

American

WHITE WATER

JOURNAL OF AMERICAN WHITE WATER AFFILIATION



FEBRUARY, 1956

"OF WILDERNESS WATERWAYS AND THE WAYS OF WHITE WATER"

This Spring and Summer
BE READY FOR ADVENTURE
Cruising, Sailing, White Water

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Kayak

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High rocker for greater speed, greater maneuverability.
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The Wanderer



The Adventurer

Attention
White-Water
Fans!

Please place your order for your Hart-Sioux now while our stocks are complete. **Avoid** missing any of this spring's high water!

Write for our free catalog which will answer your questions not covered here.

FOLDCRAFT KAYAK COMPANY — Phoenixville, Pa.
Exclusive distributors of the French **Hart-Sioux** Kayak

FROM YOUR EDITOR

American WHITE WATER ends its first year of publication with this issue. As with all such ventures, the process of birth was not without struggle. The first issue cost more than our limited membership could support. A hasty retreat was sounded, and costs were reduced to the minimum. Fortunately, the boating fraternity rose to our help, and memberships came in at a steady pace. This issue finds us in good enough shape to afford a professional printing job. We are in the black, but just barely.

We all owe a vote of thanks to the people who saw the magazine over the hump. Eliot DuBois, Bruce Grant and now Rob McNair have worked as Secretaries of the affiliation, and pitched in on the magazine. Clyde Jones, Roy Kerswill and Larry Monninger worked nights to put the issues out. Joe Lacy did all this, and at the same time acted as editor, advertising manager and chief worrier. We agree that a man's career has to come first, Joe; but we're sorry you had to leave.

Now, let's look at this season's magazine. We're all sitting at home, recovering from last weekend's ski trip or party. The rivers are low and full of ice. About all we can do is to build a new boat or plan some trips for spring or summer. We aim to stimulate your thought and toss around some ideas.

Perhaps you want to design a boat, or argue with someone who did. Here are a couple of articles about design. In future issues we will go deeper into theory.

Now about technique? We have something for you there, but one article we counted on didn't make the deadline.

Do you take pictures? Now is the time to think about the subject, sitting lazily before the fire. On the river, things are pretty busy, and the best shots always seem to get away. Have a look at what Steve has to say.

Speaking of pictures, now is the time for an apology. All of these Western pictures don't mean we're prejudiced against the East. It's just that no one East of Omaha has sent us any shots. Please, please, send us something from your part of the country. And make them 8x10 glossy if possible.

Are you thinking of a long trip in the West? We give you an expanded guide list, and an article about one of the classic river runs. There are plenty to choose from, and guides who know them.

On these Western rivers, take a guide on your first trip and you will learn what the real problems are. Then you will be able to judge whether you want a guideless party. For example, Cataract Canyon is known as the graveyard of the Colorado. It is said that most of those who died didn't drown, they starved. So please be conservative.

On a more cheerful note, have you ever tried your boat at the seacoast? You can find waves, white water and speed. Read Carlos Yerby's article on how to do it.

With this issue, your membership in the Affiliation, and your subscription to American WHITE WATER expire together. Don't forget to fill in your card and send it in. Let's all help the sport grow !!!

Dave Stacev

COVER PHOTO—Peon and d'Alencon of France ride out Cottonwood Rapids on the Arkansas.
Photo by Pete Bortoe

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American

WHITE WATER

Magazine

Published in May, August, November and February in Boulder, Colorado. Address all mail to 601 Baseline Rd., Boulder, Colo. American WHITE WATER 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. Annual membership is \$2.00, and may be obtained from the above address.

Publisher

American WHITE WATER Affiliation

Editor - Dave Stacey

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Chairman, Membership Committee - Clyde Jones

Business Manager Dave Stacey

Western Advertising

Manager - Bernard Clayton

Eastern Advertising

Manager - open

Printed in the United States of America

CONTRIBUTIONS

American White Water welcomes contributions that may be of interest to its readers. However, it accepts no responsibility for returning contributions of stories or photographs unless requested in writing along with the contribution.



American WHITE WATER

The White Water Canoe

Some Basic Considerations on Design

by JACK SPUBLER

(It is with pleasure that we reprint this article from our English cousin, *White Water*. It appeared in the issue for Spring of 1953. The reader should be warned that in Europe, the word "canoe" may mean either kayak, foldboat or Canadian canoe (our canoe).

Canoe Manufacturers, both here and abroad, have been hesitant to cater to the white water enthusiast. For one thing, our numbers are rather limited, and we are frequently "short of ready." The reason is that no two canoeists will agree on the qualities their boat should have, let alone the ways and means of securing them (some WW boats at present under construction are based on no less than 9 different designs!). Little wonder therefore, that the manufacturer fights shy of such a market.

A number of prospective WW canoeists and slalomists will thus be designing and making their own folding canoes and it is hoped that the following notes will be of some help to those contemplating construction.

Every canoe is a compromise. One might nearly call it a compromise of a number of compromises. The designer of the K1 racing kayak has a fairly straightforward task, inasmuch as he has but one objective: SPEED. All else can be subordinated to that end. Designing a normal touring canoe, such as the usual factory-made sports single seaters, is already a more complex matter, but as it will most likely be used under fairly easy water conditions, any boat with a reasonable turn of speed, manoeuvrability and loading capacity will answer the purpose.

When we come to Slalom and HEAVY WHITE WATER however, the canoeist's performance and, on occasions, his very life may well depend on his boat. Careful consideration of the qualities we are seeking are thus well worth the trouble.

The five principal requirements are:

1. MANOEUVRABILITY
2. SPEED
3. ACCELERATION
4. INHERENT STABILITY
5. EFFECTIVE STABILITY

Further basic essentials to consider (since they have a direct bearing on the five principal requirements) are:

6. SEATING POSITION, C. G., and FREEBOARD
7. BUOYANCY and TRIM
8. RIGIDITY and STRENGTH
9. WATER-TIGHTNESS

Since all these are inter-dependent, it is very difficult to consider them point for point, but we can try:

1. **MANOEUVRABILITY:** This most essential quality can be secured either by a short waterline or by building on a "rockereel" keel (i.e., rising towards bow and stern). Whichever way you choose, however, it will only be obtained at the expense of SPEED and ACCELERATION. Very flat sections, which also favour manoeuvrability, have the same unfortunate effect and in addition, they impair EFFECTIVE STABILITY.

2. **SPEED:** is secured by a long waterline, narrow, V-shaped cross-section and a pronounced, straight (i.e., unrockered) keel. We have already seen that this will impair MANOEUVRABILITY and, less important, INHERENT STABILITY.

3. **ACCELERATION:** When you consider how often in a Slalom or on a rapid river you have to reverse direction of travel, the importance of this quality will at once become apparent. By far the easiest way to obtain good acceleration is by keeping the weight down. It is quite surprising how much difference those few extra pounds make. Two things however must be borne in mind: a very manoeuvrable boat will never have good acceleration due to yawing, and a very light boat feels rather alarmingly lively at first and requires getting used to.

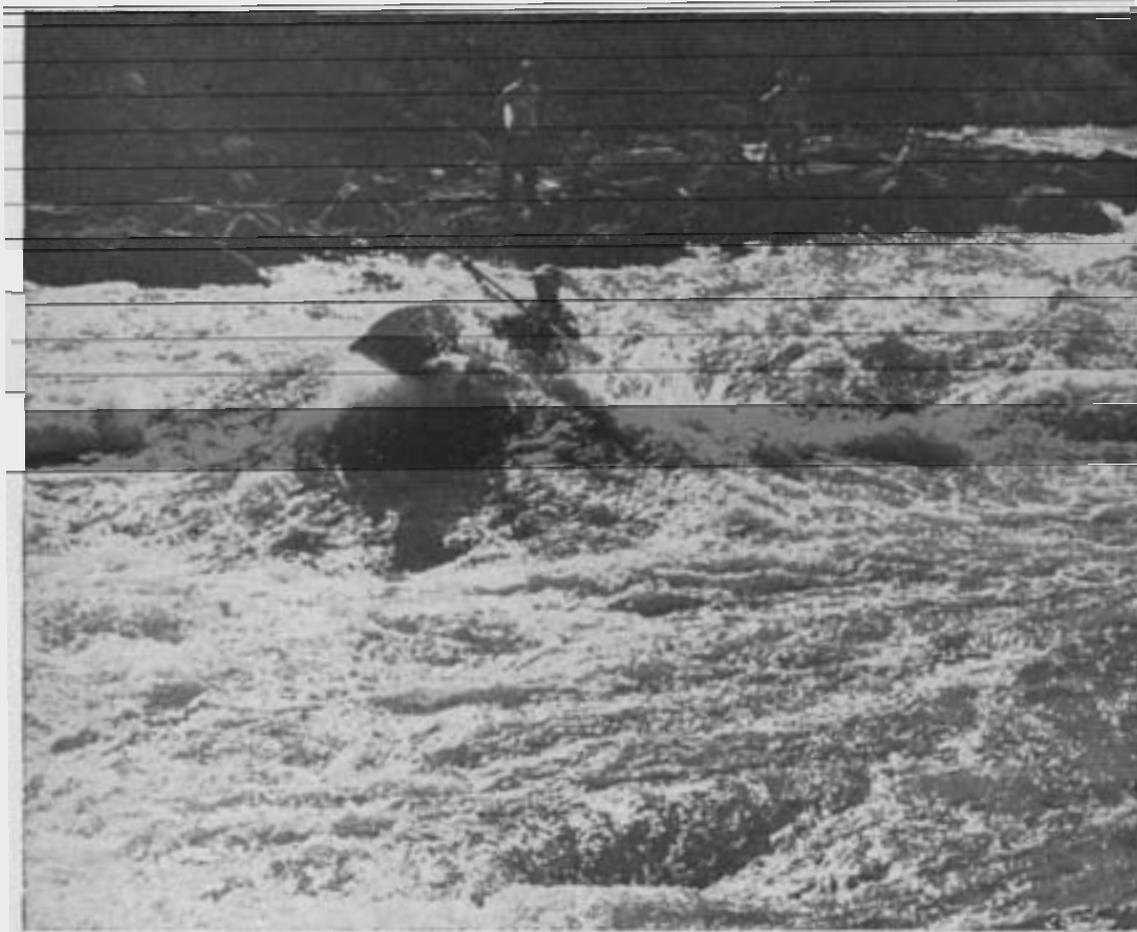
4. **INHERENT STABILITY:** Within limits, this is a rather overrated quality. It is primarily secured by flat and wide sections. These in turn however raise fresh problems because heavy water falling on a wide deck can be of such force that no possible action of the canoeist will prevent a half-roll. A narrower boat, however, offering less surface of attack to the water, might still have been righted with a suitable paddle stroke; i.e., it would have had—for want of a better word—effective stability.

5. **EFFECTIVE STABILITY (i.e., CONTROLLABILITY):** The Eskimo Kayak has this Effective Stability to a remarkable degree, due partly to its narrow width and low Centre of Gravity, and

partly (although this is a private theory of mine) due to its relatively low overall buoyancy. (See 7 below). For maximum Effective Stability we would therefore appear to require a fairly narrow, round sectioned hull, low C. G., relatively modest amount of buoyancy, coupled with a really rigid integration of boat and occupant. (See 6 below).

The above therefore are the essential qualities we must seek to build into our canoe. They will however not be realized unless close attention is paid also to the following points:

6. **SEATING POSITION, C. G., FREEBOARD:** Control of the boat is exercised through a) your feet resting on a crossframe or a foot-rest; b) your knees



Effective stability wasn't enough! **Tincup** on the Arkansas catches a man who is weak on his paddle brace. **Photo** by Dave Stacey.

or thighs wedged under a crossframe or the coaming and c) your sit-upon parked on a rigid seat. Any movement of the boat must immediately be transferred to the body, and vice-versa. In other words, the boat must be ridden like a horse rather than merely be sat in. Any lateral movement of the canoeist in relation to the seat or even the seat in relation to the boat is "fatal." The importance of this cannot be stressed too strongly. Opinions differ as to the optimum height of the seat. We have already seen that a low C. G. is useful, but if you sit too low, particularly in relation to the coaming, paddling efficiency will be impaired. A sound scheme is to keep the freeboard low in the centre of the boat, thus maintaining paddling comfort with a relatively low seating position.

7. **BUOYANCY AND TRIM:** Here we come to the old query: Fishform or Swedish. Fishform (where the widest part of the boat is forward of the centre-line) can be faster but will certainly be less manoeuvrable. Modern practice is for the shape to be more or less symmetrical, with a slight tendency to Fishform or Swedish as preferred. My choice is slightly Swedish (i.e. with maximum width behind the center). The Fish fanciers will argue that ROW UPLIFT is all important. Stern lift is however quite as essential and both, to my mind, are overrated. Too much overall buoyancy can become unmanageable in really heavy water. (see 5 above). TRIM is far more important and the essential point to watch is that the boat lies in the water in such a way that its turning axis is as near as possible to where you are sitting, as otherwise a sharp paddle stroke may produce a disconcerting lateral displacement. A rough calculation of your buoyancy and centre of lateral resistance is therefore essential.

8. **RIGIDITY AND STRENGTH:** Build as rigidly and as strongly as you can, consistent with reasonable weight (40 lbs. maximum). You will never effectively control a boat that flexes and flops around like a half-inflated rubber dinghy. A heavy boat on the other hand impairs acceleration as we have already seen, and

places undue strain on paddle and canoeist. Cut out unnecessary weight, i.e. build no parts stronger than the weakest.

9. **WATERTIGHTNESS:** One gallon of water weighs 8.5 lbs. Worse than the weight however is the "pendulum effect" of water sloping around the bilge. A small cockpit and a really effective spray cover is the only answer.

In an overall picture as above it is of course only possible to scratch the surface of the problem. You will also have to devote some thought on points which have no direct bearing on performance, such as ease of construction, ease of assembly, packed bulk, appearance, etc. I would recommend prospective builders to take a close look at the various designs that have already been produced and see how the various compromises have been chosen. When witnessing their relative performances at Eorthcoming Slaloms, do not be too far misled by the results list however, for the bloke doing the paddling also contributes a little something. You will therefore still have to judge whether he won because of his boat or—perhaps—in spite of it.

PERM

From WHITE WATER we reprint this parody on Henley's classic.
"Out of the White that covered me,
Black in the face from a breathless roll,
I thank the Gods that I am free;
My body not parted from my soul!"

CANOE STRETCHER NEEDED

From International Canoeing (October, 1955) we see that the ICF has increased the length of the C2 from 5.2 meters to 6.5 meters. This seems to be stirring up a bit of fuss, particularly by people whose canoes are now obsolete.

**REMEMBER TO RENEW
YOUR MEMBERSHIP
IN THE AWWA.**

Guide Committee Report

by JEFF WILHOYTE, Chairman

A problem facing beginning and experienced river cruisers alike is: Where shall we go this weekend? Or, where shall we go on our vacation trip?

Their choice of stream and preparation for the trip will depend on many factors, among them:

Location of starting and stopping points
Mileage and time required to make the trip

Existing hazards due to topography and flow

Availability of campsites and drinking water

Degree of knowledge and skill required

Character of possible portages

Knowledge of scenery and other items of interest

Availability of maps and other route finding aids

How the above factors relate to the type of craft planned

A number of hard working individuals and a few State Recreation Authorities have helped would-be cruisers by scouting river routes and publishing their descriptions. One of the earliest efforts of this kind to be published in book form and get wide distribution was a guidebook on New England rivers entitled "Quick Water and Smooth" written by J. C. Phillips anti T. D. Cabot. (Published by Stephen Daye Press in 1935, but now out of print.) Much information of this kind has been published both before and since in pamphlets and periodicals. Currently, several new books are in various stages of preparation around the United States. Since cruising activity is growing, we can expect an increase too in the descriptive literature available.

Necessarily, the ratings of rivers in the existing literature reflect the experience and philosophy of the author. As a result, most readers have been either pleasantly surprised or sadly disappointed after trying a river they had read about. Some have been disastrously surprised!

A need was felt by the AWWA to attempt some standardization work on

river description and rating methods. The Guide Committee was formed in the spring of 1955 for this purpose.

The objectives and intended scope of the committee's work;

1. To reach agreement in principle and in as much detail as possible among cruising groups on the use of a standard method for rating the difficulty of cruising streams.

2. To clarify understanding of river problems by seeking uniformity in methods used to describe portages, scenery, river flow rates, distance tables, mapping symbols and riverside signs etc.

3. To compile an accurate listing of guide information now available.

4. To disseminate this information for the use of future authors..

Who are the Guide Committee members?

The committee is composed of AWWA members interested in cruising problems in various sections of the United States and several currently active authors. The members include:

Kruce Grant—6255 Chabot Road, Oakland 18, Calif.

Wolf Bauer—5213 11th St. NE, Seattle 5, Washington

David S. Stacey—601 Baseline Rd., Boulder, Colorado

Dr. Oscar Hawksley—Central Missouri College, Warrensburg, Mo.

Dr. Sydney C. Jackson—310 W. Washington Are., Madison 3, Wisconsin

Dr. Lawrence I. Grinnell—710 Trip-hammer Road, Ithaca, N. Y.

Walter F. Burmeister—Box 381, Shrewsbury, N. J.

Arthur Hodin—3215 Netherland Ave., New York 63, N. Y.

Howard J. (Jeff) Wilhoite—118 Kan-blung a, Springfield, Del. Co., Pa.

Reader-cruisers who wish to contribute to the work of the committee may write to any member.

How does the committee function?

The members forward their ideas and opinions and those of the people in their areas to the Chairman (Jeff Wilhoite)

who attempts to summarize total thought. The summary information is broadcast to the members for further comment. Concrete recommendations agreed to will be printed in "American White Water" and duplicated for more personalized distribution to interested cruising groups and individuals.

Where does the work of the committee stand now?

Feeling that the most pressing need at present is to provide *safe* guidance to cruisers and would-be cruisers, the committee has chosen to work first with the problem of standardizing difficulty ratings.

A summary has been prepared on 8 different rating methods now in use, including 3 from Europe. This survey work has shown that the rating increments in use are quite similar among the 8 methods and that they cover nearly the same range of difficulty except for some of the most difficult rapids. Most committee members agree that a 6 point system covers the range of white water commonly met by cruisers. For the very difficult rapids and "stunt" type situations to have

ratings in keeping with the rest, some higher rating numbers are indicated. Tentatively, smooth water seems to require a separate 3 point rating system.

Whether a 6 point system or an 8 or 10 point system should be recommended for white water seems to depend on whether the average author should be specific in his recommendations on the very difficult and hazardous rapids that would rate numbers higher than 6.

The next and most difficult task of the committee is to agree on descriptions of each rating in terms of physical features, obstacles, water flow, river gradient and approximate skill requirements. The committee must create a special type of understanding that can be learned quickly and easily. Such a language must be understood by all river boatmen regardless of their experience or favorite craft.

No description of individual ratings has been agreed to as yet by the Committee, but it is visualized that the final recommendation to be disseminated to interested groups and authors would look something like this:

Rating	Description of Smooth Water or Rapids	Approximate Skill Req'd.
(Smooth Water)		
A	Pools, Lakes, or Rivers with velocity under $2\frac{1}{2}$ miles per hour.	Beginner
B	Rivers with velocity between $2\frac{1}{2}$ and $4\frac{1}{2}$ miles per hour.	Instructed beginner
C	Rivers with velocity above $4\frac{1}{2}$ mph.	Practiced beginner to Intermediate
(White Water)		
1	Opposite these rating numbers, a descriptive text will explain the meaning of the ratings. It will include an explanation of the degree of severity of obstacles, waves, turbulence, water velocity, gradient, length of rapids, visibility as affected by bends, resting places, water temperature and accessibility.	Practiced beginner
2		Intermediate
3		Experienced
4	The rating will depend on how these factors relate to the paddler's probable success in negotiating the rapids and to his rescue in case of an upset.	Highly Skilled
5		Team of Experts
6		Team of Experts

The rating chart above would contain footnotes to:

- Help the author apply the information during his guidebook preparations.
- Help the reader to plan properly in terms of type of craft, safety precautions to take, and possible variations in flow of a river due to weather.

(continued on page 9)

White Water Form

by BRUCE GRANT

White water technique is evolving quite rapidly. Here are some ideas from AWWA's secretary.

With the increasing popular interest in white water movies and in learning the techniques of kayak control in white water, we are seeing more and more movies of this favorite activity. If we are to learn from these movies, we must watch them with a critical eye, for what we see is not always the best possible technique.

When Wolf Kauer of the Washington Folclboat Club was showing some of his movies to the Sierra Club River Touring Section in Oakland a few months ago, he remarked, "When you see a foldboater going through a rapid holding his paddle up in the air you must realize that this movie was made several years ago—before we learned to keep our paddies in the water." As we study the style of the experts we discover that holding the paddle in the air is indeed a mark of inexperience.

The expert, reading the river before, has one paddle blade in the water. He is prepared to use it to correct the pointing of his boat or to brace and prevent overturning. The paddle is normally in the water on the side where he anticipates the possible need for a brace. There are two important reasons for not holding the paddle high in the air. First, to minimize loss of time in applying the stroke or brace; and second, to keep the center of gravity low. Holding the paddle high in the air decreases stability.

Another mark of the expert is a forward lean at the waist. When actively paddling in rough water, the skilled foldboater does not lean against his back rest. Instead, he leans somewhat forward, poised and alert, ready to apply himself energetically according to the requirements of the situation. Control of the boat is established through his seat and knees, which are braced so that there is no slipping around. It is as important to have a secure relationship between the boatman and his boat as it is for a skier to have a secure fit between the ski and

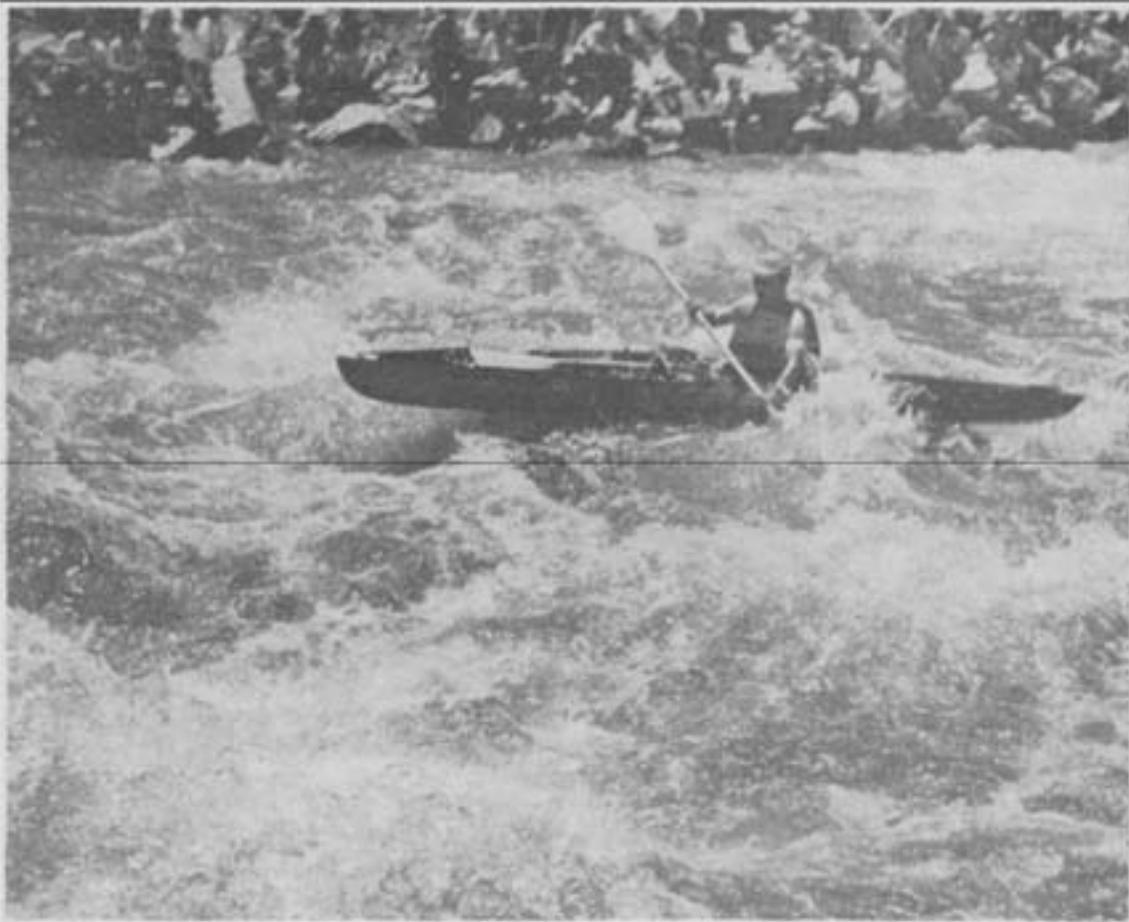
his foot. When the paddler leans to one side or the other, the vertical axis of the kayak should lean with him.

When the going is rough, the stability factor can be increased by increasing the forward lean. Just as in skiing, the lower the center of gravity, the easier it is to maintain oneself in an upright position. With practice, forward leaning becomes instinctive and natural. Before long you will find your sense of security improving even in the roughest going.

A BIT OF HISTORY

The following item comes from Ken Ross, who is quite a student of river history.

DID YOU KNOW that an inflatable rubber boat was used more than 100 years ago by John C. Fremont during the course of the first of his famous explorations of the west? I didn't until our old friend and fellow San Juaner, Herman Theis, Mgr. Chemical Div., Goodyear Rubber Co. sent me a transcript of excerpts from Fremont's report on the Expedition of 1842-44. In the report Fremont (then a Brevet Captain) describes—"An Indian-Rubber boat which I had brought with me for the survey of the Platte river"—"The boat was twenty feet long and five feet broad." He and members of his party used it to run a portion of the Platte from the mouth of the Sweetwater to Fort Laramie but instead of adding to the survey they lost all their instruments and many of the records made up to that time. They did, however, add a thrilling chapter of hardship and river adventure to the report. The title is—"A Report Of The Exploration Expedition To The Rocky Mountains And To Oregon And California In The Years 1842-1844" by J. C. Fremont. It was published in 1845 by Blair and Ives.



Eric Seidel straightens out and paddle braces on top of a wave in Cottonwood Rapids. Notice how Easy he makes it look. This is the same wave as shown on the front cover. Photo by Pete Bartoe.

GUIDE COMMITTEE REPORT

(continued)

The Guide Committee is striving to have some recommendations to offer within the next few months, recognizing that the product of this effort may not be the very best that might be done. However, to encourage writing of guidebooks and to achieve a greater degree of uniformity in them will stimulate interest in river cruising. Application of the system by authors and the general broadening of experience by all concerned will lead up to the best method.

Jeff Willhoyte, Chairman

White Water Photography

by STEVE BRADLEY

Do you envy the beautiful shots the other fellow gets? Here are some thoughts on the art of getting good pictures.

Taking pictures of small boats dancing on moving water is an art compounded of skill, frustrations, and fleeting opportunities, usually missed. This may explain why so few good river pictures are in circulation. A compelling picture possibility, that flits by and is gone before you can get a camera to immortalize it, is difficult to restage. The scene will remain; the water will continue to sparkle; but the boats will not easily return.

Camera angles invariably are compromises. The opposite shore ~~would~~ be better, the light less contrasty, the composition more admirable, and the action more dramatic; but a moving river will oppose any attempt to correct the deficiency. We learn to accept the limitations, shoot our pictures anyway, and promise that next time we'll be on the opposite bank.

Unfortunately the opposite bank may not be better either. A different time of day, different light conditions, a different positioning of the boats, may make the "next time" equally disappointing. Our results seem most disappointing when we try to capture our experiences on black-and white reproductions. Kodachrome slides are better, though highly limited in distribution; and movies are the most faithful and exciting substitute for the action itself, but are seen by only a few.

The key to the problem, as we might suspect, is our lack of control over our photographic subject matter. River parties are rarely formed with the specific intent of getting good pictures. If they were, a day of shooting could be planned. It would be a long day, with many stops, and few miles of river. Pictures would even be more successful if the river were scouted in advance. However, since most of us are amateurs, who prefer boating to picture taking, we follow a generally

untenable formula of shooting huge amounts of film, hoping that by luck and the law of averages we will collect something to remind us of the journey.

Still pictures, whether black-and-white or colored, usually concentrate attention upon the beauty of the scene, a deep valley, a steep walled canyon, rocks and trees, and a river, or upon a dramatic instant of action, a boat in white water. Some pictures happily contain both. Scenic canyon pictures are often a battle between ~~light~~ shade, scale, and composition. The quarrel is often one of great contrasts, lights that become very light and darks that become black, with a shortage of intermediate grey tones in between. Or a lack of over-all contrast will reduce a colorful effect to a drab series of similar greys. The picture will lack sparkle and what photographers call crispness.

Scale in a canyon is too frequently overlooked to escape mention. A scene of grand proportions looms ahead. Hurriedly we remove our cameras from water proof bags. Too late. The boat ahead, well positioned to give a sense of scale to the scene, has either disappeared around the bend, or has moved out of the compositional limitations of the camera. We shoot anyway. Reduced to a two dimensional black and white photograph the grandeur we felt in the original scene is gone.

Action pictures, with a plunging boat in the foreground caught in the act of smashing into a heaving curling wave, are more rewarding in black-and white, and essentially more easily obtainable. Taken in rapids, from the shore, an action picture will focus our attention upon a simplified, dramatic incident. Since in a rapids of any magnitude the boatmen will wish to stop and plot a good route, a



The Grand Teton watches some cruisers on the Snake in Jackson Hole, Wyoming. From a Kodachrome by Steve Bradley.

cameraman will have ample time to select the most illuminating angles for his shooting. Usually too, the boats will go through one at a time, giving the cameraman an opportunity to vary his angles if he wishes to do so.

The temptation to reduce action pictures to some sort of formula will be avoided here. The dramatic character of the water, the light upon the water, and the anticipated position of the boat should be exploited to the fullest. Nevertheless there are a few pitfalls to be avoided when shooting action pictures with black-and white film. Selection of a camera angle should always take background into consideration. Where we see all kinds of colors, the film will record them as greys and darks. I have seen many a fine action shot ruined because a boat and boatman blended so well with the background on the opposite bank as to make them indiscernable. Generally,

though by no means always, a picture taken at a high enough angle above the water level to insure a simple composition of a boat on the water, will be more satisfactory than one taken at eye level above the water, revealing much extraneous background.

Shutter speeds should not be underestimated. If the action is close-by, a 500th of a second shutter speed is none too fast ■ stop completely the action taking place. The boat may not appear to be moving fast enough to warrant such high shutter speeds but the tossing splash

Steve Bradley is a photographer from way back, having taught it during the war in the Signal Corps. He has made many movies, including a beautiful one on Dinosaur Monument, which he has run many times. He is a pioneer in the design of fiberglas kayaks.

WHITE WATER PHOTOGRAPHY

from waves, and the sweeping blade of a double paddle have great speed. Water will appear a little fuzzy and paddle blades blurred if slower shutter speeds are used.

Though you cannot hang them on your walls, nor mount them in memory albums, and though they cannot be effectively reproduced in magazines such as this one, movies, by and large, provide the most satisfactory record of a river experience. Where a still picture will crystalize an instant into essentially lifeless form, the motion picture will record the whole action, and in so doing, will stimulate our recollection of the excitement most faithfully. Motion being our chief interest, if properly recorded, it will tend to diminish our concern with composition, background, and lighting. Yet, even here we should do our best to take these other elements into account.

Even more than still pictures, movies are a form of pictorial narrative, a record of action in space and time. Where possible, though we are amateurs, we should keep in mind that we are telling a story in film. It should, therefore, have a certain sense of continuity and completeness, a beginning, middle, and end, as should any decently written story. A reel of nothing but shots of boats in rapids may be interesting to study, may even be very dramatic, and may arouse excitement; but it will lack a feeling of completeness. Where continuity will record the sequence of events uniting them into a whole, the choice of camera angles and the variety used in going from long shots to close-ups, will greatly enhance the story telling.

Above all there is one cardinal rule in movie making, move the camera only when following some kind of action. Do not pan or move the camera in an effort to encompass a static scene. The eye will follow action, a boat gliding slowly in quiet water, or dancing in white water, but it tires quickly of a landscape jerking by without any action to follow. Hold the

camera as steady as possible. Use a tripod if you can. If you have none try to rest the camera on something solid.

We want our memories in pictorial reminders of pleasant hours or exciting seconds; so tomorrow when we get into our boats we will begin another frustrating day. We will worry about keeping our cameras dry and safe. Then we will frantically try to get them out in time to catch a fine shot, and frantically try to get them encased before the next series of waves douses them. The light won't be right. The boats will be in the wrong position. The action will be taken at the wrong time. Yet, withal, we'll continue to shoot, and, occasionally, come up with a fine picture.

Harris - Brennan Expeditions

Travel the river canyons first class

in our specially designed motor boats.

Our schedule includes:

Yampa and Green Rivers, 3-day weekend trips during May.

Grand Canyon of the mighty Colorado
June 9th through 22nd.

Yell's Canyon of the Snake during July.
Middle Fork of the Salmon River
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The San Juan Colorado Trip

by KENNETH ROSS

The author paints a word picture of one of the most beautiful river trips. Both he and other guides in our list take passengers on this run.

Rising in the high mountains of southwestern Colorado the San Juan river winds a devious course into northern New Mexico, thence westward past the Four Corners into Utah, where it joins the Colorado River about 146 miles below Bluff City. One of the two largest tributaries of the Colorado, it drains a vast region of mountain, desert, and high plateau country of widely varying climate and moisture conditions. In its upper reaches the San Juan is a typical mountain stream of tumbling falls and clear, trout infested pools. As it gathers the waters of its mountain-born tributaries it becomes a mighty torrent, and takes on a reddish hue from the flow of half a dozen silt laden streams which rise in the arid hills of the northern Navajo Indian Country. Sometimes violent rainstorms will pour such quantities of red and gray mud through the channels of normally dry gulches that the San Juan literally becomes "too thick to drink: too thin to plow." Thus armed with thousands of tons of abrasive sediments, the powerful current slashes and grinds its way across the vari-colored, stratified rock—revealing pages and chapters of a hundred million year's story of Earth's awesome geologic history.

Above Bluff, Utah, the San Juan flows between broken walls of rock no more than a hundred feet high. Mostly these cliffs are set half a mile or more back from the stream. At Bluff the walls become higher and, only a few miles below, the river plunges into a narrow canyon gorge which persists all the way to the Colorado, except for two or three places where it widens briefly into narrow, rock-girt valleys. Through most of this distance the cliffs seem to rise straight up from the river, to tower a thousand feet or more overhead. Just below Mexican Hat the river winds through the famed Goosenecks of the San Juan, traveling

some seven miles to gain a lateral distance of only one. The deepest part of the San Juan gorge is near the lower end of the Goosenecks, where the cliff walls rise vertically more than 1800 feet.

Although it carries a large annual volume of water the San Juan is relatively shallow. During normal summer water levels it is possible to wade across it almost anywhere and it exceeds a depth of 6 or 8 feet in only a few spots. It is the steep grade of its stream bed that permits so large a quantity of water to speed through the narrow canyons to the Colorado. Because of its speed and power the San Juan is considered to be one of the fastest and most relentless major rivers in America. Here and there, where side canyons empty into the main stream, torrential floods have pushed great masses of rock across the river to dam the current and make the rapids for which the San Juan is justly famous. Many of the rapids are small but there are some that are big enough and mean enough to test the skill and judgment of even the best of whitewater boatmen.

Below the mouth of the San Juan the Colorado River rolls grandly for nearly 80 miles through beautiful Glen Canyon, to Lee's Ferry, Arizona. In this stretch it is quieter, more dignified and of entirely different character from the smaller San Juan. Where the tributary canyon is narrow, vertical walled and of sharply angular forms, Glen Canyon is spacious and its even higher walls are gracefully rounded and sculptured into weird, fairyland temples, towers and domes. Although slower, the deep, wide current of the Colorado sweeps along with a power and grandeur that puts the San Juan into its proper place—the lusty, brawling child of a regal parent.

Far above the San Juan, beyond the mouth of the Dirty Devil River, and in Marble and Grand Canyons below Lee's



A placid scene in Glen Canyon on the mighty Colorado. Three LCR's drift toward Lee's Ferry. Photo by Kenneth Ross.

Ferry, the waters of the Colorado are confined within labyrinthian chasm, gloomed by eternal shadows and beset by roaring rapids. But for some 140 miles between the Dirty Devil and the mouth of the Paria River they flow in tranquil majesty through sunlit spaciousness. Even here the river is deeply entrenched within the surrounding canyon-laced plateaus: permitted to cut a broadly winding course of wide-sweeping bends through less resistant sandstone formations. For all this, the canyon walls still stand near the water's edge. The effect of space is given by the breadth of the river and a tendency for the walls to curve gently back from their bases in a series of rising domes, "rounded billows of orange sand-

stone," for all the world like frozen dunes standing tier upon tier. At the outside of many of the bends, where the current tends to undercut the walls, mural cliffs arc with the current, rising straight up and sometimes overhanging the river. Recessed into other curves are arches, mossy, verdant alcoves, and beautiful glens festooned with maidenhair fern. These are the features which inspired John Wesley Powell, leader of the first expedition to pass through the canyons of the Colorado, to name this section Glen Canyon.

Occasionally one of the chambered glens or alcoves lies so deeply within the sandstone cliffs that it cannot be seen from the river, being connected with the

outside only through the narrowest of slotted passageways. One of the most remarkable of these is thus described by Major Powell: "On entering, we find a little grove of boxelder and cottonwood trees: and, turning to the right, we find ourselves in a vast chamber, carved out of rock. At the upper end is a clear, deep pool of water, bordered with verdure. The chamber is more than two hundred feet high, five hundred feet long, and two hundred feet wide. Through the ceiling and on through the rocks for a thousand feet above, there is a winding skylight—. Here we bring our camp. When "Old Shady" sings us a song at night we are pleased to find that this hollow rock is filled with sweet sounds. It was doubtless made for an academy of music by its storm-born architect, so we name it Music Temple.

Ten miles below the junction of the San Juan and Colorado a permanent stream trickles into the river from the south. This is Forbidden Canyon, and here every river traveler must stop—for only a four and one half mile walk up this canyon (itself a visual banquet) lies Nature's most glorious masterpiece in stone, the mighty Rainbow Bridge. Carved from solid rock it arches in perfect symmetry across the canyon, 309 feet above the stream bed, its feet anchored 278 feet apart on a platform of enduring sandstone. Although discovered in 1909, so isolated is this spot that after many years only a handful of people had ever seen Rainbow Bridge. Then Rainbow Lodge was built 15 miles away and visitation by horseback and afoot increased. In very recent years motorboat parties have been coming up the river from Lee's Ferry, and more rarely, adventure groups have descended through the rapids of the San Juan or floated down from the head of Glen Canyon and have made it easier to visit the Bridge. Now, more than 8,000 people have visited Rainbow Bridge, more than half of them reaching it by way of the river and the delightful walk up Forbidden and Bridge Canyons.

Almost the whole distance from Bluff to Lee's Ferry, the course of the two rivers lies within the Navajo and Paiute Indian

Reservations: yet so forbidding is the plateau country on each side that its inhabitants are few and scattered. In ancient times the Pueblo Indians cultivated tiny patches of ground along the narrow river banks and built their stone pueblos in the cliffs and on benches above the river. The ruined evidences of these are more likely to be seen by the river traveler than the present inhabitants. There are no white men's habitations along or near the river for the whole 191-mile distance from Mexican Hat to Lee's Ferry. There are no roads and no bridges.

For all that the rivers run a long, sometimes turbulent, course through America's loneliest wilderness, passage by boat through their scenic canyons can hardly be called original exploration. Nevertheless, such a voyage remains one of the finest adventures left in an over-civilized age. It is an exhilarating roadway; the only access into a land of color, silence and mystery. There is still much to be discovered about the surrounding country. Not all the slit-like canyons of the San Juan or the glens and alcoves of the Colorado have echoed to the footsteps of men. Adventure still lurks around every bend and up every hidden gully.

Many boat parties have descended the San Juan. During the early 1930s the Rainbow Bridge-Monument Valley Expeditions (forerunner of Explorers Camp) made three descents in boats for scientific investigations. Later, the late Norman Nevills organized regularly scheduled excursions down the river for the adventurous minded. Now, it has become more popular, but one rarely sees man or a sign of his passage.

Kenneth Koss runs Southwest Explorations, a camp for boys with headquarters at Mancos, Colorado. While he takes some passenger trips, most of the time is spent with the boys. They use rivers to take them into regions that are almost unexplored. Here they do work in the fields of geology, archaeology, biology and the other natural sciences.

WESTERN RIVER GUIDES ASSOCIATION

American White Water takes pleasure in reporting this addition to the boating associations. Originated in February of 1954, this organization is made up of professional boatmen. They list their objectives as follows:

1. To acquaint river-minded travelers with our association and to inform them of the availability of experienced river guides.
2. To discourage and prevent, where practical, launching of poorly equipped and ill-experienced river boating parties.
3. To increase the safety of all boating passengers and equipment, by establishing regulations regarding the methods of transportation and camping.
4. To stress the importance of leaving a clean camp along the river.
5. To preserve the natural resources of the areas in which we travel.
6. To promote and insure the dignity and ethics of river guiding.
7. To assist in giving information and advice to any party planning a river boat trip.
8. To exchange and discuss ideas on technique, type of craft, safety equipment, rivers, etc.

Their membership includes many of the best boatmen in the West. President is Don Harris, 2500 E. 48th So., Salt Lake City, Utah. Vice-President is Don Hatch, and Executive Secretary is Howard Smith. Members may be found in the List of River Guides in the rear of this issue.

GUIDE INFORMATION NEEDED

The Guide Committee of the Affiliation needs all the information it can get on guides and guidebooks for the U.S., Canada, and Alaska. Will anyone having information not listed in our issues please send it to:

Oz Hawksley
Central Missouri State College
Warrensburg, Mo.

In the case of guides, send name, address, rivers guided and anything else of interest. For guidebooks, send title, author, publisher (or source) and cost.

American WHITE WATER

BOOK REVIEWS

This fall has seen the publication of two interesting books on white water. Many readers will be interested in having a further look at these contributions to our sport.

THE SOUND OF WHITE WATER, by Hugh Fosburgh, is a novel about a canoe trip down a fictitious river in upper New York State. The story revolves around the hazards met by three men who challenge a river with sections having names like Frenchman's Grief, Hell Hole, Cobb's Bathtub, Jam Rock and Big Bad Luck Rapids. Suspense is built through campfire chats about the misfortunes of legendary men who braved the river in years gone by. Several climactic chapters justify the suspense and reveal the author as one who knows about an encounter with wild water.

This is good winter reading for the canoeist who wants to keep the sound of white water surging in his ears till warmer days invite him outdoors again.

Charles Scribner's Sons, New York, 1955, 192 pages, \$3.00.

reviewed by Arthur Bodin

CANOEABLE WATERWAYS OF YORK STATE, by Lawrence Grinnell. This is a very welcome addition to small number of white water books. The need has long been felt, and Dr. Grinnell is to be thanked for his contribution.

The reviewer has not finished reading the book, so he reports this in order to bring it to your attention. More information is given in the advertisement on the inside rear cover.

When the reading is finished, a thorough review will be given.

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Douglas Brown, Box 664, Meriden, Conn.

Cockpit Design

For the man who designs his own boat, we present some ideas about design. For those who aren't satisfied with what they have, a redesign may be possible.

SEATING

by BRUCE GRANT

Without the downhill hindering, we would not have modern ski technique. A secure relationship between the paddler and his craft is equally important in the white water sport. This applies to canoes as well as foldboats and kayaks.

The seat should be positioned so the fore and aft trim of the craft is correct. This is easier said than done, since the best underwater profile may occur with the boat appearing bow high or bow low. The design of the seat should be such that the paddler's hips will not slip from side to side even when the craft is tipped far to one side or the other.

To get this firm attachment, the knees are spread wide under the deck. Pads can be arranged on the center frame to take the upward pressure. The feet, pressing against the bottom of the boat (or a footrest) maintain the knee pressure. Thus the hips, knees, and heels form the three points of what has been termed the "stability triangle." There should be no feeling of slipping or falling out, even when the boat is upside down.

The backrest is for resting and can't be considered part of the system which integrates the paddler with the boat. In rough water, there should be a forward lean of 15 degrees or more to the body. This allows the boatman to swivel at the waist for balance and stroking while it also lowers the overall center of gravity.

For general cruising, comfort is important and the backrest should be arranged to provide support in a good paddling position. In some cases, more than one position for the feet may provide a welcome change. Nothing should prevent a quick return to the stability seating position described above when it is necessary to negotiate some rough water.

The writer was encouraged to see knee pads mentioned as standard equipment in a recent Foldcraft Kayak advertisement. We look forward to major improvements in seating arrangements offered by the various manufacturers.

Bruce Grant has been running rivers for a long time and has given a lot of thought to technique and boat design. One of the founding fathers of the Affiliation, he served as Secretary during 1955. Now that his tour of duty is over, he hopes to spend more time on the river with the Sierra Club River Touring Section, of which he is Chairman.

Coamings and Spraycovers

by DAVE STACEY

To many of us, spraycovers are a necessary evil. They take time to put on, they make the cockpit a sweathouse in hot weather, and they keep you from reaching into the cockpit. Have you ever felt an ant crawling up your leg, just as the waves get nasty? There are improvements to be made in the present designs, and a little analysis will point the way. Our problem is to keep the waves out, yet have the system convenient, and the interior accessible. The solution will be a compromise according to what factors we deem most important.

The first factor is the size of the opening. The smaller it is, the less water will come in from a given situation. A small opening results in a small convenient spraycover. On the other hand, some boats carry this to an extreme and the cockpit is uncomfortable, and dangerously hard to get out of. If the coaming is too close to the body, it will prevent the body motion which is so important to



The author rides the "ledge" in his glass boat. This is on the South Platte.. outside Denver. Note the ample cockpit and large coaming. Photo by Ted Hazlett.

modern technique. The length depends upon the shape used, and should allow fast exits. The author feels that a good test is the following. In a flip in shallow water, the boatman should be able to come out long before the boat is completely inverted.

The height of the coaming above the water line makes a difference in the dryness of an open cockpit. Too high a coaming looks poor, and will interfere with the paddling. In general, the coaming height is pretty well determined by the design of the rest of the boat.

On long trip? with lots of flat water, it is very handy to run without any cover, or with the cover unzipped. On the lower Colorado, this is especially important. The canyons are hot, there are always pictures to be taken, and an occasional orange tastes wonderful.

Safety is a major consideration. Exit from the cockpit must be automatic and not involve any gadget pulling. One friend of mine nearly drowned because he

was trapped in an inverted foldboat. Another spent a lot of time on the bottom of Cottonwood Rapids, because in the excitement he forgot to inflate his Mae West. Don't count on doing anything during a true emergency.

The answer is to use a spraycover which will either pull away from the boat, or let you pull out of it (or both). Common attachments to the coaming are clips that release on an upward pull only, and elastics that go around the edge of an overhung coaming. Around the person, an elastic opening is usually used. This opening should run up the body a ways so as to prevent water from draining down into the boat. It is a problem to keep the opening hole high. Some use clips, and some use a permanent suspender. The latter type assumes that the cover will part from the boat.

Some designs have the boatman sitting in a long tube, which keeps the rest of the boat dry. This should be regarded as a form of air tank, because a spraycover

should also be used. With a tube, you can still take on several cubic feet of water, and water weigh 62½ lbs. per cubic foot. This completely ruins your ability to maneuver.

The author has his own pet solution to these problems. It evolved in the process of making many fiberglass kayaks in partnership with Steve Bradley. The design works well on shallow streams, wild stuff like the Arkansas, and big stuff like the Colorado.

The coaming is made of glass and plastic with a semicircular cross-section 2 inches in diameter. The top is 13 inches above the bottom of the boat. The height reduces the water that comes aboard and the curve reflects the splash outward. The net result is that on all but the worst rapids, no spraycover is needed. One should note that this coaming is higher than usual, and that many people believe in a boat as low as 8" high. This is a separate issue.

The cockpit has major dimensions of 18 inches wide and 35 inches long, with a modified oval shape. This is easy to do with glass, and not too hard with rubberized hulls. The shape makes a shorter opening for a given ease of exit, and our design is purposely generous.

The spraycover is made of canvas or tough material, with an elastic around the edge which tightens under the coaming. A slight upward force pulls the whole thing loose, while no falling water has ever pushed it in. Around the boatman's body, there is a tube with elastic at the top. In emergencies, you can pull out through this attachment too. The tube is held up by a single clip. From the top of the tube to the front of the cockpit, there is a zipper. This lets you run unzipped and then quickly prepare for white water. To get in or out, the ripper is also used.

In the case of canoes and double foldboats, the problem is similar, but it is questionable whether both people should come free and still be attached to the same spraycover. One answer is to have the people come free at their openings and leave the cover on the boat. Perhaps a better one is to have a deck-like cover, and two individual cockpits.

Whatever you decide, put it to a test in a nice quiet lake, with a friend standing by. And don't count on any rip cords!

IDEAS

This column will appear in each successive issue of *American White Water*. Please jot down any ideas that may interest your fellow boatmen, and mail them (not the boatmen!) to the editor.

Wax your hull. A little wax rubbed into a rubber hull is more than a preservative and surface finish. When you hit a rock, the wax acts as a lubricant and allows the rock to slide, instead of gouging. He certain to clean off the wax before cementing repair strips. The same idea of lubrication probably works on rigid hulls . . . overheard at Salida.

Your tiny hand is frozen? Get a pair of cotton gloves with a wristband. Remove the wristband without damaging it. Extend the gloves by means of canvas to just below the elbow. Then sew back the wristband. Have the gloves dipped in latex by a rubber company, or use some of this new liquid latex yourself. . . . from White Water (English)

Battered paddle tips. If last year's rocks have taken their toll, try fiberglass. Clean the wood, cut one layer of cloth to fit, and secure it with plastic. Try it dry first, for you may need to tie the glass cloth in place.

Watertight Boxes. On the surplus market are a number of ammunition boxes that are, or were watertight. Sometimes the rubber gasket needs replacing.

Loose paddle joints. Do your double paddles have a loose fit in their metal sleeves? Try cleaning both sleeve and wood, then fill with polyester resin that is used for fiberglass work. Make certain that none spills over on the surfaces that mate.

NOTES

Walter Burmeister (Box 381 Shrewsbury, . . . is looking for one or two expert foldboaters to run the Colorado from Smith Ferry to Lee's Ferry. Anyone interested in possessing the qualifications please drop him a line.

Let's Get Upset About Safety

by BRUCE GRANT

We all know that the best time to stop an accident is before it happens. How many of us actually do something about it?

There are just four ingredients which determine the relative safety of a boating situation. In the order of importance they may be listed as: the boatman, the water, the equipment used, and the activities of others affecting the boatman. Let us examine briefly each of these in an effort to point up some of the essentials in safe practice.

The boatman whose mental preparation takes into full and realistic account the many factors in every situation, who anticipates the consequences of each action, and who does not feel obliged to do or tie will be a safe boatman. Even with limited experience he can possess these qualities. As experience and skill increase the balance of conditions shifts so that he can undertake more and more difficult situations while remaining well within safe limits.

The water, whether river, lake, or ocean, is the medium in which the boatman operates. It presents a great variety of difficulties depending on topography, volume, obstacles, and weather. The boatman's first duty is to inform himself as fully as possible regarding the conditions he will encounter during his journey. Obviously trips of exploration must be conducted differently from trips over an oft repeated route. The wise boatman will evaluate the hazard to himself and others in the event of an accidental upset—what are the chances of getting out? An upset in itself is nothing to cause alarm. A good part of the excitement in white water running stems from this ever present possibility of an upset. The ability to avoid an upset while traversing difficult water provides a measure of our skill. The safety conscious boatman is concerned not so much with avoiding a dunking as with the inherent dif-

iculties in the situation once an upset has occurred.

The equipment used is also a factor but must be considered relative to the skill of the boatman and the water conditions. We all know individuals who could attract disaster to the safest conceivable craft. We know too that the inexperienced paddler welcomes a high degree of stability (broad fiat bottom) in his boat. But we find many skilled kayakers enjoying the white water sport in comparatively narrow (tippy) kayaks which are highly responsive to the will of the paddler once he has developed instinctive ability to use his weight and his paddle to stabilize his craft. It is unfortunate that misuse of sporting craft such as the canoe and foldboat has encouraged waterfront authorities in a number of localities to ban their use. A more enlightened approach might be to license use following some form of instruction and testing program. Such a program would seem to be a natural adjunct for the already existing Red Cross Water Safety activity.

The boatman who carelessly gets himself in trouble frequently involves others. Some tragedies have been a consequence of attempts to rescue foolhardy boatmen. No doubt the teaching of man and boat rescue techniques at an early stage can do much to arouse an awareness. Certainly the boatman who has never been upset cannot fully appreciate the requirements for safe passage.

If there is to be safety in white water boating there must be foresighted boatmen who plan their routes carefully, evaluate risks, design their equipment for maximum performance and easy recovery, and who will influence others toward safe practice. So let's get upset about safety.

Riding the Waves

by CARLOS YERBY

Have you ever watched the waves breaking on a shore line? An expert from California tells how you can have fun with them.

White water is always a challenge. The scene may be the swiftly turbulent waters of a lively river or the rhythmic roar of breaking surf.

It has been my good fortune to have experienced many seasons of thrills and spills in kayaks in the sea and surf of southern California. Riding waves is great fun for there is a wealth of experience and knowledge to be gained in this phase of white water.

Let us follow the action of a kayak riding a wave ~~which~~, forming out in the distance, approaches the shore, and finally breaks. In the beginning a very slight undulation appears on the ocean surface. The forward slope of this wave is not yet steep enough to impart a planing action to the kayak. So we move in toward shore, estimating the point where the wave is steep enough to cause the boat to plane. To "catch the wave," full steam ahead is essential. A considerable amount of skill and good judgment is required to catch the wave at the earliest possible moment. Starting too late may cause the wave to be lost, and starting too soon will shorten the ride and perhaps result in the kayak being swallowed up in the breaker. As the wave advances to our position, it lends its own energy to that of the paddle thrust and boat momentum to start the planing action. Once the wave has been caught the sequence of events is as follows: (1) At first the kayak is headed perpendicular to the wave front. (2) The paddle is kept close to the side of the boat with one blade just touching the water, ready to act as a rudder. (3) As the wave approaches the beach it becomes steeper making it necessary to cut to one side or the boat may nose dive (pearl dive). As you turn away from the line perpendicular to the wave front, speed increases. Too flat an angle however, and you will lose the wave. (4)

To further reduce the diving tendency, shift your weight to the rear. (5) The wave now has become extremely steep. The next instant it may curl over and break, so you apply a firm rudder to the side, causing the boat to turn and run approximately parallel to the wave front. The wave then passes harmlessly underneath. To delay cutting out usually results in catastrophe. The boat is enveloped by the curling crest of the breaker. Sometimes the crest of the wave will just fluff clown gradually from the top. In this case the boat is turned sidewise. If it is of a smooth bottom design it will skid over the surface laterally, coming to an abrupt stop, (usually upside down), at the toe of the wave. Eskimo rolling ability is handy at this point. If the wave is not too large and fluffs rather than breaking, it is sometimes possible to again swing the boat around toward shore (perpendicular to the wave front) and paddle violently to place the kayak at the toe of the wave. The fluffing crest then gently rolls down the forward face of the wave enveloping the rear portion of the kayak and giving it a forward thrust.

Skill in surfing is best judged, I believe, by the length of run attained in any given wave. Maximum distance and speed will be achieved running at the flattest possible angle. A successful run involves cutting out of the wave the last instant before it breaks. Experience brings with it judgment in choosing the right wave, knowing when to start and when to get out.

Riding the waves is not limited to the ocean for there is often sufficient swell on large lakes and reservoirs following wind or other disturbance.  wake of a moving vessel will provide a swell which can be "surfing" for long distances. And don't overlook the sport of surfing the

upstream face of haystack in the river ~~where~~ you will plane in one place while the river goes tearing by.

Launching from the beach and heading into the surf provides an experience which is very similar to that of riding downstream through a standing wave in a river. The action of the currents in each case is somewhat similar. As you paddle from the beach your velocity is increased by the receding water approaching the oncoming wave. You meet the wave headon, and it is necessary that you have sufficient momentum to pierce through. For an instant as the broken wave passes, it exerts a considerable impact on the upper part of the body. Also at this moment the paddle thrust is not effective. The kayak pierces the wave easily and, following the impact of the wave against the body, seems to leap into the

air as you are suddenly lifted from the toe to the top elevation of the wave. Too slow an approach to a large breaking wave can result in the bow lifting with the wave rather than piercing. The kayak then falls off to one side or the other and an upset is probable.

Going out through breakers prepares you well for the first "stopper" you encounter on a major river. This experience of entering, being thrust up through a wave and seeing daylight again while the water streams down from your hair is one of white water boating's most exhilarating experiences.

It may be of interest to mention a few of the desirable characteristics of a kayak especially built for riding the waves. The ideal hull should have good top speed. This insures minimum resistance to motion and makes it possible to plane on a



Assorted craft "ride the waves" in Hawaii. Photo curtesy Matson Lines.

very slight slope. The bottom should be almost flat as an aid in the planing action and also to give stability. The width of the boat at the seat should be narrow. For the average individual, it should be less than 26 inches. This insures easy control of the boat as the paddle is kept close to the side during planing. The cockpit should be long enough to enable one to shift weight to the rear to prevent pearl diving. The cockpit must also be large enough to permit abandoning the kayak quickly in an upset. (NOTE: There is a need for a clever spraycover design for the surfing kayak which will enable the paddler to shift his paddling position fore and aft, but will still be tight enough for rolling.) Rocker on the bottom should be kept at less than two inches. For the average person a kayak approximately 14 feet long is adequate. A water tight bulkhead front and rear is essential and the bulkhead volume should be as large as possible. A kayak, if caught by a broken wave, will bounce lightly in front of it provided the kayak is unencumbered by a mass of water within its hold.

In conclusion, I sincerely hope these few paragraphs convey in some small way the thrill and indeed wonderful experiences that can be gained by "riding the waves."

MORE BOATING ARTICLES

"*New Jersey's Unknown Wilderness*," by Kill Breisky, Saturday Evening Post, Aug. 6, 1955

"*The Canoe Slalom*," by Georgine Barrie, Field and Stream, Dec. 1955

"*One-Way Ticket to Adventure*," Dodge News, Vol. 20, No. 8 (about the San Juan)

"*On the River Trail* ■ John Wesley Powell," by Charles Eggert, National Parks Magazine, Jan.-&far.1956

■ complete listing of all information on canoeing articles may be obtained by sending \$1.00 to Arthur Bodin, 3215 Netherland Avenue, New York 63, N. Y. His compilation, titled BIBLIOGRAPHY OF CANOEING contains 1388 items subject indexed and partially annotated.)

INFORMAL SLALOM

A formal slalom is much fun and very good practice. However, someone has to do a lot of work to get the gates ready. Also, a number of experienced gate keepers are needed. (We remember one case where a locally recruited gatekeeper thought you weren't supposed to go through the gates.) Because of these troubles, a number of ideas are available which lighten the work load.

The first simplification is to eliminate the gatekeepers. The contestants are on their honor, and are given two chances to make each gate without touching the poles. If they don't make the second try, they are disqualified. Thus there are no penalties, but more care is needed.

The next simplification is to eliminate the poles. This requires a course with natural obstacles, such as rocks, bridge piers, etc. If no one objects, these can be painted with aerosol spray cans. Penalties can be recorded, or preferably dispensed with.

Finally there is the ~~method~~ of follow the leader. This requires no preparation, no judges, and is lots of fun. Here is one way we play it. The best boatman starts first, next best comes second and so on. The spacing is one boatlength, and one must duplicate the leader's course while maintaining this distance. The leader then picks his way down (and up) the stream, taking all sorts of winding and difficult paths. One loses credit by missing a turn or by crowding or lagging. In case the man ahead missed, the next man can usually see where he should have gone.

Besides being good training, this little game is good for a few laughs. When the leader backwaters before a narrow passage, the others had better be able to stop too. If not, the result is utter confusion; with boats thumping into each other, sideways and backwards too .

Tell your boating friends about American WHITE WATER or better still, send us their addresses and we'll mail them a sample copy.

American WHITE WATER

Foreign Magazines

There are a number of magazines being published abroad. They have interesting articles—if you can read the language! For those who wish to stick to English, may we recommend "White Water" as being both up-to-date and interesting.

AHOI—Belgisch Kano-Verband—Federation Belge du Canoe, 6 rue Cyrille Buysse, Antwerp, Belgium

Brodarstvo—Federal Committee of the Yachting Federation of Yugoslavia—Miroslav Draugustin, President, Trg Republike 3/IV, Belgrade, Yugoslavia

Camping Voyages—13 Rue de Grenelle, Paris 7e, France

Canoe-Camper—Canoe Clamping Club—The Nightingale Press, Canoe-Camping Club, 15 Whalley Road, Hale, Altrincham, Cheshire, England

Canoeing in Britain—British Canoe Union—H. Thelen, 8 Chesterford Gardens, London, N. W. 3, England

Dedri i Kaynci—Federal Committee of the Yachting Federation of Yugoslavia—Miroslav Draugustin, President, Trg Republike 3/IV, Belgrade, Yugoslavia

il Canottaggio—Federazione Italiana de Canottaggio—Via A Avogadro 11.26, Torino, Italy

International Canoeing — International Canoe Federation—H. Thelen, 8 Chesterford Gardens, London, N. W. 3, England

Kanot-Nytt — Pub. of Svenska Kanotforbunget—Torsten Rundqvist, Hamngatan 4, Lidkoping, Sweden

Kanu-Sport, Der—Groschel-Druch, Dresden A 53, Germany

Kanu-Sport Nachrichten—DKV—Manfred Gall, Bechtle Verlag, Esslingen am Neckar, Germany

Klepper Rind—Klepper Company—Rosenheim, Germany

 *Pagaie*—Federation Luxembourgoise de Canoe et de Camping — E.

Stehpano, rue Blockhausen 21, Luxembourg—Ronnevoie

La Revue du TCF—Touring Club de France—65 Avenue de la Grande Armee, Paris XVI, France

La Riviere—Federation Francaise de Canoe—62 Avenue Parmentier, Paris IX, France

Light Cmft—Canoe Camping Club—J. F. Eyles, Sec., 5, Richlands Ave., Stoneleigh, Surrey, England

I.odni Sporty—Verband Szeitschrift des Chekislowsky Svaz—Jan Sulc, Jindrisska ul c.5, Praha II, Checkoslovakia

Ons Waterland—Nederlandschen Kano Bondes—T. L. Prins, Ringweg 88, Zaandam, Netherlands

Osterreichs Kajaksport—Osterreichischen Paddelsport-Vergand—Wien, Austria

Paddelkanoten—Swedish Canoe Assoc.—Stockholm 7, Sweden

Touring—*Review of the Camper and Canoe Tourist*—Verbancl Schweizerischer Faltboatfahrer—9 rue Pierre-Fatio, Geneve, Switzerland

White Water—Chalfont Park Canoe Club—William Horsman, 15, Almond Ave., Ickenham, Uxbridge, Middlesex, England

YOUR MAGAZINE

Every member should have received all four issues of this magazine. Memberships dues the first year entitle the member to the first four issues of WHITE WATER, the second year's dues the second four issues, etc.

With this issue, your membership and subscription expire for the year. We hope you will renew with another payment of \$2.00. This will help the magazine, which in turn serves the sport. A card is included in the mailing envelope for this purpose. Also, please tell us on the card what you would like to see published.

Tell your friends about American WHITE WATER, or better still, send us their addresses, and we'll mail them a sample copy.

WHERE TO FIND IT

The appearance of a firm's name in this classified section does not necessarily imply endorsement of such firm by American WHITE WATER magazine.

RIVER GUIDES

ALESON, HARRY, Larabee & Aleson Western River Tours, Richfield, Utah.
ANDERSON, L. L., Challis, Idaho. (Middle Fork of Salmon, River of no Return).
BAR-X-VACATION RANCH, Challis, Idaho. (Salmon & Middle Fork), Meyers Cove.
BRIGGS, ELMER, 719 S. W. Laurel Street, Grants Pass, Oregon. (Rogue River).
PAUL GEERLINGS, 4900 Emigration Canyon, Salt Lake City, Utah.
GREENE, ART, Cliff Cwellers Lodge, Cameron, Arizona (Colorado and San Juan).
HATCH, DON, Hatch River Expeditions, 411 East Second North, Vernal, Utah, (Yampa and Green). See ad.
HARRIS-BRENNAN, 2500 W. 48th Street, Salt Lake City, Utah. (Hell's canyon, Salmon, Green and Yampa). See Ad.
HELFRICH, PRINCE E., Vita, Oreagon. (McKenzie, Willamette, Deschutes, Metolius, Owyhee, Salmon).
McKENZIE RIVER GUIDES, Vida, Oregon, (McKenzie).
MOKI-MAD RIVER EXPEDITIONS, 968 James Court, Salt Lake City, Utah, (Glen Canyon, San Juan, Yampa, Green).
NELSON, ED, Montrose, Colorado, (Gunnison).
PRUITT, BOB, 120 SW M Street, Grants Pass, Oregon. (Rogue and Salmon).
PYLE, SID, 2319 Jerome Prairie Road, Grants Pass, Oregon, (Rogue).
REYNOLDS, ADRIAN, Green River, Wyoming, (Reynolds-Hallacy River Trips).
ROGUE BOAT SERVICE, Gold Beach, Oregon, (Rogue).
ROGUE RIVER GUIDES, Vida, Oregon, (Rogue).
ROSS, KENNETH I., Mancos, Colorado, (Cataract, Grand Canyon and San Juan).
SMITH, DON L., Box 716, Salmon, Idaho, (Salmon and Middle Fork).
SOCOTWA EXPEDITIONS, 5851 South 9th East, Murray, Utah
STRATTON, E. A., Rt. 1. Missoula, Montana, (Salmon and Middle Fork).
STUBBLEFIELD, BLAINE, Weiser, Idaho, (Hell's Canyon of Snake).
THURSTON, ED, 240 Idaho Street, Bend, Oregon, (McKenzie, Rogue, Salmon and Deschutes).
WHITE, GEORGIE AND J. R., 737 West 101 St., Los Angeles, California. (Colorado, Snake and Salmon).
WESTERN WHITEWATER CANOEING EXPEDITIONS, Leslie A. Jones, 1710 N. 2nd West. Bountiful Utah (Runs Green,

Yampa, Colorado, Snake, and Salmon).
WRIGHT, FRANK, Mexican Hat Expeditions, Blanding, Utah, (San Juan, Grand Canyon).
WOOLDRIDGE, GLENN, 413 West H. Street, Grants Pass, Oregon, (Rogue).

BOAT MANUFACTURERS

ALUMA CRAFT BOAT CO., 2633 27th Ave., South Minneapolis 6, Minn. (aluminum canoes and boats)
BANTON CORPORATION, c/o Rolf Godan, 24 California St., San Francisco, Calif. (Hammer Foldboats).
FOLBOT CORPORATION, Stark Industrial Park, Charleston, S. C. (Folbot, accessories, sailing equipment).
FOLDCRAFT, c/o John B. Sibley, R.D. 1, Phoenixville, Pa., (Hart-Sioux Foldboats), (See ad inside front cover).
FULLER, JOHN T., 210 W. 62, Seattle 7, Wash. (boating agent for Washington foldboat club).
HEALTHWAYS, 3669 7th Ave., Los Angeles 18, Calif. (Inflatable German Kayak).
HOFINGER FOLDING KAYAK CO., 3021 Lincoln Ave., Chicago 13, Ill. (foldboats).
KLEPPER COMPANY, c/o Albert N. Larington, 1472-80 Broadway, New York, N. Y.
LAC du NORD KAYAKS, 3135 W. Forest Home Ave., Milwaukee 15, Wis.
MANTAGUE OAR & PADDLE CO., Box 207, Foxboro, Mass. (Canoe paddles, masts and spars, kayak paddles).
METAL BOAT CO., c/o Fred W. Berndt, Marathon, New York. (Grumman canoes).
NORDIC IMPORTS, 286 Ravenna Drive, Long Beach, Calif.
OLD TOWN CANOE CO., Old Town, Maine, (canoes, wood boats, sail equipment).
PENN YAN BOATS, INC., Penn Yan, N. Y. (canoes, accessories).
PETERBOROUGH CANOE CO., LTD., c/o G. W. Birch, Division of Canadian Watercraft, Ltd., Peterborough, Ontario, Can.
QUETICO-SUPERIOR CANOE OUTFITTERS, c/o Bill Rom, Ely, Minn.
SKI-HUT, c/o George and Gaba Rudolf, 1615 Univ. Ave., Berkeley, Calif. (Retail Hammer boats).
SKYJET, P.O. Box 115, Garden City, Long Island, N.Y., (12' Kayak Kit)
SPORTSMAN'S EQUIPMENT CO., c/o Otto Koch, Pennsburg, Pa. (Pioneer Foldboats).
WHALECRAFT MFG. CO., c/o Martin Geisler, 3223-25 No. Sheffield Ave., Chicago 13, Illinois.

American White Water Affiliation

The Year in Review

There is a thrill of excitement in fast rough water which has appealed to countless people throughout the ages. It is normal to the uninitiated to approach their first white water trip with trepidation. It is unusual for anyone once making such a trip to escape the contagion of this exhilarating activity. In the Colorado Basin and neighboring regions, the term "River Kat" is applied to the victims of this epidemic, and the number is increasing at the alarming rate. That it is not confined to this region alone is evidenced by the growing number of "run-the rapids," "white water," "river touring," "floater," foldboat and canoe cruising groups developing in all parts of the country.

As popular interest grows, there is a searching for recorded information to make available data regarding our rivers and boats for them. There is need for knowledge on the technical aspects of successful designing and operating craft which will be effective in meeting an infinite variety of situations. We find an amazing dearth of literature on the serious phases of this sport.

Out of these forces it is but natural that some organization should arise to fill the vacuum. Some of you may remember that "Zee" Grant (New York) tentatively proposed a "River Rats of America" club. The outbreak at Pearl Harbor put that plan on the shelf and we awaited the initiative of Eliot Dubois (Boston Chapter, Appalachian Mt. Club, White Water Canoeing Section) who developed contacts with interested groups from Coast to Coast. Out of this correspondence was born the idea for an affiliation of white water groups. Thus we have today the American White Water Affiliation as a medium of exchange for ideas.

There remained the need to publish white water and river touring information in such a form that it could be

placed in the hands of individuals, whether members of local groups or not. Early in 1955 Joe Lacy (Colorado White Water Association) offered to edit a magazine. The decision was reached to invite paid individual memberships and to launch "American WHITE WATER." Joe did a magnificent job carrying through the first three issues with a microscopic budget and an abundance of enthusiasm. We regret he is unable to continue. Roy Kershwill (also CWWA), who has been handling the art work and helped Joe develop the format of the magazine, will continue to assist Dave Stacey, our new Editor. Of Dave you will hear a great deal in months to come, for he is determined to push forward toward a bigger and better AWW.

All of us who have had an active part in the development of the AWWA and our magazine have been inspired by coming in contact with many others all over the world who are fired with enthusiasm and ready to contribute their time and talent toward this effort.

Special thanks are due the Executive Board of AWWA namely; Wolf Bauer, Eliot Dubois, Lawrence Grinnell, Oscar Hawksley, Clyde Jones, Bob McNair and Rupp.

Now at the beginning of 1956 it is time to welcome a new Secretary, Bob McNair, of the Buck Ridge Ski Club, who will provide leadership for the AWWA during the ensuing year. Many of you already know him through the fine promotional work accomplished during his Chairmanship of the ACA Slalom Committee. Let's go all out to welcome him with every possible means of support.

It has been a real privilege to serve as your AWWA Secretary during 1955.

Bruce Grant,
Retiring Secretary

The American White Water Affiliation

PURPOSE

To encourage exploration and enjoyment of wilderness waterways; to foster research, study and teaching of improved techniques and equipment designs for safely negotiating white water; to protect the wilderness character of our waterways for the growing number of those who are discovering the rewards awaiting the river tourist.

PUBLICATIONS

All members receive the AWWA magazine "American WHITE WATER" which is a voice for all America's boatmen and canoeists. Members are urged to contribute articles and photographs. Technical bulletins and handbooks will be published as material can be developed.

Guides to major river trips may also be undertaken as the interest and need appear.

WHAT IS THE AFFILIATION?

It is many individual members who wish to support and keep informed about wilderness waterways and the ways of white water.

It is an affiliation of groups and clubs, professional and amateur alike, who share a common interest in the AWWA purposes. The representatives from these groups, who have participated in developing the ways (know how) for their own organizations, are the local sources from which flow the main currents that are tributary to our developing sport. Thus, the Affiliation is a channel for bringing together ideas, procedures and experiences.

ROBERT McNAIR, ~~secretary~~
32 Dartmouth Circle
Swarthmore, Pa.

Every boating enthusiast is a potential contributor to this magazine. It is published by and for boatmen who are interested in the constructive promotion of the great river-riding sport. All of us have had experience with almost every one of the following topics, and we are all eager to share each other's adventures in the boating world. Please write about your:



- Cruising trips
- Boating techniques
- Movies available for exchange, rent or sale
- Competitive events
- Retail companies selling boating equipment
- Articles in other magazines
- Koat Club Activities
- Cartoons and humorous stories
- Boating news from abroad
- Boat trip requirements and special information
- Exciting experiences
- Reading water hints

All copy should be typewritten double-spaced. Deadline is the 1st of the month preceding the publication month. Pictures and manuscript will be returned if requested when submitted. Contribution to American WHITE WATER does not jeopardize any boatman's amateur standing.

When submitting your material, please include a picture of yourself with biographical information as to age, occupation, family names and ages, boating background, etc., for use with your articles. There are some pretty interesting people in this business.

Address all editorial mail to: David Stacey, 601 Baseline Rd., Boulder, Colo.

A NNOUNCING:

Canoeable Waterways of New York State ^{and} _{vicinity}

By **LAWRENCE I. GRINNELL**

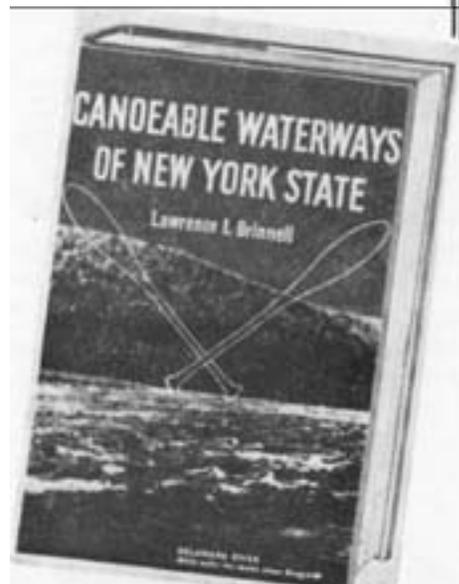
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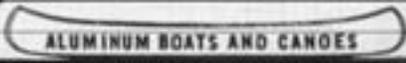
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