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Cover: The Rio Grande in Mariscal Canyon. (See "Running the Rio Grande," page 3.)
Photo by William Thompson
Dear Mr. Whitney,

I am enclosing the full page of flood pictures of Humboldt county from the Humboldt Times this morning. It vindicates D. B. Luten's thesis "The Thousand Year Flood — Expect One Every Decade)" from the Spring 1965 American White Water.

Particularly note the log jam threatening the Highway 101 bridge at Orick. Tonight as we listen to the rain hitting our home, I wonder just how long the bridge will hold.

Summer 1965 issue of American White Water contains an accurate picture of the watershed cutting on Redwood Creek. If a Redwood National Park does not materialize to save some of the groves along Redwood Creek the whole nation, not just Humboldt county, will be the losers.

Sincerely,
Kay Gott Chaffey
Director, Citizens for a Redwood National Park, Box 713
Arcata, California
Running the Rio Grande

By Bob Burleson

Those AWA members who look far enough down the recently distributed membership roster will probably be surprised to find that Texas has more AWA members than Utah, home of legendary white-water men. The surprise will probably have its roots in the commonly accepted facts that Utah has some fine white-water streams, while Texas has none.

Nevertheless, Texans have never let mere facts get the upper hand in any situation, and the investigator will find that a substantial number of Texas river runners actually think they are running white-water streams even if they do have a brown and muddy tint at times. We Texans believe that anything we do here at home is bound to have universal application and that it will be of general interest throughout the outside world. Hence, this article was submitted to the editors of AWA without a single doubt as to whether it would ever see print.

For ease of digestion we will first briefly discuss the general status of paddling in Texas, and then move on to a more detailed discussion of some Texas rivers that other AWA members might very well have a chance to run and enjoy some day.

From High Plains to Sea

In common with many other states, Texas has many winding streams that fall from the western high plains and escarpments to the lower rolling lands and coastal plain. Many of these rivers cut through limestone and granite uplifts and intrusions, and create the bluffs and rocky streambeds that have their counterparts in nearly every region of our nation. Most Texas rivers are seasonal to some extent, particularly in the hot, dry months of June, July and August. However, in one part of the state or the other one can find rivers to run all year around.

One of the great advantages of Texas climate is that we can run almost every river in the state all year around without any serious dangers from the icy waters found in states where melting snow and ice are a large source of the spring and early summer flow. The hardened Texas-veterans never store the boats and gear, and actually do more paddling in the winter than in summer.

As to boats, the canoe is by far the
Santa Elena Canyon, Rio Grande River. The big rocks are bungalow-size or better.
—Photo by Wm. Thompson
most popular at this time. Kayaks are rarely encountered, and sources of supply for them are remote from most Texas paddlers. Rubber rafts see use on the really big "rises" of Texas rivers during the spring rains, and to some extent by floaters through some of the canyons in the western end of the state. Decked canoes are rare. Most of our paddlers expect a ducking and don't mind the mild water. Almost without exception a rough spot likely to swamp or overturn the undecked canoe is followed by a nice stretch of easy water for dumping out and cranking up again.

Running the Run-off

Now, to the average Texas rivers. We usually run the rivers on the crest of run-off from a recent rain. Rains in Texas are often quick and hard, and result in a dramatic increase in the size and character of our rocky streams. Our particular local group is the Texas Explorers Club, and we carefully watch the weather on the upstream watersheds of Central Texas. Through experience we have come to know the local rivers so well that we can pretty well predict what any size rain on the watersheds will do to the various streams.

For example, about two years ago the Lampasas River became so dry in late summer that by August it was standing in pools, with several hundred yards of bare white rock showing between many of them. All of us were starving for moving water, and even resorted a time or two to the public lakes to dodge motor boats and water skiers. We would have run the Grand Canyon in an undecked canoe just for the feel of living water.

Then a localized thunderstorm let down three inches of heavy rain on the Lampasas watershed about fifty miles upstream. Telephones rang all around the area, and all the river runners quit work for a couple of days and headed for the river.

As we stopped to leave our shuttle cars near the low-water bridge at Gravel Crossing, a solitary fisherman was walking upstream from the bridge on the bone dry bed of the river. He saw our caravan of canoes and jokingly asked if we were lost! We then went up-river twenty miles and caught the crest of a fourteen-foot rise of brown water, drift logs and floating barbed wire fences. Five hours later we ran our canoes through the wild waves created by the Gravel Crossing bridge, then ten feet underwater. The fisherman was nowhere to be seen.

The Rio Grande

The above description of typical Texas paddling is probably about what a great many river runners in other states experience. However, Texas does have another and more adventuresome type of paddling available, on the Rio Grande, the desert river that forms the historic border between Texas and Mexico.

In the Big Bend region of western Texas, and particularly in the region of Big Bend National Park the river-runners of Texas have their finest playground. Here the volcanic activity of ages past slowly pushed up great mesas of limestone while the young Rio Grande River cut with equal ferocity to keep its same channel. The result was a series of very narrow, sheer canyons, cut by the river from solid rock, and with walls up to 2,000 feet in height. Here also the same volcanic activity that made the canyons pushed up intrusive igneous rocks that made the Chisos and Del Carmen mountain ranges, along with many other adjoining ranges of rugged foothills and peaks. This is the typical country of the Great Chihuahuan Desert, a rugged and beautiful desert wilderness that finds its most typical expression in Big Bend National Park.

Starting at the upstream end, the major canyons are Colorado Canyon, Santa Elena, Mariscal, Boquillas and Reagan. Only Colorado and Reagan are outside the Park boundaries. All of them are wild and unspoiled.

To save more space for pictures, and to concentrate on the three canyons most easily accessible to AWA members, only the three most dramatic canyons will be discussed in detail. Let's start upstream, and run them one by one.

Santa Elena Canyon

For a dramatic entrance, unbelievably sheer and narrow walls, and for a genuine challenge Santa Elena is the
best the Rio Grande has to offer. The rockslide rapids, a "boulder garden" about one mile inside the canyon proper are difficult and dangerous, and the alternative to running them is a heartbreaking portage over a pile of house-sized boulders approximately 250 feet high.

Put in very early in the morning at the tiny trading post of Lajitas, where a ford into Mexico can be found directly west and behind the store. This is a local center of trade for people living on both sides of the river, and Lajitas is also one of two major crossing points for smuggled candelilla wax which is illegally exported from Mexico. The local people may not tell you about the crossing behind the store, for fear your presence might prevent the Mexicans from crossing a burro train of crude wax, but go around the store on its river side, and the crossing will be a few hundred feet behind it.

When putting in at the Lajitas crossing, make note of the water conditions there. If the water is brown and active, completely covering the gravel crossing, and lapping up to a point that is obviously higher than usual, then be careful. When you get inside Santa Elena on this type of high water, you are going to have a real torrent inside the constricted canyon, with many blind alleys and suck holes in the rockslide area.

Putting in at Lajitas, you face a run through increasingly rugged desert country for about eleven miles. There are several mild rapids in this section, but nothing of difficulty. On each side the geologic story of the Big Bend is clearly portrayed, and the winds and rains of ages past have carved intricate and beautiful formations from the limestone, igneous rock and volcanic tuff that makes up the desert.

Eventually high cliffs rise on the Texas side, with dark brown igneous rock rising sheer to its cap of white limestone. You get a clear view of the vast background, but the shores are lined with dense growths of the Carrizo cane that lines the open sections of the Rio Grande from El Paso to the Gulf of Mexico.

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On higher water you will hear the entrance to Santa Elena before you see it. The river roars as it claws at the rock that crowds it from both sides. Once heard, the sound of an angry river rushing into a desert canyon is never forgotten.

**Dramatic Entry**

You swing around a wide bend to the left, with large gravel bars and heavily eroded banks giving evidence that the river spreads out and swirls madly when the canyon partially dams a major flood. Now the river seems determined to run under the mountain, as there is no clearly discernible crack in the limestone cliffs that seem to block all progress the way the river wants to run.

The river twists wildly, as if trying to escape, then runs head-on into a blank wall, cuts to the right and slips into the yawning vertical crevice that is the maw of Santa Elena.

It is easy to stop for pictures, because you are a little afraid the first time through and stopping is a particular relief at this point. If the water is high, you will recall that once you enter the portals of the canyon there is no way out except the other end. Within the first hundred yards of the canyon the walls are absolutely vertical, undercut at the bottoms, and filled by the river from wall to wall. There is no walking back upstream.

As you head for the blank wall where the river turns right into the entrance, keep to the Mexican side. There is a substantial undercut at some points along the Texas wall, and a consequent danger of being pulled against the wall at higher water levels.

Once inside there is an abrupt transition from daylight to canyon gloom, and the walls immediately shoot up a thousand feet or more, rising all the time. There are upper canyon walls above the lower ones, with equally high, equally sheer canyon walls set back a bit on each side. I have always presumed that this was proof of a much greater flow in the Rio Grande when the first or upper part of the canyon was cut. Most of the time you will only get an occasional glimpse of the uppermost cliffs at places where narrow side drainages cut part way down the lower walls.

**Camp in the Canyon**

If you left Lajitas early in the morning, you should have plenty of time for landing above the rockslide and making a comfortable camp. If you got a late start, you might want to camp outside the canyon the first night, and go on through the next day. We usually arrange to camp at the rockslide, to enjoy the special thrill of camping at the very base of a thousand feet of sheer rock, with a river eating away at the narrow bar under your feet.

The first part of the canyon is relatively straight, and if the water is high it will be swift. A loud roar and an upcoming bend that is obviously sharply to the left is a signal that the rockslide is coming up.

Get over on the Mexican side of the river at this point, as there is no safe landfall on the Texas side at high water, and no decent campground on the Texas side at any stage. As you come around the bend to your left you will suddenly see rocks all over the place, most of which stick up so high that you cannot see beyond them. The river funnels to the Texas side, and if the water is high and muddy you will want to be sure and land on the far upstream end of the rockslide on the Mexican side before you are forced into the heart of the rockslide area.

After landing upstream on the first rocks, and after making certain that you have picked a route through the first big rocks that will allow you to slip back to Mexico for camping or portaging, then come on downstream to the relatively clear area just below the first big rocks. At higher water part of the Mexican gravel bar will be covered, and it will look like a little bay behind the first big rocks.

The best campsite is on the lower end of the rockslide. If you have gotten here early enough, you might want to pull the boats up high and tie them, then carry your camp gear over the slide to the lower end for a more comfortable camp. If not, you can camp right there on the upper side, but get up as high as you can.

There is no such thing as a portage trail. Just follow the rockslide over the
boulders up the sheer wall on the Mexican side, keeping right against the wall. Next morning you will make your decision to run the boats through or portage. The decision is up to you, and neither alternative is easy. If the water is at all high and muddy, I would suggest a portage.

If you decide to run, you might keep these points in mind: You should make a careful scout on foot among and over the boulders at the Mexican shore, to chart the best route. Make particular note of the numerous blind alleys, where the water simply runs up to a dead end and then goes under the boulder piles. My boat partner, AWA member Davis Bragg, was sucked under one of these when our boat capsized on high water. He came up three times under the boulders, without being able to reach air, and was nearly dead when the river spat him out into an eddy on the Texas side several hundred feet downstream. You can have no concept of the power of such water until you have been sucked under, lifejacket and all, and held down until some whim of the river lets you bob back up again.

From the rockslide on down, Santa Elena is not rough at all. However, it is still spectacular in all respects. You are now nearing the end of the canyon, where the river leaves the Mesa de Anguila just as abruptly as it entered it. You are now in Big Bend National Park, and there are likely to be plenty of excited tourists to snap a picture. (to be continued)

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"The Sound of Metal" still rings in my ears, even though an article under that title authored by Randy Carter appeared some months ago.

Carter, whom I admire very much for some of his other works, struck a nerve ending with that one. He tees off not so much on metal canoes as on those who propel them, and I am happy to be in that number.

Better the sound of metal, say I, than the ripping of canvas or the splintering of wood.

My 17-foot standard Grumman is not unscathed. It has quite a few "character marks," in fact. But not one of them got there through negligence, callousness, or hardly even a lack of skill. Who among us is never guilty of a slight miscalculation? Or choosing the lesser of two or more evils?

Every mark on the scarred belly of my canoe got there to the accompaniment of groans, apprehension and cuss-words from its concerned owner, but the precious thing still floats sans patches.

Now understand, the deliberate abuse of any kind of equipment is something I just can't bear. But if it comes to a question of my life and limb or another bash in the boat, well, prepare to ram. Therein lies a distinct safety factor over birchbark and related materials. Knowing how to hit is almost as important as knowing how to miss — if missing is not possible in various situations.

Rivers Do Differ

Carter's rivers may be considerably different from "mine" in the 3-state Ozark region. I don't know eastern rivers at all. I do know that the Ozark Wilderness Waterways Club canoes the Ozark streams twelve months in the year. We don't stay home just because water conditions are less than ideal. Aluminum makes this possible. A shorter canoeing season is indicated for the paddler of a wood-and-canvas job.

Granted, many rocks in Ozark streams are aluminum-plated. But unless a canoe unfortunately gets wrapped around a substantial rock, its occupants don't have to walk out of the wilds.

Show me the man who is an expert the first time he has a paddle in his hands, and I'll show you an unmitigated liar. Experience may or may not lead to perfection, but there is only one way to learn to read water. Practice with something as durable as aluminum can give this proficiency, with plenty of margin for error that need not be fatal or too expensive.

The Warning Sounds

The sound of metal from an aluminum canoe ahead of you serves as a warning, and a similar sound behind means someone had as much or more trouble than you did on the last riffle, and that's about all it means. To the attuned ear, metal has several sounds, each distinguishable from others.

Between trips, my wonderful, battle-scarred old metal canoe patiently waits upside down in my brother's backyard, requiring neither maintenance or TLC. Should I wrap it around a rock tomorrow, I could not go right out and buy a replacement. For less than total destruction, Band-aids, chewing gum, and liquid aluminum from a squeeze tube would suffice for temporary repairs.

If I were the proud, cautious, loving owner of a wood-and-canvas canoe, I think I would be somewhat jealous of my carefree brethren serenely padding an aluminum down anything that flows the year around, and who do not have to worry about every little scrape and scratch on the beloved boat.

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Classified


New England Canoeing Guide—$5.00 pd. Stewart Coffin, Old Sudbury Rd., R.F.D. 1, Lincoln, Mass. 01773
Thunder on the Mulberry

By Dean Norman

A gentle rain began falling soon after I began paddling downstream. I think a river is best during a mild spring rain. The calm water is patterned with rain drop circles, and as the warm rain meets the cool river a mist forms. Rocks are rinsed clean and shiny, and the moss and lichens on them soak up moisture and freshen up their colors.

Some flowers fold up, but the Service Berry along the Mulberry River didn't. No leaves were out yet on April 1st, and the clusters of white blossoms could be seen everywhere on the steep sides of Arkansas' Boston Mountains.
The Service Berry grows as an understory tree on the hillsides, and some are rooted in cracks on rock bluffs beside twisted Junipers.

The seldom-seen but always-heard White-throated Sparrow continued its haunting whistle while the rain fell. The rich smell of the woods drifted with me—decaying leaves, aromatic pine needles—and once the fragrance of an early-blooming wild plum.

Change Is Welcome

After two days of clear weather I thoroughly enjoyed the change in mood. Wind had been a bit of a canoeing problem before, but now the air was still, and the canoe moved easily and accurately with a light push.

Every hundred yards or so a rapids enlivened the pace. I would stand to see the fil de Peau, aim carefully and let the quickening current pull the canoe forward. Then a few brisk strokes to gain momentum before I bounced through waves and maneuvered between rocks. With a bowman I would have taken in water in most rapids, but paddling solo the bow rode up on the waves and only rarely a little water sloshed in over the gunnels.

The rain stopped and started several times as I continued leisurely downstream. I hadn’t decided yet whether to paddle 20 miles to the takeout today or to camp another night on the river.

About midmorning I reached a small waterfall. I ran it quickly before the sound of it could get on my nerves, and paused below the falls to listen and sketch the scene.

Around the next bend I sketched Rotten Rock Bluff—a wall about 25 feet high which is undercut by the current and is gradually collapsing like rotten wood.

Again It Rains

I put away the sketchbook as the rain began again and continued downstream. When I stopped for lunch on the gravel-bar where Hurricane Creek enters, the character of the storm had changed. The rain was torrential now, and accompanied by lightning and thunder. It looked like an all-day storm and I began to worry about a rise on the river. If I didn’t take out today I might have to camp on high ground and wait for flood stage to pass.

Soon below Hurricane Creek I would enter the gorge where the river drops 50 feet in a mile and a quarter. At the end of the gorge the valley widens, but the drop is still 16 feet per mile so it wouldn’t be hard to set a fast pace and make the takeout at the town of Mulberry today.

In the first rapids below Hurricane Creek the canoe hung on a rock, and I dropped my paddle while jumping out to free the canoe. Cursing my mistake, I ran the rapids with the spare paddle and retrieved the other one in the pool below.

With my confidence a little shaken, I approached Wrecking Rock Rapids where the main channel runs directly into a square boulder that is coated with some aluminum from OWWC canoes. Electric bolts arced over the valley, the black sky exploded with thunder, and a heavy mist lay across the rapids. I took the chicken channel on the inside of the curve and looked back briefly to see the water jamming against the wrecking rock.

Confidence Regained

The next rapids I ran down the center in the largest waves and regained some confidence. Although I wasn’t taking in any appreciable water in the rapids, the canoe was filling several inches deep with rain while I paddled the pools. I thought the river must be rising just from the water falling directly into it, not even counting the run-off.

The woods were saturated now, and water poured down the hillsides and leaped over bluffs into the river. Still the run-off was clear. Most of the watershed is in the Ozark National Forest and so is in very good condition.

I counted ten buzzards circling above the next rapids. A ten-buzzard rapids must be a good one, and it was. A twisting channel of standing waves through a rock garden. The buzzards were disappointed.

As I drifted through a long pool somewhat later I couldn’t shake off an ominous mood. A heavy cloud now lay on the river, although I could see the tops of distant hills above the cloud. I began to think I had bitten off too much this time. It seemed the next rapids might be my last. I paddled slowly to
work out the mood.

What lay beyond the mist? Would my last rapids to run come up in a few minutes, or a few years? Either way it was the same. Everyone must pass through the mist eventually and find out what lies beyond.

**An Encouraging Whistle**

But I was determined not to paddle down a River Styx with muffled oars. I would paddle vigorously and cheerfully in the spirit of the Mulberry, and see what was behind the mist. As I dug in to move ahead, a sparrow in the bush whistled an encouraging note.

Rapids, pool, bail; rapids, pool, bail —and I continued through the gorge. A strong north wind had begun, and as I was travelling mainly south, the wind pushed me through the pools. I ruddered with one hand, leaned and angled the canoe a little to catch more wind, and bailed water with the other hand to be ready for the next rapids.

When I left the gorge the wider valley was cultivated. Soon a tributary poured in a chocolate streak of water. The fields had filled and muddy water ran over the banks where no tributaries were located. More creeks emptied muddy water carrying debris, cans and plastic bottles. I began avoiding the largest waves now as the sides of the channel provided enough excitement for an open canoe.

I knew the last rapids had a log jammed in the main channel on the outside curve around an island. I stared ahead to be sure to recognize the rapids, even though I was pretty sure the log would be well covered by the high water. It had been three years since I had helped a friend shove his canoe from under the log.

I was relieved finally to spot the island, and happy to see the water high enough to run a secondary channel through some small willows.

**Awakening as from a Dream**

Suddenly the rain and wind stopped, the sun shone and a cardinal began singing. It was like waking up from a dream. I had travelled only a few miles further south, but here the Silver Maples were putting out leaves and Redbud was flowering.

I relaxed and considered floating an extra mile to a second bridge nearer to my car in the town of Mulberry.

But I didn't know if I could drag my canoe up the bank as easily at the second bridge, so I decided to take out at the first bridge and walk an extra mile.

As I was pulling my boat up the bank the scene changed again—or rather, began again. Intermission was over; rain and wind were back in double measure. The trees waved violently and I looked up through the deluge to try and determine which way they would fall, because it seemed that some of them must fall. A loud rattle drowned out the thunder. Hail. I got under the canoe in case the hail became large, and a small depression where I was crouched immediately filled with a foot or two of water.

I couldn't stay where I was and the hail had stopped, but I had to stick my hand out to be sure because the rain was pounding on the canoe nearly as loudly as the hail had done.

I pulled the canoe up to the second terrace. Now to get my car before the river rose and carried away my gear. The keys? Ah yes, packed carefully inside of three waterproof bags. Cursing and throwing baggage about in the mud I finally got the car keys in hand. Now which way to Mulberry? The road map—fortunately packed with the keys. I couldn't read the map for the density of the rain, so I ran under the bridge. Water was streaming through loose boards, but I managed to figure the way to Mulberry before the map dissolved.

**A Second Intermission**

As I slogged up the road the sun and cardinals were back again. Second intermission, I thought, and I kept on walking and worrying. The ditch was a torrent with boulders booming along in it. Streams that looked canoeable ran through the woods where there was no stream bed. When I reached the hilltop I saw fields that had become lakes.

A man ran out of his house to meet a neighbor who had just driven up. They were shouting something about getting stock out of the field.

When they glanced at me I realized I was still wearing my lifejacket. It must really be a rain when people walk along the road wearing lifejackets. I was too tired to wave or say...
hello, so I just sloshed on while they went about their frantic business.

A truck gave me a ride, and within 20 minutes I was back to the river. It had risen three feet, but I still had five feet of bank for time to pack up. A puddle on the road was too deep to wade through, and it seemed appropriate to paddle the last 50 feet along the road before loading my canoe onto the car.

Everyone I met that evening was talking about the rain. Seven inches, I believe, at Mulberry or somewhere near there.

But if they could have seen the Mulberry River in the gorge. Wild water, wild electricity, wild cloud drums; the woods shedding water like a duck's back—but clear water. This was truly the power and glory of the wilderness, where storm and calm work together to build a forest and a river.

Missouri's Current River and Arkansas' Buffalo River are beautiful family float streams—and state agencies have lately begun to see that there may be some tourist business in preserving them as wild.

**Boating Equipment**

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Thompson Engineering Products Inc. has come to the rescue of the long-suffering river rafter. After struggling for years with assorted hand pumps, poor surplus blowers, and variations of the home vacuum cleaner to inflate their rafts, rafters are now offered a small 12-volt blower which will outperform even a new vacuum cleaner. Clipped to a 12-volt car battery or two 6-volt in series it will fully inflate a 15-man raft in less than two minutes. By simply reversing the adapter hose it may be used to deflate also. It weighs less than 7 pounds, is 6 inches in diameter and draws about 12 amps. Constructed for continuous duty, it will last for years. The price is $49.95 delivered in the United States. Inquiries may be directed to Bryce Whitmore, 4 Live Oak Circle, El Sobrante, Calif.
As the new Racing Editor of American White Water I would like to bring several interesting developments to the attention of the whitewater world:

The White Water Masters’ Cup: Present day white-water racing has now reached such a point that in order to stand much of a chance of placing in the top three spots a competitor must be in superb physical condition year round. Few white-water enthusiasts (considering the way of life most Americans lead) are able to maintain themselves in anywhere near the physical shape necessary for really top-flight racing. There are many of us who enjoy competition but at the moment our chances are limited to slalom (which requires almost daily practice) and wildwater racing (which demands unbelievable endurance and mental toughness as well as intimate river knowledge). Too often we desk-sitters are left behind by the hotshot college students who are able to keep in better shape.

I wish, therefore, to propose a new type of competition. Let’s call it the White Water Masters’ Cup. I’m convinced that speed, points, and penalties need not be the only factors in white-water competition. Why not create a unique event with an emphasis on style? It would have two basic phases and two classes: Individual and Club (3 boats simultaneously), and be open to any age group although I suspect this would appeal more to the older folks—maybe not.

The event would take place over a 100-150-yard stretch of "interesting" white water in which each competitor is allowed only one run, although he may practice as much as he likes on the course ahead of time. The two phases would include:

A. Compulsory Forms: such as the Duffelk turn, cross-bow draws, ferries, Eskimo rolls, etc.

B. Free Style: Over-all form and grace as well as harmonious composition, rhythm, elegance and paddling artistry. Also, any new or unusual maneuver (three-fingers-only roll in white water?) might earn bonus points.

Three judges, using a five-point scale, (in descending order of excellence from 5 to 1) would award points for each compulsory form, for free style and for bonus. The boater with the highest score in his age group (regulars: up to 40; veterans: 40-60; seniors: 60-100) becomes Kanu or Kayakmeister and receives a Masters’ Cup!

In the club event, in which three boats perform simultaneously, the club with the highest total score (sum of the three individual scores) would receive the club Meisterschaft Trophy. Entrance fees should be high ($5.00?) so that suitable cups and trophies may be awarded, as well as to provide proper police protection for the judges after the decisions are announced. There must be at least three competitors in the same kind of boat per age group to make it a class except for the Senior group which would have no minimum limit.

A modified form of the Masters' Cup which will include musical accompaniment, will be tried out in conjunction with the Dartmouth Indoor Slalom on March 12, 1966. Several advantages come to mind in regard to this type of competition. It would require practically no manpower to run it—only 3 thick-skinned judges. (No messy wires and poles, or even stopwatches or telephones!) It would help to develop new technique. It would lengthen almost immeasurably a person’s interest in white-water competition. Which will be the first club to hold a real Masters' Cup in white water and where?

I am happy to report that the A.C.A.
National Slalom Committee is hard at work on several major racing items: national championship site selection, a 1967 team selection method, revisions of the A.C.A. Slalom Committee's voting procedures, annual regional racer seedings, a slalom rating system, and another proposal to make white-water racing an Olympic event. Results of the committee's deliberations will be announced in this column as soon as they are available. Comments and suggestions are welcomed.

Next fall the Thayer School of Engineering at Dartmouth will commence research on the development of an electronic penalty device for an individual slalom gate. The logical extension of this line of thinking is not hard to guess. Within the foreseeable future we may have portable input and output stations located at the finish line of a slalom race where data concerning a racer's progress through the course will be fed to a computer many miles away. As the racer finishes the course he simply paddles over to the portable output station, and, without even getting out of his boat, may receive a punch card which will give him his time, penalties per gate, total score, rank thus far in the race and his odds for winning. Let's face it — we live in a computerized world — let's make the most of it.

Important notice to all clubs: Please send me information on all proposed races for 1966 including dates, locations, sponsoring organizations and names and addresses of race organizations so I can get this information into the next issue of American White Water. Official race results should be sent to me within one week after each race. Send photos either with results to me or afterward to the Editor in Berkeley (glossy 5x7s or 8x10s preferred).

### Indoor Training: Key to Competitive Success

The Ledyard Canoe Club of Dartmouth completed in 1965 its third consecutive season of indoor pool training for kayaks. As white-water sport gains momentum throughout the country, we felt it might be helpful to share our experiences with the readers of American White Water and with other clubs. We believe that a thorough foundation in the basic fundamentals of paddling is essential to safety, enjoyment and skill in white water. He who has never set foot in a kayak does so in the spring only at the risk of his boat and very possibly his life if he has not had prior flat-water training. Better that he wait until July or August to become accustomed to his craft in warm water before venturing into the ice-cold rapids of March and April.

In organizing pool sessions the first big hurdle is a diplomatic one. Many Y.M.C.A.'s, community or school authorities are at first hesitant to have boats splashing around in them and possibly damaging the sides of the pool. Yet, by careful cultivation it is possible to allay fears about bringing in "dirty" boats. Pool owners must be guaranteed that the kayaks will be thoroughly scrubbed inside and out and that rubber tips on the bow and stern prevent pool damage by even the most clumsy neophyte. Further, all pool rules must be carefully observed with regard to showers, lifeguards, shoes on the deck, clothing, etc. Don't be discouraged if your first reply to an inquiry about using a pool is negative. It takes time, patience and education for people to entertain a new concept.

Once admission to a pool has been secured, the real planning can begin. How often to hold a pool session? How long each session? How many sessions in all? How many people should use the pool at a time? Many of these questions can be resolved by the local situation and club interest.

### New Year's Beginning

At Dartmouth we have found it best, for reasons suited to the College calendar, to begin pool sessions in January and carry them through the second week in March, meeting twice weekly for two hours per session. This gives us a total of 20 sessions or a grand total of 40 water hours. A lot of fundamentals can be covered in 40 hours. It will be necessary to set or hang gates in the pool. Easiest, of course, is
a rope suspended across the pool with a number of gates hung from it. If this is not practical, gates can be designed which are suspended in the water. Here's how it is done: Attach a 10-pound weight with rope to one end of a seven-foot wooden pole, leaving about two inches of play between the weight and the end of the pole. Lower the weight and the pole into the pool to see where the water level hits the pole. Mark a spot on the pole about six inches below the water level and nail a 15-inch section of two-by-four or plank at this point perpendicular to the pole. A life preserver tied to the pole at this point will do as well. This acts as a buoy to keep the pole erect. Two of these poles will serve as a gate.

Aside from the very elementary fundamentals of boat handling and Eskimo rolling, there are many exercises that can be performed in this "test tube" situation. One of the best is the English Gate (American White Water, Fall, 1964). This series of maneuvers is ideally situated for training where the amount of available water space is limited. It is easily controlled and accurate records can be kept showing a person's progress at each session throughout the winter.

Gates for Nine

If several English Gates are set up side by side, as many as three kayakers can be working on them at the same time. This utility can serve up to nine boats on a rotation basis. After doing one complete gate (in approximately one and a half minutes) you are more than glad to move over to the side of the pool to catch your breath and allow someone else a turn.

With two ropes stretched across the pool, four to six gates can be arranged which provide an almost unlimited number of combinations. These can be done backward, forward and from odd angles. To add a little zest to the evening's entertainment, put a stop watch on someone doing a prescribed series of gates and county penalties.

For endurance or wind, hold a "chase". This is a two-boat race in which one sets a spontaneous, ever-changing course through the four gates while the second follows as closely as possible. A chase timed for four minutes will leave both paddlers cotton-mouthed, limp and panting at the side of the pool. Three consecutive chases in a row will tax even the most stout-hearted.

Another exercise is the corkscrew. Line up five to seven poles on one rope the length of the pool. Zig zag through the poles down and back. Do this in reverse. Combine the two and put someone on a stop watch.

Sprints

Another exercise we've used with a fair degree of success is "fast starts" or sprints. Line up two or three boats at one end of the pool, sterns touching the deck. Someone gives the countdown and off you go, full steam toward the other end. Choose a point about three-fourths of the way down as the finish line. Try a half-dozen of these in a row and you'll find out how good your wind is. Then try six more fast starts backward. Include a speed roll halfway down on both laps.

The climax of any indoor pool training session can be a full-scale slalom complete with timers, numbered gates, checkers and announcer. It is not nec-

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**Special Arrangements for Canoeists and Kayakists**

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Write for complete details or up-to-date schedule. Ask about special group rates for clubs.

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American WHITE WATER
Essary to have a particularly large pool because a course can be set which employs the use of the same gates twice. Eskimo rolls required at various points along the course add to spectator interest, and for experts a hands-only roll can be included.

In 1963, we held an indoor slalom consisting of 10 gates. It drew nine competitors, members of three eastern clubs (KCCNY, KCCB, and LCC). Each competitor took three runs on the course. With very little fanfare or publicity this unique event attracted over 150 spectators. In March of 1965, an indoor slalom was again held at Dartmouth's Olympic-sized pool. We had two classes, (K-1 Novice; K-1 Expert) and 12 competitors who negotiated a tricky 13-gate course which included two Eskimo Rolls. Over 300 people came to watch. Two visual aids were used: an electric timing clock which recorded the progress of a competitor so spectators could compare his official time with others, and a large blackboard which recorded each person's score per run so the spectators as well as competitors had a good over-all picture of the race as it unfolded before their eyes.

With three pool training seasons under our belts, we are encouraged with the results to date. We've had students appear in January who had never before set foot in a kayak, let alone had experience in white water. In the early spring these pool-hatched neophytes have ventured into the icy streams of New England, got the feeling of moving water under their keels, enjoyed a full white-water season with confidence, some skill and a considerable margin of safety. We would appreciate an exchange of information of what other clubs are doing along this line.
"Messing about in boats; messing about in boats, or with boats.

"In of em or out of em, it doesn't matter."
"Nothing really seems to matter, that's the charm of it."

"Whether you get away or whether you don't; whether you arrive at your destination or whether you reach somewhere else, or whether you never get anywhere at all,"

"you're always busy, and you never do anything in particular;"
"and when you've done it there's always something else to do,

"and you can, it if you like, but much better not."
"Look here! If you've really nothing else on hand this morning, supposing we drop down the river together and have a long day of it?"

Dean
Accompanying the tremendous improvements in skill of a goodly number of our boaters is a growing disregard for our safety regulations. We are frequently prodded by not-so-good boaters as to why we do not raise a voice of disapproval about the fact that some of these experts do not rigidly adhere to our safety code in respect to life-jackets and the "don't boat alone" rule. These requests for our opinion arise every time the word goes around that one of our crack boaters negotiated a 80-foot-per-mile-drop river without his guardian angel buddies and without a jacket. It also is brought up when participants in a class 111-plus slalom do not wear lifejackets but only a helmet and wetsuit (sometimes).

Before making any quick and harsh statements on this subject, we must look at these new approaches to our safety rules with consideration, because there may be good reasons that make these people deviate from our safety code.

Experts in Esquimaughtage

First, these people are experts, class IV (and up) boaters, who have spent considerable time and effort improving their skill so as to be secure in negotiating the rapids their way.

Secondly they can eskimo-recover under nearly any condition in rapids that most of us would not even consider running right-side up! Their need for a lifejacket is not as great as for the average boater—in fact, the jacket may interfere with their esquimaughtage.

Thirdly, the type of water these people frequent contains vicious currents, souseholes, and whirlpools where a lifejacket can be disadvantageous, since it does not allow the swimmer to dive down and swim out.

Fourthly, in a slalom, where the ultimate in performance of strokes is required, a bulky lifejacket can obstruct a boater's movements just enough to make him lose a heat, or cause him to tip in a vicious rapid. Of course, rescue crews should be stationed along the course.

Fifth and last, our safety code is written for the benefit of the average of all boaters, beginners and experts. It assists our organizing AWA affiliates in the maintenance of minimum safety measures and regulations on their club trips and events; it also assists the individuals in the safe planning of their own trips. The code is based on the common sense average minimum precaution which, if adhered to, will assure the club, and the boaters, that they probably complete their trip safely. But our code is not law, and since we are supposed to be an intelligent, self-ruling people, we are free to deviate—providing we cannot harm anyone else but ourselves (I am thinking about the rescuer now).

Rule of the Average

All this said and done, do we fully agree with the experts' deviation from our safety code in the matter of life-jackets? No! We must never forget that nobody talks much about white-water boaters except when they drown or get into trouble requiring rescue. Since we all love our sport dearly (and our lives too), we must be considerate not to create hardships for our fellow boaters in the form of state regulations imposed because of some disastrous boating mishap, or by making them rescue us under dangerous conditions because proper precautions were not taken.

Of course, the person on a solo river trip does not endanger buddies when he breaks a leg on a slippery rock while scouting a rapid. He will have to wait until someone becomes worried and starts looking, which might be a long time for some of us! We AWA boaters do not believe in, and strongly disapprove of, boating without support from others.

The AWA cannot lower its safety standards without making our organi-
zation vulnerable to extinction.

Our code is based upon the fact that the boating world includes beginners and intermediates as well as experts. We of course are very proud of the tremendous progress that is being made by many of our boaters and wish that more would seriously try to improve their skills, thereby increasing their enjoyment and enhancing their safety. Confidence in our skills, however, should not lead to recklessness. To our average boater we have to say "Put on that lifejacket and go out only in groups." To the expert we have to say "Remember your mishap will put a blot on our sport: please wear that jacket where possible, and find some buddies for your next Class IV trip."

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Red Ridge College

The Eighth biennial Red Ridge College of river canoeing will be held the week end of April 30 and May 1, 1966. As in the past, it will be sponsored by the American Red Cross, South Eastern Pennsylvania Chapter, and the Buck Ridge Ski Club of Philadelphia. The newest techniques for interpreting and maneuvering safely in white water will be taught to 60 students by 12 Buck Ridge instructors.

Students will be chosen from among applicants proficient in lake canoeing exhibiting intent to teach others.

Interested canoeists should write to Lloyd J. Vye
1450 Municipal Services Bldg.
Philadelphia, Penna. 19107
before April 1 for application forms.

Wild Rivers Bill

All members of the Affiliation should make a point of writing their Congressmen, asking support for the Wild Rivers Bill which has passed the Senate. Reports from Washington say the House of Representatives is "uninterested." Let's change this!
BOOK REVIEW


This book is the product of a committee of which Kenneth A. Henderson was the chairman and Stewart T. Coffin the Assistant Chairman. The project began as an updating of "Quick Water and Smooth" by Phillips & Cabot which was the previous most comprehensive New England canoeing guide, but which was understandably out of date as it had been published in 1935. As time went on, the committee found itself adding more and more material, and the end result truly lives up to its sub-title "A guide to the canoeable waterways of New England." The index lists about 475 rivers and streams and about 75 lakes and ponds. Geographic coverage is very complete, including coverage of the Maine rivers and of many tidal waterways.

With so much material to cover, the description of each river is necessarily short and precise. The book is intended to give useful information to people of all degrees of skill and to extend the number of miles of canoeing and kayaking available to the average boater. With this as an objective, the authors could not include much embellishment or advertising of particular runs.

The more advanced boaters may complain that the small streams take up too much space in the book. However, there are up-to-date descriptions of such difficult runs as: Swift River, N. H., Upper Saco, Rapid River, Maine. These descriptions are brief but adequate, particularly if used in conjunction with the appropriate USGS topographic map which is always listed at the beginning of each river description.

Inside the front and back covers are pocket maps covering New England on a scale of \( \frac{1}{2}" \) to 10 miles. These maps, as well as a small watershed map in the book, are from the hand of the well-known cartographer, Irwin Raiz. In addition, there are four small river maps of familiar runs of intermediate difficulty.

There is a short introduction which contains advice on how to use the book, some general information, the AWA Safety Code, and the AWA river difficulty chart. The volume measures \( 6\frac{3}{4} \times 3\frac{3}{4} \times 3\frac{3}{8} \) inches, which should make it easy to wrap in a plastic bag and stow in a parka pocket.

Eliot DuBois


This is a sumptuous buy for the modest price, and would make an appreciated gift (or prize) for any white-water enthusiast who has any sense of history or anthropology.

It is also a quiet occasion of pride for American White Water, because an extremely interesting chapter in the Appendix describes "the Kayak Roll"—and it is written by our own sometime contributor, John D. Heath of the Washington Foldboat Club. Some of the illustrations of Enoch Nielsen, the expert Greenland esquimauteur, appeared first in the Spring, 1962, issue of this magazine.

An exhaustive treatise on the canoe, the kayak and the umiak, with brief treatment of temporary boats like the Plains Indians' "bull-boats," the Smithsonian monograph is lavishly illustrated and includes many detailed drawings by which an enthusiast might reconstruct many of the types. John Heath himself is a builder of large-scale replicas—perhaps we can get him to write us an article about how he does it.

—P.D.W.

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American WHITE WATER
Conservation
Comment

By Dan Bradley
AWA Conservation Chairman

By virtue of a weird flapdoodle in the closing days of Congress, the Allagash River in Maine, one of the most famous canoeing waterways in the East, will be preserved for future generations of paddlers to test their skill and stamina on. For some years the Army Engineers had been pressing their project for a high dam on the St. John River which would have drowned out the Allagash Falls and the lower part of the river. Conservationists sought an alternative project for a high dam above the confluence of the two rivers, with designation of the Allagash as a National River unit of the National Parks system.

Included in the annual rivers and harbors bill passed by Congress and signed by the President is an appropriation for the Dickey-Lincoln School project for the high dam above the mouth of the Allagash, and a low control dam below. The bizarre feature of the legislative action was that the project was included over the near-unanimous opposition of all New England Congressmen to the federal grant of a quarter billion dollars. If this represented old-fashioned frugality and rugged individualism, it might be thought admirable though misguided.

But it was nothing of the sort. The Gentlemen from New England represented only the undying opposition of a power monopoly whose inefficiency results in consumer electric rates 27 to 35 per cent above the national average. Naturally they don't fancy competition from a federal "yardstick" that will shake down rates to more reasonable levels—and, incidentally, attract back some of the industry which over recent decades has been fleeing the state, and the younger generations with it. Credit is due to Senator Muskie of Maine for keeping the project in the rivers and harbors bill — and for saving the Allagash.

Nothing much has been heard of late about the National River proposal — perhaps because of the opposition of another near-monopoly: the paper companies who own the land, who figure they manage the river well enough and don't want millions of "outsiders" piling in and tearing it up, and maybe burning up the spruce forests to boot. They have a point.

Royal Deception

While in Arizona, Princess Margaret and her husband were taken for a boat ride on Lake Powell, a man-made lake formed by Glen Canyon Dam, which backs up the waters of the Colorado River. The boat passed an island where the royal party was regaled by the following spectacle — and we quote the New York Times' account by Charlotte Curtis:

"Twenty 'Hawaiians,' including two 'mermaids' (one purple, the other turquoise), three plump housewives and several children shivered and shook on a little island while the royal party was out cruising. This group, made up of Page residents who wanted to surprise the Princess, had built a grass shack of what looked like sorghum stalks, and covered their otherwise desolate sandstone rock with greenery and brightly
colored fresh and plastic flowers." The spectacle was the ultimate degradation of what was once a scene of incomparable natural beauty. That "island" was probably the tip of a craggy rock formation in one of the many side canyons carved through thousands of years by the Colorado River before men dammed it up, blocked its flow and flooded the canyons.

The "recreational" features of Lake Powell are often cited as additional benefits of the reclamation-and-power project of which Glen Canyon Dam is a part. Similar dams have been proposed at Bridge Canyon and Marble Gorge which would flood out other long stretches of the Grand Canyon. But does the idle pleasure of a brief boat ride—with or without "Hawaiians"—justify obliterating forever part of a scenic wonder unequaled on this continent?

Men can plunder, rearrange and distort nature; they can flood the Grand Canyon and still the flow of the Colorado. But their technical capacity to work their will does not, in itself, justify their doing so. No American will ever again see the splendor of Glen Canyon in its natural state, though many living—and many in the years to come—would have liked to do so. And probably the Princess would have, too.

Arnold Hoiberg,
KCCNY Newsletter

Ernest Swift in NWF Conservation News: "True craftsmanship with a canoe dictates poling upstream as well as paddling down, and a good boat handler does not paddle wildly through shallow rocky stretches; he snubs his craft downstream a little at a time with a pole. I have yet to see a modern wild river enthusiast who could buck upstream rapids with a pole."

Ouch; kind of hits us in the paddle-bone! Maybe we ain't the voyageur type, hey?

From Your Editor

Bob Simmonds of Oneonta, N. Y., is the newly elected secretary of the American White Water Affiliation for 1966. Bob is a long-term member and four years ago was the author of an exceptionally informative article on "Rivers: Their Rise and Fall" Vol. VII, No. 4).

With this issue we announce what has been the fact for the issue just past: our new Circulation Manager is Henri Eble, 3115 Eton Ave., Berkeley 5. He succeeds Bob Hawley, who did a fine job in getting our records established on computer cards—a system that will be continued commercially by Hank.

With this issue, too, we welcome a new Racing Editor, Jay Evans of Dartmouth College—the man who has done such an outstanding job in training collegians for slalom and downriver competition. Jo Knight, who is one of his students, led all the U. S. K-1 competitors at Spittal last summer. Jay holds the title of ACA Slalom Chairman, a coincidence that was planned, as it makes it possible for the magazine to get the latest and most authentic news of race results.

Great thanks are due to the outgoing Secretary of AWA, Bob Field, to the retiring circulation Manager, Bob Hawley, and to the Racing Editor for the past two seasons, Dave Kurtz.

Grumbles are occasionally heard when your magazine comes out late. Aside from the fact that it is a good thing that readers care enough to be impatient, it's a bad thing of course that your Editor cannot always make the deadlines printed on the masthead. He sincerely apologizes, and trusts that the present issue, which is catching up on the schedule, will make some amends.

Members should realize that none of the writers, artists or editors, nor the business and circulation staff who back them up, are paid. This necessarily means that all the work has to be done in spare time.

Since the publication of a magazine is a matter of synchronized steps, one small hitch can hold up the whole machine. Your Editor is just as frustrated at such times as any of you.
They Went Nottaway

(Concluding installment of the interview in which Jim Vanderleck and Al Zoh of the Ontario Voyageurs described their 1964 descent of a river that empties into James Bay in Canada's northern wilderness. With them in a second slalom C-2 were Austin Hoyt and Terry Townsend.)

Q: Did you spend any time in fishing, or in a static campsite?

A: We had lots of time for fishing, especially on each of the four occasions when we stopped at one campsite for a whole day. The pike and pickerel were plentiful at first, but for the lost 30 miles down to sea level we found none. It appeared that the continuous fast water was an unsuitable habitat for fish. Except in the upper sections, we could not have survived on fish if we had lost all our food. The fish in tide water could have been readily caught with nets. The tide water in Rupert Bay was fresh, not salty.

On a big river like the Nottaway the rapids have a different character from those of the Madawaska or smaller rivers. The waves are usually big, and often of gigantic proportions. The biggest ones seemed to have a vertical dimension of about 20 feet. It is difficult to tell what would happen if you tried to paddle through some of these—we never thought of trying it.

Rapids

Q: What were the outstanding stretches of rapids? How did the crews adjust to the rapids?

A: [Zoh] I could talk about this for hours. There were many impressive rapids, some of which were a pleasure to run and some which were frightening even to look at.

Usually these big waves were preceded by rollers of similar dimensions.
I found those the most impressive. I remember well that when we saw the first big roller, we were all speechless for a while. On the aerial photographs it looks so small and harmless! Pictures of other difficult rapids which I had seen, ran through my mind, but none could compare with this in size and power. We all wondered then whether we would finish the trip on schedule or would we be delayed by endless portaging.

Yet these frighteningly powerful rapids were not all unrunnable. The river was usually very wide, 1000 feet or more, and there could be found a fairly easy route through the rapids. As long as you could avoid the big holes and the rollers, it was fairly easy.

As a rule, we tried to keep close to the shore. Even if it seemed easier in the middle, it was unsafe to be so far away from the land. Often we got out of the canoes and inspected the rapids before we ran them. It was usually quite critical to decide when to stop, when approaching chutes or waterfalls. The flow was so fast that the transition from the current into the eddies was often difficult, and under the circumstances, dangerous.

There were many boils and small whirlpools wherever the water was deep. These at first kept us in suspense, but we soon got used to them—they were usually harmless. Only once did a whirlpool turn me around a couple of times, but then I was alone in the boat, fishing.

The total length of rapids we ran was 30 miles. The corresponding drop in elevation was 400 feet, giving an average gradient of 13 feet per mile. We portaged only 2% miles, in a total of twelve portages, which resulted in another 200-foot drop. The remaining 160 miles was travelled either through lakes, or parts of the river where the water was fast-flowing, but no rapids were caused, resulting in another 200-foot decrease in elevation.

**Portages**

Q: Were there many rugged waterfalls and chutes? Did you have to portage much? Were there any trails to follow? What were the hardest portages like?

A. [Vanderleck]: There were two big chutes on the river, neither of which was strictly speaking a waterfall. Both consisted of a series of cascades and rapids of great proportions. The first one we came to was called the Iroquois Chute, where the water dropped about 30 feet in a distance of less than 200 yards. This was one of the most beautiful places anywhere in the north I have seen. There was a good portage trail here and our memories of this place are pleasant in all respects.

The second series of big chutes and cascades is called by the few who have seen it, the High Falls. This name is misleading, as the biggest single drop here is only about 10 feet. Twenty billion gallons of water is roaring through the steep, rocky walls of the chute, separated by a distance of 50 feet only, every day. This furious torrent is the mightiest exhibit of force and power in action I have yet seen. To see the High Falls was, in itself, worth our whole effort required by the trip.

There was little time to admire the falls, though, as it was constantly raining and the portage was difficult and dangerous. There was no trail and we had to carry everything for a mile along the steep, slippery river bank. At times it was hard enough to walk, or climb, along the shore, let alone carrying a canoe or a heavy packsack. Losing our balance or slipping would have been fatal. The alternate route was to go through the bush, but after a couple of hours of futile effort we gave up that idea. It took us one evening and a good part of the next day to carry everything to the end of this portage. But the worst was yet to come...

After about 6 miles of paddling we came to a rather wild-looking rapid which we did not dare to run, being utterly exhausted from paddling against the north wind and from being constantly wet throughout our clothing. So we decided to portage, but soon realized that it was impossible to carry the boats either through the bush or along the shore. At this part of the river the...
banks were rather low and the surrounding lands seemed to have been flooded every spring. The trees grew so densely that walking even without a pack was a difficult task.

Eventually we cut a 600-yard-long trail through the bush. This, I thought, was a unique way of traveling in the 20th century. But being wet and cold it was effective in getting warmed up again.

The Terrain
Q: Did your course take you beyond the "tree line?" What was the scenery like as you approached the Bay?
A: We did not pass the tree line. The scenery on the river was pleasant but usually unchanging. The lower part of the river was high clay banks, which get higher and higher until you reach tidewater, where the banks of the estuary may be 100 feet high. The river is lined with full-sized spruce and balsam fir trees, with a smattering of other varieties. Behind this is mostly impassable bog and muskeg, often with no trees. The muskeg predominates in the area approaching James Bay, but it cannot be seen from the river. Almost always we were able to find clean, smooth rock for campsites, since the pre-Cambrian shield was evident at every rapid, chute and waterfall.

Some unique terrain was observed. In one place the river flooded a boulder plain and appeared as a large lake, except the current was fast and the depth was only one to three feet. In another place, the spring floods had swept the terrain clean except for bedrock and boulders. The soil and trees were only on elevated knolls about 30 feet above water level. These knolls would be islands, of course, in the flood season.

Flies
Q: Were the flies bad, and did they get worse as you neared the bay?
A: As Al explained, the flies were quite tolerable. As we approached the bay, the weather got colder and the flies vanished. I rarely used fly dope even in the warm weather. I expect the situation would have been far worse in June or July.

Mishaps
Q: Were there any spills in the rapids? If so, how did the men get ashore?
A: Besides the capsize Al mentioned, the other canoe got in trouble in a grade 3% rapid. By the time Al and I had towed the bow man to shore, and then assisted the stern man to beach his half-flooded canoe, we were two miles further down stream.

There were other exciting moments, the foremost being when Austin and Terry misjudged an eddy turn and came too close to the brink of a roaring fall. Al and I had gone down the tricky part successfully and were waiting in the eddy for Austin and Terry. They made their eddy turn so cautiously that they finished the turn in water still moving nicely toward the lip of the fall. Hard paddling on their part prevented a serious accident.

River Mouth
Q: What was the river like at its mouth, and what were reactions on reaching it?
A: The river ended in a final rapid, after which we were in the tidal estuary. Paddling here was the same as paddling on a lake, except in some places where we were able to take advantage of a current as the tide was going out. At the mouth of the river, the banks were first piled with huge boulders. Soon the shore changed to the predominant clay beach and clay bank.

Rupert House
Q: How did you get from the mouth of the Nottaway to Rupert House? What sort of reception did you get?
A: The distance on tidewater to Rupert House was about 29 miles, which we paddled. The tides determined our route and the time of day for traveling. We could not have found Rupert House when we arrived at 11 p.m. in the rain except that one or two houses had lights burning. We were hardly welcome at that time of night, but the good inhabitants roused themselves and took care of us with hot coffee, biscuits and sleeping accommodation.

Rupert House is a neat village at the mouth of the Broadbeck River. The population consists of 650 Indians, 10 white people, and of course innumerable dogs. One of the whites, Maud Watt, has become a legend as the Angel American WHITE WATER
of Hudson Bay. During the early days of the war, when supplies to their post were cut off, she and her husband walked from Fort Chimo to Montreal to get help for their starving Indians.

Her husband rehabilitated the Indians and lost his post with the Hudson's Bay Company because he paid the Indians to conserve the disappearing beaver population instead of killing them, until their numbers increased sufficiently to provide a livelihood again.

Maud Watt has taught the Indian women to cook and sew and make their homes attractive. She now lives in a big white house that the grateful Indians built for her.

She proved a very gracious hostess to our wet and weary voyageurs.

**Return**

Q: When and how did you get out from Rupert House?

A: Our party of four returned in three separate bush planes from Rupert House. Al flew to Lasarre, Quebec, and the rest of us went to Moosonee, Ontario. The canoes went out by plane also. Following the plane, we returned home by train. The plane service is good if the weather is not too foggy.

**Terrain**

Q: Did you get a chance to fly over the country and get a broad picture of it?

A: The picture of the James Bay land area from the air is one of utter desolation. The trees are mostly stunted or nil on account of the predominant muskeg, except those trees where the drainage is good, such as along the banks of rivers and lakes.

**People**

Q: What were your impressions of the people you met in the trip: Indians? Whites?

A: At the start of the trip, we ran across an interesting Indian who had been down the Nottaway himself. While laughing he warned us that we would die. We came across no others until we reached James Bay where the Indians generally spoke Cree only. We found the Indians quite shy, but friendly.
and co-operative, once the ice was broken.

While A1 was waiting for the others to come in, at the last stop, he discovered an Indian tepee housing two men and their families. They were smoking fish in the crowded tepee but the odor was not unpleasant. One of the girls spoke English to the extent of "yes" and "no." But the Indians did show him a shortcut to Rupert House, usable only at high tides, that made it possible to reach the journey's end that night in spite of the adverse weather.

Memories

Q: What are your happiest memories of the whole expedition? What was the most depressing period?

A: Perhaps my happiest memories are those in which we plunged over standing waves of unprecedented height, when the canoe would leap through the air, except for the tail end, then crash into the trough before mounting the next wave. However, of more lasting satisfaction is the sense of achievement resulting from the successful completion of a challenging task by means of team effort. We had no depressing periods, but the least enjoyable time for the group was during the continuous cold wet weather that prevented us from enjoying, to the full, plunging time and time again through white water.

Summary

Q: Would you do it again, or recommend the trip to others?

A: Each of us enjoyed the trip so much that each is looking forward to similar or even more challenging trips in the future. Having run the Nottaway once, we would not likely do it again, since less familiar rivers now seem more attractive to us. We would certainly recommend the trip to others. Less experienced paddlers could portage more than we did, and more experienced paddlers could run some stretches that we refused to risk.

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**RACING SCHEDULE 1966**

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<td>April 2-3</td>
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<td>Canoe Cruisers Assoc.</td>
<td>Dick Bridge</td>
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<tr>
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<td>June 4-5</td>
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<td>June 17-19</td>
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<td>FibArk</td>
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<td>June 25-26</td>
<td>Feather River Slalom and Downriver; U. S. Championship (slalom)</td>
<td>Sierra Club RTS</td>
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<td>August 22</td>
<td>St. Louis County Canoe Race</td>
<td>Meramec River C.C.</td>
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<td>Aug. 27-28</td>
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<td>Ontario Voyageurs</td>
<td>A1 Beletz</td>
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</tbody>
</table>
AWA Affiliates

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Homer Hicks, Rep.
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Belvidere, N. J.

Albuquerque Whitewater Club
Earl D. Oliver, Rep.
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Chicago, Ill. 60645

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Monroeville, Pa. 15146

American Youth Hostels, Inc
Greater St. Louis Council
Bradford Davis, Treasurer
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St. Louis, Missouri 63103

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Connecticut Chapter
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East Hampton, Conn. 06424

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Buck Ridge Ski Club
Rollin Rusher, Rep.
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Canada Folding Boat Co.
P.O. Box 1002
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Canoe Cruisers Association
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2907 Olive Avenue
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Canoe Cruisers of
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Outing Club
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Kekionga Voyageurs
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**AWA Affiliates, continued**

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  - Maplewood, Mo. 63117

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  - Rt. S, 6181 E. Prince Road
  - St. Johns

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- **Minnesota Outward Bound School**
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  - P. O. Box 430
  - Ely, Minnesota

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  - Toronto 4, Ontario

- **Monocacy Canoe Club**
  - RFD 1, Walkerville, Md.

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  - Short Hills, N. J.

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  - Northfield, Vermont

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  - Oneonta, N. Y.

- **Ontario Voyagers Kayak Club**
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  - 122 Fenelon Dr.
  - Don Mii, Ont.

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  - City of Branson, Mo.

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  - State College, Pa.

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  - 4140 Elm St.
  - Downers Grove, Ill.

- **Prairie Voyagers Canoe Club**
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  - Wichita, Kansas

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  - W. Lafayette, Ind.

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  - Jean Lague
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  - Saull Ste. Marie, Ontario

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  - San Francisco 4, Calif.

- **Sierra Club**
  - Great Lakes Chapter
  - 609 Parkside Circle
  - Streamwood, Ill.

- **Sierra Club**
  - Mother Lode Chapter
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  - Sunnyvale, Calif.

- **Sierra Club**
  - San Francisco Chapter
  - R. F. D., Section 10

- **Sylvan Canoe Club**
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  - Pittsburgh, Pa. 15221

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  - Morin Heights
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- **Washington Fieldboat Club**
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  - 5614 Seaview Avenue
  - Seattle 7, Washington

- **Waterford Canoe Club**
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  - Waterford, Conn.

- **Wildwater Boating Club of State College**
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  - State College, Pa.

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