or opposing strong currents. Fences have breaking crest and are usually rollers.

**FLOOD CHANNEL:** Relatively new and recently cut channel, usually during flood stage, distinguished by lack of clean sand and gravel banks and bars, having either caving banks or no banks. Also show roots, log jams, snags, brush, and vegetation at the waterline.

**GRAVEYARD:** Stretch of boulder-blocked or choked river bed causing innumerable eddies and requiring great maneuverability to pass through. (At high water stage such a stretch may turn into a rapid.)

**HAYSTACKS or STACKS:** Large standing waves, usually two or more in succession (like row of shocked hay), over three feet in height, with or without a breaking crest or roller. Often there is a weak reverse current on the downstream surface of a stack. More so if it has a tendency to form a roller wave. Stacks are more often caused by submerged boulders, shelves, or bed irregularities rather than gradient or channel changes.

**HEAD WALL:** A more or less vertical hard wall or bank at right angles to the current at a bend, and directly impinged on by the current. Headwalls may or may not split the current. If they do, a swirl eddy may be forced on the outside of bend next to wall. Fences may or may not form in front of the headwall, depending on whether it is undercut or not.

**HYDRAULIC JUMP:** A "jump" wave or standing reaction wave raised by flowing water at the moment of slowing down, usually due to change in gradient, when some of the velocity energy is transformed to pressure energy. Turbulent water behind the roller wave flows upstream on the surface and downstream on the bottom.

- JET:** A compressed stream of faster-than-normal water bordered by side eddies. Center of jet may at times be convex and raised above the surrounding water.
- RAPID:** Term widely and loosely used. It is relative to the current, gradient, and bed in adjoining sections up and down stream. A rapid is a composite river stretch containing individual and different hydraulic phenomena, but is designated as a whole section, whether 10 or 10,000 yards long. Invariably its basic features are those of steepening gradient, increased water speed, and white water turbulency in the form of waves, rollers, jumps, fences, falls, eddies, and jets, caused by increased gradient or by obstructions in the bed.
- RIFPLE:** A shallower-than-usual stream section in which small waves or greater water turbulency is noticeable. This may be due to increased gradient, rougher bottom, or wider bed.
- ROCK GARDEN:** Same as a graveyard, but less than class III grading.
- RUNOFF:** Designates the water added to normal stream flow during or after heavy rains, melting snow or ice (surface, not seepage.)
- SHALLOWS:** Series of ripples or swells of smooth water extending across a vee or approach to a drop where accelerating current under tension prevents forming of rapids.
- SIDE EDDY:** An eddy caused by an object or current-diverting obstruction, or by a central jet, past which water flows only on one side. Side eddy current is usually rotating in a horizontal plane.
- SNAG:** Any anchored branch or log partly submerged, or projecting into the channel from the bank.
- SOUSE HOLE:** Deep water-walled depression behind certain objects in fast currents causing unstable hole to be formed.
- STAGE:** The level or relative flow of water in a stream at any one time in relation to a normal or standard flow or water level. Regular daily changes in stage of several feet are often found in glacial streams.
- STAIRCASE:** Stretch of river bed made up of a series of shelves over which the current spills as down a flight of steps. May or may not be navigable. May be called rapid at flood stage. Sometimes called cascades.
- STOPPER:** Popular British term for large tricky wave, fence or white water hole that is likely to cause a foldboat to (26) swamp or capsize.

level on deep turbulent rivers.

TURN: Change in direction of the river flow.

VEE: Describes the appearance of the eddy lines or fences bordering the smooth central stream section as it accelerates in approaching a drop, riffle, or jump. Since the eddy lines seem to converge toward the drop, they appear V-shaped pointing downstream.

WASHEBOARD: Series of ripples or swells of smooth water extending across a vee or approach to a drop where accelerating current under tension prevents formation of white water.

WEIR: A low natural or artificial dam up to five feet in height over which all or part of the stream spills vertically at low rates of flow, and in form of a jump at high water.

WHIRL EDDY: A side eddy reinforced by direct current diversion causing full horizontal rotation of the mass of water as by current splitting against a head wall.

WHIRLPOOL: The unstable pool or hole formed by fast-spinning water, the centrifugal force preventing the rotating water wall from flowing into the cone-shaped hole. Caused by opposing currents in deeper streams.

WHITE WATER: Generally all turbulent foamy water denoting speed and direction changes of current due to hydraulics or obstacles in its path.

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#### AMERICAN WHITE WATER NOTES.....

Every member should have received all three issues of this magazine. Membership dues the first year entitle the member the first four issues of White Water, the second year's dues, the second four issues, etc.

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A complete membership list of all AWWAers as of Nov 1, 1955 is being mailed with this issue. Only paid members and advertisers will receive the list.

\*\*\*\*\*

The address of member N. Cachon has been misplaced in our administrative processes. If you know him, please send us his address.

\*\*\*\*\*

TELL YOUR BOATING FRIENDS ABOUT AMERICAN WHITE WATER OR BETTER STILL, SEND US THEIR ADDRESSES AND WE'LL MAIL THEM A SAMPLE COPY.





# I D E A S



LARGE PLASTIC BAGS inflated and inserted in the ends of a foldboat or kayak are more than adequate to float the capsized boat thereby minimizing damage to the craft in an upset... Ray Zubiri, Bordeaux, France.

SWIM FINS worn while shooting difficult water enable the boatman to get to shore more quickly with less effort in case of an accident, or to get back into the boat in mid-stream by providing a "lift" to counteract the tipping when remounting. ...Earl Oliver, Sierra Club and Dick Stratton, 1328 Walnut, Boulder, Colorado.

SNAKE BITE KIT taped to longeron of foldboat or inside of any boat will always be ready when needed....Bruce Austin, Sacramento, Calif.

TRANSPARENT PLASTIC BAG with an optically flat glass panel is just the thing to protect camera and yet not hamper their use. The bag is transparent and flexible so camera can be operated right through it. Price about \$7.50. Voit Rubber Corp, 1600 E. 25th St. Los Angeles, Calif....Bruce Grant 6255 Chabot Road, Oakland 18, Calif.

This column will appear in each successive issue of American WHITE WATER. It was suggested simultaneously by Clyde Jones and Bob McNair. Please jot down any ideas you have for more efficient boating, long or short, and mail them to the magazine (address on page 2).

## MORE BOATING ARTICLES

The Canyons of Dinosaur, Ford Times, March, 1955

How To Build a Birchbark, Natural History, May, 1955

Caring for your Canoe, Field and Stream, May, 1955

Outdoor Recreation and an Adventure, Recreation, June 1955

Rapid Transit, Real Adventure, November, 1955

Canoes the World Over, (book) by Terrence T. Quirke, publ. by Univ. of Illinois Press.

WHERE TO FIND IT

Due to space limitations, separate sections of this feature will appear in each issue of American White Water. Products and services being compiled include boat manufacturers, river guides, building and repair items, camping equipment and supplies and regional river information. WHEN YOU WRITE TO ANY OF THESE FIRMS....TELL THEM YOU SAW IT IN WHITE WATER.

[illegible]

Camping Equipment and Supplies

ABERCROMBIE AND FITCH, 360 Madison ave., New York 17, N.Y.

EDDIE BAUER, Dept F, 160 Jackson st., Seattle 4, Washington

L.L. BEAN, Freeport, Maine

BERNARD FOOD INDUSTRIES, 559 W. Fulton st., Chicago, Ill.

(concentrated foods)

CAMP AND TRAIL OUTFITTERS, 112 Chambers st., New York 7, N.Y.

CASCO BAY TRADING POST, Freeport , Maine

CUTTER LABORATORIES, 4th and Parker, Berkeley 10, California

(snake bite kit.....see ad page 15)

GERBY, Ward, Colorado

SEAL-DRI SPORTSWEAR CO, Rockford, Illinois (water-dry clothes)

SKI HUT, 1615 University ave., Berkeley 3, California

## Regional River Information

CANADA--"Canoe Trips in Canada", Minister of Northern Affairs and National Resources, Gov't Travel Bureau, Ottawa, Can.

MAINE---"Maine Canoeing", Maine Development Commission, State House, Augusta, Maine.

MICHIGAN--"Canoe Trails of Michigan", Michigan Tourist Council, Lansing, Michigan.

MINNESOTA--"Superior Nat'l Forest Canoe Country", Forest Supervisor, Federal Building, Duluth, Minnesota.

NEW YORK--"Adirondack Canoe Routes", State Conservation Dept.  
Albany, N.Y.

CALIFORNIA--Redwood Empire Association, 85 Post st., San Francisco, California (general coastal information)

UNITED STATES--For east of Mississippi: Map Information Off., Geological Survey, Washington 25, D.C....For west of the Mississippi: Geological Survey, Federal Center, Denver, Col  
For National Forest maps (free): Local Forest Hq. or US Dept of Agri., Forest Service.

WASHINGTON--"Western Washington River Key Map", \$ 1.00 to:  
Wash. Foldboat Club, 5213 11th st., N.E. Seattle 5, Wash.  
COLORADO--Missouri

COLORADO--Mimeographed maps of boating rivers; Clyde Jones,  
2565 Poplar, Denver 7, Colorado. (22)

# BUILD YOUR OWN VELOCITY METER

by Arthur Bodin

You can build a cheap, simple current meter from a glass tube and anything which will mark it such as marine paint or tape. With the meter you will be able to measure river current speed from the shore, a rock, by wading, or from a boat being backpaddled so that it is kept over the same spot in the river bed.

If you want to know how fast you are paddling your boat, just "rig" the meter to your craft. If you make a pivotable attachment you can even measure your speed while paddling backwards. The speed measured then will always be that of the boat relative to the water of course, not to the shore.

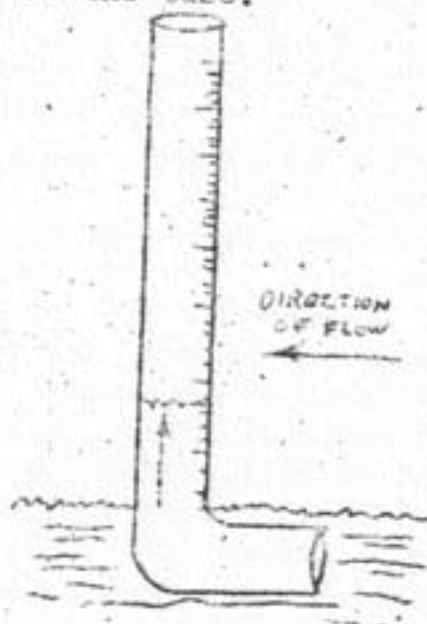
## DIRECTIONS FOR BUILDING:

1. Procure a transparent tube about four ft. long with a right angle "L" bend at one end. The length of the bend or arm makes no difference. The diameter of the tube likewise makes no difference, so long as it's bore is wide enough not to permit capillary action or clogging from river silt.

2. Paint, scratch, tape or etch the following scale of calibrations onto the tube. If you will want to measure the speed of water four inches below the surface, start the calibrations four inches above the arm of the tube. If you prefer another depth for measure simply start your calibrations the desired distance from the arm of the tube.

## CALIBRATIONS:

<u>mph</u>	<u>centimeters</u>
10- - - - -	102.0
9- - - - -	82.6
8- - - - -	65.3
7- - - - -	50.0
6- - - - -	36.7
5- - - - -	25.5
4- - - - -	16.3
3- - - - -	9.2
2- - - - -	4.1
1- - - - -	1.0
(30) 0- - - - -	0.0





A more flexible scheme is to make a separate scale and later attach it to the tube by rubber bands or any other convenient device which will permit the scale to be slid (but not by its own weight) up or down the tube so that the tube can be used to measure speeds at different depths.

3. It has been suggested that a pinch-clamp could be placed over the upper end of the Pitot tube. If the valve were left open until the water had risen to its maximum height, then closed, atmospheric pressure would hold the column of water within the tube with the valve closed so that the tube could be lifted out of the water and held in a more convenient position for reading the scale. This will work only on tubes with a small diameter.....it is possible to do the same thing by simply placing your thumb over the top of the tube in place of the valve.

#### DIRECTIONS FOR USE:

Hold the tube with its arm in the current to be measured and its upper end pointing straight up. The arm should be pointing straight upstream. If the column of water rises so high that it overflows the tube, the current is faster than 10 miles per hour. Slight refinements in the construction of the tube-meter and modifications in its use will allow it to be used for measuring currents up to 20 mph.

Arthur Bodin, 3215 Netherland ave., New York 63, NY, is the author of "Bibliography of Canoeing", a 1368-item listing of any and all matter on canoeing. His is one of the most active interests on the US canoeing scene. Price of his booklet is \$ 1.00.

Editor's note: Art has the complete formulas for proving the accuracy of this meter. He also is in possession of the modifications to make the meter usable for measuring currents up to 20 mph. They have been omitted here for simplicity's sake. For further information on this meter write Arthur Bodin directly.

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BACK FIRMS WHO PROMOTE  
THE BOATING SPORT

BUY THE PRODUCTS ADVERTISED IN AMERICAN WHITE WATER

## VITAL CLUB PUBLICATIONS AVAILABLE FROM WASHINGTON GROUP

The following booklets are now available from the Washington Foldboat Club, 5213 11th N.E., Seattle 5, Washington. Bruce Grant, secretary of the American White Water Affiliation, states that no club should be without these printings to use as a guide for operating an efficient group:

River Classification Chart showing basis of classifying degree of difficulty.....10 ¢

Club Constitution and By-Laws.....35 ¢

Saltwater and River Touring Club Rules : policies, essential accessory equipment.....25 ¢

Terminology Sheet : boat, water, technique.....25 ¢

\* Western Washington River Key Map indicating navigable stretches, flow, difficulty classification, start and stop points, county references.....\$ 1.00

Canoe and kayak sailing is another phase of the boating sport many white water people have turned to for pleasant diversion. On a short weekend when a river trip would be too time-consuming, one can find all sorts of sail rigs on river craft on nearby lakes. Here a sleek Grumman aluminum canoe cuts along with a stiff breeze on an ideal sailing day.



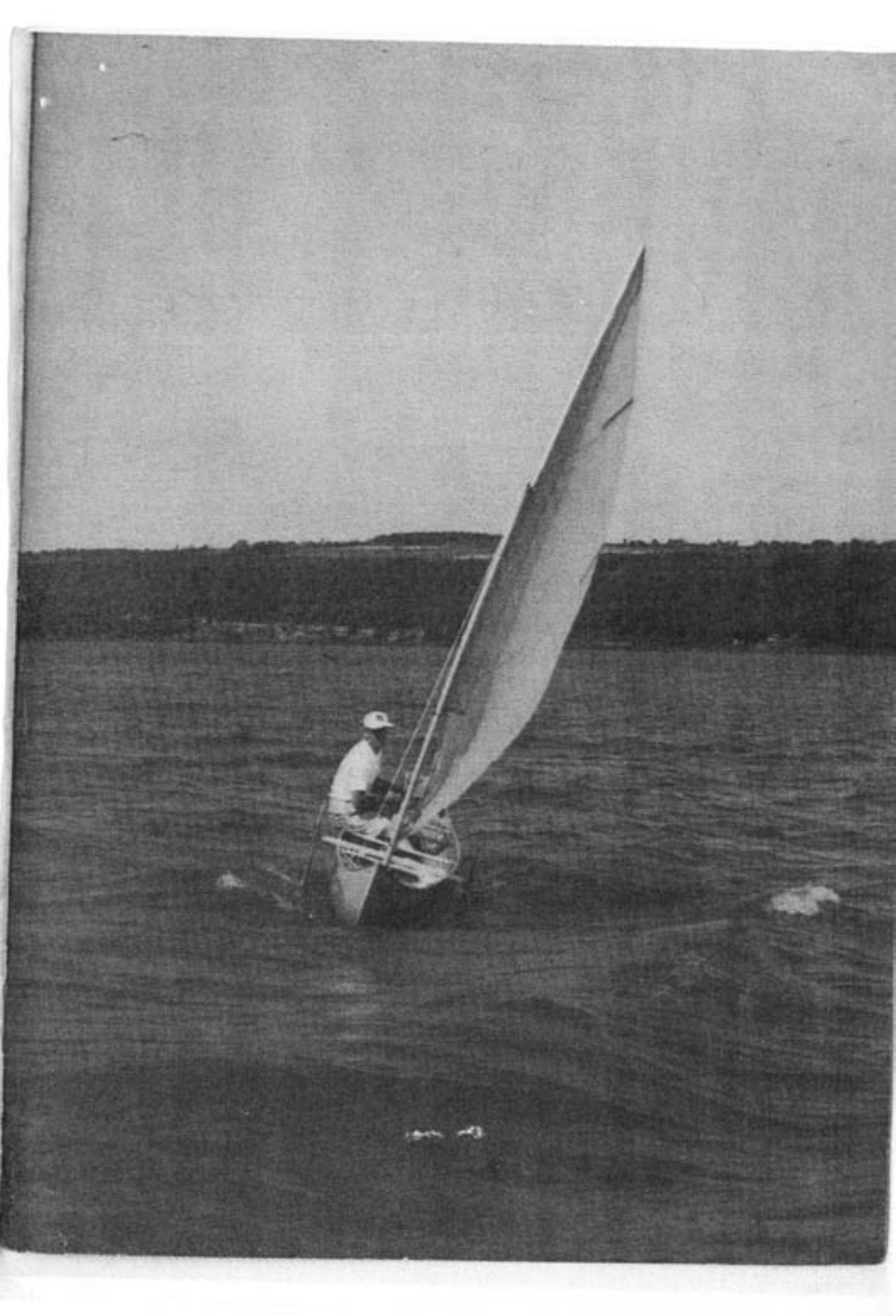
### FIRST CANOE SLALOM IN AUSTRALIA.....

News has been received of the first canoe slalom in Australia held in May, 1955. The New South Wales Canoe Association organized the race near Sydney and hosted some twenty entries. The event was won by Tony Lancaster, Sydney, formerly London, who had taken the initiative for introducing this branch of the sport to Australia.

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### BACK COVER PHOTO

A vivid picture of the interesting Middle Fork of the Salmon trip considered one of the roughest trips in the United States. Alex G. Grant made the run in 1940. This stretch is typical of the water he and the other "river rats" encountered on the rugged voyage.





*American*

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