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WHITE WATE

Sponsored by The American Whitewater Affiliation SPRING, 1962 (February) Vol. VII, No. 4

Contents ARTICLES The Queen McCloud Preserves Her American Mystery Bryce Whitmore 6 Whitewater How to Not Take Pictures **Dean Norman 10** Affiliation Rivers: Their Rise and Fall R. T. Simmonds 13 A Greenland Summer Kenneth Taylor 18 Walking on Water Bob McNair 36 Executive Secretary GEORGE SIPOSS Making Modern Kayak Strokes George Topol 38 5 McArthur Ave. Weston, Ont. Advisory Committee Chrm. DEPARTMENTS MAURICE POSADA Letters 417 Riverside Dr. Meet Your Secretary 25 Sew York 25, N.Y. Secretary's Soapbox Dave Morrissey 26 Editorial Chairman Racing Report George Siposs 29 PETER D. WHITNEY 1544 La Loma Safety As We See It John Bombay 32 Berkeley 8, California Conservation Chairman AWA Trips 37 DANIEL K. BRADLEY 312 West 92 St. New York 25, N. Y. White-Water Camera Martin Vanderveen 40 Safety Chairman JOHN BOMBAY AWA Affiliates 44 154 Wade Lane Oak Ridge, Tenn. Editor: Peter D. Whitney, 1544 La Loma, Berkeley 8, California Membership Chairman Eliot DuBois, Eastern Editor: Sandy Pond Road, Lincoln, Mass. HAROLD G. KIEHM Midwest Editor: 2019 Addison Street 805 Sandusky Ave., Nancy C. Jack, Kansas City 1, Kans. Chicago 18, Illinois Robert Field, Racing Editor: 215 Elm St., North Reading, Mass. Business Manager: Patricia Vanderveen, Guidebook Chairman 1514 Pratt Boulevard. Chicago 26. Illinois WALTER KIRSCHBAUM Circulation Manager : Frank Cockerline, Route 1, Box 522 193 Skyview Way, San Francisco 27, Calif. Morrison, Colorado Eastern Advertising: John Berry, 5914 Greenlawn Drive, Bethesda 14, Maryland Library Chairman Midwest Advertising: Harry Kurshenbaum, ROBERT MORSE 6719 N. Greenview Ave., Chicago 26, Illinois El Paso, Illinois Western Advertising Douglas Simpson, 1015 Keith, Berkeley 8, Calif, American WHITE WATER is mailed to all members of the American Whitewater Affiliation in May, August, November and February. Membership is open to all who are interested in river sport, for the sum of \$2.50 per year. Trip Planning Chairman **OZ** HAWKSLEY Route 5 Warrensburg, Missouri The magazine welcomes contributions of articles, photographs and drawings, but assumes no responsibility for them. Address all editorial material to the Managing Editor or to the nearest Regional Editor. Correspondence regarding the Affiliation or boating information should he sent to the Executive Secretary, George Siposs, 5 McArthur Ave.. **Business Manager** PATRICIA VANDERVEEN 1514 Pratt Boulevard Chicago 26, Illinois Weston, Ont. Deadline for insertion of copy or advertising - first of month prior to month of issue. Printed in the United States of America

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The American Whitewater Affiliation

We are many individuals who wish to promote river touring, and to keep informed about wilderness waterways and the ways of white water.

We are an affiliation of outdoor groups, outing associations, canoe clubs, ski clubs, hiking groups, all interested in river touring for our members. Our groups range from the Appalachian Mountain Club in Boston, to the Washington Foldboat Club in Seattle. These groups have pioneered in developing river know-how. They are the local sources from which flow the currents tributary to our growing sport. Through group representatives, the knowledge of all is made available to all.

We are a non-profit organization. Our organizational simplicity permits all dues to go directly to the building of our magazine and services.

OUR PURPOSE

To encourage exploration and enjoyment of wilderness waterways; to foster research, development, 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 who are discovering the rewards awaiting the river tourist.

OUR PUBLICATION

All members receive our quarterly magazine "American WHITE WATER," which is a voice for all American boatmen. You are urged to contribute articles, pictures, cartoons, information and ideas (to increase the fun of our sport and ideas for improving our services to you). Subscriptions begin with Summer (May) issue.

MEMBERSHIP

Membership is on an annual basis with the new year starting in March.

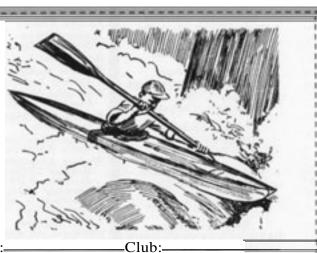
Tell your friends who might enjoy canoeing or canyoneering about the AWA. Their **\$2.50** will help foster enjoyment of wilderness water and bring each into the boating fraternity through the pages of "American WHITE WATER" magazine.

COUNT ME IN

as a member of the American Whitewater Affiliation. As a member I will receive American WHITE WATER magazine issued in May, August, November and February. Here is my **\$2.50**.

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Address:



Occupation:_____Type of Boat:=

Committee I'd like to volunteer for:____

Suggested articles: -

Mail to: Amer. Whitewater Affil., 193 Skyview Way, San Francisco 27, Calif.

156

etters from Readers

Dear Mr. Whitney,

I hope your November editorial received overwhelming support.

The AWW was organized because the ACA was inadequate.

Today simon-pure amateurism is a farce in most major sports and many minor sports and the AAU chooses to ignore them. A good college basketball player may get a scholarship of several thousand dollars a year and after graduating find it attractive to turn down pro basketball offers to work and play amateur basketball for an oil company in Tulsa or a rubber company in Akron who pay mediocre salaries to the average fresh graduate. These amateurs are better paid than Clyde Jones was.

Sincerely yours,

HOWIE LaBRANT

639 - 19th Street Whiting, Indiana

Dear Peter:

I was glad to see that the November issue focused attention on amateurism, the plight of Clyde Jones and Bob Ehrman, and our relationship with the ACA. We've been hiding our heads in the sand, ostrich-like, too long. We've accepted the ACA as the responsible organization for slalom, and we've accepted the amateur rules because we have wanted the opportunity of tending teams to Europe to compete in international events.

After reading Bob Harrigan's article, I wonder if the game has been worth the candle. Is it for this that we have put up with the very arbitrary ruling that has kept Jones and Ehrman out of competition all these years when they could have been enjoying the sport and teaching others to enjoy it? As for combining the ACA and the AWA, let's not marry in haste and repent at leisure. Certainly, let's not be tempted by the fact that the ACA has "organization" and the AWA doesn't. I would like to enunciate what I consider to be a fundamental law of clubs: "The period of time during which an organization can effectively serve its membership is inversely proportional to the length of its by-laws."

> Best regards, ELIOT DuBOIS Sandy Pond Road Lincoln, Mass.

Ed. Note: Eliot was one of the five or six founding fathers of the American Whitewater A filiation.

November 10, 1961

Well, Peter, you handle YOUR dichotomy and I'll handle mine; all I can say is that when I see a little bifurcation is involved, why COUNT ME IN!

Seriously, though, in your November 3 AWWA/ACA analysis, Peter, you come up with the perfect solution, and that is:

"Integration-wise," if there is to be any, let it be on a basis where any ACA Division can become an AWWA-affiliate, just as does any club of paddlers.

And up to the last drop of ink in this ol' typewriter-ribbon I would most emphatically preach against our letting our AWWA get involved in paddle-**racing** other than the "fun" racing which is what I like to consider the Slalom stuff.

I have seen other paddle-racing breed such a bunch of sore-heads it leaves a sick-stomach feeling just to (even pri-

vately) admit that they too (the racers) use paddles as well as the rest of us!

"Back in the 'good ol' days'" I was an ACA-man for many years; was Purser of Western Division for 9 years, and proudly carried Membership Card No. 9040 until I got so fed up with nothing but arguments about who could race and which boat could be raced that I just up and quit.

Leave all the racing-arguments to the ACA! Let's continue showing 'em how much fun we're having in our white-water runs and in our "fun" races, the deep-down pleasure there is in cruising-companionship, and if some Divisions want to affiliate with us, let 'em.

Our By-Laws specify "bona-fide boating **clubs**," to be sure, but in our Constitution our Purposes most definitely omit any reference to racing.

SO WHERE DO WE GO FROM HERE????

HAROLD "DEACON" KIEHM 2019 Addison St., Chicago 18, Ill.

Dear Mr. Whitney,

My husband is driving me nuts, and so I thought I'd better write and see if you can help me. He hasn't yet received his November White Water. Knowing that the last two have been late, he figured that it could have gotten mislaid in the Christmas mail, but he thinks they would have found it by now, and the first thing he asks every night, is if it has come. I thought just possibly in the large mailing, his name was missed and wondered if you'd check it for me? I would certainly appreciate it, in spite of the fact that for two nights after he gets it I won't even know he is here, his nose will be between the covers, and any conversation will be impossible.

> Thank you, Stevie Staples, MRS. WILLIAM J. STAPLES Rt. #5, St. Johns, Michigan

Much as an Editor loves to get letters like this one, all notices about lost copies, all changes of address, and all new subscriptions should he sent to Frank Cockerline, Circulation Manager, 193 Skyview Way, San Francisco 27. Dear Peter,

Your recent articles pertaining to amateur sports and their rules are very timely.

Actually our sport is just one isolated example of the problems existing in most "amateur" sports. Where to draw the line? Some one is always on this borderline, and usually unintentionally. The papers are full of sports participants getting fed up with the "Grand Old Men Who Rule." The NCAA and AAU are feuding in full force. I noticed recently that the handball association withdrew from a governing body. Unfortunately rules make for disagreements-unwritten rules are further problems; and when these many written and unwritten rules are interpreted by the "Grand Old Men" they become incomprehensible to the sporting public.

Such being the case, why does the AWA not recognize the truth -- both amateur and professional races are actually being held? Some of our members are professionals (of one type or other) and maybe enjoy racing yet do not feel able to provide the public and chambers of commerce free shows without reimbursement. Further if a boater declares himself a pro he can deduct his expenses from his income tax. Most professional racers are less "gung ho" than the serious amateur and therefore the pro races are more friendly, have less dog-biting and behind-the-scenes maneuvering. Often the entrance fee is less than for amateur races.

Therefore it would appear that the AWW should publish a list of the pro races, dates, prizes, and otner pertinent information. Who knows, maybe the professionals outnumber the amateurs, and maybe we have the cart before the horse?

> CLYDE JONES, 5525 East Bails Dr. Denver 22, Colorado

> > December 14, 1961

Dear Mr. Whitney,

Walter Burmeister's "Austrian Journey" article in AWW May 1960 so fascinated me that I subsequently set up a foldboat trip in Europe for next summer as one of the nationally sponsored American Youth Hostel trips abroad. This should be of interest to many of your college age readers (17 years old is the minimum). This trip is a first of a kind as far as I know and it offers a chance for excellent kayaking combined with enough sightseeing to keep anyone who hasn't seen Europe before more than happy.

We will be using Klepper double foldboats which are included in the trip cost and will be sold after the trip. As an alternative, private doubles can be brought aboard. Also, some singles may possibly be used. Beginners are welcome as we plan to start on the easiest of rivers, the River Avon in England. From there we will go to southern Wales and paddle on the idyllic Wye River. At one point on the Wye we will paddle right beneath the battlements of Chepstow Castle. Next will be the Moselle River in Germany and then some real white-water excitement on the Isar near Munich. The final river will be the Inn River out of the Alps from Innsbruck, Austria. We will surely meet many Europeans also touring these rivers.

The trip is set up with four weeks of group travel and then four weeks of independent travel. All white water will be International Class II or below on the first four weeks. Group members may continue with me for the second four weeks for additional foldboating on the Salzach, the Drava in southern Austria and Yugoslavia, the Drina in southern Yugoslavia and perhaps some rivers in Switzerland.

Those who are interested should send to American Youth Hostels, 14 West 8th Street, New York 11, N. Y. and ask for the 1962 trip folder and the trip forecast for the European **Foldboat** Special. Any questions on these may be sent to me directly.

Sincerely, PETER STOCKMAN, 109 Williams St. Ithaca, N. Y. ings too and quite frankly I hated the idea. After all, nobody wants to have the trips "organized" in the bad sense of the word. I was the cruising chairman of our club for two years and we had trips every weekend. It took me two years to come to the conclusion that enforcing safety rules and preventing people from running rivers that were beyond their ability was a question of life and death for our club. You have to realize that we are practically pioneering this sport in Canada and that a single serious accident would break our neck.

We had many close calls and I started wondering how long our luck was going to last. The old dream that trip participants would start using common sense and that there would be no need for rules and that rivers could be run without a leader never came true. The problem is that there is always somebody who does something foolish and those who follow can get hurt.

So we have a rating system and are enforcing safety rules. Those who come to trips without flotation, bow lines and lifejackets are sent home. The whole thing sounds ugly, like a dictatorship. If a beginner comes to a risky trip we won't take him.

Some full-blooded paddlers might blow their tops, but the fact remains that nobody who can use judgment will find any difference in our trips. I firmly believe that a sound rating system is good and will help to develop mature paddlers and give our sport a better reputation. However, rating should never become a ritual. Clubs with well-seasoned responsible members and clubs that do not attempt difficult waters do not need rating. But if your club is young, has young members, or grows fast, the rating system should be considered amongst other safety measures.

GEORGE TOPOL,

Ontario Voyageurs

Dear Peter:

... Thanks for your remarks about our [Ontario Voyageurs] recently adopted rating system ... I can quite understand that you will have certain reservations concerning the idea of rating. Some of our members had misgiv精

Remember Your AWA **Dues!**

Send in your 1962 Membership check now to Frank Cockerline, 193 Skyview Way, San Francisco 27, California.

Queen McCloud Preserves Her Mystery

By BRYCE WHITMORE

For Sierra Club white-water river runners, the most interesting and exciting challenge takes the form of a newly discovered river, shown on a map winding its course through some remote wilderness area. Usually these areas have no access roads and, indeed, many times the river's course is through private property where the only legal access is on the waters of the rivers.

The would-be pioneers compile figures on the water flow in feet per second and study topo maps for the river's profile recorded as feet per mile drop. Few Western rivers have escaped their scrutiny, and the past holds stories of adventurous first descents through hitherto impassable canyons. With the same drive that motivates mountain climbers, these river runners must explore.

This is the tale of an October weekend adventure of three dedicated whitewater enthusiasts — Roger Paris, ski instructor, Alpine guide, former double canoe world champion, and summertime student carpenter; Maynard Munger — real estate selling is his business but white water is his hobby; Bryce Whitmore — a river guide who shares the water wilderness with tourists during the summer but takes a busman's holiday in the kayak at the drop of a paddle.

For years, we had been intrigued by a queen of a river in Northern California. Maps showed no access roads, but there was virgin timberland of unequaled beauty between Mount Shasta and Lake Shasta. We knew the McCloud would have to be tried some day.

The water flow was no problem because the McCloud is formed by under-



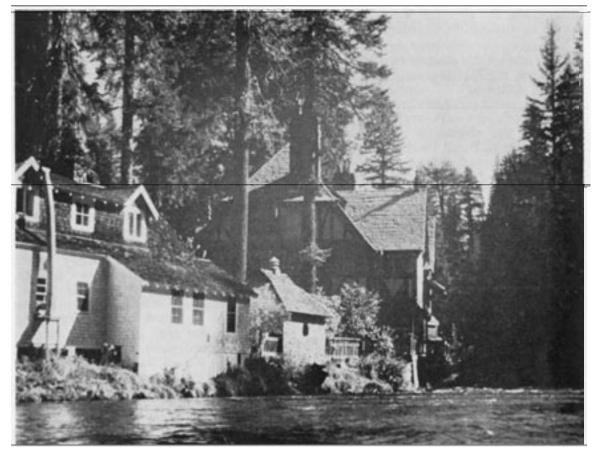
A fantastic Hearst chateau — Photo by Bryce Whitrnore

ground rivers and springs from the melting snows of Mount Shasta, thus assuring good water even in October. The map showed a drop per mile of from 80 to 160 feet; a drop of 50 feet usually means a very interesting river.

But we couldn't resist. It might be a steady drop instead of rapids and pools of still water that accounted for the rapid descent. There would be only 42 miles of river and we could walk that far in three days, couldn't we?

So we organized equipment and bought lightweight foods for three days. The problem of how to have our car at the end of the run was solved by Forest Service personnel who volunteered to drive the car shuttle on offduty hours.

We headed our kayak-laden station wagon north on Friday afternoon. Our first pleasant experience came as we were getting gas. Another customer was inquisitive about the boats and as we told of our intentions for the trip and of past experiences, he transferred the conversation to a table at a restaurant where we met his wife, heard of their wide and interesting travels, and were



The Hearst buildings at Wyntoon hang right down over the river. For scale, note the tiny kayakist in front of building at right. —Photo by Bryce Whitmore

treated to a fine dinner. We were very happy to have such a fine new friend.

We arrived at the McCloud above Big Springs at about 10:30 a.m. The Queen was all we expected — a beautiful clear stream, a bit small here because the big spring downstream supplies most of the river's waters. The banks were covered with beautiful trees and brush rich in their fall colors. But we were not to have more than an occasional glance at the beauty, for the next few hours kept us very busy searching out rocks in that bouncing river. This was the "easy" 80foot-per-mile section, yet we were fighting for control, dodging, bracing, even tipping over only to roll back up.

Soon a large fallen tree gave us time to rest, for it had blocked the entire surface of the river. We had to portage. Only then did I discover that, in the excitement, half of one paddle blade had broken away and was missing. This was serious, but worse, we had only one extra paddle and had gone only 3 out of 42 miles. With the replacement we continued, though a bit more cautiously. Suddenly, as we rounded a bend in the river, it was as though we had been transplanted to a beautiful continental river, lined with medieval chateaux, for on the banks of this McCloud, as far as we could see ahead, were European stone castles complete with towers, steeples, unusual windows, balconies and murals. For the next mile or so we floated on the river with this strange and wonderful architecture on both sides of us, finally passing the huge main castle of what we knew was the fabulous Hearst estate Wyntoon. All the trouble of preparation and the long drive had now been repaid, and had we stopped here, we would have been satisfied. But on we went, the river becoming even more beautiful except for an area on one bank where loggers had fed upon the land. Actually later, their

ugly roads, cut through the wilderness, saved us untold difficulties.

The river became ever more difficult as we entered the first of two horseshoe bends and the rapids changed from continuous Class III to continuous Class IV, too much for heavily laden boats with no support cars and little repair material. We started a series of portages, made difficult by the heavy boats, timber and brush to the water's edge, and by cold. I had forgotten to mention the cold, for the sun at this late season shone only about three hours because of the canyon's depth. The water was a spring-fed 40 degrees and even though we were dressed in skin divers' wet suits, our hands were almost too cold to grip the paddle.

We decided to camp and evaluate the situation. With some hot soup, our minds cleared. We had come about 12 miles of the "easier" water. A hike ahead showed a portage of a mile to runnable water again, but after that the map indicated ever more difficult stretches. We were at the end of the log roads, the point of no return. At our present rate it would take at least 5 days, and we had food and time off for three. We decided Queen McCloud had us licked and that we should hike out in the morning.

It was a cold night. Our light sleeping bags were hardly adequate so it felt good to start walking in the morning. We walked about 10 miles of logging roads back towards the town of McCloud, but the road terminated with a locked gate. It looked as if **we** might get out, but we saw little chance of getting the kayaks and gear out. We had one hope in that we had found a lumber company pick-up truck which might belong to a fisherman on his day off. We had left Roger behind to exploit this possibility.

As Maynard and I sat on a log discussing possibilities, we heard a car coming from the McCloud direction. It was an old carry-all which slid to a halt at the locked gate. As the cloud of dust and beer cans settled, we discovered it contained two very inebriated locals and their scared little dog. To us they were, above all, transportation. We explained our problem which I'm sure they understood not in the least, for in the next hour they asked us dozens of times how we had gotten there "Na, not on the river" or "w'll w're all the damn boats?"

The locked gates bothered these men not in the least for they were locals - "poachers" - the lumber men had stolen their forest. They knew every tree. We climbed aboard the truck in the back seat, made a U-turn through the ditch, and we were off. Soon we turned onto a side road, then a side trail, then no trail at all. The lumber people, to discourage such traffic, had felled trees across the way, but this didn't deter our friends in their trusty Chevvy at all. They simply went through the ditches, over tree trunks, and back on course with a big cheer. Maynard and I looked for a place to grab when it rolled over. Everything was loose, the seat just sitting on the floor. Maynard gave the sad little dog a gumdrop. We all three managed a dry smile. To add to our backseat discomfort, there was a shotgun resting on the front seat between our friends, and it

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O. AND W. HARVEST 1852 9th Street, Alameda, Calif. LA 3-0830 was aimed at our stomachs. Fortunately we didn't know whether it was loaded, but the driver was having a "'ell of a time driving when my elbow keeps getting mixed up in the gun all the time." Still there was no road as the truck leaped over fallen logs and through the trees with both sides scraping. Maynard and I focused our attention on the side mirror. We don't know to this day how it escaped being torn away or even cracked.

It was the longest 10 miles we've ever ridden. The driver would broadside into washouts as his companion cheered. We gave the dog another gumdrop. All true white-water enthusiasts believe it would be a terrible waste to die on the highway, and I believe it was this faith which saw us safely to our boats.

Much to our relief we found Roger had arrived ahead, with the kind pickup truck driver who really had been fishing on his day off. They had loaded the boats and it wouldn't take much of a transportation analyst to figure which vehicle we chose to ride to McCloud in.

But what of the river? If the weather were warm, say early August, if you flew over it first in an airplane — if you allowed five days instead of three

The McCloud is a happy queen. Her only damage was a small loss of privacy, a little red, blue and orange paint scraped off on her rocks — and she's having a thrilling time dribbling that half a red paddle blade through the crystal-clear waters toward Lake Shasta.

Send in Your Dues . . . Use your Postal Zone Number





How to Not Take Pictures

By Dean Norman

The old-timers had it easy when it came to the problem of picture-taking. They didn't have cameras, so they didn't take any pictures. When cameras were first invented it still didn't create much of a problem for the outdoorsman. The early cameras were so bulky and complicated you couldn't blame an outdoor sportsman for not messing with them.

But today lightweight, even-a-childcan-operate cameras are regarded as necessary equipment for outdoor sports. If you go on many river trips without a camera, you will have to explain yourself.

There are several reasons why you may not want to take pictures on a river trip. Maybe you are a poor photographer, and you are tired of being humiliated in front of family and friends. Maybe the expense of film and camera repairs has discouraged you. Perhaps the bother of getting your camera in and out of its waterproof bag just doesn't seem worth it. My own reason for not wanting to take white-water pictures is that I felt I was missing something by watching the exciting moments with one eye closed and the other pressed against the tiny camera sight.

But It Won't Do

The trouble is none of these reasons is good enough for your picture-taking friends. If you say, "Oh, I just don't like to bother with taking pictures," people express shock and indignation. Don't you want a permanent record of these precious moments? Don't you want evidence of the pleasures and thrills of white-water sport? People seem to feel that the beauties of nature are wasted on your callous soul if you don't appreciate nature enough to take pictures of it.

To meet this reaction you can try a philosophical argument, like — "I don't take pictures with a camera! I take pictures with my mind!" Besides being a lot of baloney this statement has an unpleasant holier-than-thou implication in it.

Probably the best way to avoid taking pictures gracefully is to use a plausible excuse. The simplest is to say your camera is broken. However, if you say this to a camera nut, you will get involved in a tedious conversation regarding: what is broken on your camera, how you can fix it with a hairpin, and why you should never have bought that type of camera in the first place.

Another simple way out is to say you forgot to bring film. But this is risky because someone may have an extra roll which they will offer to sell you. So tell them you mean to say you brought film, but you forgot to bring your camera. If some trouble-maker insists on lending you his, drop it overboard in the first deep pool.

If your accuser is gullible, try claiming that you are allergic to film. You can elaborate this by saying there are hundreds of thousands of unfortunate persons who suffer from film allergy, but you have heard that Eastman Kodak is on the verge of a breakthrough in developing a non-allergic film.

The Lost Camera Ploy

But to get back to more conventional excuses, a smooth trick is to say your camera is packed somewhere in your gear, but you haven't been able to find it since you started on the river. To make this convincing you might carry a camera in the bottom of a duffle bag, and discover it with a surprised cheer when you are unloading at the end of the trip.

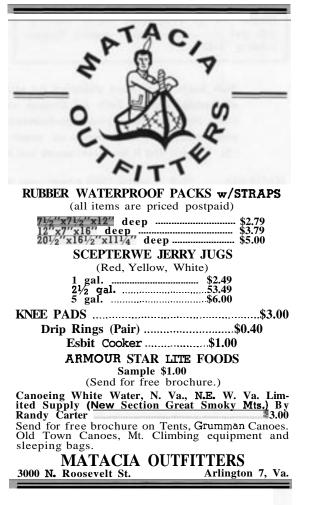
Here is a neat dodge if you are a good actor. Take along a cheap camera loaded with outdated film. At the first rapids where everybody gets out their cameras, maneuver to a precarious position and drop your camera in the water. You will get a lot of sympathy, a few laughs, and you won't have to make any more explanations for not taking pictures. To make your act really effective you might fall in bodily, or even capsize your boat while wetting your camera.

Of course there is one major drawback to all of the techniques I have explained for avoiding picture taking. Your friends may read this article and know what you are up to. So it might be easier to go ahead and take pictures,



Time to Renew

All AWA memberships expire with this issue. That means that you will NOT receive the next "American White Water" unless you send in your check for **\$2.50**... always excepting those who have paid in advance, which is a good idea too. Send **\$5.00** for two years!



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 . . Comparable model: Klepper Folding "Slalom 59".

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Rivers: Their Rise and Fall

By R. T. Simmonds

Illustrations by Jean Simmonds

A paddler need not be trained in botany to appreciate the beauty of a virgin forest, nor in astronomy to enjoy the blaze of the Milky Way, but there is no question that some knowledge in these fields will increase the pleasure. The same is true of geology, the study of the processes which mould the earth's surface.

As boaters, we are primarily concerned with rivers, and the valleys which they carve for themselves in the earth, and it is upon these aspects of geology that we will concentrate.

The River Cycle

Geologists consider rivers to go through a cycle of development which they compare to the human lifetime, with stages named YOUTH, MATUR-ITY, and OLD AGE.

The birth of a river occurs when a land area is uplifted high above sea level by forces within the earth. At this moment there is a surface sloping steeply toward the sea, down which flows the drainage of the area. (Figure 1).

The streams flowing down this slope will have a high velocity, and therefore great erosive power. These two factors are related by the law which states that doubling the velocity of a stream will increase 64 (or 2") times the volume of the largest particle the stream can carry. The following table shows the largest sized rock that can be moved by rivers of different velocities.

Velocity in

M.P.H.	Largest Size Carried
1,3 1	fine sand
1	gravel
3	2" cube of rock
6	10" cube of rock
11	$3\frac{1}{2}$ cube of rock

22 15' cube of rock (250 tons)

These streams, which are called young because their gradient (slope) has just been increased, very quickly use this great erosive power to cut deep canyons. The typical young stream has a fairly straight, deep, V-shaped canyon, a high velocity, and numerous rapids or waterfalls; an ideal stream for whitewater boating.

As the stream cuts deeper into the earth it approaches base level, the point beyond which it can no longer cut. This, of course, is essentially the elevation of the body of water into which the stream empties. That is to say, sea level for coastal streams, or the level of Lake Erie for a river like Ohio's Cuyahoga (Figure 2).

When it nears base level, the stream, unable to cut deeper, begins to move laterally and undercut its valley walls.



Figure 1

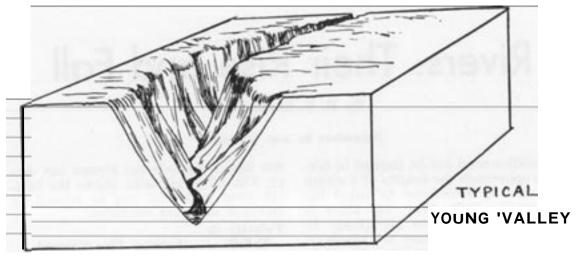


Figure 2

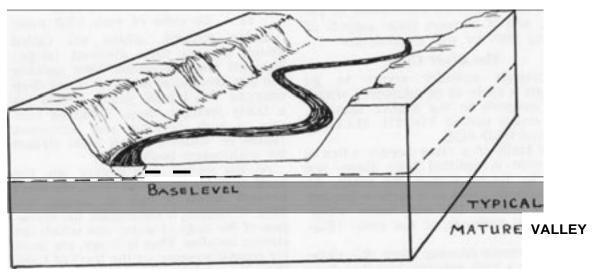
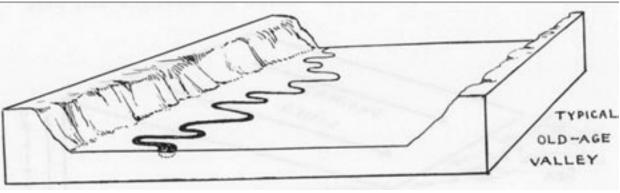


Figure 3





American WHITE WATER

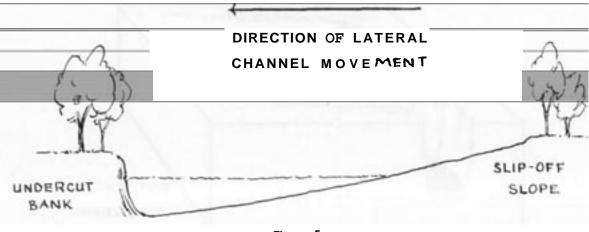


Figure 5

These collapse, and the material is carried away by the river. Soon it begins to **meander**, or loop from side to side, widening its valley wherever it touches the valley walls. Thus the shifting stream develops a wide flat valley floor, or **flood plain.** This introduces the stage called MATURITY.

The pattern of meanders is not stable, but shifts continuously as the meanders move laterally (Figure 3).

Note in Figure 5 that the slopes of these banks are continued in the river bottom. When this is compared with Figure 6, which is a bird's eye view of

the meandering river, we can see the reasons for the validity of the paddlers' axiom — "keep to the outside of a curve for deep water."

On occasion a river, especially at flood time, will cut across the neck of a meander, and permanently shorten its course once again. The abandoned meander may retain water for a time, forming an **ox-bow lake**, but will eventually dry up, forming a **meander scar**.

The mature stream continues to widen its floodplain until the meander belt occupies only a small portion of it, and thus enters OLD AGE (Figure 4).

At any point in the cycle, the area

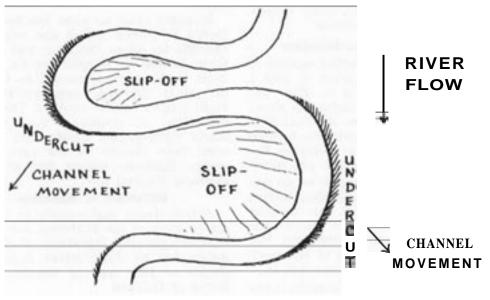


Figure 6

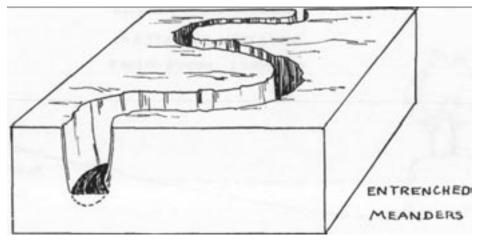


Figure 7

may be uplifted once more by the earth. In effect, this lowers base level, and permits the stream to cut downward again. If this occurs while the stream is still in youth, the effects of this rejuvenation are not too noticeable, but if the stream had reached maturity or old age, the results are striking. The channel, which is now being rapidly deepened, is a meandering one, and the meanders are cut downward far faster than they can move laterally. The result is **entrenched meanders**, perhaps best displayed in the famous "Goosenecks" of the San Juan River (Figure 7).

This type, like the normal youthful stream, is a favorite with paddlers because of its high velocity, many rapids, and deep, spectacular canyons.

The "Whys" of River Location

One of the most interesting aspects of river geology is the question of why a river is located where it is. The "obvious" answer is that it naturally flows in the valley. The more sophisticated realize that the valley itself was formed by the river, and so the question becomes: why was the valley cut here?

In the simplest case we have an absolutely uniform surface sloping toward the sea. The streams on this surface will simply flow straight down the slope. Such perfection is unknown, but some of the smaller rivers of the eastern coastal plain closely approach it.

The most common complication is the alternation of weak and strong rocks

at the surface, which tends to concentrate stream flow in the belts of weaker rock. The Hudson River between Newburgh and Albany is a good example of this, flowing on the outcrop of easily eroded shales. The Shenandoah also follows a shale belt throughout most of its length.

Alternatively, the line of weakness followed by a river may be a fault, a line along which the rocks have been broken and moved past each other by forces within the earth. Examples of this are the Ramapo River in New Jersey, and New York City's Harlem River. On the west coast, California's San Benito follows the famous San Andreas fault.

In some cases an area has been subjected to forces which are not strong enough to cause faulting, but instead form **joints**, or simple cracks, in the rock. Under normal conditions two sets of joints develop, approximately at right angles to one another. These two directions of weakness give a river many right-angled bends. This can be seen very clearly in the case of the upper Hudson, which follows joints running NE and NW.

Influence of Moraines

A few rivers, particularly in the flatter country of the Midwest, are located between parallel **moraines**, or ridges of debris left by the glaciers. A good example of this type is the St. Mary's River of Indiana.

There are, however, some rivers

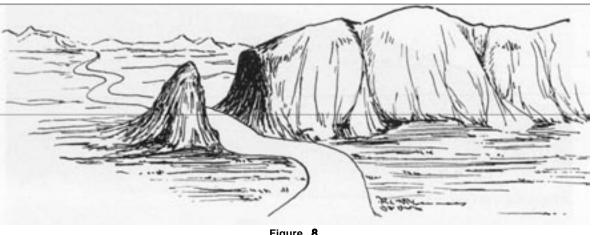


Figure 8

which seem to be perverse in their desire to flow across harder rocks, and have cut great gorges through them while seemingly avoiding easier routes.

The Hudson River does this in the Highlands, and the Delaware at the well-known Water Gap, but the most striking example is the point where the Sweetwater River of Wyoming has cut the gorge called Devil's Gate. By shifting its course at this point only a few hundred yards, it could have flowed completely around the ridge of harder rock (Figure 8).

Geologists explain this by saying that at one time the Sweetwater flowed across a surface, far above the present level, which consisted of uniformly soft rock. Then a sudden uplift of the region caused it to cut downward rapidly. When the river encountered the hard rock of the Devil's Gate ridge in is trapped' downcutting, 🛿 was already in a deep valley, and so had no other choice but to cut through. Since the cutting of the Gate, the remaining soft-er rock has been completely eroded away. The term superposed stream is used to describe this situation.

Painting River Gauges in New England

The AMC Canoeing Guidebook Committee is presently in the process of placing gauging marks on all of the popular canoeable rivers in New England, for the benefit of canoeing parties. These consist of three horizontal paint lines.

The lowest mark is yellow, and indicates the height of water below which the river is too low to be practical for canoeing. The middle mark is orange, and indicates optimum height. The upper mark is red, and indicates a dangerous level. This mark has a vertical tail extending upward so that it can be located when all the marks are covered.

Most of the marks are located on bridge abutments. They are usually placed at the beginning of a run, and apply to the section of river downstream. Long rivers with several distinguishable sections have several marks at appropriate points, and corresponding readings at the different locations do not necessarily occur at the same water stage. The exact location of each gauge is given in the [forthcoming] guidebook.

STEWART COFFIN

Classified

FOR SALE-Grumman aluminum canoe 17', guaranteed new condition, used once, owner sent overseas, cost \$255.00, Price \$195.00 f.o.b., packing \$10.00, Matacia Outfitters, 3000 N. Roosevelt St., Arlington 7, Virginia.



Kenneth Taylor in his Eskimo kayak

A Greenland Summer

(During the summer of 1959, a Scottish canoeist named Kenneth Taylor went to the village of Igdlorssuit, West Greenland, to study the techniques of kayaking and seal-bunting by kayak in this region.

Kenneth took along a rigid kayak of his own design. He had a fully equipped Greenland kayak made for himself, and a kayak frame, paddle, harpoon and throwing stick made for me.

The following letter from Kenneth was such a vivid account of his adventures that others might also find it interesting. It is presented here with Kenneth's kind permission. — John D. Heath.)

Osterbrogade 89, Copenhagen 16th. Jan., '60.

Dear John,

... I have been most interested in the Alaskan kayak you are building. Do let me know if you have finished this and how you have found it to use. With a round bottom I wonder what its stability will be like? You may have read Spencer Chapman's excellent accounts of kayaking in East Greenland on the two Gino Watkins expeditions, where he describes the kayaks as so unstable as to be impossible to sit still in without some balancing by the paddle. Thus when I went out this summer I was quite expecting to go upside down the moment I got into my first kayak. In point of fact the West Greenland kayaks with their very pronounced hard chine are quite remarkably stable. Though of course there is very little tolerance as regards leaning to one side without overbalancing. Another point I noticed is that with the quite flat decks, if you are a bit off balance it is quite possible for the water rising over the gunwale to "get a grip" of the kayak and give you some trouble if not quickly corrected.

Now let me tell you something about the past summer. It was through a fellow passenger on the boat out that I met the Eskimologist I told you of, Bent Jensen by name. He went to the trouble of coming to Umanak to meet the boat even though he thought I was a geologist . . . He was delighted to learn the true purpose of my visit and immediately invited me to go back with him to the village Ikerasak where he has a little turf house and had lived as a hunter for the winter '56-'57. This of course was a wonderful opportunity for me as to be able to discuss my plans with such a man would be of tremendous help. He speaks a fluent, if limited, Greenlandic and is on the best possible terms with the villagers. Thus I had a week of invaluable instruction in all aspects of local customs and etiquette and general behaviour with the Greenlanders. We had into the bargain a week of the most glorious weather imaginable so it was a quite idyllic breathing space and chance for me to find my feet before starting on my own in Igdlorssuit. During this week we made a one-day visit to a nearby smaller village, Umanatsiak, where I tried my first kayak and made a detailed study of the seven kayaks there. This was a most useful prototype from which I worked out the system of recording which I later used in Igdlorssuit. In Ikerasak I also tried some kayaks and managed a couple of rolls to the enormous delight of all the village.

I Reach the Village

After this Bent returned to Denmark and I finally went on to Igdl. In Green-

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land all Europeans and some Greenlanders too have cooks or maids, known as "kivfaks." Well when I went on to Igdl, I had my own kivfak with me--the little girl who had cooked for Bent and me in Ikerasak. She had been on her way South to Kutdligssat to look for a job and when she couldn't get a passage on the boat we arranged that she should come with me instead. This was to be a great help as with her the initial stage of Greenlanders' shyness was past and she was already learning to understand, better than any of the others ever could, my attempts at Greenlandic.

The weather had broken when we came to Igdl. And after two days of tent erecting, etc., I went to bed for six days with 'flu. So it all seemed a bit depressing after the week in Ikerasak. As I recovered from my 'flu, so the weather picked up and from then on it all became as enjoyable as it could be. The first week or so the people were extremely shy but we soon got accustomed to each other and really became the best of friends. I have never before met such friendly people, so helpful and kind, doing everything possible to make me happy among them. They were all tremendously interested in everything I did and of course I had their sympathy from the start on account of my very reason for being there. Also I tried hard to pick up the language and they were pretty tickled with this. In due course they got me fixed up with a working vocabulary and we were able to converse to quite an extent. The little kivfak as I said was best at this and she was even in the role of interpreter from time to time with the people who were less able to follow "pidgin-Greenlandic."

I had with me two ridge tents, the larger as my own "house," and the other, which was to be blown down in a gale, as general store tent. The camp bed broke tne first time I used it so I slept from then on on the ground, extremely comfortable and warm between two reindeer skins lent me by Ludwig Quist, the village headman. Katanquak, my kivfak, lived at Ludwig's house. The most pleasant surprise perhaps of the whole summer was the way



Igdlorssuit friends: Jonas Malakiasen dons his waterproof sealskin kayak jacket, which fastens about the face, wrists, cockpit rim.

in which I was never alone in the tent. Every evening for the duration of my stay my tent was used as the village Youth Club and was filled to overflowing with the youngsters and young marrieds of Igdlorssuit. We drank endless cups of coffee, had lessons in Greenlandic. played songs on accordion, local and block-flute, Scottish, and taught each other card games. It was tremendous fun all round.

Kayak Practice Begins

Straight away after my 'flu was better we began lending each other our kayaks. I was glad to borrow various ones both for the general feel of things and for a certain amount of rolling, while Scottish one was in constant demand with the younger boys not yet the possessors of kayaks. It seems to be exceptional for a boy to get his first kayak before the age of 18. They have now in all, or almost all, Northwest Greenland villages a kayak especially for the kids to learn in and a man paid to instruct the youngsters. This is all generally at the age of 9 till 12 or so; after this age the kids' kayak becomes "infra dig" and further practice is by borrowing the father's or brother's kayak. Rolling is not learnt until the boy has his own kayak; as far as I could



Enoch Nielsen battens down the hatch. On his deck are a harpoon line stand and a gun bag. Yes, that's ice!

make out they consider the 9-12's not yet strong enough for this. . . . I was blessing the fact that I had learned to roll a bit before leaving Scotland.

Peter, 16 (my side-kick in the village), in my kayak, Karli, an excellent kayaker and hunter about **30** years old, and I in Ludwig's kayak went off for the day in search of seal.

Fifty-nine was, as it turned out, a year of very few seals in that district. This, of course, was a considerable disadvantage to my work. It also meant that we saw no seal that day.

What did happen is that, twisting round to look over my shoulder, I overbalanced and capsized. Complete carelessness, my looking round in that way: I had become overconfident by that time, and I suppose a wave must have caught me at just the wrong moment, and over I went. I stroked with the paddle to try to catch and stop the movement but not well enough and I slowly went under — fortunately with time for a good breath and a bellow for help. All day Karli had been virtually shadowing me and being aware of his nearness made all the difference

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to me as I floated upside down. I felt no panic but only told myself, "Everything's fine, Karli will be here in a moment."

Of course I also tried to roll up again. Unfortunately I quite forgot that I still had the paddle in the normal paddling position and not with the long grip I needed to roll. So try as I might I could only come about half way up, enough to breathe, but not enough to right myself. This performance I went through about four or five times and still no Karli. I was beginning now to wonder whether I would have to struggle out of the kayak altogether but on the next half-roll I saw Karli at last almost beside me.

He Pushes Me Back

Up again and I grabbed at his arm, almost pulling him over as they told me later, but he pushed me down again and now I had to find the paddle again, let go when I grabbed at Karli, and with one more stroke Karli was able to catch me by the shoulder, I leaned on his after-deck and between us we managed to get me upright again.



Enoch Nielsen in a sculling underwater paddle brace, keeping head above surface.

Feeling very wet and more foolish I profusely thanked him and assured the two of them that everything was all right. Even with only the "tuitok" waist band not much water had got in but Karli insisted that we sponge this out. They hate getting water inside their kayaks.

From now on the whole thing became an object lesson in rescue procedure. Karli wedged his paddle across our two fore-deck straps or thongs. I sat on my after-deck on the paddle blade holding the shaft of it onto Karli's after-deck by taking paddle and after-deck thongs together in my grip. Peter further helped by holding my fore-deck thong and cockpit ring. Thus we had a very stable catamaran and Karli was able to sponge out every last cc. of water while I got as cold as I ever wish to be. This at last complete, I wriggled back inside and we set off for Igdlorssuit a few miles away. By this time my shoulder muscles had got a bit seized up with the cold and-I could not manage a proper stroke. It must have taken about three-quarters of an hour maybe to get back and it was sheer bloody hell I can tell you. Into the bargain the wind got up a bit against us on the way back so I really felt well past my normal limit of endurance when we arrived. I reeled up to the tent and got into bed. What a party they had that night all crowding in to see how I was and hear the story from young Peter; how he enjoyed himself. So that was a sad and sorry experience but it did provide all the answers to the question I had wanted to look into of capsize-rescue methods.

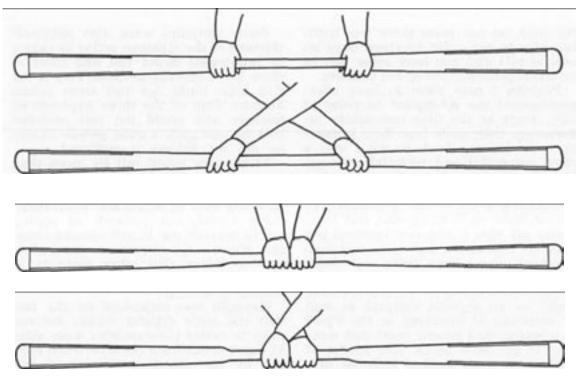
For non-Greenlanders, I would now say quite definitely that something very like my own experience is the only way of dealing with such situations. There can be no question of the capsized man abandoning his kayak and being in some way conveyed home by his companions. The risk of death from exposure is far too great a risk for this. Thus it would be essential for the man to manage to roll at least as much as I did, in other words enough to breathe even if not to recover. So you might say that no one should leave the village bay without some knowledge of rolling. Two villagers as companions with one "shadowing" the European. At one point we had considered the need of special equipment to "catamaran" the kayaks but I can now say that this is not really required; the normal hunting gear of the Greenlanders is in itself sufficient.

As for my Greenland-built kayak, there were no seal skins of the type for kayaks available when I arrived and it was after many weeks of expecting to use canvas that I got the four I needed. With some further delay involved in getting the wooden hoop for cockpit, I only had my kayak for some five days before leaving instead of the five weeks I had anticipated. Thus the only participation in the seal hunting I was able to do was with my own nonhunting kayak. This was the unforgettable high spot of the whole summer. Four of us, three brothers Tobias, Enoch, and Edvard, with our kayaks on



Enoch Nielsen comes up

American WHITE WATER



Hand positions for the screw roll, as demonstrated by Enoch Nielsen, an expert kayaker, at Igdiorssuit West Greenland, in 1959. Positions are held throughout the roll . . . these are four of fourteen methods the Eskimo demonstrated to Kenneth Taylor. (Drawing by John Heath)

board a small inboard motorboat belonging on hire-purchase to Tobias and Edvard. Perhaps I should add their ages -37, 30, and 19, respectively. Six days we were away across towards the mainland into Karrats Is-fjord where one of the four major glaciers of the West Coast discharges. We had a marvelous time though only got eight seals. I had cine camera with me and went out with Tobias to film him from my kayak. I got him taking a seal without use of rifle at all in the real old style. On one day seeing a seal some way away but also that Tobias was already chasing one of his own I had the chance of going for it myself. I was able to get it close enough by a lucky judging of its dive, but my shot, with shotgun, fell short and at best I maybe wounded it a little for it came up again three or four times close to but was too much alarmed for me to get close again. Tobias then came up, his having got away, and he managed another shot at it but after this it swam far and escaped us. Another time I was able to shoot one that Tobias was stalking and later caught. So I had a certain taste of the thing though if there had been more seals and my kayak had been ready in time, of course I could have done much more. It was fine sport notwithstanding and I can't say how much I look forward to some real hunting from my own Greenlandic kayak if I manage to get back again.

Another fine aspect of this trip was that at one campsite we met a number of the Nugatsiak hunters so that for two nights I was with some fifteen kayaking seal-hunters "on the job" so to speak. Rather a unique chance I feel.

Soon after this the other bad stroke of luck befell. The cine camera broke down and I had to waste ten precious days going to Umanak and getting it repaired by the electrical engineer. It was a marvel, of course, that he was able to at all.

After this there were seven rushed days of finishing everything off and home. All through the time there was the work on kayak, measuring, etc. and photography all the time. Add to all this the continual "Kaffe-miks" or coffee invitations, the dances, birthdays and two weddings, the struggle to make the tent dog-proof from the voracious huskies, and the shooting of seabirds

for food (at one point there was nothing else to eat — for fourteen days no seal at all) and you have some sort of an inadequate picture of the summer.

Perhaps I may seem to have overemphasized the set-backs? In point of fact, while at the time completely infuriating, they quite lose their importance on looking back to what was a most successful and tremendously enjoyable summer. In such a beautiful place, with such fine people, and such fascinating work to do it couldn't, of course, have been much else, but I can really say that it was one hundred per cent my cup of tea and more fun than anything else I have ever, ever done.

Now Bent Jensen and I are talking about collaborating on a comprehensive study on all aspects, cultural as well as material, of kayaking in the Fjord as a whole. So I simply must find some way to get back again. The people of Igdlorssuit were thrilled with the idea that I might return, offering me dogs, a sledge, their homes to live in and any help I should ever want. At that time, up there, I could only see it as possible on a shoe-string, with some approximation to a hunters' economy essential. Now perhaps it won't be done in quite that way but the villagers thought it was a great idea. Then you will be "sordlo Kalala" — like a Greenlander, they said. So I feel I will be welcome and long to go back.

I'll keep you posted on how things develop.

My best regards to sou, Yours sincerely, KENNETH

Note by Jobn Heath:

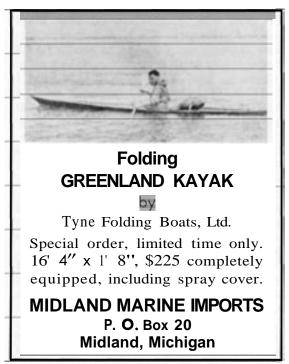
Kenneth visited the writer last summer. He tried out several kayaks in Puget Sound. One of them was the Alaskan kayak mentioned in the beginning of his letter — he found it to be as unstable as he had expected.

Some interesting additional details were described during his visit. He said that Ludwig, the village headman, tried out his Scottish kayak (shorter and wider than the Greenland kayaks) and paddled it with such powerful strokes that the bow rose completely out of the water in an attitude he had not believed possible. Ludwig maintained this position for about 50 yards. Some statistics were also obtained: thirteen of the eighteen active kayakers in Igdlorssuit could roll and most of them knew several methods. Two of the five who could not roll were young hunters. One of the three experienced hunters who could not roll confided that he was such a good paddle bracer he did not believe it mattered.

Three men could roll by more than ten methods. Enoch, the best roller in the village, demonstrated fourteen methods (four of which are illustrated). Some twenty-one methods of rolling are in current use in and around Umanak Fjord — an impressive fact when one considers that other districts in Greenland formerly had even higher standards of skill.

Kenneth was impressed by the fact that the more skillful rollers did not need to sweep their paddles more than **30** degrees out from the bow when rolling by the standard Greenland roll (from which the Pawlata method was derived.) Some of the Greenlanders tried to offer him tips on technique, but the language barrier made this difficult.

He hopes to return some day after he has mastered their language. Since he is now a student of anthropology at the University of Wisconsin, perhaps that day will not be too far away.



MEET YOUR AWA SECRETARY

George Siposs, a co-founder of the Ontario Voyageurs Kayak Club, is our new Secretary for 1962-63. Thus a welldeserved credit goes to our Canadian neighbors, and the American Whitewater Affiliation proves that "American" is a word that belongs to other nations than the United States. Let's hope that some day our Latin neighbors join us in bilingual or trilingual americanism!

George is one of the best kayakists on the continent, having won the R-1 class at West River and Hudson River races, with high standing in the overall international single kayak results. He was our first Racing Editor, and resigns that post only to fulfill his new and still more important one.

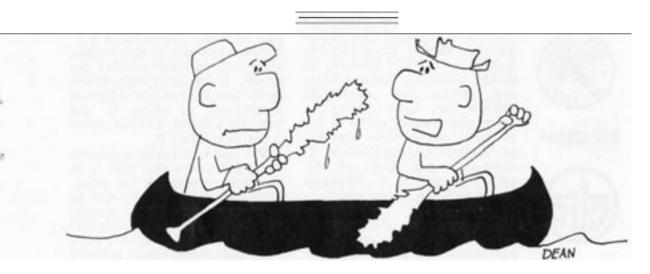
A mechanical engineer, George is 31, married, with a son and daughter; he has been paddling kayaks since 1948, and owns a stable of rigid and folding types. He doesn't explain how he carries these on his Jaguar XK-140. but perhaps can be persuaded to write an article about it for the magazine.

"My aims," he writes, "are to let people in North America know that there is such an organization as AWA in existence, and to gain recognition for our sport through safety demonstrations, magazine articles, etc.



George Siposs and trophy

"NEED LOTS OF HELP. Volunteers, please step forward NOW."



"I GUESS THAT'S WHY THEY CALL IT "BEAVER RAPIDS! "



SECRETARY'S SOAP BOX

Retiring AWA Secretary

The AWA has been incorporated since last June. Following a vote of the General Committee for incorporation in New York, it was found that approximately \$75 could be saved through incorporation in Missouri. Since this seemed to be a legal matter only, Missouri was selected. Because of a quirk in the Missouri law the titles of President, Vice President, etc. will have have to be adopted rather than present terms in order to conform with the articles of incorporation. Again this seems purely technical and when it is accomplished a copy of the constitution will be sent to all affiliates. There will be no change in the content or meaning of the constitution which could not be accomplished without a vote of the General Committee. (I would like to thank Biff Biffle for his generous efforts.)

Welcome to new affiliates: Matacia Outfitters, Lou Matacia, rep., 3000 N. Roosevelt St., Arlington 7, Va.; FibArk, of Salida, Colo., the famous Colorado racing club which the CWWA has been trying to teach white-water skills to for so many years; State University College Outing Club, R. T. Simmonds, rep., Dept. of Science, Oneonta, N. Y.; Mohawk Rod & Gun Club, Toronto.

Since each one of us is interested in different aspects of our sport and to various degrees, it is very difficult for a local club to serve everyone's taste. Thus most clubs attempt to achieve some semblance of balance by a well-rounded program. Unfortunately, many have already made certain philosophical assumptions; i.e., they may have decided to be a cruising club or a racing club. I think that such decisions are often erroneous in terms of the effect on the individual and his relationship to white water and the problems involved in handling white water.

First of all, I think that any group must attempt to understand or arrive at some conclusion as to the meaning of white water and the challenge it provides the boater. We may clarify this concept of challenge through a discussion of what actually happens to various boaters as they attempt to run rapids.

Many of us have either experienced or viewed a boat being swept through a rapid. The boater in this situation fights to keep his boat from being turned over, but really is not in command in the sense of being able to control direction or handle each obstacle or wave while always in equilibrium. For instance, a frantic paddle-brace at the last moment, or a forced eskimo-roll in order to get through a rapid without upset is not to conquer it.

The one who really conquers the rapid is the one who is in complete mastery of the situation both as to direction and as to the execution of the proper strokes for each wave. A favorite rapid of mine which I have run a half-dozen times, without upset, I have only conquered, or run with real satisfaction, once. There is no question but that the river is the master. Any keen observer can easily recognize the boater in control and the one who is "lucking through."

We could learn so much from the sports of diving or horse shows, etc., in which we judge on form. If we become more aware of the method in which we meet the challenge of white water and recognize the difference between the peculiar thrill of being frightened by a rock-strewn stream while hoping that luck is with us, and being able to analyze the situation, noting the direction and types of strokes that must be executed to meet the challenge — then, and only then, are we **meeting the challenge** of white water.

If we are willing to accept this concept of white-water boating, why does this negate the concept of cruising vs. racing clubs? First, I would like to review my impressions of our friends and new affiliate — the FibArk Club of Salida, Colorado. Undoubtedly, they will not be very happy with my impressions, but I think that they will accept it in the camaraderie of our sport. Also, FibArk is beginning to make adjustments.

Erich Seidel, an old FibArker, has often been quoted as saying "we are not interested in developing average boaters, only in developing winners." Fib-Ark is a racing club, located on the banks of the Arkansas, which has succeeded in developing a widely known downriver race. The race is a twentysix-mile grind with three fairly difficult rapids. Since the downriver is the feature attraction at Salida, it has tended to overemphasize the development of technique for this one race.

FibArk's leading U. S.-trained boaters have developed their skill in this race to a high degree. At the same time their lack of skill in handling rapids is exceedingly unusual in view of their success in downriver racing and their accessibility to fine white-water conditions. One must conclude that the overspecialization in this one race has contributed markedly to their lack of development of the refined techniques of our sport. This certainly has hindered their development as boaters and would greatly reduce their chances of success in a difficult downriver race in which course conditions were not familiar.

Referring back to our previous discussion, some FibArkers tend to reflect the reaction of a chilling thrill in handling rapids; i.e., a hope-and-pray approach to the difficult ones. (Technique consists of paddling like hell through the rapids.)

Fortunately for FibArk, our slalom races and most of our downriver races have emphasized power rather than presenting a myriad of white-water problems. This also has allowed them to retain a high degree of success with outmoded back-paddling techniques in slalom racing. Their success is due to poor competition rather than their own improvement.

Why has their specialization in racing hurt them? It has robbed them of the basic philosophical approach to the joys of white water. When you remove the fun and reduce the number of participants in your area by concentrating on a few individuals you take away the individual challenge against nature. The challenge against the rapids is not fun for them; it is a barrier to their ultimate gcal of competition or defeating individuals. Since white water is a barrier rather than the ultimate challenge they tend to lose sight of the skills needed to handle such problems or at least fail to develop skills that make the sport so much fun.

The other extreme — "we are just a cruising club and we don't want to be bothered by racing" - is just as detrimental. Again, the individual suffers from this extreme position because it takes away the competition that develops new strokes and makes one aware of his inadequacies. If you succeed in running rapids in a certain manner, you may never change unless you become aware of the new methods available. Competition brings out such techniques and allows the average boater to become familiar with such strokes. If you, as an individual, are able to compete, it sharpens your technique which in the long run will enable you to enjoy the sport to a higher degree. There is always considerable joy to be achieved in proficiency. Also proficiency in white water reduces the chances

of a lost boat, or at least, the loss of dignity.

*

Regardless of whether your club is interested in racing or cruising, some kind of training sessions are essential. January is the time to start training sessions—not in the high water of spring run-offs. Ideally, each club should have access to two films: 1) a promotional film which could be shown to ski groups, scouts, etc., in order to create interest in the sport; and 2) a training film to demonstrate various strokes. In conjunction with the training films each club should be able to supply assistance to new members in purchasing, building, designing, and modifying equipment.

Undoubtedly, the finest winter exercise is that of training in swimming pools. One hour per week in a swimming pool should enable the beginner to become proficient in eskimo rolls prior to the boating season. It is also an excellent time to get the feel of high strokes, especially when a tip-over means nothing. Following pool sessions, beginners should acquaint themselves with moving water rather slowly and once they get the feel of a rapid they are on their own.

Some clubs are adopting rating systems in which boaters are grouped in classes according to skill. Some people think that this tends to create interest in improving boating techniques and others feel that it is too snobbish. Classifying boaters undoubtedly has some merits from the safety standpoint and may also encourage class races which tend to stimulate all boaters in some form of competition.

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American WHITE WATER

RACING REPORT

First Pacific Coast Nationals

The kayak National Championships for white-water slalom and downriver will be held for the first time on the Pacific Coast this year. The River Touring Section of the Sierra Club's San Francisco Bay Chapter was awarded the sponsorship by the American Canoe Association last month.

The canoe Nationals will remain back East, the ACA decided. This was in line with the recommendation of Dave Morrissey, AWA Secretary, after competing with the R.T.S. at last year's Pacific Invitational Slalom race. Sponsors of the canoe event, to be held May 19-20 at Jamaica, Vt., will be several Appalachian Mountain Club chapters, the Canoe Cruisers of Washington D. C., the Buck Ridge Ski Club, the Kayak and Canoe Club of New York, and the Norwich Outing Club. (See below for how to apply).

The kayak event will probably be held at the end of June early July the North Fork, Feather River near Caribou. (See page 30 for how to apply.)

Note to versatile paddlers: you can compete in both events, even by slow canal boat!

By George Siposs, Retiring Racing Editor

It is interesting to note that many organizers are combining the F-1 and R-1 classes into K-1 class. The superiority of either class has not been firmly established and combining the two will make the job of organizing easier.

Also interesting is that several groups are designing and building canoes with white-water and slalom racing in mind. The Mohawk Rod and Gun Club in Ontario, and Explorer Group No. 32 in State College, Penna., are examples. Chuck Eberhart of 1855 North 26th, Kansas City, Kansas, is building a C-1 specially for racing in white water. Very soon we shall probably see the first esquimautage in a C-2, (on this continent, that is) . . .



Due to lack of space last year we were unable to publish the description of a local slalom race though we did publish some pictures of it. It was held on the "wet shirt" rapids of the Susquehanna River near Karthaus, Penna. It was a local affair organized by the ambitious Explorer Post No. 32 led by Dave Kurtz. Besides serving as gate watchers and cooks the girls also took their paddles and, either single or with their dates, entered the race. The course was complete in every detail including painted slalom gates. Twenty-seven boats competed in three classes. Naton Bernot, a Yugoslavian who with his brother took second place in the World Championships in 1957, gave the group many pointers and a demonstration run as well. All in all the "Wet Shirt" slalom was a splashing success.

^ * *

North America's oldest long distance canoe race (having been run since 1926) is the Les Voyageurs Long Distance Canoe Race. Though not **the** longest, we believe that it is unique in that it requires the contestants to be entirely self-sufficient. They are required to carry camping equipment and food for the duration of the entire race. This year's classic was won by the Doak-Harvey team (in the Senior Class) in the record time of 8 hours 57 minutes (this is total elapsed time for two days).

We would like to point out to all race organizers that deadline for inserting the results of races in the Spring issue is April 1st, and for the Summer issue July 1st. Please send results and 5x7 glossy action shots (with plenty of detail) to the new Racing Editor, Bob Field, 215 Elm St., North Reading, Mass.

1962 Racing Schedule

Nationals

May 19-20: National White-Water Championships (Canoe), Jamaica, Vt.

Write to: William Prime, 166 East 96 St., New York 28, N. Y.

- June 30-July 1: (probable) National White-Water Championships (Kayak), Caribou, Calif. Write to: Peter Whitney, 1544 La
 - Loma, Berkeley 8, Calif.

Eastern United States

April 28-29: Brandywine Slalom, Wilmington, Delaware.

- Write to R. McNair, 32 Dartmouth Circle, Swarthmore, Penna.
- May 6: Potomac River Whitewater Race.

Write to R. Harrigan, 5113 Wehawken Rd., Washington 16, D. C.

May 12-13: Hudson River Giant Slalom and Derby. Write to Charles Severance, North Creek, N. Y.

May 19-20: West River Slalom, Jamaica, Vt.

Write to Robert Field, 215 Elm Street, North Reading, Mass.

Canada

April 8. Credit River Downriver Races and Slalom.

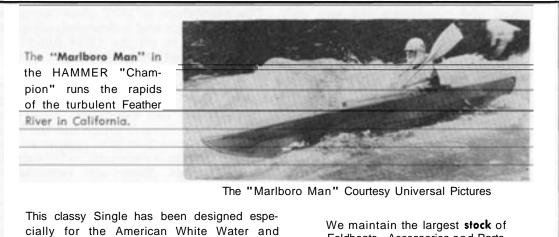
Write to George Siposs, 5 McArthur Street, Weston, Ont.

April 15. Second Annual Root River Race.

Write to John Anthoine, 230 Queen St., East Sault Ste. Marie, Ont.

April 22. Coquitlam River Slalom.

- May 13. Coquitlam Slalom and Downriver Race.
- June 17. Western Canadian Races. Write to B. C. Kayak and Canoe Club, Box 2237, Vancover, B. C.



cially for the American White Water and built with German craftsmanship and quality. The pronounced rocker, insuring high maneuverability, and the exceptional stability make the "Champion" the ideal single seater in which to enjoy the thrills of foldboating.

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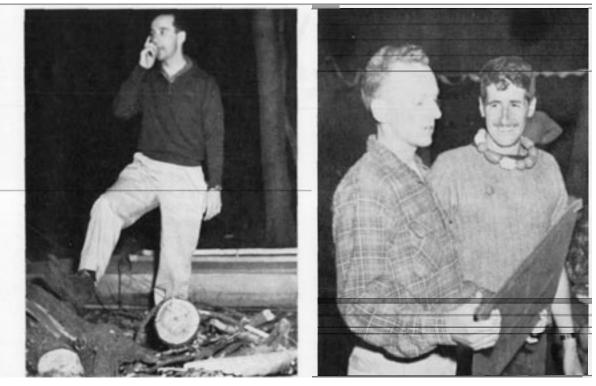
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American WHITE WATER



When Paul Bruhin decided definitely not to marry any of the American girls who had tried to snag him, and announced his intention to return to Switzerland, his home club — the KCCNY — showed its appreciation and affection with a testimonial dinner. Extraordinary preparation went into this event, held last summer under the trees of Housatonic Meadows State Park. Above, left, you see one of the hits of the evening — the "Eskimo Roll Song" conducted in Maurice Posada. Right. Paul receives from Bill Heinzerling the club's gift — a photo album full of white-water and other pictures taken during Paul two-and-a-balf years in the U.S.

Paddling Tips from Paul Bruhin

Ed. Note: Paul Bruhin last year left these shoves after three seasons in which he lifted a large number of our white-water trophies, but also trained many paddlers and won many hearts.

imagine anybody who has run a river with Paul will recognize these maxims, and may even conjure up the music of that unreproducible Swiss accent . . . His address nowadays: Paul Bruhin jr., Uhrmacher, Herrengasse, Schwyz, Switzerland.

Use your head rather than your muscles.

Keep your paddle as deep in the water as possible. The water on the surface moves faster than the water below and therefore the paddle has more resistance. Hold it as a pivot point around which the boat can turn.

If you want to turn when going through waves, wait until the wave is directly below you (amidship), then turn the boat. This way the bow and stern are more or less in the air and the resistance is at its lowest point.

When scouting rapids remember on which side you saw "solid" water, downstream from the waves. As you break through the wave, lean towards this "solid" side so that as soon as the boat is past the wave you can dip your paddle into this spot and thus steady the boat.

The Duffek stroke can be applied towards the bow, the middle or the stern, depending on which end you want to "pull in."

When crossing waves, it is possible to actually "reach" over the wave next (parallel) to the boat to do a paddle brace. Don't fall asleep at the switch. Carefully size up a situation, then go into action. White water requires **split**second timing. Practice, practice, practice

Safety as W e See It

By JOHN BOMBAY AWA Safety Chairman

Did you know that our Affiliation has a Safety Code, got up in a handy little booklet suitable for handing out at boat shows, sending to boating editors of daily newspapers, etc., and giving to prospective participants in our sport?

This small piece of public relations material has served many uses in the past few years. Thus, whenever a State Legislature tries to license hand-propelled boats as well as outboards, we are able to show them that ours is a self-policed sport. When some group wants to spoil a wilderness river with a road, dam, or bridge, the Safety Pamphlet is one of our first cards of introduction, which opens the way for the facts and figures of white-water boating, with its quiet joys.

The present edition of the code has run out, and before reprinting it, I am proposing a brief pause for reconsideration of some of its provisions. I have circulated my own proposals to the Safety Chairmen of the various affiliates, and I will welcome comments from individual members.

Esquimautage on Sea or Lake

The chief changes proposed by me deal with skills, and with one or two items of equipment. I favor including, for kayakists, the advice "Know how to Eskimo-roll" in the section on lake or ocean paddling — not that it isn't also appropriate for the river, but because it is just about indispensable for those deep-water conditions where swimming to shore is not practicable. (See Kenneth Taylor's letter in this issue.)

The other proposed change involves **a** reduction in the length of fixed bow and stern lines on our boats. The present code — doubtless reflecting the preferences of canoeists — says such lines should be 15 to 25 feet. This we have found to be excessive in the Sierra Club R.T.S.; we also dislike the rubber-ball floats that other groups advocate.

Reason: two seasons ago, I tipped in the Trinity River of Northern California, got my ankle tangled in my stern line, and was dragged down a tough and rocky rapid by my boat. A painful knee injury was the only result, but it gave me and my colleagues a firm prejudice against long lines and those that are not firmly anchored on the deck until you want them free!

So my recommended length is 8 feet; my maximum, 15; and the use of bow and stern lines is made non-mandatory. Individual clubs may judge for themselves.

Some other, less important, changes:

I would specify the amount of flotation required in terms of cubic capacity of air or its equivalent. For a kayak, I suggest 1 cu. ft. at both bow and stern.

I propose changing the advice to "hang on to your boat," in conformity with the letters by Elsa Bailey and Dean Norman in the last two issues of AWW. The paddler should NOT be advised to suffer all the perils downstream if he can make it to shore. And I advise the overturned boater to "do as told by rescuers," because these usually are better judges of what can be managed than the man with his body in the water up to the chin.

Safety chairmen of individual clubs have been asked to comment on these proposed changes, in letters to me at 154 Wade Lane, Oak Ridge, Tenn.

. . .

Many letters have come in from individual members commenting on my proposal for a standard classification system for paddlers and rivers, based on the existing International system. But few have come from the safety chairmen of our affiliated clubs, to whom my proposal was mainly directed.

Duly grateful to the individuals, I am still anxious to hear from affiliates, and urge them to send me (and American White Water) their comments, whether by way of approval, disapproval or amendment. Only when some have done so may I come to some final conclusions.

(Ed. Note: See George **Topol's** letter, Page 5.) * *

I wrote in the last issue that I was at work on a draft of a training program, which may serve as a guide for some of our affiliates that do not yet have a formal one. Before printing it herewith, I call attention to the fact that one well-established project in white-water training, the Red Ridge College of River Canoeing, will be held the weekend of May 4-6 in eastern Pennsylvania. Write for information to Bob Rusher, 415 Goodley Road, McDaniels Crest, Wilmington 3, Del., before April 1.

Here is my own outline:

TRAINING PROGRAM

Textbook: "White-Water Sport," by Peter D. Whitney (Ronald Press, N. Y.; procurable through AWA Guidebook Committee.)

I. Introduction

A. Stir interest with stories in local newspapers. Submit photographs of scenery and white-water passages.

B. If your club has meetings, show some films and slides of past trips, or those sent by other clubs. Do not show frightening wild water at this early stage.

II. The Training Program

A. There is controversy about whether to hold any indoor instruction at all, or to concentrate on actual water sessions. I feel that, in early spring, both indoor and river programs are useful. Make the instruction meetings friendly, have intermissions with refreshments. See that veteran members mingle with the new people. Invite an experienced instructor from a nearby AWA affiliate if you have none in your club.

III. First Meeting

A. Short explanatory talk about your club, activities, program. Do not forget to mention AWA. Introduce "White-Water Sport" and have some copies for sale.

B. Lecture on simple paddle-bracing and strokes ("White-Water Sport," Chapter 5, pp. 31-47 and 51.)

C. Short talk on reading Class II water (Chap. 2.) This should not last much longer than 30 minutes—a black-

board or felt board with paper templates are recommended.

D. Show that section of our instructional movie (when available) that covers the above topics.

E. Show a brief film strip on esquimautage (Chap. 5).

F. Intermission — don't forget refreshments!

G. Questions and answers.

H. Pleasant movie of not-too-wild boating; don't forget to include camping and campfire activities.

IV. Second Meeting

A. Try to make this a swimming pool session (heated), and invite newspaper reporters. Bring clean boats, spraydecks, flotation; this is the best time for beginners to discover how easy it is to get out of a capsized boat.

B. Demonstrate paddle-brace, then eskimo-roll; show how esquimautage grows naturally out of bracing. Let everyone try leaning on a brace until he capsizes; most will find they tip much less easily than they expected, and will gain confidence. (Chapter 5).

C. Teach the varieties of braces and draw-strokes. Teach esquimautage to anyone who seems up to it — insofar as time allows. (Chap. 5, 8.)

D. Clean up pool site if you ever wish to go back again. Then meet at a coffeeshop, warm up, and get acquainted.

V. Third Meeting

A. Bring several types of boats and camping equipment; invite some dealers, if available; otherwise, write to distributors who advertise in AWW for their literature. (Chaps. 4, 6, 11.)

B. Discuss different types of boats.

C. Let the dealers put in a word for their products.

D. Intermission. Let the dealers answer questions individually. Each individual has his own needs; single boats are maneuverable, while doubles are harder to maneuver and require a partner, but can carry a bigger load for wilderness trips. Can also be more seaworthy.

E. Discuss the more advanced strokes and braces (Chap. 5, 47-53; Chap 7). Discuss water-reading on Class III rivers. (Chaps. 2, 8). Explain rock anchors and eddies.

F. Show the part of the instructional movie (when available) that deals with

Class III water and the above techniques.

VI. Fourth Meeting

A. Have a pleasant talker explain objectively your safety program, based on skill and understanding, and itemize our precautions:

1. Swimming ability

2. Lifejacket

- 3. Bow and stern lines
- 4. Spare clothing and waterproof bags for it, bedding, food.
- 5. Flotation.
- 6. Spare paddles; repair kit.
- 7. Group support.
- 8. Tying on glasses and essential gear.

9. Obeying leadership.

10. Grading program; skill. (Chap. 12)

B. Questions and answers.

C. Talk about social activities and how you organize trips.

D. Announce the first beginners' trip. For a check, question candidates on what they are to bring; if they did not understand instructions, go over ground again. Explain where to buy or rent boats, where and how to get together with a canoe teammate; arrange car pools.

E. More swimming pool sessions, stressing esquimautage, are strongly recommended.

VII. Your First Trip on Moving Water

A. Select a slow river with the fewest possible hazards. Avoid snags, overhanging branches. The first part should have no rapids; the last only easy riffles. Run the river yourself first. Select rest and lunch spots.

B. If you are trip leader, have a first-aid kit, know mouth-to-mouth resuscitation and first aid. Have a blanket to warm a chilled person.

B. If the indoor program was a success, you will have a sizable group on hand. Divide them into sections of 5 to 6, each with at least two experienced boaters (or canoe teams) to assist and teach along the way. Do not over-teach, though; they are out for fun. Have a "sweep" or "rear admiral," equipped—as is the leader—with a %" throwing line fifty to a hundred feet long; also matches, first aid kit.

C. On this cruise, you can administer beginners' tests as suggested in my article in AWW August, 1961.

D. Check that everyone has lifejacket, flotation, dry pack; bow and stern lines NOT too long (15 ft. max.) Instruct all to obey leader and assistants.

E. Take off, and concentrate on teaching steering for first part of trip. Gently introduce beginners to the subtleties of currents, eddies, etc.

F. Lunch: Arrange a demonstration of boatmanship offshore while the audience munches sandwiches (poor demonstrator!) Have him concentrate on strokes and braces they can practice during rest of trip.

G. Count heads at every stop.

*

This is a basic program, which brings paddlers only to the threshold of our fabulous sport. Those aualified for Class II and Class III will look back on it, after a season, as a kind of kindergarten. Still, you will note that from the first I have introduced the idea of advanced maneuvers like esquimautage and the high braces, and have emphasized the hard pathway of skill rather than the illusion of its all being easy. Those who wish to force the gates of Class IV and higher must of course learn skills that are only hinted at here.



Conservation Comment

By Martin Vanderveen

Senate Bill S.1797, sponsored by Senator Paul Douglas of Illinois, sets a precedent of interest to white-water enthusiasts in that it includes a sporting river in the area to be protected by the proposed "Indiana Dunes National Lakeshore Park."

The original bill was designed to preserve the Indiana dunelands, and at the request of Chicagoland canoeists, Senator Douglas revised the current version of his bill to include within the park the canoeable part of the Little Calumet River. This river, which has thus far barely escaped engulfment in the mammoth Calumet industrial complex, has long been a favorite of white-water enthusiasts in the area. Lying only a short distance outside of Chicago, the Calumet is unique among white-water streams in that it runs through a clay bottom. Waterfalls appear, disappear, and change location from one week to the next. Clayslick riffles are constantly revising their channels. Although it runs between two major highways, the river is in a wooded valley which gives the feeling of true wilderness.

The bill and the attendant fight to secure the new National Park represent the conservation side of a type of conflict all too common today. On the one side there is a proposal for a deepwater harbor to be built, of course, with public funds for the benefit of one or two private corporations. Conservationists on the other side of the fence urge that the port be located several miles further west in an already industrialized area and that the National Park be established to preserve the last



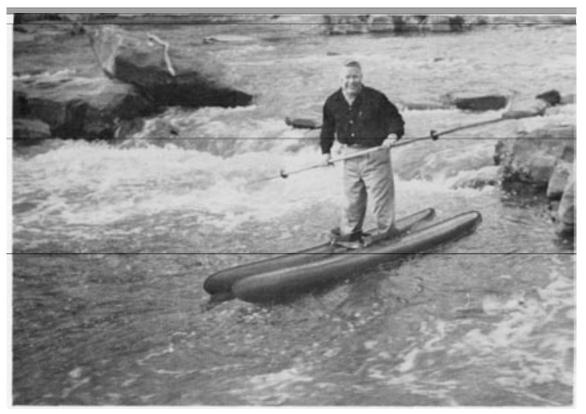
Van drops down a ledge on the Little Calumet. — Photo by Arthur E. Anderson

unspoiled bit of Lake Michigan's southern shore. There is no quarrel with Indiana's aspirations for a deep-water port as conservationists have pointed out that their proposal for a port at Whiting would be more economical and equally useful.

Senator Douglas was enlisted early in the fight to prevent the despoilment of this extraordinary dunes area which, in addition to being a splendid recreation area, is a treasure-trove for naturalists. Vegetation in the area ranges from tropical orchids to desert cacti to arctic bearberry. Over 300 species of birds have been observed in the area. Mammals from field mice to deer are found. Botanists have referred to the dunes as an outdoor laboratory.

At present Senate Bill S.1797 is awaiting hearings by the Public Lands Subcommittee on Interior and Insular Affairs. The precedent of preserving a white-water river is important, and all members are urged to write to Senator Alan Bible, Senate Office Building, Washington 25, D.C., urging that his subcommittee conduct hearings on the bill. Affiliate clubs should pass resolutions urging the passage of S.1797 and send copies of the resolutions to Senator Bible.

> Send in Your Dues . . . Use your Postal Zone Number



John Burkam on Pontoons

Walking on Water

The idea of walking on water with pontoons is not new. But the current chief proponent is sure that pontoons are here to stay. John Burkam, of the Buck Ridge Ski Club, considers them superior to the old fashioned single-hull craft still being used by so many of our members. John's fiberglass pontoons are ideal where rocks grow close together. If a rock threatens head-on collision there is no longer any need to dodge. You simply open up and let it through. Shallows are negotiated by walking the pontoons so wet feet are relegated to the archaic past.

The most remarkable advantage of this craft is the ease with which one may travel upstream after it is discovered that all the car keys have been left at the top of the river. Skiers found that traversing was impractical because of the awkwardness of kick turns. But the herringbone is effective on moderate pitches and John always uses side step for steep drops.

—Bob McNair

Clearwater Film

"Whitewater Wilderness," the 16mm color movie made on the 1959-60-61 AWA trips in the Clearwater - Selway country, is now available for club rental.

Exciting canoe, kayak, and raft runs of some of the most challenging rapids in the United States. Wildlife, scenery.

The film is 900 feet long, lasts 35 minutes. It cost a lot to make, so it has to rent at \$10 per showing.

Oz Hawksley, Central Missouri State College, Warrensburg, Mo.



Families are welcome: Frances Whitney (back to camera), Shirley Reynolds, 2%-year-old LeslieReynolds: 1961 Selway.Photo by Dorothy Hawksley

AWA Summer Trips

The AWA summer trip schedule has been made more definite since last issue. Oz Hawksley and Jack Reynolds have pretty well determined to make a pilot trip on Montana's Middle Fork of the Flathead River from July 21-25.

This will be an extremely interesting pioneer operation. It's likely that it will be a trip for foldboats and rafts only: the starting point is far from a roadhead and must be reached by pack train or — more likely — by airplane.

The Middle Fork of the Flathead has been certified as one of the few rivers life in the United States that is true "wilderness." The others can be counted on the fingers of your hands.

The cost will be about \$80 plus a share of the extra packing costs. Correspond with Oz about this. (Oscar Hawks-s-ep, Route 5, Warrensburg, Mo.)

The State of Idaho has presented a grim face to the white-water fraternity

in the last two years. It has demanded \$100 licenses from each out-of-state guide operating within its boundaries, plus a \$2500 bond.

This has hit particularly hard our good friends the professional river men but Don and Bus Hatch are going right ahead with their Middle Fork Salmon trips. This gorgeous run, full of thrilling rapids, has become a classic since Zee Grant, Rod Aller and Colman Nimick pioneered it in 1940 (AWW, Fall, 1958). The AWA and Sierra Club RTS ran it last year, and found it a challenging but not too difficult run for experienced Class III paddlers.

1962 Trip Schedule

June 10-15-Dinosaur Trip on Yampa.

- July 3-9-Selway No. 1, Idaho.
- July 12-18—Selway No. 2.
- July 21-25: Middle Fork Flathead.
- August 5-11—Shoshone Lake, Yellowstone. Canoe rentals arranged.

Making Modern Kayak Strokes

By George Topol

The most characteristic thing about the modern paddling technique is the almost exclusive use of the so-called "hanging strokes." The name comes from the way in which the paddler uses his paddle. The Duffek turn and the high brace are typical examples. To a spectator, the vertical paddle shaft seems to be an almost rigid pole on which the paddler hangs with both hands to pull and turn his boat into any desirable position.

One of the basic principles used for controlling the boat and maintaining stability is to keep the paddle under water as deep and as long as possible. The picture of the kayaker gaining speed and then lifting both hands together with the paddle high above his head to pass through heavy waves belongs to the past. The idea behind this was to prevent the waves from hitting the paddle and thus disturbing the paddler's precarious balance. It was the "pray and hope for the best" approach. The contemporary kayaker is more aggressive. He does not want to be at the mercy of the river. He is the do-it-yourself type even if the "it" means an upset. He does not believe in the old rule that the bow should always point in the direction of the current. He enjoys taking the big waves broadside and hates to miss a single spin in an eddy.

All this requires an entirely different approach to shooting white water. The paddler must not rely on the boat's natural stability. To an onlooker he seems to be constantly capsizing. But somehow he always happens to have the paddle in the right position and recovers. He might even go under water but through esquimautage he emerges again. A narrow kayak does not have enough stability to withstand the buffeting of heavy waves. The paddler has no firm point to hold on. Everything around him moves and the old instinct to grab the gunwale will get him nowhere. His only reliable support is a properly applied paddle.

Advanced paddling techniques are still based on a few basic strokes and maneuvers such as draw stroke, paddle brace, Duffek turn, etc. They are the basic tools with which you can become the master of your boat. To become an advanced paddler, keep improving them until they become faultless and reliable. Only then will you be ready to combine them and create your own style. Through the combination of basic strokes (starting one where the previous one has ended) your paddle work will become fluent. You will develop your own techniques as you go along.

When practicing, keep your mind on the following two points:

- 1. Take full advantage of leans. Leans facilitate turns and are necessary when crossing borderlines of currents. Firm sitting in the boat cannot be overemphasized. Side supports, foot rests and knee supports should be adjusted to give you good contact with the boat. Your body must not slide when using leans.
- 2. Use your whole body from the waist up. Do not let your arms do all the work. Turn your trunk, bend forward and backward to get your arms and the paddle into an advantageous position.





Claude Buck of FibArk in Cottonwood, 1961



Dave Morrissey, forerunner, Cottonwood, 1961

Pictures by Art Kidder

Art Kidder of Denver is one of our sport's most redoubtable figures. In his 60's, with but one leg, he paddles tough rapids in a canoe, and makes his own carries when shuttles or portages are called for. Art is also a fine photographer, as these shots reveal.

White-Water Camera

By Martin Vanderveen

February. With the paddling season in abeyance for most of us this will be a good time to devote a little thought to fundamentals. What makes a camera work? How does the film record an image? What actually are we doing when we manipulate those controls on the camera? Don't rush off in terror – I'm not going to try to make photo technicians out of you in one easy lesson. I just want to help you to know a little of the how and the why of camera and film. You can't run rapids successfully if you don't know what the water is doing, how your hull reacts, and how to use your paddle to get the effects you want; and by the same token you can't make the most of your photographic opportunities without some basic understanding of how your equipment and materials work.

The word "camera" means simply "box." And the first cameras were just that — a dark box with a pinhole in one end. They were used by artists to project an image to be used as a basis for their sketches. Somewhere back in medieval days it was discovered that if a completely darkened room had a tiny opening in one outside wall, an inverted image of the outside scene would be projected on the opposite wall. It was an easy step to adapt this principle to make a darkened box or "camera obscura" which could be carried to the desired scene.

Lenses were added later to admit more light to form a brighter and sharper image. Only a little more than a century ago Daguerre discovered a way to use an unstable compound of silver to make permanent the image. From this developed photography as we know it.

The Lens - Light-gatherer

First of all, let's consider the lens. Simply stated, a lens is a device to gather the rays of light emanating from a given point and to bend them so they will converge to a point behind the lens. The aggregation of such points will combine to form an image of the scene in front of the camera. Ideally the light from all the points in the field of view of the camera will converge on a single plane called the "focal plane." This, of course, is where we place our film to record the image. If we are considering two points at different distances from the lens, the light rays from the more distant point will converge closer behind the lens than those from the nearer point. Consequently we have to find some means of varying the distance between the lens and the film to get a sharp image of the subjects at a given distance. With most cameras this is done by moving the lens in and out on a helical arrangement. This, of course, is what we know as "focusing."

Here we come to our first problem. How do we know when we are in sharp focus? With the old cameras a sheet of ground glass was placed in the focal plane and the photographer could focus visually before inserting film in the camera. This is too slow an operation for modern techniques, so several faster systems have been devised.

The simplest is to have a scale engraved on the lens mount, so when the indicator points to 10' we know that objects at a distance of 10' from the camera will be in sharp focus. This leaves a great deal to the judgment of the operator, however.

A better system has a rangefinder mechanically coupled to the focusing system. The rangefinder presents the viewer with a double image of a single point, and when the two images are shifted so they coincide, the lens is in focus for that point.

A third system, known as the twinlens reflex, has two identical lenses mounted so they move in and out together. The lower lens projects is image directly on the film, while the upper lens projects via a mirror to a ground glass. When the image from the upper lens is clear and sharp on the ground glass, that from the lower lens is equally sharp on the film.

The fourth system, rapidly becoming the popular favorite for 35-millimeter

PHOTO FORUM

Here's a new service offered by American WHITE WATER. Martin Vanderveen, our camera expert, offers analysis and criticism of your pictures. The more interesting ones will be published in "White Water Camera" together with the analysis, and in any event you will receive an analysis of your pictures with suggestions for possible improvements. Mail the pictures DIRECT to Martin Vanderveen, 1514 Pratt Blvd., Chicago 26, Illinois. No charge, of course.

cameras, is known as the single-lensreflex. In this type of camera a mirror behind the lens reflects the image upward to a ground glass. When the shutter is released the mirror flies up out of the way and the image is projected directly on the film. This type of camera offers many advantages, but is somewhat expensive to construct.

The Film: Silver Magic

What is this film, this magic substance that permanently records an image which impinges on it for a brief instant? Certain silver salts known as halogen compounds are unstable, and when struck by light are affected so that they can be reduced by certain chemicals to metallic silver. These salts are made up in very minute grains, mixed in a gelatine emulsion, and coated on a flexible plastic (acetate) base. After exposure in the camera the film is processed in a developing solution which converts the light-struck particles to metallic silver; then in a fixing solution which changes the remaining non-metallic silver salts to a soluble material which is then washed out of the film with running water. Our negative, then, consists of granules of metallic silver remaining in the film in proportion to the amount of light which has struck that portion of the film.

Here we have a dark box and a lens to form an image in it, a focusing device to make that image sharp, and a film on which to record it. All we now need is a means of controlling the amount of light falling on the film. Actually, almost all cameras have two means of exerting such control. One is the diaphragm or aperture control through which light is admitted; the other is the shutter which opens and closes to govern the length of time during which light is allowed to reach the film. The use of these controls is one of the critical variables in photography and calls for a more complete discussion which it might be well to reserve for a future issue.

This has been a brief and almost cursory introduction to the elements of photography, but it can well serve as a foundation on which to base a knowledge of the subject which can elevate your camera from a mere gadget to an art instrument.

Let's have an expression of reader opinion. If you like the idea of basic photographic information, Van plans to write two-part articles in the future, one half devoted to current and specific photographic problems and one half to fundamentals. Let's have a letter with your ideas.

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FROM YOUR EDITOR

With this issue, we are returning to the use of the names of the seasons, rather than a month, to identify the magazine. Thus, what would last year have been the "February" issue is now the "Spring" issue.

Put simply, this is because we are a quarterly magazine, whereas some persons were getting confused into thinking we were a monthly.

When Martin Vanderveen, our third editor, changed from the seasonal to the monthly identification, he did so in the interest of greater definiteness: advertisers and readers now could know the month in which the magazine was issued. It was a good idea.

But what could probably not have been foreseen was the degree to which this "dated" our magazine in a bad sense as well as a good.

The Test of Timing

An actual incident will illustrate what we mean. At the last Sierra Club R.T.S. Christmas dance, we had on hand a stack of the last year's copies, brandnew in their bright jackets; alongside them was a dish, with a card on which was printed the magic message: "75c." (We try to sell back issues at every R.T.S. meeting; any affiliate willing to try may have a small stock by writing our Circulation Manager, Frank Cockerline, whose NEW address is 193 Skyview Way, San Francisco 27).

A gentleman unknown to us came up, picked up a magazine and, while we sat there patiently, thumbed through it. He read while the orchestra in the background played a boogie-woogie number, a tango, a waltz, and the drum roll to signify an intermission. He picked up another issue, and read that one too, and was sampling a third when the orchestra resumed.

"You should subscribe," we finally said politely when he put down Magazine No. 3 slightly dog-eared from handling. As the man who deals with the job, we never can forget that each copy costs us 65c. in printers' and engravers' fees (it's the advertisers who keep us solvent).

And the gentleman did get out his checkbook; seeing Red Cockerline corn-

ing off the floor, we managed an introduction and the subscription was sold.

BUT it was a sub for **1962-63**. The gentleman did not buy one of the copies spread out before him—even though the November issue, with its Christmas scarlet cover, was hardly three weeks old.

Magic of Obsolescence

We took a liberty, as Editor and as amateur sociologist, and pointed out that the past year's issues had been full of valuable technical material (Eskimorolling, February; surfing, May; kayaks, August; competition, November). Why not get aboard for the current year?

"Oh, I'd rather have the NEW issues," he said, and walked off content.

So the modern witch-doctor's magic of obsolescence had prevented him from getting his first copy of American White Water **for** a **full six months!** (May, 1962 — which we will call "Summer" when it comes out.)

The material in this magazine does not date, as a whole. Even competition results are useful reference material. Do-it-yourself techniques do become more refined, as do river skills. But we can still read with a tingle of excitement the stories of "Zee" Grant's Colorado River descent (Summer, 1958); Walter Kirschbaum's similar trip (November, 1959); Homer Dodge's gallant first descent of the Big Sault rapids in an open canoe at the age of 69 (Spring, 1959); the pioneer descent of the Middle Fork by Zee Grant and two others (Fall, 1958).

Some Classics

For those who are interested, here are a few suggestions about invaluable articles in the back issues. (Order these from our Membership Chairman, Harold Kiehm, 2019 Addison St., Chicago 18; send \$.75 per copy. Some issues are not available. A useful tip: a five-year index appears in the February, 1959 issue).

Boat-building, kayak: Vol. II, Nos. 3 & 4; Vol. III, No. 2.

Boat-building, canoe: Vol. I, No. 3; Vol. III, No. 4.

Decking a canoe: Vol. I, No. 2; Vol. IV, No. 4; Vol. VI, No. 4.

- **River Classification:** Vol. I, No. 2; Vol. II, No. 4; Vol. VII, Nos. 2 & 3.
- Paddles: choice & care: Vol. V, No. 3. Esquimautage: Vol. I, No. 2; Vol. III,

No. 1; Vol. III, No. 4; Vol. VI, No. 4. Upstream poling & paddling: Vol. V, No. 2.

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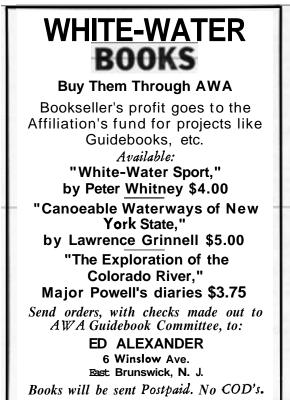
Crossing currents: Vol. VI, No. 3.

Surfing: Vol. VII, No. 1.

Wet-suits, how to build them: Vol. V, No. 4.

River guides, maps: Vol. I, No. 2; Vol. IV, No. 2; Vol. V, No. 1.

In resuming the seasonal designations, note that we've stolen a season from the old-pre-Vanderveen nomenclature. By that, this issue would have been "Winter." Publishing the "Spring" issue in February gives the correct impression of a magazine that's current and good for the succeeding three months. The "Summer" issue will be issued in May, the "Autumn" issue in August, and the "Winter" issue in November.



NEW PRODUCTS

A fiberglass touring boat of meticulous workmanship and some interesting design features is offered by the fatherand-son boatmaking team of Ove and Walter Harvest, 1852 Ninth St., Alameda, Calif.

The Harvests became interested in white water all by themselves, and had been making kayaks and running stiff rapids for a year or so before becoming aware of the Sierra Club River Touring Section. Then, with the affinity of hydrogen for oxygen, they joined ... Walt is now a member of the RTS executive committee.

Their boat—though its beam is a stable 28 inches—is exceptionally maneuverable, and Walter is able to make slalom times in it that compete favorably with those of other members in narrow craft. Its standard weight: 25 pounds.

Its special feature is that the removable bucket seat forms a watertight seal fore and aft. The seat can be removed, gear stowed; and on reinstalling the seat, the holds are automatically battened down for flotation and for dry-keeping.

White-Water Outfitter

Lou Matacia has long been known as a Boy Scout leader and outfitter for canoeists and hikers in the area around the nation's capital. Now, as Matacia Outfitters, Lou is formally in the field as an affiliated club of the AWA.

Membership is limited to 250, and applicants must be drawn from existing outdoor groups, including AWA. Matacia Outfitters schedule trips, offer rental of canoes and equipment, conduct canoeing, sailing and swimming courses, have a camping area and a lending library.

For members outside the Washington area, Lou passes on information about the Armour Star Lite Foods which he will sell and ship throughout the nation. These are prepared by a revolutionary new process called "freeze drying" by which the moisture is removed after the food is quick-frozen. Write to Lou Matacia, 3000 N. Roosevelt St., Arlington 7, Va.

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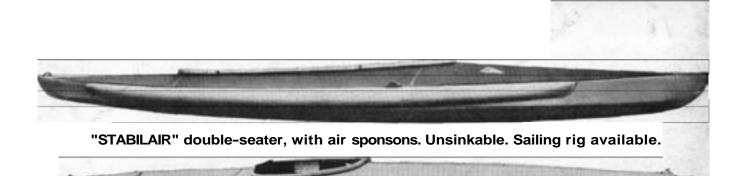
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