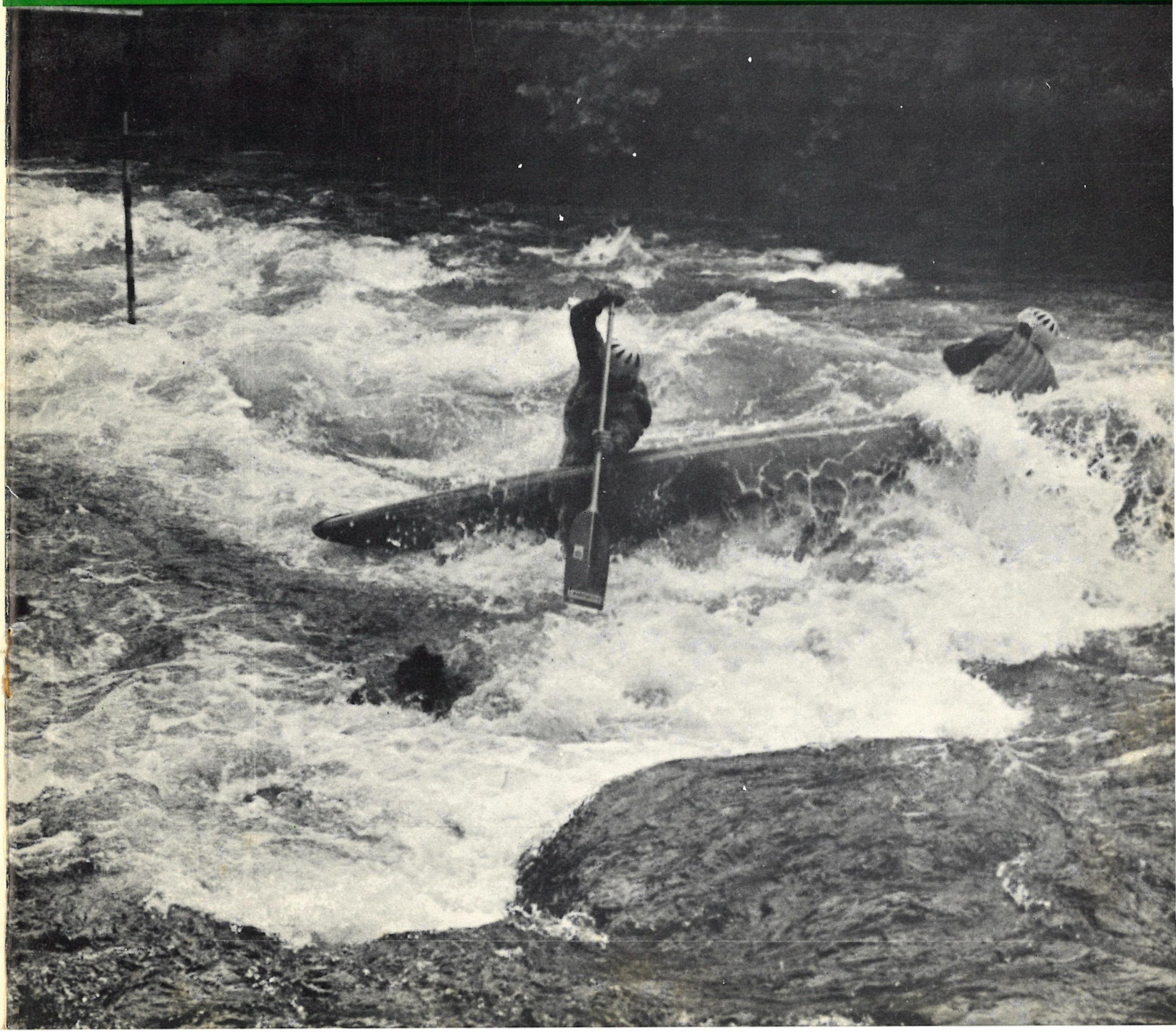
CANOEING IN THE MIDWEST

MAY 1973

MINNESOTA CANOE ASSOCIATION

# HUT!





*And Potomac flowed calmly, scarcely heeding her breast,*
*With her low-lying billows all bright in the west,*
*For a charm as from God lull the waters to rest,*
*Of the fair-rolling river.*

by Paul Hamilton Haynes

# Some of My Best Friends are Trout Fishermen

Many of our favorite canoe streams, such as the Brule and Wolf Rivers in Wisconsin, are also favored by trout fishermen. They are not vicious ogres anxious to kill every trout in a stream. Almost without exception the quest is more important to them than the kill.

I enjoy both paddling and trout fishing, so I can see both sides of the coin. If I hiked a mile through the woods to have a favorite spot all to myself, I would certainly not like to have 10 or 12 boisterous canoeists come barging through and scaring hell out of the trout. On the other hand, I would not like to be forbidden to paddle the stream or be able to paddle it only at certain times.

There is room for both fishermen and paddlers and a little consideration on the part of canoeists can help assure that we won't be ruled off a stream. Trout fishermen will usually be working the deeper holes – normally these spots will also be quite wide. Give the fisherman a wide berth – don't paddle any more than necessary – float by if possible. Trout are very sensitive and wary and will leave a hole or quit feeding if unduly alarmed.

A trout fisherman in West Virginia was actually run down by a Grumman. You can be sure that he and anyone he tells of the incident will be more than willing to sign any petition pertaining to canoe restrictions.

We don't want it said that canoeists leave littered camp and lunch sites – be sure it's not necessary to remind you that the river is not the place to dispose of beer cans, etc.

Respect private property – don't set up camp or make a lunch stop if you're not sure it's open to the public. You wouldn't want 12 strangers picnicking in your backyard.

You'll find that most trout fishermen will be quite tolerant if you disturb their fishing as little as possible. There may be an occasional sore-head who will tell you what you can do with your paddle, but in general, you'll find they are enjoying an outdoor experience – the same as you.

Larry Johns
Pres.

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HUT! Magazine is published every other month starting in January by the Minnesota Canoe Association, Inc. a nonprofit organization, and is distributed to more than 1800 members, and numerous friends of the MCA across the nation. Our purpose is to distribute information about canoe sports and canoe camping, to preserve and promote wild rivers, to effect conservation of canoeable waterways, and to encourage canoeing as family recreation.

Pictures (glossies), cartoons, art work, announcements, letters, and articles of all kinds which serve to promote the purposes of the MCA are cordially invited. Contributions should be typewritten, preferably double-spaced, and should be in the hands of the editor by the 5TH DAY OF THE PREVIOUS MONTH, AD COPY BY THE 17TH. We regret that only token compensation can be paid for photographs, and that no compensation can be paid for literary copy, however, byline credit will be extended to all contributions. Contributions cannot be acknowledged and will be returned — usually within eight weeks — ONLY when requested and accompanied by a stamped, self-addressed envelope. Please DO NOT send documents. Address: HUT! 5804 Tracy Avenue, Minneapolis, Minn. 55436.

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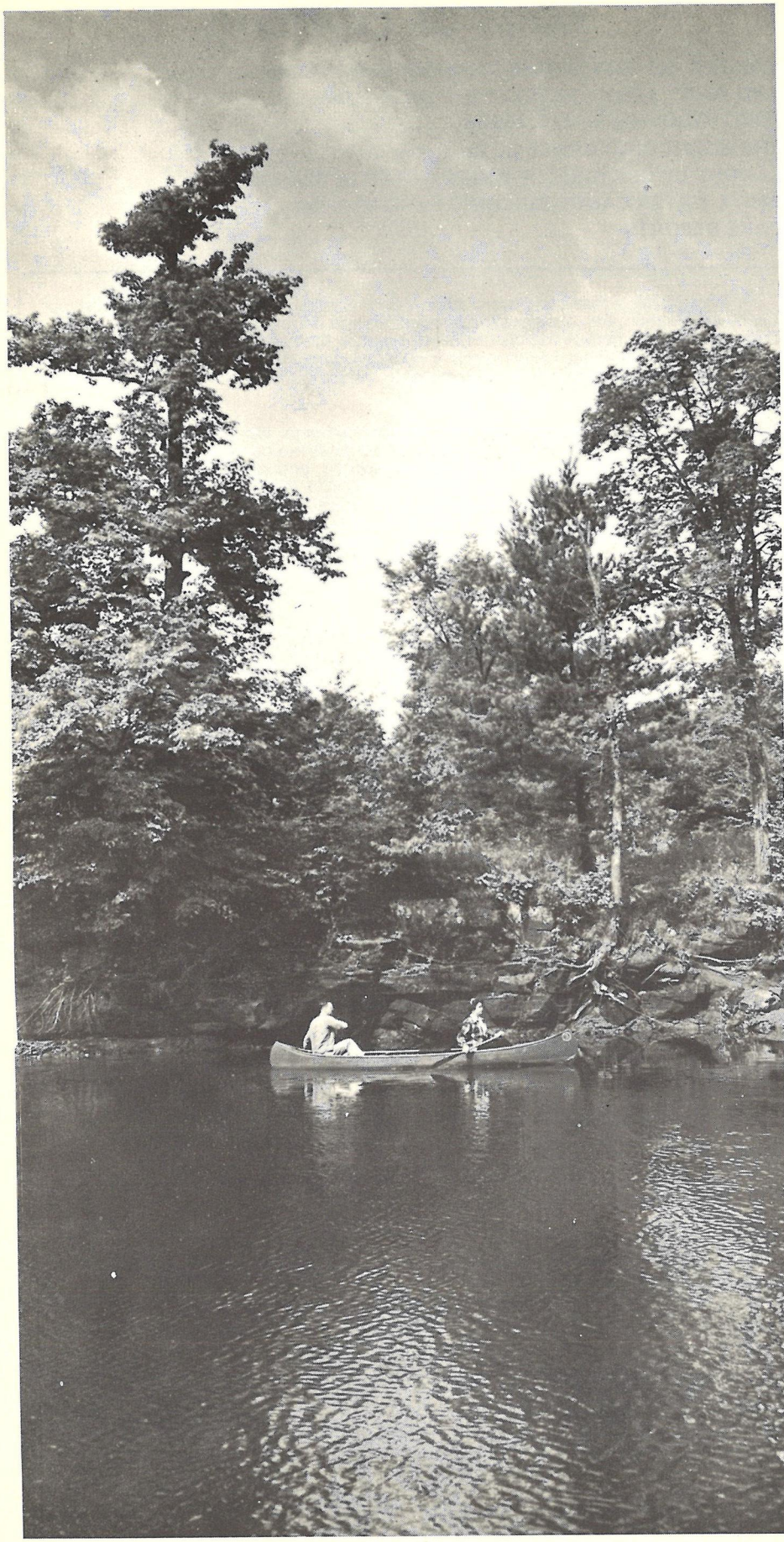
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# The St. Croix . . .

## A Brief History

*Here's a nicely written and informative piece that we'll run in two parts – the second part in the July HUT! Tom Carroll is a Civil Engineer and MCA member.*

*Photos courtesy NSP*

*by Tom Carroll*

The river flows clean and free as it winds southward on its 174 mile journey from its source at Solon Springs, Wisconsin, to its confluence with the "Father of Waters" at Prescott. It emerges from the bogs and thickets of its upper reaches to join the winding Namekagon, whose waters swell it to more than twice its original size. As the river courses silently between the sandy banks of its ever-widening valley, it is nourished further by countless tributaries. The combined flow charges through a rocky defile at Taylors Falls to emerge finally in the broad expanse of the lower valley.

Despite occasional outbursts as it rushes over the resistant remains of ancient lava flows, the river's prevading mood is one of peacefulness. It seems almost as if the rocks, waters and forests of the valley are joined in a hushed conspiracy to avoid alerting the nearby metropolitan giant to its presence.

It is indeed unique that such a waterway as the St. Croix continues to exist in close proximity to such a burgeoning population center as the Twin Cities. It is remarkable when one realizes that the preservation of the river valley is due, in large part, to early exploitation.

When the first sawlogs passed thru the Walker and Judd mill at Marine in early 1839, the valley was still cloaked in virgin white pine forest. Within 60 years, the loggers had stripped the land bare, acquiring large holdings on either side of the river in the process. Some of these holdings were later sold to the Northern States Power Company who acquired them with an eye toward future hydro-electric projects. As a result of these transactions, lands immediately adjacent to the river have remained largely in single ownership since the days of earliest settlement.

It is this near-monopoly of holdings, in combination with a rather low potential for agricultural development, that has preserved the riverway from commercial encroachment. Now, as part of the Nation's

system of Wild and Scenic Rivers, the valley will be preserved for the enjoyment of generations to come.

The river above Taylors Falls is still largely untrammeled and appears much the same today as it did to the early Indians. Wildlife abounds and the Bald Eagle and Sturgeon still inhabit the skies and waters of this section of the valley. The Namekagon, wild and lovely tributary to the St. Croix, bears the Chippewa name of that rare fish.

The valley is peaceful now, but it was not always so. During early geological times this section of North America was the scene of numerous diastrophic disturbances, or massive upheavals. Mountains rose and were worn away. Volcanoes spewed their fiery wastes, and earthquakes distorted the surface of the land.

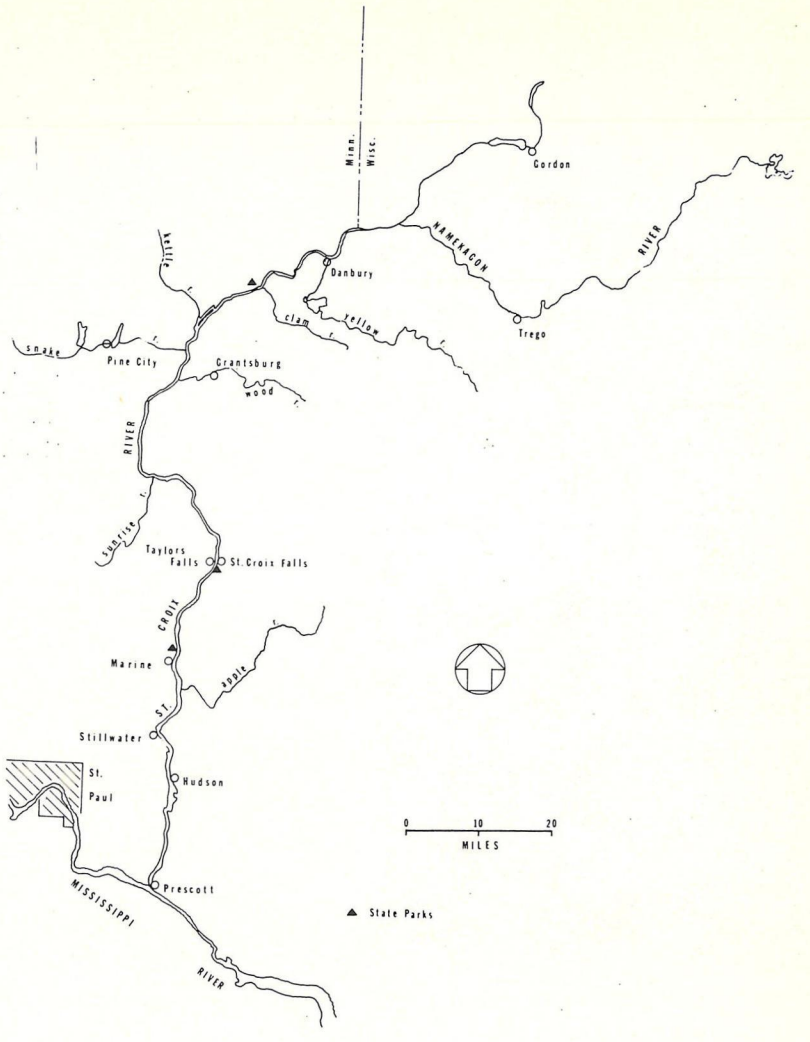
About 600 million years ago, during the Keweenawan period of the Proterozoic era of geological time, extensive lava flows were extruded from faults in the earth's crust and covered the land to depths, in some places, in excess of 30,000 feet. These flows cooled to form the basalt bedrock which has since been carved by the river to form the spectacular Dalles at Taylors Falls, and which underlies the numerous rapids of the upper valley. These flows marked the end of igneous activity in the midwest.

During the following 530 million years, the North American continent was washed by alternately advancing and retreating seas. The rocks which underlie much of the area were laid down as sediments under these seas.

The composition of these various sedimentary layers thus formed was determined by the conditions existing at the time of their deposition, and fossils preserved in these rocks tell us much about the development of life on earth. Several of these layers, or formations, are beautifully exposed at numerous locations in the walls of the valley below Taylors Falls and at several spots in the upper valley. These sedimentaries of the St. Croixian series, as they are called, consist primarily of dolomite, sandstones and shales of Upper Cambrian age.

The intermittent deposition and wearing down of sedimentary rocks continued until the final retreat of the sea from the North American continent at the end of the Mesozoic era, some 70 million years ago. The ages that followed saw the gradual wearing down of the surface by wind and water.

The climate, which during the preceding eras had been quite warm, gradually grew cooler. In the far north, the formation of massive ice fields began. As the climate grew still cooler, the ice fields grew larger and began pushing southward. These moving ice fields, or glaciers, measured thousands of feet thick and exerted tremendous pressures on the earth. They gouged out great quantities of rock and soil, completely reshaping the land as they passed.




North America was subjected to four main periods of glacial advance, the first of which began about one million years ago. The last of these, the Wisconsin phase, shaped the St. Croix Valley that we see today. During the later stages of Wisconsin glaciation, trememdous volumes of meltwater flowed south from Glacial Lake Duluth which occupied the general area of present day Lake Superior and gouged out the river valley. Only such a process can explain a valley which is much too broad and deep to have been carved by the placid river that flows thru it today.

During a later period, a sublobe of glacier extended ito the Valley from the southwest. This sublobe covered an area from St. Cloud, Minnesota, to Danbury, Wisconsin, and southwest to the Twin Cities. A great lake, Glacial Lake Grantsburg, was formed behind this glacier which blocked the natural drainageway to the south. The sandy plain thru which the river passes north of Taylors Falls formed the bottom of this shallow lake. Overflow from this lake further eroded the valley to the south. The glacier eventually retreated and the river resumed its flow. It has been following its present course for the past eleven or twelve thousand years.

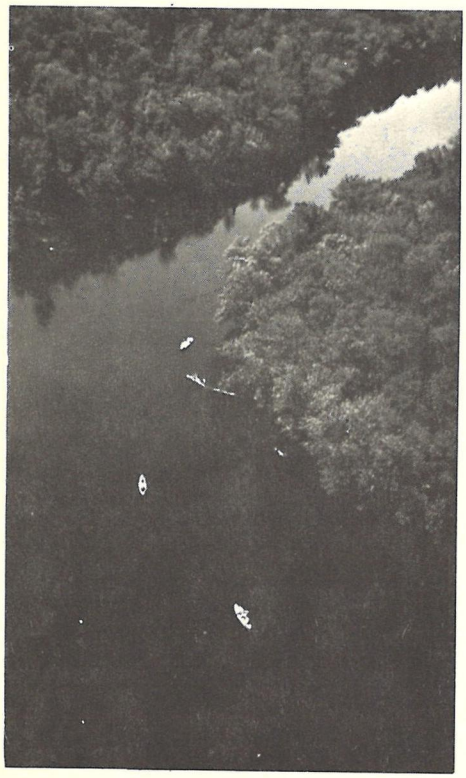
With the return of a warmer climate, animal life reappeared. Recent evidence unearthed near Rice Lake, Wisconsin, indicates Man's presence in that area as early as 1000 B.C. There is reason to believe that future finds might reveal evidence of cultures dating to 4000 or 5000 B.C.

Recorded history of Man's presence in the Valley began with the White Man's first incursion into the area in the early 1600's. Prior to that time the region was inhabited by the Dakota Indian who lived well on the fish, birds, game and wild rice which were present in abundance.

During the 1500's the Chippewa migrated westward from northern Michigan; first along the Lake Superior south shore, then eventually to the south into the St. Croix Valley. There were frequent clashes between the two Indian nations during the 1600's; and by the end of that century, the Chippewa had succeeded in driving the Dakota from the Valley. The Chippewa had come to refer to their enemy as Nadou-esse or "Snake in the grass", which was later translated into French as "Na-

dousioux" and which eventually became simply "Sioux".

The displacement of the Dakota, or Sioux, however, did not end the fighting, for raiding parties continued to make regular forays into "enemy" claimed territory well into the 1800's.



The Indian conflict was a source of concern to the French traders who had entered the Valley in the late 1600's in pursuit of the beaver, whose pelt was worth a fortune on the European market. The demand for furs had pushed the French search for beaver south from Lake Superior much the same as the Chippewa search for food had brought them to the Valley a century earlier.

Indians engaged in waging war had little time for trapping beaver, so it was essential to the trade that peace be maintained. In 1680, Daniel Greysolon, the Sieur de Luht, visited the area in an attempt to make peace among the Indians. His efforts having met with some success, he descended the entire length of the St. Croix, and returned to Lake Superior via the Wisconsin and Fox Rivers and Lake Michigan. He was the first White Man to have made that trip.

During the 90 year period of French domination of the region, at least one trading post was known to have been established along the St. Croix. This post was located at the mouth of the Yellow River near present day Danbury, Wisconsin. Another post, built on Prairie Island near the mouth of the St. Croix, was operated by Pierre Charles le Seuer from 1693-1695.

In 1763, the French lost Canada and portions of the U.S. territories east of the Mississippi to England. The British wasted little time in laying claim to their newly won lands. In 1767, Jonathan Carver, the first Englishman to visit the Valley, canoed down the Namekagon to the St. Croix, up the St. Croix to its source and down the Brule to Lake Superior.

In 1784, a trading post was established on the Namekagon near present day Hayward by Michael Cadotte, an independent trader.

During the previous years of French domination, the British fur trade had been forced to operate via the less desirable Hudson's Bay route. With the French gone, the British were free to use the more efficient St. Lawrence route, and the Northwest and XY Companies came into being. These companies, inheriting the routes and districts established by the earlier French traders, competed with each other and with the older Hudson's Bay Company which continued to operate through the established Bay route.

In 1804, Thomas Connor established a Northwest Company trading post at Pokegama Lake on the Snake River. The XY Company countered with a post on the nearby Kettle River which presumably was abandoned when the rival companies merged later in that year. The site of Connor's post was recently unearthed, has been restored, and is now open as a State historic monument.

In 1812, the British were forced to relinquish control of U.S. territories south of Lake Superior. Connor and other established traders in the valley soon found themselves working for John Jacob Astor and the American Fur Co.

It was not long, however, before the beaver population was depleted. By the mid-1830's, the fur trade era in the Valley had come to a close.

The infant United States, occupied by feverish expansion elsewhere, was slow to take an interest in its remote Northwest. In 1800 the region had become part of the Indiana Territory and in 1809 was included in the Illinois territory. It was not until 1832, however, while the area was part of the Michigan territory, that the first major American expedition ventured into the Valley.

In that year Henry Rowe Schoolcraft, Indian agent for the Minnesota-Superior region since 1822, led an expedition into the region to promote peace among the Indians and to discover the source of the Mississippi River. Returning from that successful venture in July, 1832, Schoolcraft ascended the St. Croix to its source and then descended the Brule to Lake Superior. The diaries kept by Schoolcraft and by three other members of his entourage provide a good picture of life in the Valley at that time.

It seems only fitting that Schoolcraft should have led this expedition, for in 1821 he married the granddaughter of Waub Ojeeg, Chippewa Chief who had led his Braves to victory over the Fox and Sioux at St. Croix Falls, at what proved to be the last major Indian battle in the Valley.

It took Schoolcraft from the 26th of July to August 2nd to ascend from the Mississippi to the Brule portage. He complained of low water and of seemingly endless rapids extending from Taylors Falls to Upper St. Croix Lake. Present day travelers find similar conditions at that season in the Kettle rapids and in the river above the Namekagon Forks.

Tom Connor's post on the Snake was reported still in operation at that time with a staff of 10 whites, and Schoolcraft noted the Indian population of the Snake River area to be 350.

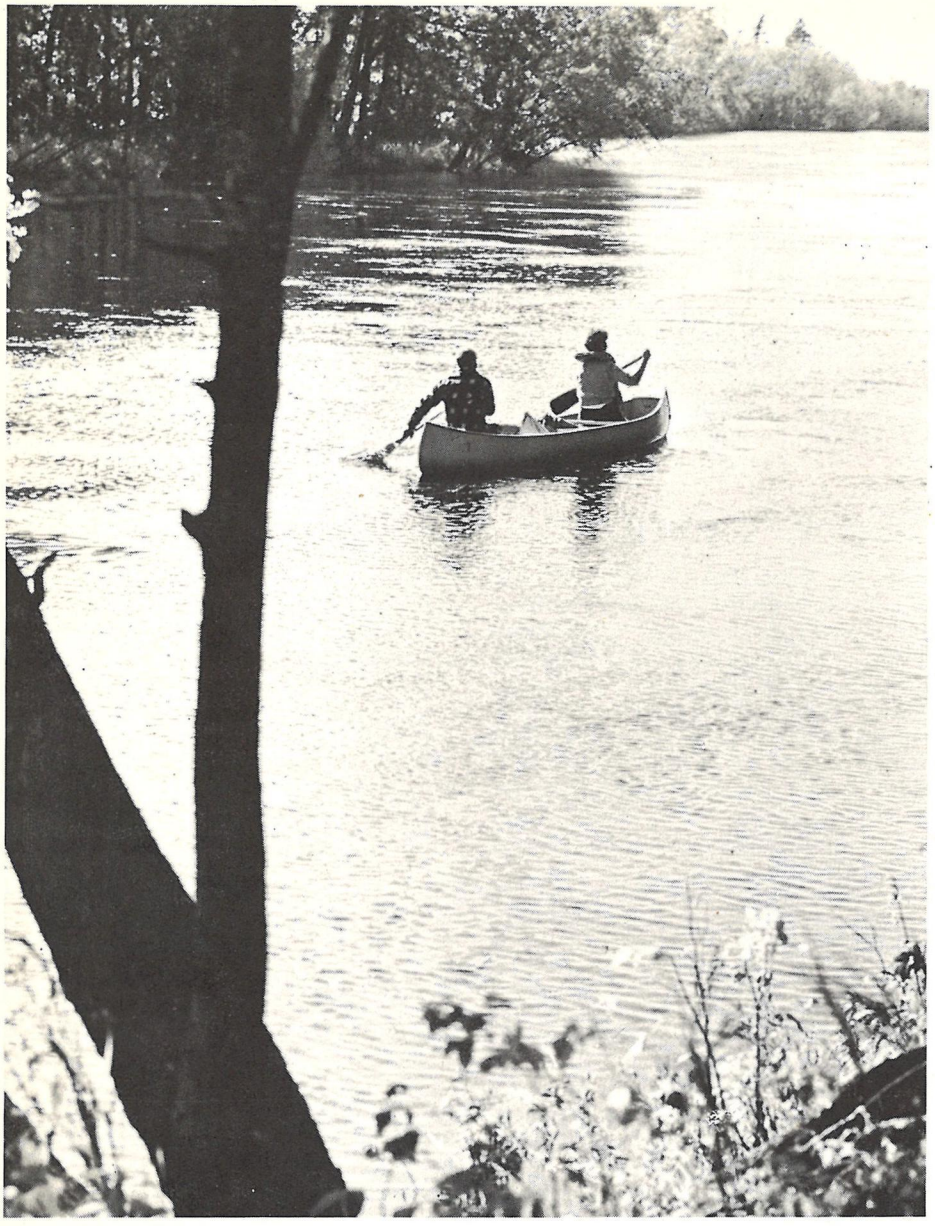
On reaching Yellow River, the site of an Indian settlement and trading post whose population he estimated at 382, Schoolcraft remarked that the place would be ideal for the establishment of a mission and school. In 1833 a mission was, in fact, established at Yellow Lake but the spot proved to be less than ideal and the mission was soon relocated to Lake Pokegama on the Snake River as a result of crop failures at the former site.

Schoolcraft encountered one additional Indian settlement located near a fish trap on the river some distance above the Namekagon. He reported the population of this village to be 88, and estimated the population of the entire valley to be about 900.

The Indian's days in the valley were numbered, however, for a treaty signed at Fort Snelling in 1837 gave all the lands extending east of the Mississippi to the headwaters of the St. Croix to the United States. The Indian would be allowed to remain in the region only on specified Reservations.

In the following year White settlement began in the lower valley. The first settlers were farmers who worked long hours to clear tracts out of the wooded hills above the river. It was not long, however, before the lumberer, whose search for new sources of timber to supply a growing America, discovered the rich pine forests of the upper valley. In 1839, the first sawmill was established at Marine, and for the next 80 years the hills echoed the crash of timber, the groan of the spring log drive and the whine of the saw.

While the upper St. Croix and her tributaries were the scene of the actual timber harvest, settlement was confined largely to the lower valley. This was due primarily to the fact that the Valley depended almost entirely on water transportation for communication with the outside, and the river above the Dalles at St. Croix Falls was unnavigable due to the numerous rapids that existed there. Although some settlement did occur in the upper valley in areas cleared by the loggers, the sandy soil would not support agriculture and these sites were eventually abandoned.



The lower valley has an interesting history, as Stillwater and her neighboring communities were at one time the center of activity in Minnesota. The vast quantities of logs driven downstream in the spring literally choked the river, and feuds between the lumbermen and the traders who operated steamboats on the river were continual.

In 1848, a government land office opened at Taylors Falls and most of the land sold for lumbering during the ensuing years was sold through this office. Much of the land obtained by the lumber interests was purchased using military land warrants obtained from veterans. With these warrants vast tracts of land were bought, many for as little as 10 cents per acre.

The timber boom in the Valley peaked in 1899 with an annual production of 373 million board feet. The yield tapered off in following years and when the last logs passed through the boom at Stillwater in June of 1914, the logging era had come to a close. The valley has never since seen the feverish activity that took place here during the height of the logging days. Hopefully it never will.

The lumbermen are gone but the evidence of their activities is not. The numerous log piles and deadheads that line the sloughs and back channels of the river give mute testimony to the massive drives that once passed. The forests themselves are living evidence of change as the second growth birch, maple, oak, aspen and basswood replace the majestic white pine which once carpeted the valley.

In 1909, the Northern States Power Co. erected a dam and power generation facility at St. Croix Falls. This action inundated a section of the valley extending many miles upstream and obliterated the once magnificent Falls of the St. Croix which existed at and above the dam site.

The lower valley today has largely succumbed to the advances of "civilization" and the numerous communities established there during the logging era continue to expand. The pressure from a rapidly growing urban population is felt most acutely on that section of the river, and the throngs that descend upon William O'Brien State Park at Marine, on a hot summer weekend, rival the infamous crowds of New York's Coney Island.

The upper valley has, to date, been spared such a large-scale invasion due primarily to a lack of developed recreation sites and to limited access. The river itself has acted to discourage use of its waters by the legions of power-boaters that infest the lower valley since its shifting sand bars and relatively low water of mid and late summer render high speed travel extremely hazardous.

In 1968, Congress established the National Wild and Scenic Rivers System to protect certain of the nation's rivers which possess "outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural or other similar values" in order to preserve these values "for the benefit and enjoyment of present and future generations". The St. Croix above Taylors Falls to the dam at Gordon, and the Namekagon below Lake Namekagon was selected as one of eight rivers initially to be included in the National System, and the lower river, from Taylors Falls to Prescott, has recently been added. The St. Croix National Scenic Riverway is to be administered by the National Park Service in cooperation with the states of Minnesota and Wisconsin. The Park Service is presently in the process of acquiring lands along the upper river as authorized in the 1968 Act, and the preparation of a Master Plan for the lower river is underway.

The Wild and Scenic Rivers Act was a major step forward in the effort to preserve what little remains of our priceless natural heritage. It will not, however, ensure perpetual protection from the ever expanding needs of a consumption oriented society. As recently as March, 1972, the Corps of Engineers has proposed the St. Croix-Brule riverway as a "most promising" route for a canal linking Lake Superior with the Mississippi River. Such a proposal is, of course, preposterous in light of the purpose and requirements of the 1968 Act, but it does make quite clear the fact that efforts to preserve such priceless "jewels" as the St. Croix must be unrelenting.

The river still flows clean and free through its quiet valley. Only the determined efforts of those who know and love it, however, can ensure that it will continue to do so.

# And What About Safety ?

*by Mary Reinhart*

It's here! After waiting the full length of a long and nasty winter, it's finally here. Canoeing weather.

And now that the ice is out and a warmer climate has set in (cross your fingers), everyone from the seasoned veterans to the newcomers is raring to go for a sampling of high water and heavy rapids.

Great! Make haste, all of you, lets not be sloppy about it. Before you converge, paddle in hand, on your favorite put-in spot, stop for a moment and take a look at yourself and your gear. Are you really prepared, or are you missing a few things?. Now I don't mean for you to load your canoe to the gunwales with junk from knee pads to snorkel tubes, but a few well intended items might be in order. In March, April and yet in early May, the water is cold and high and unless you're ready for it, a dumping can prove fatal. Unfortunately, that happens at least once every year, and that's once too often.

You would think that a state sporting more than 10,000 lakes and waterways would offer more reference to the canoist than his own sense of logic. But to this date, the only material concerning canoe safety that I have found has been published by other canoe organizations. Never-theless, upon the conclusion of my rather laborious research, I did manage to come up with a few milestones in advertising art which we might consider for future use. You may recall the ever popular auto safety slogan, "Buckle up for safety"? (life jackets maybe?), and then of course, there is a great little cartoon promoting ski instruction where-in a young lady, fairly large in size, is careening wildly down a mountain side and is about to crush the life out of a fellow skiier, who is, of course, executing perfectly formed "instructor taught" parallel turns. Oh, how we could use that one. Adapted to white water, it would be enough to make even the pros look upstream, (as the case would be) before charging out of a strong eddy.

But instead of discussing safety slogans and cartoons, it might be well for us to discuss safety itself and what it is all about.

In my own opinion it is the sum total of three separate efforts all working together: instruction, equipment, and common sense.

To begin with, get instruction. And that goes for everyone, flat water cruisers and white water people alike. On the spot "tips" are fine but it takes more than just a few short practice maneuvers to get the feel of a boat and to memorize the right reflexes. This usually provides no great problem for the cruiser (unless you're learning to stern and your bowman is rather impatient), but the white water paddler may have some trouble in store for him. So for those who are looking to decked canoes, I suggest attending either the clinics that are held periodically throughout the year or the weekly pool sessions given during the off-season months. A good many of these are sponsored by the Minnesota Canoe Association, but an increasing number of church groups, and Parks and Recreation areas are beginning to hold classes of their own. Also, I might add that these clinics are excellent for cruisers – it can never hurt to know how much you and your canoe are capable of.

In addition to getting instruction, it's a good idea to become acquainted with the River Rating Scale (you can find it at the top of this page), especially so if you plan on doing a lot of white water this year. Then, be aware of your own limitations. Rivers are independent sorts and will change their termeraments from day to day with the least bit of rain. If you are a novice, your skills will not be so likely to meet the occasion.

The next item to be sure of is your equipment. As I mentioned before, there is no need for whole boat loads of gear; but rather, just a few well chosen articles. You can start right off with a life vest. It's an absolute must. Even if you're a strong swimmer, no one can guarantee you that your boat won't come down on you. And don't just sit on it either – wear it.

In addition to your life vest, it's a good idea to have along with you a strong rope. It can be a great help when trying to free a submerged canoe. Also, a block and tackle is handy to have among your group in high water. Another item you might be interested in is a nylon or rope line. These have many uses and make excellent life lines and can be used for lining boats through unpaddlable white water. The nylon ropes come in several colors but it is easier to see the brighter shades of white and yellow. When you are carrying heavy rope or line, make sure you tie it down securely. Loose rope in a capsized boat can easily entangle a swimmer and pull him down.

Extra paddles should be along too, just in case you break or lose yours. C-1 paddlers can tape their spares to the boat decks, but the kayakist will have trouble here since there is a space problem with the double bladed paddles. You might look into the break-apart paddles on the market today. They are designed to separate at the mid-point of the shaft and are secured together by adjustable screws and clamps. Prices range from $25.00 to $35.00, it's far more economical to design and make your own.

For the whitewater paddler, a helmet is a must and in cold water you should wear a wet suit. If you don't have one, wool clothing worn in layers is the next best thing. But if this is the case, be sure you carry a full change of clothes in a water proof bag or container. The unprotected body cannot withstand much time in cold water. The following schedule indicates, approximately, the amount of time the body can remain functional at different water temperatures:

| | |
|---|---|
| 40° and lower | Less than 10 minutes |
| 40° - 50° | from 15 to 20 min. |
| 50° - 60° | from 15 to 40 min. |
| 60° and above | from 60 and more |

After these time limitations elapse, a submerged boater will have to rely completely upon his companions for help. Make yourself familiar with first aid treatment for victims of this sort. He should be stripped of his wet clothing immediately and warmth applied to as much of his body as possible. The CANOE CRUISERS ASSOCIATION suggests wrapping the victim and two other dry persons in a blanket

RIVER RATING SCALE

**I EASY - Sand-banks, bends without difficulty, occasional small rapids with waves regular and low. Correct course easy to find but care is needed with minor obstacles like pebble banks, fallen trees, etc., especially on narrow rivers. River speed less than hard back-paddling speed.**

**II MEDIUM - Fairly frequent but unobstructed rapids, usually with regular waves, easy eddies and easy bends. Course generally easy to recognize. River speeds occasionally exceeding hard back-paddling speed.**

**III DIFFICULT - Maneuvering in rapids necessary. Small falls large regular waves covering boat, numerous rapids. Main current may swing under bushes, branches or overhangs. Course not always easily recognizable. Current speed usually less than fast forward paddling speed.**

**IV VERY DIFFICULT - Long extended stretches of rapids, high irregular waves with boulders directly in current. Difficult broken water, eddies, and abrupt bends. Course often difficult to recognize and inspection from banks frequently necessary. Swift current. Rough water experience indispensable.**

**V EXCEEDINGLY DIFFICULT - Long rocky rapids with difficult and completely irregular broken water which must be run head on. Very fast eddies, abrupt bends and vigorous cross currents. Difficult landings increase hazard. Frequent inspections necessary. Extensive experience necessary.**

**VI LIMIT OF NAVIGABILITY - All previously-mentioned difficulties increased to the limit. Only negotiable at favorable water levels. Cannot be attempted without risk of life.**

or other clothing. This is the only protection against "after cooling" wherein super-cooled blood flowing back to the heart may cause it to fail.

Dumping has always been more of a problem for white water people than for cruisers. A stronger current must be dealt with and then there are those blasted rocks. If your boat doesn't get all bruised and battered, you will. The primary objective of those fortunate to be afloat yet, is to get the capsized boater out first and then worry about the canoe. For the poor fellow who is trying to negotiate the rapids boatless, get on the upstream side or end of your boat. This will keep you from being crushed between the canoe and any available rocks. If you can, stay with your boat, unless that in itself presents a danger. An overturned boat will act like a giant life preverver, so let it help you until you find it necessary to leave it. (If this happens very often, I suggest that you take some instruction or have a heart to heart talk with your boat about who the boss is.)

You may have noticed by now that there haven't been any trade secrets thrown into this article; that safety is really just knowing what can happen on the river, and going prepared for it. You can call it common sense if you like. And by applying a goodly portion of it to your cruises, you will have a lot less trouble (if you're going to have any at all).

Watch where you're going – if you need to, get out and look over difficult or unfamiliar white water stretches. Stay away from early spring ice flows. They can break up and start down river without warning. Also, please, please, please stay out of those little inflatable rafts. Make no mistake about it, these watercraft are not the same outfitters rafts that you have seen cruising the Colorado River and Grand Canyon section. The small versions will and do flip over in standing waves, and, sometimes in much less.

Finally, go in a group. Whether you are beginner of expert, cruiser or white water buff, go in a group. If you ever run into trouble its nice to have a helping hand available. But over the more obvious, fairly selfish motive, there is the pleasure of sharing the natural wild rivers and waterways with close friends and loved ones. And, I suppose, after all is said and done, that's what canoe safety is all about. To insure that those close to us may join us to cruise the next river and the one after that, for as long as we so choose.

Instruction, equipment, and common sense. One compliments the other and they all make up what we know to be canoe safety.

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# Pond Paddling

*by E. C. McGee*

There is an aspect of canoeing that has little to do with loud cries of "Hut!" but that is equally fascinating to many of us. It is not necessary to cover much territory, and speed is not even desirable. In fact, the canoe may not move for thirty minutes at a time. Although this type of canoe use does not have the spine tingling thrills of white-water, its rewards can be as great.

For many years we have used our canoe as a platform from which to watch wildlife. The canoe enables you to approach quietly and to cover a lot of area without too much work. This method also helps to keep you from becoming a free lunch counter for various kinds of our plentiful insect pests. We began watching birds, but over the years the bird watching has evolved into a sort of general nature study. There is no place that has a greater variety of plant and animal life than a pond, marsh, or small lake.

To start on this interesting facet of canoeing, your outlay for equipment can be minimal. Any canoe will do, although the lightweight models are the handiest, and, along with a pair of paddles, one small book is good for a start. This handy little volume is *Pond Life,* a Golden nature guide, which costs about $1.25. This book will give you a start on the fascinating world of plants and animals that inhabit a pond. You do not have to be a trained naturalist; it is surprising how many of the various plants and animals you will be able to identify. If you are new to this type of observation, you might take a couple of hikes around some of Hennepin County's parks and nature centers with one of their naturalists and get some pointers on what to look for.

A larger amount of equipment will increase your pleasure as you become more interested in trying to identify some plant or insect or creepy-crawly little rascal you have discovered. We started with a couple of bird books and binoculars; this has since grown to a small bag of books on trees and wild flowers, and a number of small, mostly "Golden Book" guides. A small dip net and a few small plastic bags will do to collect anything you want to keep for further identification. Since birds of all kinds are attracted to water, you might want a bird book to help identify some of the many birds you will see. *Birds of North America* by Robbins, Bruun and Zim or *Field Guide to the Birds* by Roger Tory Peterson are the most commonly used. (If you want any further help on how to identify birds, get in touch with one of the local Audubon Clubs in your area, and you'll find someone only too glad to help.)

There is only one drawback to this type of canoeing – it can be habit forming. However, it is not hazardous to your health. In fact, the exact opposite is true; it is very restful. You are not at the mercy of large and noisy outboards and a hoard of water skiers. If your choose your places carefully, you may even be the only floating thing other than leaves, flowers and ducks.

To get started on this aspect of canoeing, get a copy of *Pond Life,* put the canoe on the car, and try one of those small ponds you've driven by many times and wondered what it looks like behind that wooded point on the east side.


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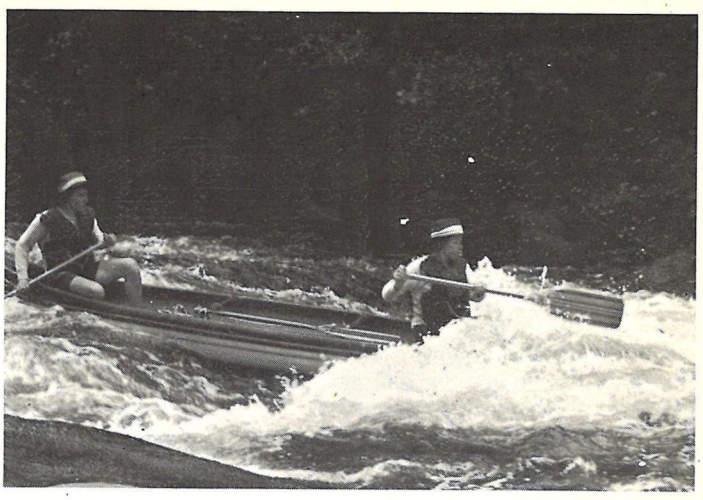
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# The Boisterous Brule

*by Pat Fahey*





The Brule River in Douglas County, Wisconsin, also known as the Bois Brulé (Burnt Wood) River, is about 45 miles long and flows north. Its headwaters are on the other side of a narrow divide from the St. Croix River headwaters, and its mouth is in Lake Superior. The Brule drains Lake Nebagamon, and lies entirely within the Brule State Forest, which means the area is well protected and has managed to maintain a somewhat primitive state. Trout fishing is excellent along almost the whole length of this river, and many landings and parking spots are maintained for fishermen. No outboard motors are allowed. Much of the shoreline itself is privately owned however, so camping is restricted to designated sites. The Brule River has a steady, even flow, and can be expected to be canoeable even during dry spells for two reasons: it is spring fed with very clear water, and it winds through a bog in its first ten miles. The bog acts like a sponge, soaking up rainwater and releasing it at a steady rate. In times past, this river used to be an important link in a river highway system used by the Indians and then the Voyageurs to connect Lake Superior with the St. Croix and points south. Personally, I can't imagine travelling *UP* the Brule with its formidable rapids, and then *DOWN* the St. Croix with its formidable winds, but then even Sieur du Luth used this route in 1680, so it must have been the only way to go.

The Brule River is like two rivers in one. In its first 30 miles, it drops about 3 feet per mile, its waters are very clear, its course somewhat winding with only a few minor rapids and a few riffles – basically it is flat water. In its last 15 miles, it drops about 25 feet per mile, has a very reddish color to its water, is almost constant rapids, and could be described as anything but flat water. Most rivers are steep and wild near their source, and flatten out near their mouth. To find out why the Brule is so distinctly opposite, it is necessary to look at a bit of recent geological history in the Lake Superior region.

10,000 years ago, Lake Superior (Lake Duluth) was 600 feet *HIGHER* than it is today. A mass of ice blocked its drainage through the St. Lawrence sea way. This, of course, caused a few problems for rivers such as the Brule and Kettle. It became their task to carry runoff from this huge lake, so 10,000 years ago both rivers were much bigger, and in the case of the Brule, flowed south into the St. Croix instead of north as it does today. As the St. Lawrence opened up and the lake level dropped, the Brule reversed course, leaving only a narrow divide between its headwaters and those of its former ally the St. Croix. Wherever the former lake had been, it deposited a thick layer of red clay, which now washes into the river and gives it a muddy red color. The abrupt change occurs in the Brule where it does because the river flows over an ancient fault line dividing two rock formations. The one closest to the lake is a hard red sandstone called the "Copper Range" formation which forms the various ledges and rapids

in the last 15 miles.

A publication of the Northwest Wisconsin Canoe Trails Inc., entitled "Canoeing the Wild Rivers of Northwestern Wisconsin," divides the Brule up into four easy day trips of from 7 to 10 hours each. I will follow this format in describing the Brule; however, most paddlers of my acquaintance do not canoe the whole river, but drive up on a weekend and choose parts which are a challenge to their ability. The town of Brule is 29 miles east of Superior, Wisconsin on Highway 2, which is an easy three hour drive from the Twin Cities. Several campgrounds, gas stations and a canoe rental shop are in or near the town of Brule, so it is a convenient place to meet. I will attempt to describe the Brule from source to mouth, relying on the previously mentioned publication for information where experience is lacking.

The put-in place for the first 10 miles is at a Fishermans' landing on County Road "P" which crosses the west fork of the Brule. This is just north of Upper Lake St. Croix and the town of Solon Springs. This portion of the river resembles a creek, winds through a bog and may be very shallow at times. I have never paddled this stretch, but friends who have, groan when it's suggested, so perhaps this is not one of the most exciting portions of the Brule River. Take-out is at Stones Bridge on County Highway "S". This trip is reported to be about 10 hours long.

The next section of river goes from Stones Bridge to Highway 2 in the town of Brule, is 12 miles long, and served as my first introduction to whitewater canoeing in an open canoe. The shoreline is beautifully wooded all the way, with only a few cabins to break the trees. The water is fast at times, but the river starts you out with only a few riffles and builds your confidence so that you can easily take the few rapids towards the end. The first third of this trip has no riffles at all. The river calmly brings you to an area called Cedar Island Estate, which is several large, magnificent cabins, finished in cedar shingles, setting among the trees, on the shore and islands of the Brule. Reportedly, three presidents have stayed here in the last century. After this the riffles begin – all of which have names – none of which I ever remember. Half way, or about 4 hours from the beginning of this trip, is a place called Big Lake. This is simply a shallow, widened part of the river through which you may have to walk your canoe. A few more riffles and a few more wider parts of the river bring you to Winnebijou (County Road "B") which is a possible take out spot for those who don't wish to try the easy rapids ahead.

The final portion of this trip, from Winnebijou to the town of Brule, is a fun stretch that takes about an hour to run and is often used as a warm up for the much harder ledges ahead. There are several little rapids and many bends to the river here, but only two rapids are worth remembering in my opinion: Hall Bridge Rapids (or Big Joe) and Little Joe Rapids. Hall Bridge Rapids is just that – a bridge with 2 rock faces in the river. The river makes an abrupt right and then left turn as it goes under the bridge. The trick is to stay away from each rock wall as the river tries to dash you into it – actually not too difficult. The final rapids is Little Joe. There is a natural channel near the right side of the river. The hazard in this is its quick rocky drop, but it is over in a flash and easy to do, with a quiet pool at the bottom. A portage trail exists to the right for the very timid. A riffle or two brings you to the Brule State Forest Campground which is an excellent place to camp right on the river. It's also a good place for kids to wade in the river. Just a little further on is the official landing in the town of Brule. Total time is about 7 hours for this trip.

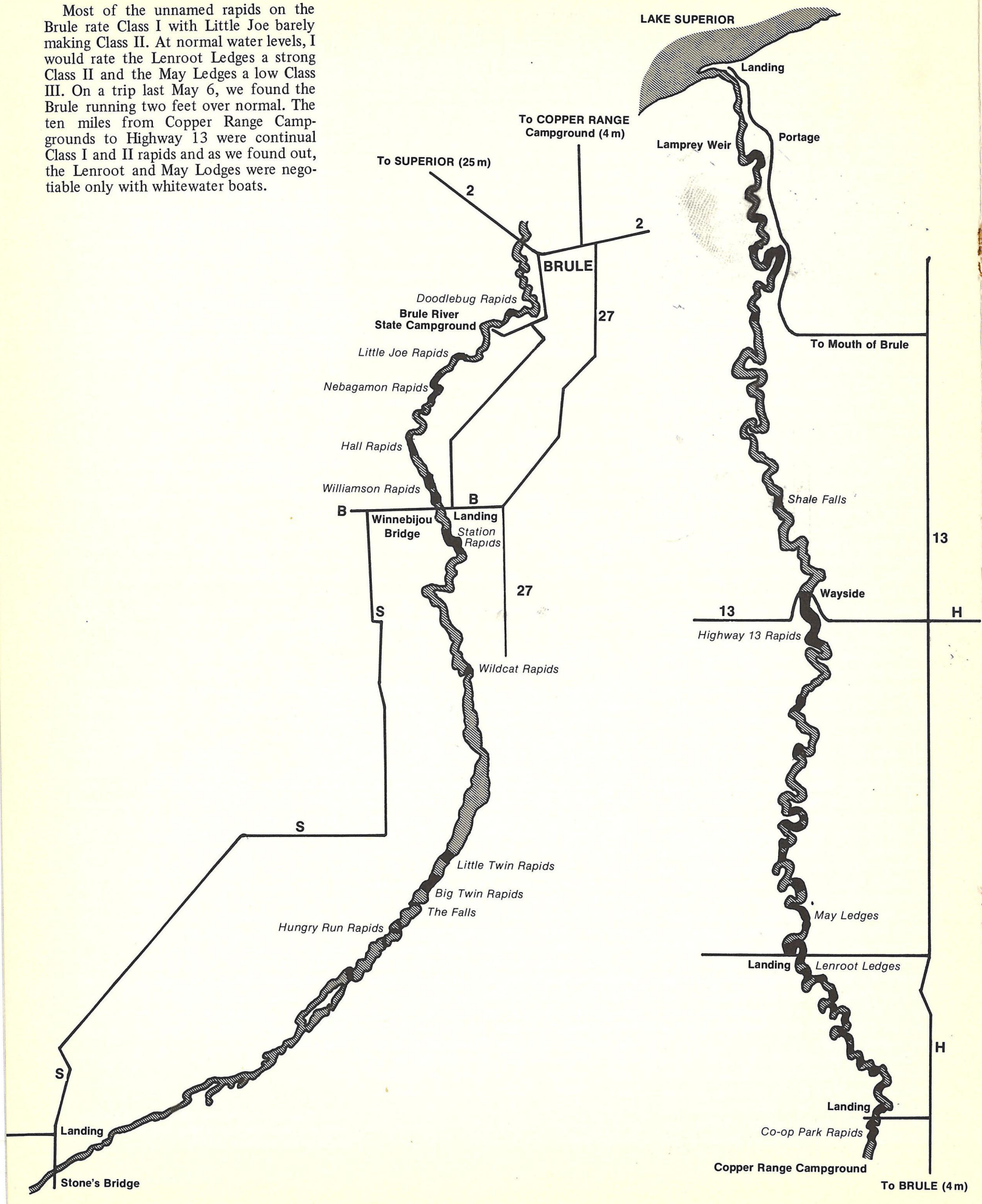
The next day trip listed in the Wisconsin publication goes from the town of Brule to the N.P. Johnson Bridge – a distance of ten miles. The first seven miles I have never paddled. The description is that the river here is slow, deep, windy, and flat with no rapids. This character abruptly changes as the river approaches the Copper Range Campground – which is about three miles south of the Johnson Bridge and can be easily reached on County Road "H" out of the town of Brule. We have often camped here and nearly always start from here for the best whitewater paddling on the Brule. The real rapids start here and continue almost without let-up for the next fifteen miles. Most of these rapids are unnamed. The major rapids before the Johnson Bridge is called the Lenroot Ledges. This is a series of low ledges that come on you by surprise as you follow a left bend in the river. The natural current seems to follow an extreme zig-zag course over these ledges and that is the most successful route to follow if you are quick. In *low* enough water the canoe usually gets stranded on one of the shallow rock ledges and simply must be pulled back into the main current. In *high* water it is hard to find one single channel and it is probably best not to run these ledges at that time. There is a portage trail on the right bank. Take-out is at the parking area on the left shore below the Johnson Bridge. The complete trip from town to bridge should last nine hours. The last three miles, however, from the campground to the bridge, only takes about an hour. We often make a lunch stop here at this bridge, on the right shore. This is also a good put-in spot for the fourth day trip written up in the Wisconsin publication – from the N.P. Johnson Bridge to Lake Superior – a distance of thirteen miles. Twelve of these thirteen miles are constant rapids. The river is never still until it comes within a mile of Lake Superior itself.

Just around the bend from the Johnson Bridge is the major rapids on the Brule, the May Ledges. This is a series of two to three foot high falls named after the Skid May cabin on the shore here.* There is no doubt when you are nearing these rapids. They are around a left bend in the river. First you can hear them. Then the river seems to drop off the edge of the world. We always stop to look these over, and there is a well-worn portage trail on the right shore. The first ledge looks formidable, but is quite easy if you go through the notch near the right shore. The second ledge has a natural chute just left of center. The third ledge is the one to watch. I have been tricked into going too close to the left shore more times than I care to count, and each time dumped, of course. The fourth ledge requires some muscle to stay on the left side of the river to avoid the boulder at the bottom. After that there is only a boulder field to contend with, in which you may even have to get out to guide your canoe. It never seems to matter which side of the island you go on – both are often shallow. Not too much further on are two more minor ledges that can be taken anywhere. Rapids from here on are nameless, numerous, and easy, relatively speaking. There is little opportunity to rest, however. Highway 13 bridge and parking area is our usual take-out point if we are not going all the way to the lake. From the Johnson Bridge to Highway 13 usually takes about three hours, depending on how much time is spent at the ledges. From Highway 13 to Lake Superior is not a dull trip. There are riffles, rapids, and even a minor ledge falls about half-way, called Shale Falls. Shale Falls has an obvious chute on the extreme left. The water in this stretch is fast and the river makes many abrupt turns until it comes to the Lamprey Weir about a mile from Lake Superior. Here the river widens, slows down, and straightens out as it flows into Lake Superior. A sandbar is formed at the mouth, which is suitable for camping, and a parking area is provided on the right shore. This last stretch of river has never taken more than three hours – usually less. The total time from Johnson Bridge to Lake Superior is five to six hours. The total time from Copper Range Campground to Highway 13 is four to five hours plus two hours more to go all the way out to Lake Superior.

The Brule River, with its diverse levels of paddling difficulty, primitively wooded shores, and excellent fishing, lures many people to its banks, and holds the place of "favorite river" for at least one person that I know.

*The Skid May cabin, for many years a famous landmark, was destroyed by a fire of unknown origin in the summer of 1972.

Most of the unnamed rapids on the Brule rate Class I with Little Joe barely making Class II. At normal water levels, I would rate the Lenroot Ledges a strong Class II and the May Ledges a low Class III. On a trip last May 6, we found the Brule running two feet over normal. The ten miles from Copper Range Campgrounds to Highway 13 were continual Class I and II rapids and as we found out, the Lenroot and May Lodges were negotiable only with whitewater boats.



# Caught Up in a Hell of White Water

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*The Alsek River flows in a torrent into the Gulf of Alaska. So fierce are its white-water rapids and so menacing the huge icebergs that break away from glaciers along its banks that no man had ever run the river in a boat. There were reports of an especially treacherous gorge named Turn Back Canyon with 500- to 1,000-foot vertical granite walls, numerous waterfalls and dizzying whirlpools. The water was flowing at 50,000 cubic feet per second. In comparison, the Colorado, the ultimate in U.S. white-water rivers, moves through the Grand Canyon at 10,000 to 20,000 cubic feet per second. The author, a physician in Salmon, Idaho, decided to challenge the Alsek alone.*

AUG. 13 My birthday – 49! Looked in the mirror and realized I wasn't getting any younger. Decided to paddle the Alsek alone, although it is against sanity and all safety codes. I've tried for six months to get others to join me. I'm not suicidal but get depressed watching so many patients with incurable diseases. Take-off date next Thursday.

AUG. 19 Busy week. A close friend, who is a former national kayak champion, phoned from Boston this morning and gave me hell, as has everyone else who knows of my plans. But I'm going anyway. Took out a two-week accident policy for $50,000, which would pay off all my debts and leave a reserve.

AUG. 20 After an all-night drive to Seattle, flew to Juneau and sent my kayak airfreight on the same flight. The boat is a Mithril Vector, made of fiber glass and other flexible plastic material, a little over 13 feet long and 23 inches wide. The seat, footrests and hooks over my thighs are all molded to my body so that I wear the boat rather than sit in it. A watertight spray skirt closes the cockpit around my waist so that no water can enter the boat, even when I'm upside down.

When I reached Juneau, the bow of the kayak was caved in, dented like a Ping-Pong ball. I took two three-pound coffee cans, rammed them forward with a paddle and popped the dent out. There is no visible damage.

I've weighed, in every sense of that word, what I'm taking on this trip – the boat (26 pounds); food (17¼); sleeping bag (3½); tent and air mattress (8); life jacket, clothes, wet suit and boat repair equipment (14½); my 86-inch paddle and take-apart spare (5); float bags (3); toilet kit, fishing rod and two-way radio (7) – a total of 84¼ pounds. I'm another 175 pounds.

There was a terrible storm in Juneau during the afternoon, but at 5:20 p.m. I was able to take off in a chartered plane piloted by Layton Bennett to overfly the Alsek and examine Turn Back Canyon. We ran the river between storms, a three-hour round trip. Started flying up the gorge at 500 feet. Then after two trips at 200 feet with, it seemed to me, wing tips nearly touching the canyon walls, I called a halt to the low flying. A kayak would be safer.

The severest part of the canyon looks to me shorter than the 12 miles previously reported. I would guess just five miles long. But it's as tough as I imagined. There are two or three good stops for a kayaker, but there is no way to walk the riverbank and scout the worst rapids. There are too many cliffs that are too severe to climb. From the air I saw a way to portage around the toughest spot in the gorge. Also saw several very impressive boiling pots with water spouting 10 to 20 feet high. I think I can avoid these. There is one eight-foot roller wave all the way across the river that will be a sure flip, but I don't believe it will trap a kayak sideways. A roller like this is caused by a ledge that acts as a dam. The water streams down the nearly vertical spillway and, as it meets turbulent water at the bottom, a huge wave forms and curls backward like a surfing wave. If a kayak turns sideways and doesn't crash through the crest, it will tumble over and over and be held fast in the wave. There are several sure flips but no holding holes and no danger, unless I swim.

Except in the gorge, there are sandbars all along the river, so I feel I can make a landing field for a rescue plane every five miles if I am stranded. Layton Bennett has told me how to do it. I am not sure of the size of the waves; they look big. I was told

there is a waterfall in the canyon. I saw a couple but feel they are runnable. There is nothing in the Grand Canyon, however, with as much violence or power.

I'm glad I'm going solo. I wouldn't want the responsibility had I talked somebody else into making the trip. I know any sensible person will say I shouldn't run this river, but it is in my blood. I must prove things to myself.

Now for my plans: the pilot will pick me up at the mouth of the Alsek 10 days after I set out. I think I can paddle the 230 miles downriver (the first 22 miles of the trip will be on the Dezadeash, not the Alsek) in seven days, but I have allowed myself extra time. If I am late, the pilot is authorized to spend $1,000 overflying the river before calling my wife. Should he find something suspicious like a tent, boat on shore, etc., and no sign of me, he will land if possible or send a helicopter. I have left a letter at home with instructions to spend up to $5,000 to prove me alive or dead, but if my boat is found swamped and there is no sign of me for 14 days, I am dead.

If stranded I will stay with the river – there are enough flat and open places so there's little chance of grizzlies attacking me in camp. If I am found dead, the pilot has been told to bury me there and not bring me home but to take positive identification to my wife.

I feel the gorge is tough but paddleable. The left bank rises 6,000 or 7,000 feet; there is no exit because the terrain slopes up into snow country. The right side is vertical rock, not ice, and about 500 feet high. One can climb out in a couple of places without rope, if necessary.

AUG. 21 A friend took me up the inside passage to Haines, 80 miles northwest of Juneau, in his 50-foot launch. Lovely relaxed trip. I go inland tomorrow to Haines Junction, 150 miles away.

AUG.22 Got a ride with a schoolteacher in his truck. Checked with the Mounties. They plan to fly a helicopter down the Alsek to the British Columbia junction on the 24th to count game and will check on me.

I am carrying one week of full rations and another week of half fare. The food is all dehydrated but common supermarket stuff – breakfast of dry cereal, powdered milk and instant coffee. Lunch – dry fruit nuts and candy. Supper – Lipton's one-pot meals like ham cheddarton and chicken supreme cooked over an open fire in a coffee can.

Wish I had company to the canyon; after that I'll be glad I have only myself to take care of. Water is clear up here and not too cold. Weather is bad.

Well, I'm off!

AUG.22, LATER Left the road at 7 p.m. after sending the above notes to my wife. River flowing 2 mph. Camped at 8:30 with a headwind of 40 mph and waves two feet high. Tent up and flapping. All secure. Boat tied to a tree along with my life jacket. Four big beaver dams. Have seen two of the animals, plus four ducks. In bed by nine.

AUG. 23 Camping in a driving rain. Started fire with four matches and two birthday candles. Cooked beef stroganoff and am sitting in tent eating it now while I dry off. My watch stopped last night so I reset it by the sun. I'll have to guess the time from now on. Today I paddled down the Dezadeash to the Alsek. The current is flowing faster – 6mph. Fished twice with my eight-foot rod. I was hoping for salmon but no strikes – water muddy. One golden eagle, six ducks, a porcupine and a beaver.

Rain quit during the night. Slept well.

AUG. 24 Good camp, sheltered by an overhanging bank, but since wind and tent are facing upstream, a grizzly coming from the rear will surprise us both.

Big water today. No stops needed to scout rapids. Stayed in the center but constant maneuvering necessary to avoid rocks and holes. No flips, but my heart pounded once or twice as I passed cliffs with boils and huge hydraulics – violent currents that twist and turn and grab from all directions at once. The water is now icy, and I can't force myself to practice rolling up and thus psychologically prepare myself for the canyon ahead. To roll up (right a kayak) you lean forward with your paddle along the side of the boat and on the surface, then with one twisting sweep turn your body and paddle 180°. I feel a flip is a 30% chance of a swim. The water is brown, something like halfway through the Grand Canyon. I can still read the water confidently since the crests of the waves are white, but the glacier silt adds power to the rapids.

Lowell Glacier, off to the right, is tremendous. It is a mile of bright blue ice wall over 100 feet high and extending out into the Alsek, which undercuts the cliff. As I passed, huge blocks of ice two-thirds the size of a football field would crack free from the wall and drop 20 feet to the river bottom, then tip outward and slap the water with a frightening sonic boom. These were followed by tidal waves that tossed earlier ice blocks (calves) and my fragile kayak skyhigh. Fortunately, I never was within 200 yards of an ice fall and tried to stay in the open so I could maneuver the waves. An active glacier is an amazing spectacle. And I've got three more ahead!

Became lost in the floating calves but continued on to the end of the iceberg lake, where the river turned abruptly. Must have paddled over 50 miles today so quit early but could have gone all the way to Turn Back Canyon, where the worst rapids begin. Plan to sleep late in the morning and proceed gradually, but if I get to the canyon before 2 p.m. I'll tackle it then; otherwise, will rest until noon the next day. I have been paddling in my full we suit, including boots and gloves, but no wet suit head stall; only my regular protective helmet. I want to remove the gloves in the gorge, if the icy water is not unbearable, so that I can grip the paddle more firmly. I'm three days ahead of schedule and going strong – very relaxed. My 25 ounces of vodka will see me home with spare. Am less tense being alone. In a kayak I never rely on others to get me out of trouble, so I wear a 33-pound flotation life jacket. Water that can separate me from my boat would be so big no other kayaker could help. He'd be too busy staying up himself.

I have matches and emergency supplies sewn into my life jacket. No sign of the helicopter, perhaps because I have traveled so fast. Saw two golden eagles and a friendly shore bird fatter than a tern – small beak, gray-brown with a banded tail.

AUG. 25 In the gorge and stranded – almost directly across from a creek that gushes off the mountain on the left, forming a roaring waterfall. My boat is on the bank in the rocks and my tent 100 yards upstream on a sandbar. This has been a day! I want any kayaker to read my words well! The Alsek gorge is unpaddleable! Unbelievable. After carefully scouting the rapids, I found it's twice as bad as it looks. There's one huge horrendous mile of hair (the worst foamy rapids a kayaker can imagine), 30 feet wide, 50,000 cubic feet per second and a 20-degree downgrade going like hell. Incredible! I didn't flip in that mile or I wouldn't be writing. But to go back:

On entering the canyon I paddled bravely past the last portage on the right and into the gorge. The river narrows from a half mile to 100 feet. I suddenly felt trapped and committed. Stopped on the left after maybe a quarter of a mile and had trouble getting out on the narrow ledge with my long paddle, so I tossed it to a higher shelf where it lodged. Soon found myself in difficulty with the tricky currents and nearly flipped getting out of the kayak, which would have forced me to swim the entire gorge. Once in the water there would have been no way to regain the shore. A swimmer couldn't fight the current and would be swept downriver. Tried to abandon my plans to make a stop but couldn't reach my paddle so struggled out and lifted the boat to the safety of the ledge.

After scouting, I ran the first mile of rapids with tremendous respect – found myself upside down twice. Rolled up easily. Slammed into the cliff once and was pinned there for a lifetime on a tight turn but worked the boat forward and free with my hands – you have to hold the paddle in one and push off the cliff with the other. I'd abandoned the gloves.

Stopped again on the left, this time easily, and scouted for over a mile to a huge 45-degree drop of 30 feet or more into a boiling hell. After looking it over

carefully, I decided to carry the kayak on the left. There was a seemingly easy stop and only a 100-yard portage to miss the drop. There are huge icebergs that have calved off Tweedsmiur Glacier and are running with me in the gorge. I have already hit two very hard in big water. Boat O.K. and surviving well.

As I paddled down to the portage stop in apparently quiet water, a whirlpool suddenly appeared, my boat was sucked by the stern into a perfectly vertical position, then whirled 1½ times around and plopped in upside down. I rolled up immediately and easily caught the eddy as planned, but in the wrong place. I was going to have to work my way to the extreme lower end of the eddy to get out. This I hoped to do by going along the shoreline, but I found I couldn't because of the terrific current. Consequently, I had to go out into the main current, but I went too far. Suddenly I realized I couldn't make the portage. Now I knew I had a paddle ahead! Just then an iceberg the size of my bedroom appeared alongside, charging for the drop. I hurriedly turned my boat around and paddled upstream with all my strength while sliding backward into the "falls." Missed the iceberg which went ahead, flipped and hung upside down while the boat was tossed out of the most violent boils before rolling up. Very solid, very confident in my roll – no question of swimming. I was almost euphoric in my survival and so thrilled I had not had to portage after all, for I knew I would soon be out. Stopped and relaxed for five minutes on the shore among the icebergs. Could not check what was ahead because of a cliff, so continued without scouting.

Suddenly, I was in a frothy mess that was far worse than anything I have ever seen. I don't know how far the hair lasted and would not go back to check if I could, but I am sure it was 20 degrees down with the most gigantic waves and foam and holes on all sides of me. Very narrow – like trying to run down a coiled rattler's back, the rattler striking at me from all sides. I was shoved to the left bank about an inch from the cliff where a foot-wide eddy existed. For perhaps a mile I skidded and swirled and turned down this narrow line. I kept telling myself, "You can roll in this," but all the time I knew I couldn't. I expected to get jammed into the cliff but never touched it. Eventually, I squirted out into a pool right side up and safe only to flip in another whirlppol before reaching shore.

I scouted on the right bank to what I hoped was the end of the gorge about a mile below me. But I saw an immense cresting wave blocked the way, the one I had seen seven days before from the air. I checked it from a 500-foot cliff and also worked my way down to the very edge of the river. I had found a way out of the deep canyon, but there was no way I could carry my boat or supplies out the treacherous path.

After watching the wave I felt the boat would be stopped before it could climb the crest and be tumbled sideways in the trough. My only exit would be a swim under the wave, which would leave me in the middle of the river heading for some rapids below with little chance of reaching shore. If I did, I would be afoot with no supplies since my empty boat would stay sideways in the wave: I considered abandoning everything and walking to a rescue spot but soon told myself I would eventually paddle the wave if I had to watch it for a week.

So I paddled furiously through the easiest spot to crash the roller, which was well to the right of center, accepting the risk of plummeting into a terrible hole some distance below should I fail to roll up in time. Got my paddle and body through the wave and hung on upside down, feeling my boat tear apart above me. Missed my roll and in fact found I was outside the kayak. My first instinct was to swim to the surface, but instead I snuggled back into the overturned boat. Before I could roll up, the kayak washed into the feared hole. I got scrubbed, tumbled and shaken; rolled and missed – rolled and missed. Finally I caught a breath, calmed my nerves, jammed my knees solidly into the sides of the boat and on my sixth try made a perfect roll and popped up. I found the boat swamped and uncontrollable in the middle of the river. Only the air bladders were keeping it afloat. My body was in water to the armpits, and I was heading for a rapids far worse than Lava Falls (the worst rapids of the Grand Canyon). I made a tremendous effort to force the swamped boat to the shore, using all my reserve. Finally I reached the bank holding onto the kayak by a strap, and as I rolled out on the bank I said, "thanks." I found that I had torn the left thigh hook off the deck, and part of the deck as well. That had popped the spray skirt and swamped me.

Am trying to dry the boat now and fix it in a drizzle. If I can't fix it I will scout the canyon further, and if there is just the one rapids to go, I will have to try it crippled. I'm not coming back. Not for $50,000, not for all the tea in China. Read my words well and don't be a fool. It's unpaddleable.

AUG. 25, LATER After finishing all my vodka and feeling better, I have the first fiber-glass patch on the boat; I've used one-third of the small bottle of resin that I had for such an emergency. Erected my air mattress over the boat repair to prevent its getting wet. My tent is upstream and cozy. Outside it's about 40°. I found wood for my supper fire. I have solved the riddle of this messy gorge. I flew over it when a huge rain upstream had caused it to crest. I can see the mark on the canyon here 10 feet or so above my sandbar and probably 30 feet above the water level at this time. It might be paddleable at crest, but not now. I started into the gorge at one p.m. and ended here on shore at five p.m. Total running time was probably only 10 minutes.

Slept well after a tranquilizer and a sleeping pill.

AUG. 26 Second patch placed on the boat in the morning and both hardened well even in the cold. Deck solidly fixed by two p.m. so took off – and what a ride! There was a hole 20 feet deep at the top of the run. It was caused by a rock the size of a two-story house that had about a foot of water flowing over it. The current was sweeping by at 35 to 40 mph, and the entire river seemed to gush into the deep hole behind the rock. I'm glad I didn't drop in. I slipped by the edge but spun around and gushed down the chute backward, crashed into the cliff with my stern but didn't flip. I scouted then for two miles and found nothing else. It's a good thing because I'd had enough.

No more excitement left and I'm thankful. I did flip again in a backward vertical hole – flip No. 7. But though the next five miles of gorge were tough – the river here narrowed to 40 feet – it was nothing like the previous.

Am spending the night relaxing at the base of Vernritche Glacier and glad I'm out. A large gull-like bird came to visit and stood around looking at me. Saw two big grizzlies today and another just now out my back door. I hope he goes by. The bears have not given me any trouble so far. Most of them I've seen from the safety of my kayak and when I shouted at them they would charge to the water's edge and stand erect. It is truly frightening to see an animal that is 10 feet high and as large as a horse growling at you, even when you know he cannot reach you.

AUG. 27 At Dry Bay, the mouth of the Alsek. I can't find the airfield in the dark. Put up tent on huge grizzly tracks. Worn out, so no fire tonight. Nuts, fruit, candy. Today saw grizzly No. 7, a mountain goat, two bald eagles, 15 ducks. The Alsek Glacier was terrific with a whole string of ocean liners (icebergs) coming down the river.

AUG. 28 Early up and found the local "Hilton." Got through on the radio to Layton Bennett, and he will pick me up this evening in a float plane and take me to Juneau with my kayak strapped outside. A man from the Alaska Department of Fish and Game flew in to interview me regarding the Alsek. He said the gorge is too fast for salmon, even kings, the only huge river known where the speed of the water stops fish. Usually it's a dam or a falls.

I know the area well! Too well. I won't be coming back. Ever. **END**

# Whitewater Canoe Building

*by Bill McArthur and Friends*

So you think you've got a good marriage. Want to find out for sure? Try to get your spouse to swim around upside down with one of those silly looking white water boats strapped to her tail end. If she agrees, it means that yours is indeed a strong union – or that she will do damn near anything to get away from the kids for an afternoon. Another test of the quality of your marriage is building your boat, and the boats of the friends who have assisted you; but we're getting ahead of ourselves. We should first discuss why it is that otherwise rational people become trembly and weak-kneed at the sight of rushing water, and are filled with an uncontrollable urge to climb into their flimsy plastic boats to do battle with the elements. There really is no sensible explanation for this behavior. So instead let me give a couple of case histories. Mr. & Mrs. S. had just finished building their fiberglass Vee stern canoe (3M Club mold) and were looking for a fun little river somewhere to try it out. Mr. & Mrs. M. suggested a trip down the Rice Creek. Now, the Rice Creek's tortuous path into the Mississippi brings back memories of old Biology lectures on the digestive tract. It offers many opportunities to display dazzling team work between the bow and stern paddlers. However the S's teamwork was at times just less than dazzling. But after many encounters with the banks they arrived at the take out. A supervised cooling off period was enforced by the M's. Afterwards the S's were able to discuss the day's run more rationally. They decided that the answers to their problem was to build a slalom C-2, since such boats are reknowned for their maneuverability.

The M's came to be C-2 paddlers by a rather different route. Mr. M. recalls sitting in his cruiser canoe at the head of the ledges on the Brule and watching the MCA trip leaders demonstrating the correct technique for running these sporting drops – and swamping their 15' Sawyer canoe for the third time. His instincts as a professional engineer told him there had to be a better way. Then it came to him – a deck! Keep all the water in the river where it belongs. They ran the ledges a few weeks later in a borrowed C-2 and were converted on the spot. They are now prowling the fast waters of the midwest in their own hand-crafted C-2.

People come to be white water converts by a great wealth of routes. However, they all come to one common decision point – Build or Buy. Some of the pros and cons that come to mind are:

**Buy**

pro – neat, clean, easy

con – limited choice of construction, relatively heavy boats, relatively high cost.

**Build**

pro – wide range of choices for personalizing your boat; relatively low cost, light weight, high strength boat.

con – you need friends (friends who owe you a favor) to aid in the construction; your wife must be willing to park her her car in the driveway while you and your buddies make a thorough mess of the garage; it helps if your spouse is willing to dispense food and beverages at odd hours to you and your motley looking crew; you need to be willing to donate an old set of duds to the project because your jeans will not be welcome in the family wash when covered with half-cured resin and stray bits of fiberglass.

If at this point you are still seriously thinking about building, perhaps we should get on with a discussion of how to do it. We will start first with an over-view of some of the options which in effect *define the boat.*

Covered canoes and kayaks are generally constructed from a two-piece mold – one for the hull and one for the deck. After the two pieces are molded, access holes are cut in the deck. The two mold halves are bolted together (molded parts still inside), then the hull and deck are seamed together from the inside. Trimming out is the final step.

From here on we'll be talking specifically about building C-2's, but of course, much of this information will apply to any all fiberglass boats.

1. Any whitewater addict will be glad to tell you which style of boat is currently in vogue. Remember – the sleeker it looks, the less inherent stability it will possess!
2. The basic design calls for two holes. But a center hole can come in very handy for a couple of small children, a single (small) adult passenger or for stowing camping gear or goodies. The center hole can also be completely outfitted with knee pads, braces and seat; in which case, the boat can be handled solo but with some loss in maneuverability relative to a C-1.
3. A long oval center hole is best for carrying assorted small passengers. A short oval hole (same size as front and rear) is best if the boat will be handled solo. A very small hole may be fitted if only an occasional bag of groceries will be carried.
4. The size and shape of the holes is determined by the type of canoeing that you'll do. The rougher the water, the more personalized that hole should be. Body English must be translated directly to the boat for best control. For riffles and minor rapids, fitted holes aren't necessary. For continual rapids paddling, fitted holes are very nice to have. For slalom racing, fitted holes are an absolute must. One may start out with round or oval holes for both front and rear – particularly if other people may be using your boat. Later, when you've tired of overturning in every eddy, you can pad the edges of the holes with foam to fit you and your prime bow partner, and refine the knee braces to achieve that last measure of control.
6. The boat should not be left natural (the color of the resin) since this imparts a translucency which shows up any defect. Use a coloring agent or a layer of opaque cloth to block the light.
7. The hull and deck are usually given different colors. This extends the number of individually colored boats since only a few proven basic colors are available within each resin system. Blue, yellow, red, green, white and (Ugh!) dead grass, are popular. Be sure that the pigment you choose is designed for the type of resin you will use.
8. The choice of color is widely extended if a piece of patterned cloth is used as the first layer in the deck mold and a complementary pigment is chosen for the hull. This cloth should be as light as possible so that full wetting will occur (no surface bubbles). A sample should be pretested with the resin of your choice to assure compatibility and truth of color. Be sure to wash the pattern cloth to remove any sizing (helps wetting) and iron it carefully to remove any wrinkles.
9. Flotation equipment can provide several benefits for the canoe.
   - Keeps it from sinking

5. RESIN COMPARISON CHART

| | Cost /Gal. | Pot Cost | Wetting | Abrasion Res. | Bonding Strength | Odor | Toxicity | Pigments Avail.? | Mixing Method |
|---|---|---|---|---|---|---|---|---|---|
| Polyester | $ 4 | 30 Min | Exc. | Good | Good | Lots | Low | Yes | Catalyst/Resin 5CC/Qt. |
| Epoxy | $12 | 45 Min | Very Good | Better | Better | Nil | Moderate | Yes | Resin/Hrdnr. 2/1 |

- Limits the amount of water that can enter
- Provides additional structural bracing.

For minimum flotation, fixed end tanks made of fiberglass or rigid foam will suffice. For moderate flotation, add to the end tanks 2-inch thick Ethafoam bulkheads. Maximum flotation can be provided with bow, stern and mid ships air bags.

10. For foam materials, look under "Plastics, foam" in the Yellow Pages. For inflatables, childrens' beach toys have been used. There are also commercial sources for pre-formed air bags.
11. Here are some of the more popular materials used in boat lay-up:
    - Fiberglass cloth – usually 7½ or 10 oz. material. This is a machine woven cloth.
    - Fiberglass roving – usually 18 oz. material. The fibers are not crimped during weaving. There is a faction that believes roving possesses superior strength. Another group believes that "all cloth" is the only way to go.
    - Polypropylene cloth – usually 4 oz. It is more flexible than fiberglass, has about half the density, and seems to resist fractures better. It is also more expensive than fiber glass.
    - Fiberglass mat – usually 10 oz. material. Mat soaks up resin like mad and doesn't add much strength to the boat, but it is normally used to add bulk and stiffness, such as along the gunwale of an open canoe where holes will be drilled to support some wood work. It is also useful for securing bulkheads or other bracing.
    - Microspheres – (glass beads) – can be mixed with the resin to reduce weight by effectively decreasing the density of the resin. The use of bubbles (glass beads) also tends to stiffen the laminate (the boat).
    - Bracing materials – since a C-2 doesn't have an outside keel, a keel-like strip called a keelson is often used on the inside of the hull to stiffen it. Additional hull bracing can take the form of pieces of rope or foam imbedded in the lay-up.
12. Although the seat ring itself will provide some strength to the deck, it will be necessary to add lateral braces (like ribs) behind the seats. Compressible bulkheads can provide some of the required bracing.
13. Bulkheads should not be made from rigid material since this sets up high stress areas adjacent to the joint. Etha-foam makes a good bulkhead material. It can be easily carved to shape, then held in place with multiple layers of fiberglass cloth or mat soaked in resin. Two bulkheads, installed at 1/3 and 2/3 the length of the boat, seem adequate. Be sure to leave room for legs and feet in front of both bulkheads. Some people prefer not to install bulkheads at all, depending instead upon rib-type bracing for support. Boats without center holes should use a maximum of one bulkhead. Two bulkheads, in this case, would cut cargo space to zero.
14. Seat rings may be formed up during construction or they may be made from separate molds to be installed later in the process. These separate molds may contain seats. There are, however, other types of seats. The canvas sling seat is simply a semi-circle of 12.5 or 14 oz. canvas whose curved edge is epoxied to the underside of the seat ring. Hem the leading edge by folding it over twice and glueing it with contact cement. Many people prefer the wooden plank seat which is a 1 by 3-inch piece of wood set low in the boat and attached to the sides of the hull. Make sure that you can get your feet under such a seat before installing one in your own boat.
15. Knee pads should be resilient and properly placed to be any good at all. Some form of straps are necessary to hold the knees onto the pads and consequently the canoeist into the boat. For all-out competition, it is a must that these knee anchoring devices fit correctly.
16. If your canoeing will be limited to occasional rapids of no great consequence, toe braces probably aren't necessary. If, on the other hand, you really lean out there on a brace, or you are considering learning the eskimo roll, toe braces will be mandatory. They provide a leverage point for shoving your knees tightly into their straps when using body english to control the boat. Toe braces should be positioned so that you have to cram your legs in place between the knee anchors and the braces.
17. Although the toe braces are normally molded into the bottom of the boat, you may make them adjustable by first placing them farther astern than necessary. Add blocks to bring the support point forward to fit various paddlers, yourself included. Another system involves two lengthwise brackets molded into the bottom of the boat with sets of holes drilled every couple of inches. A piece of aluminum tubing is used for the toe brace. It can be moved fore or aft to accommodate various leg lengths.
18. The most common carrying handle is simply a 12 to 20-inch piece of rope poked through the boat a few inches from the end, then knotted to form a loop. To add strength to the hole and to seal the boat against leaks (particularly when the ends are used for flotation tanks) a hollow phenolic tube may be epoxied into the hole, then trimmed to match the contour of the boat.
19. Hole covers are handy to have when it starts to rain and your canoe is on top of your car. A boat full of water may weigh three quarters of a ton! They also cover up the indelible mud that you don't want to show when your boat is on display. Make them of a waterproof material which matches the boat's color scheme. Supply them with draw strings of ample length.
20. Classy looking spray skirts can be made from the same material that you used for the hole covers. Use flexible cord to secure the skirt to both you and the boat. The length of the skirt is a compromise; make it short, and it comes loose when you bend. Make it long, and it acts like a fish bowl and fills with water whenever it gets the chance. The best spray skirts are made from expanded neoprene material. This material is expensive and comes in black, black, and black, but stretches enough to give you the best of both worlds.

With all these options rolling around in our heads and a vision of the perfect C-2 clearly in mind, we are actually ready to begin construction.

Preparing to build the canoe requires organizing a place to build, locating the necessary supplies and a few helpers. The essential elements in a building site are sufficient room and the ability to maintain the temperature above about 65°o There should be enough room to set up the mold, cradled on sawhorses (both hull and deck molds in decked boats) so that you can easily walk around both ends. A side area for resin mixing out of the traffic area is handy too. For both polyester and epoxy resins, the temperature should be maintained between 65° and 85°; epoxy can be worked up to about 95° if you have some experience, as the cure gets faster with temperature. Good lighting is helpful, but movable trouble lights can be used.

Other necessary supplies include paint rollers, roller pans, paint brushes, coffee cans, some large and sharp but expendable scissors (don't take the wife's favorite sewing ones), some rags, paint stir-sticks, rubber gloves and plenty of newspapers.

The size of work crew can vary from 2 to about 5 people. Two experienced people can do a good job but they have to work fast. If one of the builders is not experienced you should have at least 3 – better

yet, 4 people. More than 5 people start to get in the way. One system which has worked well in our group is to help someone build before doing your own and recruit the one you helped; then you both have some experience and the technique is passed on.

One lay-up which is quite good consists of the equivalent of 5 layers of 7½ or 10 oz. fiberglass for an open canoe or C-2 hull, or four layers for a C-2 deck. One layer of 18 oz. roving can replace the last two layers of cloth at some savings in cost and gives a very nice texture to the inside surface of the boat. If extra durability and/or light weight are desired, one or two of the middle layers of glass could be replaced by the same number of layers of 4 oz. polypropylene. It is not recommended, however, to use polypropylene cloth with polyester resin. Thus, this last option should be considered only when epoxy resin is being used.

Less resin and lighter weight will be experienced if about 30% to 40% by volume glass beads are mixed with the resin during the lay-up. The only layers which should not have glass beads are the first layer which goes against the mold and the last layer which seals the inside surface of the boat. The first layer of resin can be either a tack coat, if epoxy is being used, or a gel coat, if polyester is being used. Pigmented resin can be used to saturate the first layer of cloth. For succeeding layers the resin used to saturate the cloth should have glass beads mixed in, except the last sealer coat. Using the glass beads in this way adds stiffness to the laminate and saves resin, weight and cost.

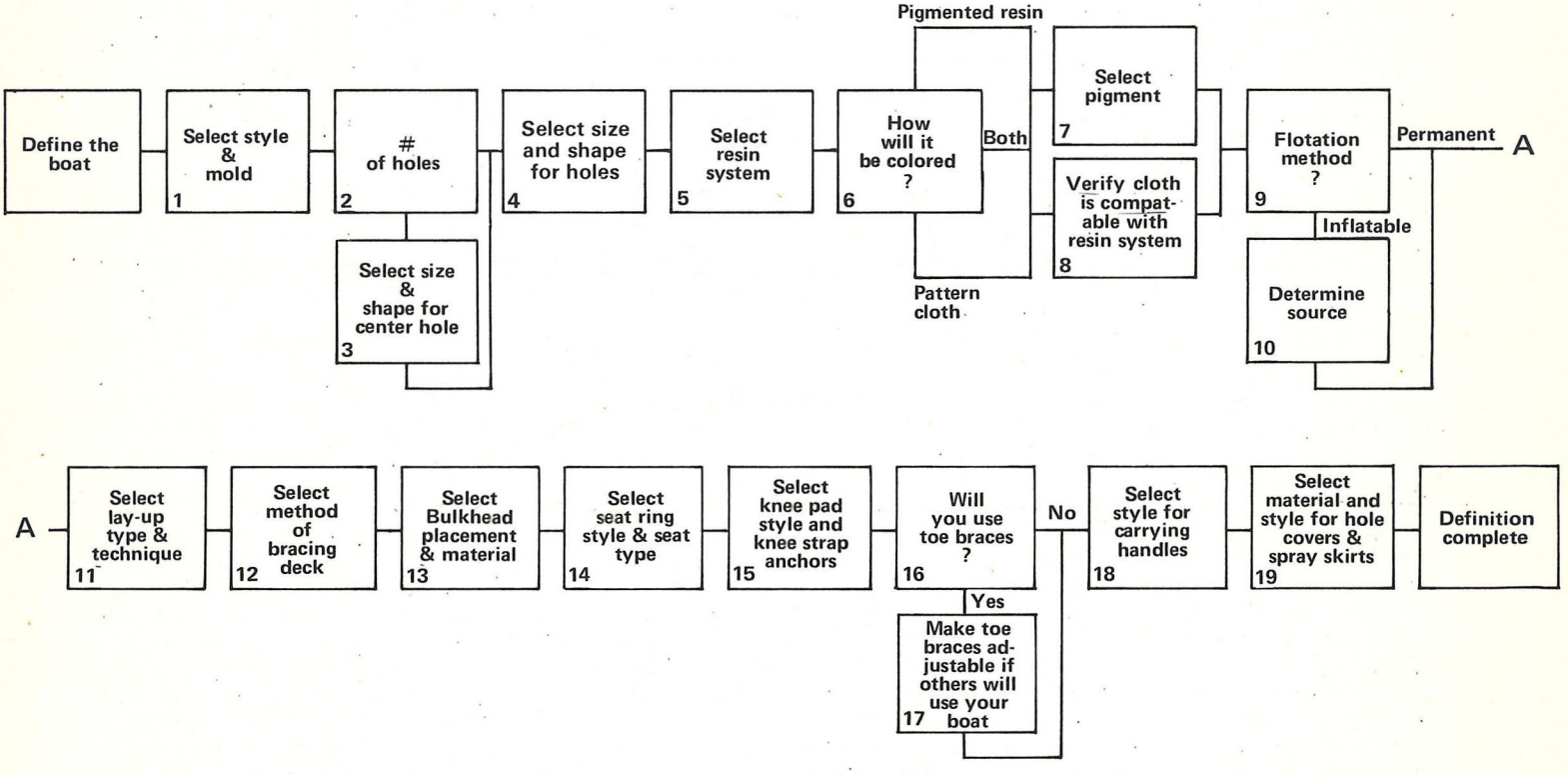
Any flat areas of the above lay-up will need to be stiffened with ribs. Three lengthwise ribs, one in the center and one 5 to 8 inches either side of center will stiffen the bottom of a canoe nicely. This center keelson should be about 3 to 4 inches less than the total length of the boat. The other two ribs need only be 4 to 6 inches long. Ribs can be formed using either half-round wood (2 pieces of quarter round side by side) of about 1/4 to 3/8 inch radius covered with three layers of fiberglass bonding the rib in place. Another good ribbing material is Ethafoam about 3/8 inch thick by 1" wide with beveled edges and three layers of fiberglass covering it. Similar transverse ribs will be needed to brace the deck of a C-2 at the back side of the passenger holes where the paddlers weight will be concentrated.

Bulkheads should be cut to the inside shape of the seamed C-2 and held in place with fiberglass strips around the outside edge. Additional flotation and stiffening can also be gained by sealing similar smaller bulkheads about 18 inches from either tip of the C-2.

The seat rings can be easily formed by cutting the desired hole shape and holding about 1-inch diameter tygon tubing (or old garden hose) on the edge of the hole with tape using the tubing as a mold. About 4 to 6 layers of bias cut fiberglass laid over 180° of arc of the tubing will form a nice rigid ring. When the resin is cured, untape the tubing and pull it out and file the remaining fiberglass rim smooth.

The trim-out is finished up by installing the seat style of your choice and knee bracing appropriate to your intended use for the canoe.

We recently figured the price of a C-2 at $150, including some very expensive paisley deck fabric, three layers of polypropylene fabric, epoxy resin, and all the paint rollers, brushes, etc. The only commercially built C-2 we've heard of recently sells for over $400. The finished boat weighed in at 55 pounds.




## 2 MAN WHITEWATER CANOE
## A Guide for Design and Construction

# Curiouser Ways of Life

**Reprinted with permission from Northwest Passages.**

*by Joel Vance*

It is autumn and unusually warm for the north country. for this is a land where the winds howl down from the great icelands on the crest of the earth. They can bite fiercely.

The sun is high and hot on the Namekagon in northwest Wisconsin. This is one of the nation's Wild Rivers, a stream legally protected from the development and change which has ruined so many beautiful streams. To my left, as the canoe drifts with the current, is an enormous white pine which somehow escaped the scythes of the lumbermen more than a half-century ago. Above me, on wings of spring steel, soars a bald eagle. If a remnant of DDT, which ultimately will kill him, lurks in his avian brain, it is not evident on this brilliant, fine day.

The sun casts sparks on the water, creating a cold liquid fire. The birches stand gaunt, exposing their white skin to the day. The alders have lost the thick blush of leaves and line the stream in ugly, naked awkwardness. Two ducks, probably ringnecks, tiptoe off the water ahead of me and disappear around the bend with a powerful rush of wings.

It is to their advantage that today I am not a duck hunter. One of them leaves a white feather dancing on the water's surface in his haste to be gone and it twirls atop the current. The bottom of the river, clearly visible in the pure water, is coated with alder leaves, as bright yellow as gold coins. I imagine that it is a pirate treasure laying there. It is the kind of day that calls for daydreams.

The wind whips the pines with the sound of distant rapids. I'm supposed to run into a fairly good rapids, they tell me. Rapids are the cherry on the top of the big sundae that is is a good float river.

And, then, rounding a bend, I am in the rapids and they turn out to be more than a moderate hazard because I have forgotten my sunglasses and the sun glitters off the water with such intensity that I can't see anything. It's all painful glare and I wince, but it's too late -- I'm committed.

I feel the current grab the canoe and hurl me forward. A rock, barely visible, splits the current directly ahead of me. I reach far out and back and dig hard, dragging the canoe sideways and slowing it just enough so I scrape by. I'm backpaddling now, trying to see against that damned sun. A slick on the surface indicates a barely submerged rock and I twist past it. I risk a quick glance backward to confirm my suspicion and, sure enough, there's a granite boulder an inch under the water. There are scrapes of aluminum on it -- others have passed this way.

Just for an instant a tree trunk masks the sun and I am given a reprieve to read the water. The rapids growl and bluster at me. but I don't take them seriously. This is kid stuff compared to some I have seen. Now I'm almost through. A couple of scrapes and a couple of quick maneuvers and then I'm in the deeper water at the base of the run. I look back up the rapids and, of course, every hazard is clearly visible from this side. Going upstream would be a cinch if the current only flowed that way. That was fun. A little mental muscle toner, a tonic for the flagging spirit of adventure. Well, back to the daydreaming now, for the river has slowed.

Now I'm in a long, wide pool, deep and dark, with only swirls and boils on the surface to show the current pulsing beneath. I let the canoe drift quietly, perhaps the same way some Ojibwa Indian did two centuries before, when the poetry of the wilderness caught his fancy and momentarily quieted his ever-present need to fill his belly. Absently I note what at first I think is a stump in the water ahead of me. This puzzles me, for it wasn't there an instant ago.

Then it moves and I realize it is an animal. Not a muskrat. Too big. Must be a beaver. The canoe drifts quietly toward the animal and I expect to hear the resounding crack of the beaver's tail as he spies me. Instead I see a long, sinuous shape and recognize with joy that it is an otter, that happiest of animals. There are few left in Wisconsin and to see one is a privilege. Now I'm within thirty feet of it and it sees me.

It thrusts its head a foot in the air, treading water, looking me over with wise, bright eyes, its whiskery, funny face alert. It ducks down, ready to dive, but it's unsure what I am and curiosity gets the better of caution. It pops up again, like a submerged cork suddenly released. Three times it bobs up and down until I am too close. With a ripple of pure grace, the otter slips under the water and disappears.

It's tough enough to have deadlines to meet every minute of every day without having to meet them during leisure moments as well. There should be at least one time each week when a man has no commitments, when time is suspended. Life is filled with deadlines. For the moment, here on this quiet, sundazed river, there are no wars, no traffic, no smog, no pollution, no pesticides, no mean people, no bills, no harsh winter cold, no worrying job, no articles to write or research, no photographs to take. I don't even have to watch the birds if I don't want to.

I surprise a loon which struggles ponderously into the air, levered by the power of panic. Then I notice two muskrats basking in the sunshine and munching on whatever it is that muskrats munch on. They regard me with beady-eyed suspicion, then decide I am up to no muskratly good and skitter comically into the water, falling all over each other as they crash dive to safety.

Something lying in the water attracts my attention and I backpaddle toward it, digging hard against the current. It is the skin of a deer, a doe. I have been in a running argument with several Wisconsin friends over the causes of a scarcity of deer this year. Prospects are poor for the deer season. "Coyotes have killed all the deer," they insist and I tell them this is preposterous, that coyotes virtually never kill a deer in my home state of Missouri.

How much of the lost deer herd went to the ever-present jacklighter? The jacklighter is a game bushwhacker, a direct descendent of the historic bushwhacker -- a backshooter, an ambusher. How easy it would be to float the deserted Namekagon after dark, spotlighting deer feeding on water weeds. It's as easy as shooting cows in a pasture. Fixed by a beam of powerful light, a deer is helpless. He will stand dumbly while the jacklighter guns him down.

Both of the deer skins I've found belonged to does. Considering that most mature does bear twin fawns, the loss of these does represents a potential of six deer within a year's time and, given only a five-year span of production, a potential of more than twenty.

Perhaps Wisconsin's "coyote-killed" deer instead are the victims of human jackals, the spotlighters?

In any event, I hate to think of a world with no room for coyotes, those sly villains who have managed to hang in there despite all our traps and poisons and bounties.

Good for them! I'm on their side. They belong to this world just as much as you and I do. What makes a coyote any less valuable just because he's not edible? It always is the animal world which suffers for our ignorance. We strip our lands of cover and blame the coyote because the pheasants and quail are gone. What a bunch of stupid people we are.

I change into a pair of dry shoes and stretch, then climb the bank and walk across the bridge. I look down on the rockfill at the other side. Another deer skin, the third in a week. This one probably was tossed from a car as it crossed the bridge. The spotlighters thought it would float downstream, but they missed the water, though they didn't miss the deer.

My car turns off the main highway a hundred yards and heads toward me. In the back, J. B. and Eddie are waving at me. My daughter, Carrie, is sitting in front next to my Aunt Vic, a fine and wonderful person. I remember she is going to treat us to dinner in Hayward.

All right birds and muskrats and otters. It's your river again and thank you for letting me intrude.

I return to civilization. . . .

# Impressions of a "Hack"

*Photos by Tom Johns*

*There may be more experienced paddlers in the MCA, but hardly any more commited than Hansi Marte and her husband Egon. No need to say anything further about Hansi; she introduces herself pretty well in the story. Maybe in the next issue we can get Egon to do the same.*

*by Hansi Marte*

What is a hack? I am one – new to the sport of paddling, which I started in October 1972, but above all new to racing, it's rules and regulations. This is my second race (the first one was on the St. Francis in Missouri in February!) so please don't expect an intelligent analysis of the race, the people who ran in it, the set-up of the slalom course and all the rest of the technical details – remember! I am just a hack.

Kim Williams, our most experienced paddler, Bob Schuetzler and myself, as newcomers to the sport, and the Larry Johns Family set out for Madison on Friday. Arriving in Madison at the rather late hour of 1 o'clock in the morning, five of us (two non-paddlers) rolled out our sleepingbags in the livingroom of Judy C. We found the warmest welcome there throughout the whole weekend, and it was was always a pleasure to return to our temporary home when we were wet, cold and tired. Thank you, Judy!

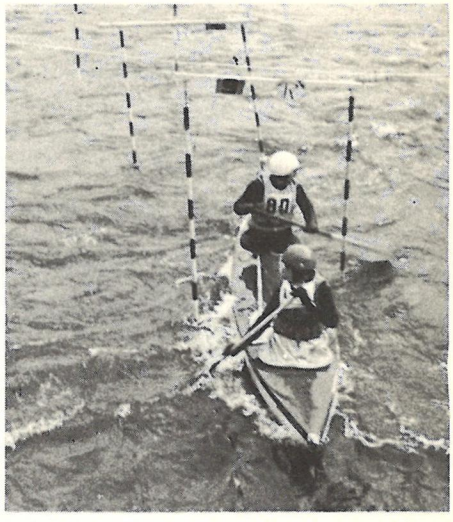
All too soon it was Saturday morning and time to take a look at the Yahara. The sky was still overcast and a strong wind whipped Lake Mendota into furious waves. It was bitterly cold. Struggling into full wetsuits and then adding down jackets and wool mittens we finally presented ourselves to Eric Olson, offering what little help we were capable of in setting up the slalom course. Eric Olson is a softspoken, gentle man, courteous and very patient with beginners and experts alike. At first glance, the Yahara seemed absolutely without a challenge ("Pride always comes just before the fall!") and I figured that if I just could keep straight the elementary fact of the green pole always being on the right side of the boat, then all my troubles would be solved. It seemed a little more complicated when Bob and I were sitting on the riverbank trying to figure out the course. The gates seemed to be close together; there were 17 in all and apparently an abundayce of upstream and downstream and reversed gates. There was nothing more to be gained by staring at the river weak-kneed, so we took to the boats for practice. C-Snake (my slalom C-1) and I hacked our way through the gates, touching poles more often than not; gate 4 seemed to have it in for me. I saw others struggle to avoid being swept downstream too early, which generally spelled certain disaster for gate 5. Gate 8 was a reverse upstream and C-Snake and I entered into a serious discussion about cooperation between her and me. After a reverse downstream 9 gate, forward gate 10 was easy to miss. I began to revise my rash judgement about the Yahara Slalom. Practice time was over, and the business of racing started in earnest. Standing on the bridge, watching and trying to learn from the other paddlers and picking up a little bit of knowledge about judging penalty-points, I awaited my turn. Bob had to roll once on the course and I watched Tom Johns maneuver his kayak with calm and skill. Envy gripped me, and I resolved to give it a very good try.

My turn came. Butterflies in my stomach I sat at the starting point and trembled. My method of paddling is generally fast with poor directional control. Grimly determined to charge through gate 4 and overcome the current there and my mind fixed on gate 5, I completely forgot to lean downstream. The predictable happened – I had to roll (on the riverbanks they cheered for this poor hack!), came up under gate 5, nearly missed 6 and furiously attacked 7 and 8. Gate 9 passed and I desperately tried to spin the boat in time for the forward gate 10. The Yahara was just laughing at me, and again I tipped over and rolled C-Snake back up. Let's draw the curtain of charity over that run. After finishing this disaster I was gently kidded about doing rolling practice on a slalom course but also encouraged and counseled by a kind and friendly soul, Mr. Al Stamm.

Next was the slalom for the C-2 Mixed class. Kim and 14-year-old Larry Smith from Chicago ran well together and looked good and professional. Bob and I first settled the most important question: "Which way are we going to roll up?" That ought to give you a clear picture of our frame of mind. Having settled for the right side, we hacked our way through the gates as best as we could. Between gate 4 and 5 we needed a violent right brace to keep upright and while I furiously struggled to get the bow lined up with this unfortunate gate 5. Bob, the quiet and polite gentleman thanked me for the right brace. Man, I was saving my own skin since I knew that Bob in the borrowed Smith C-2 from Chicago could not use the toe braces and rolling the beast was uncertain at best.

After the second run a benign looking judge told us nicely, that we maneuvered the boat fairly well through the gates, but, "For heaven's sake, keep your paddles to yourselves. The bowman beats up the green pole, the sternman the red one and you can't afford all those penalty points." How true, but how difficult to accomplish.

At 5 p.m., I ran my second C-1 slalom run. After all those setbacks I felt it could not get any worse. Trying to take it easy, slow and as accurate as possible I avoided the necessity to roll, but needed a brace on my usual troublespot. The timekeeper, who by that time was pretty chilly informed me kindly that my time was not too bad, but added with a grin, "They haven't added up your penalty points yet."



**Bob Schuetzler and "Hansi, the Hack" take a reverse gate.**

Kim ran last on Saturday, clearly showing that she knew more about gatework than the rest of us girls. She helped us freely and in a most friendly manner all day.

Supper at the Union-building was simple, good and plentiful. Moreover, like the whole weekend, it was a comfortable and relaxing affair where everybody could feel at home. I missed the movie which was shown right afterwards. Sharing the day's events with my husband and two children in Minneapolis, I was hanging on the phone for a long time.

Sunday arrived bright and sunny with the wind greatly diminished. Larry Johns and I walked along the wildwater course, meeting all kinds of ducks which eyed us unhappily as intruders. I couldn't really blame them. It was a great day to live in peace. Wildwater course is a bit misleading. There are no rapids and the current is very gentle. It is probably around ½ mile long. One paddles downstream just downriver from the first Highway-bridge, makes a left turn around a hanging pole and paddles back upstream to the starting line. It looked straight forward enough to even set a hack's mind at peace.

C-1W started the races on Sunday. There were only three women: Kim, our gracious hostess, Judy, and I. After paddling desperately for a few strokes, I began to remember parts of Al Button's patient coaching: "Don't splash your paddle in the water, keep your corrective pry-strokes way back and at a minimum, work smoothly!" C-Snake and I paddled happily upriver to the starting point.

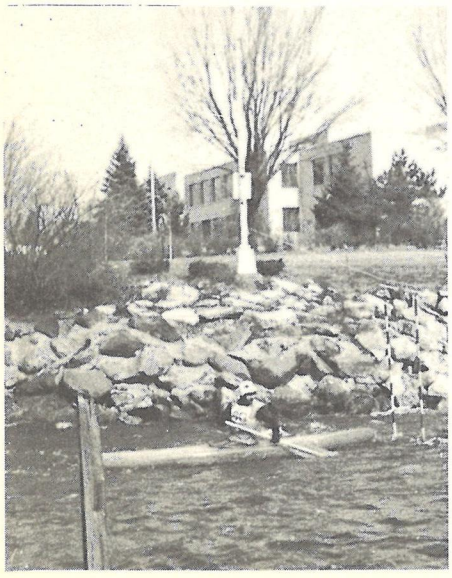
The two boats started together. All the

way downriver Bob and I fumed behind Kim and Larry by about a half a boatlength – unable to pull ahead on the right because of the bushes and not fast enough to go around them on the left. As Kim drew tightly against the pole at the turning point, Larry did not back up her maneuver fast enough and they drifted downstream leaving room for Bob and me to do a sharp left turn. Just for once I didn't pull the boat over on us with my prystroke. We had barely pulled ahead when we were hit hard with Larry's bow amidship. Instant reflex made me brace hard, unfortunately using Kim's hard hat as a base for my brace. Goodnatured insults were exchanged, and then Bob and I pulled ahead, finishing with a spirited sprint ordered by my suddenly very lively sternman. The discussion and whether we were deliberately or accidentally rammed is still not concluded. With the Petersburg race coming up we have 18 hours of driving which we could use to settle this argument.

Tom Johns had run 3 consecutive wildwater-races: K-1, C-2 Mixed and C-2 men. Bob ran the wildwater course in a Wildwater-boat (Lettman Star), which was totally new to him. It treated him unkindly once, as he got eddied out rather suddenly, losing some time. After saying, "Good-bye" to our new and old friends and thanking Eric Olson for a beautifully run weekend, we left this friendly city to return home. Gorging ourselves on the food in the car which we neglected during the races, a content and congenial group arrived in Minneapolis.

We have a long way to go in learning to become racers but we loved every minute of it. Despite all our inexperience we brought home a first in C-1W Slalom, Wildwater C-1W and Wildwater C-2 Mixed.

If I may, I would like very much to ask more women to join us in fun and adventure. We sure are in need of C-1 and K-1 female paddlers. Come on, join us hacks!



Eric Olson, the host

# RACE REPORTS

*Slalom racing needs no explanation to paddlers, but some folk may not be too sure what a wildwater race is. The difference is similar to that between slalom and downhill skiing. The course is much longer – maybe several miles, and there are no gates; but natural barriers, hazards, and current differentials have to be negotiated. Some different technique is required but the most valuable skill is the ability to read the river quickly and accurately. Wildwater boats are designed for speed in heavy water so there is some compromise with maneuverability as compared with slalom boats. As far as the author goes – well, everyone knows who Al Button is.*

## ST. FRANCIS RIVER, MISSOURI
## FEBRUARY 17, 18

*by Al Button*

It should have been a spring vacation, but it was winter. At 15 degrees above zero, it was as cold in southern Missouri as it was back in the Twin Cities. We all had wetsuits and new boats and weren't afraid of a skim of ice on the river. It was time for the outdoor season to begin!

Jim Rada, Tom Johns, Bob Schuetzler, Egon and Hansi Marte, and I piled boats onto and ourselves into the "super van" and headed south to challenge the Missourians, the Wisconsin Hoofers, the Chicago White Water Association, and that cold, cold river. Jim, Tom and I didn't have to roll the first day, but Bob and Hansi had occasion to discover that they could indeed eskimo roll in that cold, turbulent water. Egon had what we call an "incentive cruise". That's where a paddler decides that before next trip he *will* learn to eskimo roll.

The wildwater race was a fun event with twenty-one boats in a gang start (crash, crunch, and bad language) and a five mile run through long slow pools and shallow, very rocky rapids and some tricky willow thickets. The pack soon spread out with small groups fighting their battles with each other and the river. Spectators were clustered like vultures at the tricky "Cat's Paw" rapids, where they were treated to many tipovers and slam-bang runs. A little dynamite might improve those rapids.

The slalom was on a shortened course this year, but interesting for our first year paddlers. They found that the gates are ever so much trickier with current going through them, but they all did a good job. Tom Johns, in his third season, is developing into a real competitor in K-1.

Despite the cold weather, we had a great time cruising, racing, trying to stay warm, and renewing friendships with the whitewater gang from around the midwest.

## PETERSBURG, W.V.
## APRIL 8, 9

*by Al Button*

"You'll have to reload those boats so they don't overhang the sides of the van."

The patrolman on Wisconsin I-94 was serious – reload or pay $57.00. We reloaded, hoping that it was not going to be *that* kind of trip. With eight canoes on top and five people inside (Kim Williams, Bob Schuetzler, Hansi and Egon Marte, and I) we were keeping our fingers crossed that we'd make the trip to West Virginia in the usual 18½ hours – unlike last year when we dropped the driveshaft on the freeway and missed the race.

The water was low, but runnable on the Potomac, and the weather was perfect in the beautiful Hopewell Canyon. Excitement ran high; whitewater racing is "big time" since its inclusion in the Olympics. The Petersburg race is one of the biggest with two separate wildwater races and a slalom race. Traffic moved at a crawl as 500 boaters tried to shuttle boats and find parking places along the narrw mountain road.

Friday we cruised, giving some coaching tips to our new Minnesota paddlers and getting them familiarized with wildwater racing. The five mile championship course offers some tricky navigational hazards such as the S-curve at Rockslide Rapids and the "sneak" channel around a very shallow, rocky rapid further down. Our group of beginners was excited and a little nervous about their first big national race and about the hazards of the course.

There was excitement for us veterans too, because this was the first real test of "Who's Who?" in wildwater racing in 1973 – and who has the inside track for a spot on the World Championship squad. From talking to friends from out east, I learned that the C-1 competition would be terrific: Russ Nichols (former U of Wisconsin Hoofer, now U.S. Army "paddler corps") was in super-good shape and knew how to handle his fast Lettmann Star in heavy water after a year of practice; John Sweet (Penn State) was in his best shape ever and is always tough; Tom Irwin (also Penn State) who was pushing us hard last year in a slalom boat was maybe going to beat us now that he had a wildwater boat; Martin Begun (Tennessee) who beat me last summer at the Nantahala race had been paddling hard all winter in a Lettmann Star and might be the one to beat. Other boaters had enlarged the class – including Wisconsin's Charlie Steed who has been paddling since he was big enough to peek out over the cockpit rim of a C-1. They and others were hungry for a chance at the World Championships.

And I was scared. I felt very signifi-

cant and out of shape. True, I had a beautiful new light weight C-1 that had taken all winter to design and build. It was fast, but would it be fast enough? Would I hold up for five miles and 45 minutes? The hours and days before a race can really be torture.

But the last few minutes are especially frightening. We all watch as one by one the boats are started with the 5-4-3-2-1 countdown. Every thirty seconds for two hours a boat goes sprinting off down the canyon to disappear. Then it's my turn. Ten seconds. 5-4-3-2-1-GO!

Suddenly everything is changed. The worries and fears are gone; there's just the river and me and J.L. C-Gull (Jonathan Livingston C-Gull, my C-1) and another boat ahead to be caught. It is *beautiful.* Every time the boat finds just the right channel or knifes effortlessly through a wave there is a feeling of exhilaration, a feeling that this is going to be a good race, that J.L. and I are unbeatable. One by one the rapids and landmarks fairly fly past and the boat seems to get faster and smoother all the time - just like its namesake. Sandy Morrison appears on the bank with a stop watch taking a "split" for me on Tom Irwin. The news is good. I've taken 40 seconds less than Tom to go three miles. The toughest part of the course is past now.

The last mile is a fight to keep up the pace of the first four. A sideache begins to gnaw away under the spray skirt. There is another wildwater boat ahead that *must* be caught. I've passed five or six already and each was a thrill and another victory, but there's always another up ahead.

Well, just before I catch that one the course ends and it's all over. Whew! Relief! That sideache was getting grim.

Unofficial word was that J.L. C-Gull and I had won, but official results would not be in for a few hours. Hansi and Bob finished in their slalom boats – not fast, but in good style for their second race and first "big" one. They each had a story to tell about their fight with the rapids and with the competitors. They've got the bug.

In the afternoon, Hansi and I climbed into Bob Haug's well worn wildwater C-2 and paddled in the C-2M class. After a total practice of 20 minutes the day before, we made good time and placed second in the class, 21 seconds behind Paul Liebman and Lena Mela. Next time we'll beat them.

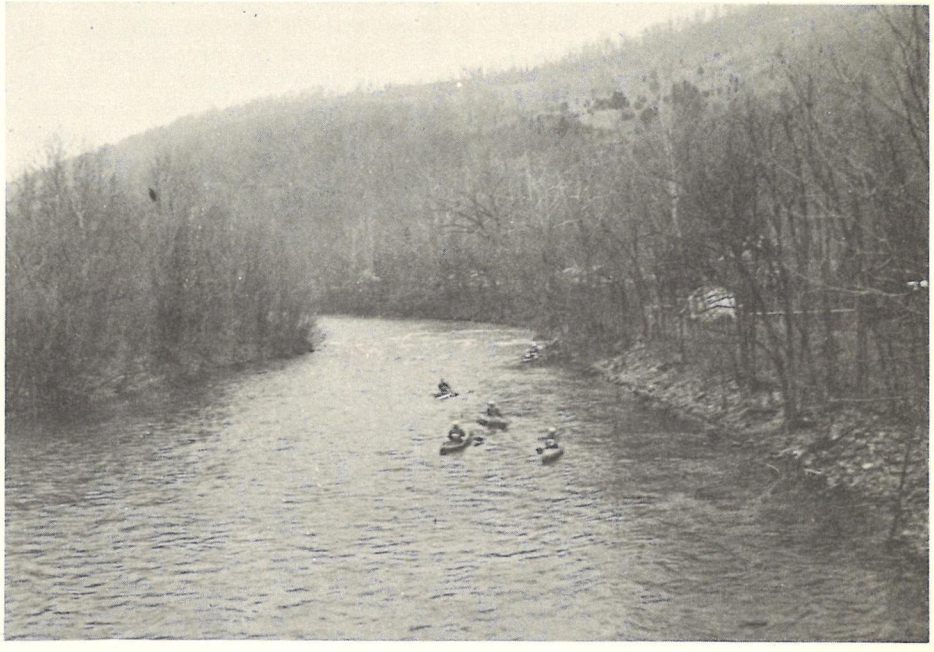
The midwest had more to be proud of. Doug Peterson, formerly of Blake School, Hopkins, Minnesota, and now paddling with Ledyard Canoe Club of Dartmouth won the K-1 class, beating his coach and fellow competitor Eric Evans (1972 National Champion in wildwater K-1). Charlie Steed is moving up in C-1, and he and Eric Olsen were moving well in their first major C-2 race.

The awards ceremony filled the high school gym - including seats covering the basketball floor, with standing room only, and most of the people were competitors.

Sunday we did not see the slalom race. It is so popular that they had to limit entries to only Middle State Division paddlers. Imagine turning away paddlers from a slalom race! It's happening.

We and many others ran the narrows of the Cheat River to check the course where the U.S. Wildwater Trials will be held. A beautiful river with great access for spectators. We'll tell you more about that later.

The trip home found all of us worn out from lots of cruising and the excitement of the race, but already making plans on how to do better next time. The 1973 season is off to a flying start with lots of excitement ahead. Your MCA'ers can catch lots of this excitement right near home at the Kettle River race or a little farther away at the Pestigo River race. Come on out and join us.





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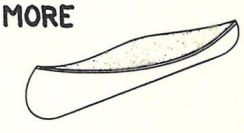
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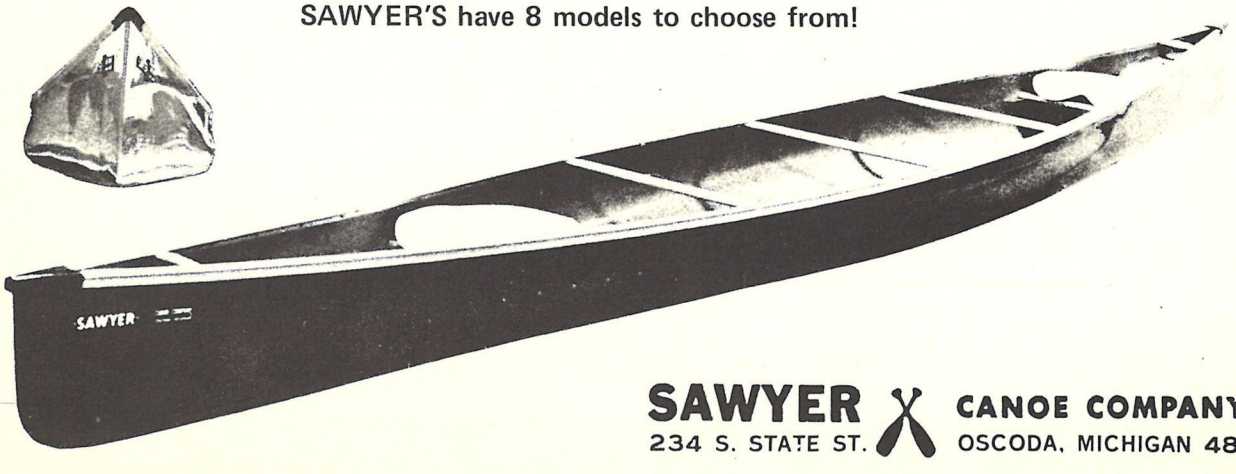
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