

American

WHITEWATER

the Journal of the American Whitewater Affiliation



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The Staff and committee members listed above are unpaid Whitewater enthusiasts who volunteer their time and efforts to bring affiliate/member subscribers this journal. Your contribution of articles, letters, race results and schedules, photos and drawings are essential for their continued efforts and the timely publication of the American Whitewater Journal.

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COVER: David Eneguess and Nancy Wiederhold of Dover, NH at 1974 Open Canoe Whitewater Championships Nantahala R., NC. Photo by Edward Columbus Thompson.

Letters from Readers

Dear Editor:

I was quite pleased to see the page of information on the American Rivers Conservation Council which appeared on page 177 of the **Sept/Oct.** issue.

With more and more causes, etc. clamoring for our time and money, it would be quite easy for American Whitewater members to skim over this page, and pass on to more exciting reading. I can only hope this was *not* done!

To my knowledge, the A.R.C.C. is attempting to do a job we of all people should recognize as vitally important. It is hoped that every A.W.W. member will give serious thought to extending him (her)-self and pocketbook a little more in order to support this council at a critical time. They put out some really good fact-sheets containing real action items regarding the never-ending battle to save our rivers.

I think you will agree, there is more to being a river runner in this day and age than just running rivers. A.R.C.C. gives us an opportunity to be heard in what are sometimes David-Goliath types of confrontations. Let's *all* give this a second thought.

Sincerely,
W. G. "Pete" Weinel

Dear Mrs. Sindelar:

I have had the pleasure of subscribing to *American Whitewater* since your first issue of 1971 and would like you to know how much I appreciate it. I have also Vols. I and II but nothing in between. Should you ever be offered any back volumes I would much appreciate the chance to buy them. It is just possible some widow might be glad of the money and she could thus get more than if she sold them to a bookshop.

I am almost 79 years old and started canoeing when I was 19 and waiting, as a very junior 2nd Lieutenant, to go to France. I was wounded in both wars and in each case in the shoulder, right in 1916 and left in 1943; consequently my canoeing is rather more gentle than it would otherwise have been.

Although I started on the "Canadian" I have used folders since 1938 – they are easier for traveling.

Yours sincerely,
Dr. L. P. Clarke
Anne's Cottage, Holybourne
Alton, Hants
England

P.S. (The following is from a letter Dr. Clarke wrote to Bob Burrell. –Ed.) Recently I sent some volumes of *American Whitewater* to be bound and when they came back I re-read them. I am a somewhat aged English canoeist and camper who appreciates three things: Scenery, Silence, and Solitude (not loneliness) and your article "On Staying Small" (Autumn 1972) and your letter have appealed to me more than anything I have found in any of the English canoeing papers – which frankly are not to my taste.

When I started canoeing in 1915, one could go anywhere, and the same was true almost up to Sept. 1939, One did **not** attempt to canoe on a trout stream during the "season," but otherwise one was welcome to camp on the bank almost anywhere. Today, entirely due to the bad manners of hooligan canoeists (very largely encouraged by ill-bred school teachers on the make), rivers are being closed to canoeists, and many canoeists are taking to estuaries and the sea, neither of which appeal to me – not enough Scenery for one thing.

I wish you well in your efforts to keep canoeing decent.

To the Editor:

Don Sanborn's Kayak rescue methods in the NOV/DEC issue are excellent. Such rescues are rarely possible in class 3-4 rapids but are necessary when far from shore as the author noted; however, **kayakers** who ocean surf and venture long distances from shore should practice belly-climbing from the stern to the cockpit, then balancing to a sitting position and finally bringing the legs up and sliding into the cockpit. With practice this method is fast and easy.

George Larsen

November 28, 1974

To the Editor:

I am mad and frustrated:

I have just been sent the application form for a trip down the Grand Canyon for 1975, and I feel that the rules have been written to keep a person like myself from getting a permit.

Examples are:

1. Statements like the following keep those of us who don't have private Grand Canyon size rafts from either riding a raft or using a raft for support: "The trip **will** not be conducted for the purpose of monetary gain (either as a direct or indirect result of the trip) or acquisition of new equipment to the advantage of an individual, group, or organization or for the purpose of amortizing equipment,"

and "Leasing or renting commercial water craft for use on private river trips is not permitted."

2. Boatmen of experience on the Colorado are highly recommended. I agree that such experience and knowledge is needed, but where can you find such a person? And if a person does have experience, and he is a "guide" for hire, a private group could not hire him and still stay within the spirit of the Park Service's guidelines of a private trip.

Further, experienced guides who fit the private category are likely to be limited to one trip (private) every two years.

Why are the requirements so strict? It is because vested groups (the commercial rafters) are writing the rules. They point out that private use is small, but then get rules written so that private groups can't get going.

I would recommend the following changes:

- a) Permit private groups to rent support rafts (or buy them)
- b) Permit private groups to hire experienced guides
- c) Rebalance the distribution of commercial to private to allow more private trips.

A. Ray McLain
345 Bretcoe Drive
Green Bay, WI 54302



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NATIONAL CHAMPIONSHIP WHITEWATER MEDAL

The National Slalom Committee has approved the idea of a National Championship Medal for canoes and kayaks in both slalom and wildwater. Considerable cost is involved in making a die; consequently, one medal suitable for all classes in both events is desired.

It is generally believed that paddlers would have a greater appreciation for a medal designed by someone from their ranks or at least one familiar with the sport. Therefore, an open invitation is extended to all whitewater enthusiasts to propose designs. Keep in mind that the design should be simple, versatile and capable of being reduced to 1% inches in diameter.

For additional details, those interested in submitting designs or advice should respond promptly to:

National Slalom Chairman
Carol Joy Knight
4 General Wayne Drive
Media, Pa. 10963

OBITUARY

Dick "Ski-Foot" Holt, in an auto accident on a Los Angeles Freeway. Ski-Foot and his two-man raft were long a familiar sight on California rivers as well as at the many races at which he helped officiate. In the Sierra Club Bay Area RTS Bulletin was the observation that on the flip side of Ski-Foot's business card were the instructions for mouth-to-mouth resuscitation, an indication of this man's helpful and generous nature.

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BOOK NEWS

The second revised edition of Charlie Walbridge's **BOATBUILDER'S MANUAL, How to Build Fiberglass Canoes & Kayaks for Whitewater**, is now available for \$5 from Wildwater Designs, Penllyn, PA 19422. Dealer discounts are available. We reviewed this excellent book in the **JAN/FEB 1974** issue of the *Journal*. The second edition reportedly contains 20% more information.

Keel-Haulers Canoe Club Races Scheduled

The 7th Annual Vermilion River Canoe Race will be held March 16, 1975 on the Vermilion R at Birmingham, OH. The Youghiogheny R. Slalom will be held Sept. 6-7 at Ohiopyle, PA. For information and application forms for these races, contact Mary Lou Chaddick, 301 Smith Ave., N.W., Canton, OH 44708. Tel. (216) 456-9831.

1975 WHITEWATER RACING PROGRAM

Contains complete race schedule as well as paddler rankings and information about whitewater racing, races, racers and rivers.

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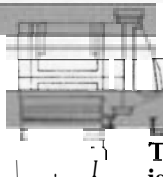
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Paddler swims on down the river as his war does end-over-ends in a large hole on the Yuba River. Photo by Joe Bauer.

MORE ON THE “THIRD-HAND” THEME

by O. K. Goodwin, AWA Safety Chairman

The article on Salvaging of a Derelict Boat (*Whitewater*, Vol. XIX, No. 5) has elicited several responses from experienced river runners:

Don Ravenhill (Denver, Colorado) spoke up in favor of holding the tow-line in hand or teeth and described his line as an "eight foot length of light nylon line tied to a carabiner or snap link. Soft-braided nylon 1/8 or 1/4 inch in diameter seems best," he says. The snap link is hooked to his life jacket – to any convenient ring or strap. The line is coiled flat and tucked (1) under the life jacket, (2) in the pocket of a boating jacket, (3) inside the waist of his spray skirt or

(4) any other readily accessible location that allows the line to come out without tangles or knots.

He quotes Murphy's Law – "If anything can go wrong – it will" in taking a stand against extra lines, fittings, etc. attached to a boat. "An instant release of the tow-line when needed *is essential for the safety of the towing paddler*. Towing a derelict can be dangerous and can cost you your life."

Joe Bauer (Inverness, California) also likes the use of teeth with a simple rig. He does not use a snap link of any kind. He ties one end of the tow rope to his stern loop and tucks the other inside the top of

his spray skirt. As he approaches a derelict, he frees his line, passes the free end through a grab loop (assuming it is not taped down) and then chomps down on that free end. Joe says it isn't difficult to release his tow. If he has any trouble: "All you do is scream and you're free!"

This towing arrangement with the derelict on the bight of the tow line and with the line supported at **two** points, stern loop and teeth does reduce the strain on the molars.

Practically, this is similar to towing with a line attached only to your stern loops; it does make your boat more difficult to handle. Joe turns his bow upstream and ferries to the bank, "which is about the only thing you can do."

Fred **Hartline** (Seattle, Washington) provided sketches (Figs. 1-3) and description of his rig which is even more sophisticated than the one I described in

THE NEW ENGLAND WHITEWATER RIVER GUIDE by Ray Gabler

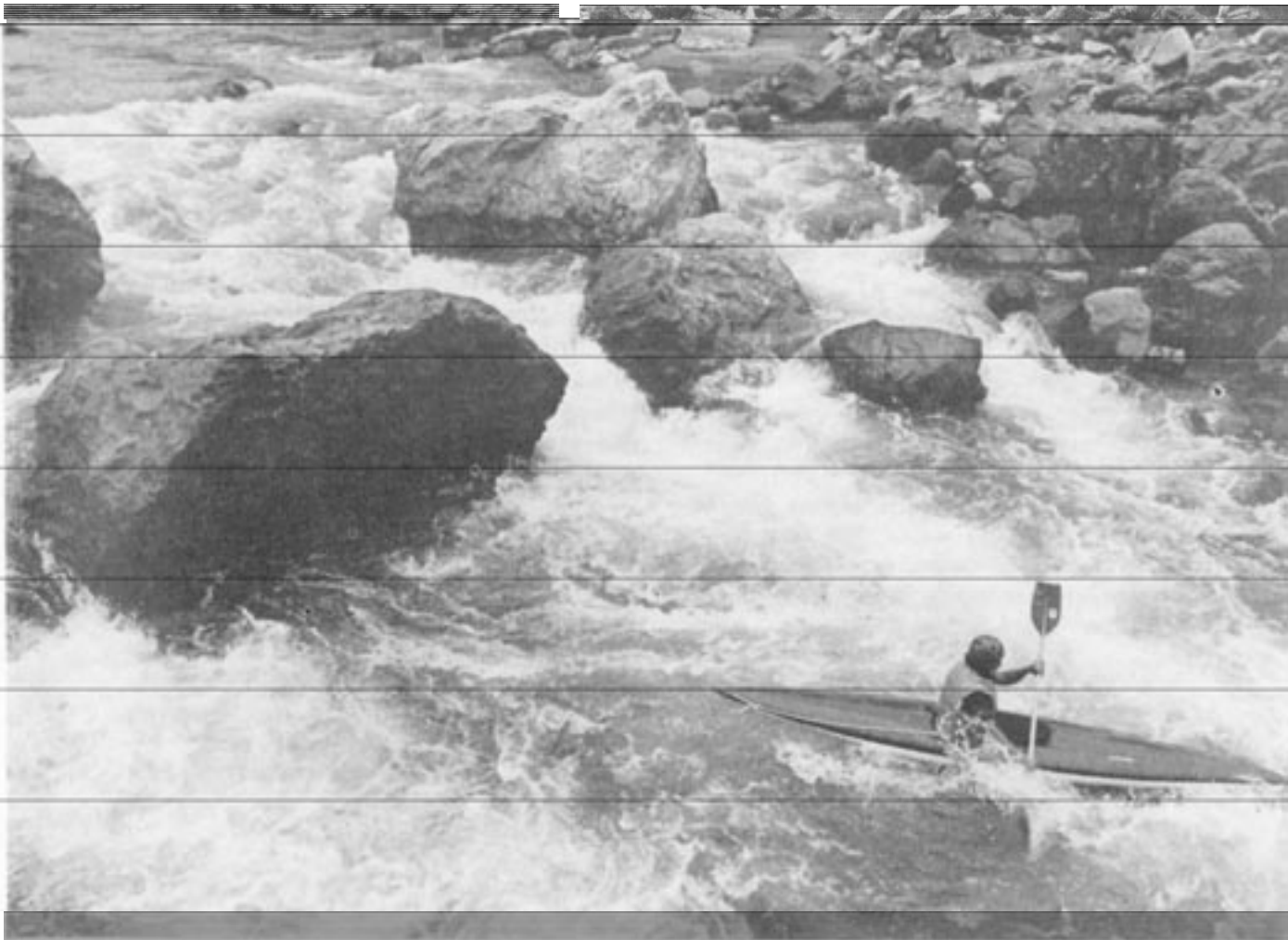
The book with the answers to every river question has just been published. Ray Gabler, known throughout New England as the guy who writes on the bow of his boat, has spent three years compiling the finest river guide in print. It offers in depth analysis of each river, unusual features, seasonal gage readings and flow analysis, ratings of difficulty, time estimates and helpful information on travel time to and from the river, scenery, lodging and just about everything else you need to know. Maps, photos, tables and charts. Send \$4.95 plus postage and handling to Tobey Publishing, Box 428, New Canaan, Conn. 06840.

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Loose end of tow line is held by spray cover until needed. Sid Eschenbach on the Middle Eel River. Photo by Joe Bauer.



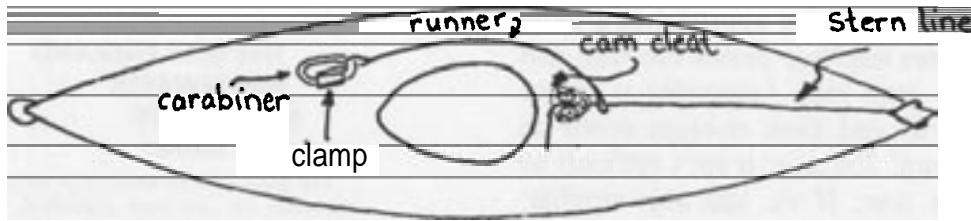


Figure 1

my article. It shows two unique features. First, Fred has a short line from the grab loop to a *cam cleat* which is attached to the deck of his boat just behind the cockpit. The end of this line may be easily released by a simple tug. The other part of the rig is a *runner* (30 feet of line with an eye around the stern line and a carabiner at the other end). Stowed, this line is brought around the cockpit, and the carabiner is pressed into a U-shaped clamp just forward of the paddler and within easy reach. When needed the carabiner is snapped on to the derelict and let go. The eye slides to the stern end of the stern line in the towing operation. If necessary the cleat end of the stern line may be freed and released, allowing the eye to slide off.

Now, I firmly believe in Murphy's Law, but this rig seems almost foolproof. As Fred points out, the only disadvantage is that "the tow is from the stern of the

boat, impairing maneuverability." However, he says "I can roll *without* getting a tow-line wrapped around my boat."

I think that in a rig such as this the line selected for the stern line should be relatively stiff to avoid an entanglement if (when) it is released.

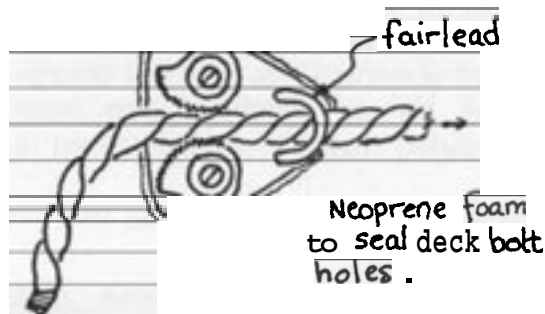
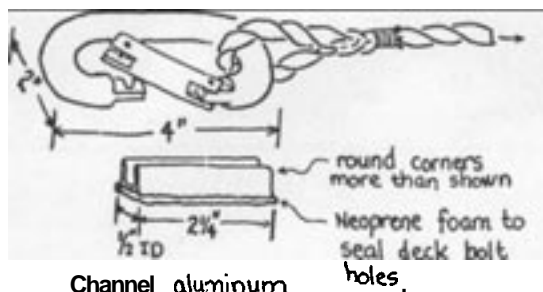


Figure 3

Detail of cam cleat

As to the use of one's teeth to hold the tow-line — Fred was making a rescue of a boat in Class IV water (Toutle River, Washington), capsized, rolled and made the shoreline where he grabbed rocks firmly with both hands. Then — the towed boat dropped down the next chute, cleanly extracting one of Fred's teeth!

There you have two points of view that are in opposition with each other — both with good reasons. The simple approach has a lot to say for it. Fred's tooth notwithstanding, it is far less hazardous to tow with a hand-held or teeth-held line than *any* towing rig. Murphy's



Clamp is crimped lightly at top edge and then bolted to the deck.

Figure 2

Detail of carabiner and clamp



Tomales Bay Kayak Club Safety Chairman Lowell Levinger (alias Banana) demonstrates kayak rescuing method used by many West Coast boaters. (Nice teeth you've got there.) Photo by Joe Bauer.

Law notwithstanding, the rig described, used by an experienced paddler is considerably more efficient.

I think the key to all this is the experience of the rescuer. He will do what needs to be done with minimum risk to himself. In easy water he will nudge the boat to shore with his boat or tow it with a hand-held or teeth-held line. In more difficult water he will try to select an easy stretch before attaching any rig to a derelict. He will act quickly to minimize the risk and he will release just as quickly (without entanglement, we hope) in the event it becomes necessary. In very difficult water he will be more careful and in extremely dangerous situations he will watch the derelict float by.

There will be situations where it would

be better to follow the derelict for a mile or two down river before attempting a rescue.

Don had two other points to make. He says that he requires his students to attach two painters *to* their kayaks. Each is long enough to reach from a grab loop to the cockpit and the free end is tucked into the waist of the spray skirt. In the event a boat becomes a riderless derelict it then has towlines already available to a rescuer. He (the rescuer) can pick one up and (using hand or teeth) start the tow immediately. Don recommends these painters for use in structured situations and some organized cruises and he emphasizes speed in starting a rescue.

Both Ravenhill and Bauer had good comments on self-rescue technique which will be incorporated in another article.

miles from **WINISK Lake** to the **Cree** Indian Village of Winisk on Hudson Bay, it drops through nine major rapids and countless stretches of fast water in the first 80 miles. No major lakes must be crossed. As it drops into the lowlands near Hudson Bay, it crosses the Northwest corner of Polar Bear Provincial Park which contains the southernmost example of Arctic ecology, tundra and permafrost, and the nesting grounds of countless wild fowl.

In the succeeding months our plans developed quickly. Arrangements were made for Hudson Bay Company to ship two seventeen foot **Grumman**s (rental canoes) on their winter overland convoy to the village of Webequi on Winisk Lake. This village, 250 miles north of Nakina, Ontario, was to be our put-in. To get there with our ten duffle bags of gear and two kayaks, we arranged to charter a single-engined Otter from Austin Airways in Nakina. (For those doubters, including

which we crossed the headwaters of the Albany drainage, one of the major traders' routes to the Bay, we were dumped on the Bay Company's dock at Webequi. Within five minutes the plane was gone and we were staring at the piles of paddles, food and clothing which were to comfort us on the way down the river. Besides about 100 pounds of food, the gear contained tents sealed with bug netting, extra paddles, down-filled sleeping bags, and one change of clothing per person. While the villagers watched and joked about the strangers who used paddles with two blades and wore baggy blue nylon pajama suits designed to dry quickly after each day's sopping, we self-consciously packed the "kayak-tenders" (canoes) and stuffed items deep into the kayaks.

Before leaving, we visited the Webequi Craft Shop and admired the excellent **beadwork** on moccasins, vests and **muk-**



Sod Camp Cache. Photo by J. R. Roberts

luks. The prices were very reasonable, but we had 270 miles ahead of us and no room for extra packages. After receiving numerous conflicting reports on the rapids, and refusing several offers for guide services, we were too excited to wait any longer. By four p.m. we were off, paddling northward on a beautiful sunny day. After about three hours of swinging in and out of several groups of islands covered with willows, we came to the outlet of the lake and our first camp.*

After setting up camp, pulling out headnets, bug repellent (N,N-diethyl-toluarnide is best), and preparing a steak dinner in celebration, we wandered down to scout the first drop formed by a series of sharp ledges along an island. The island was nearly flooded out. We decided that the loaded canoes could snake along the left side of the island. The kayaks would head out along the right side of the island, where they could follow the main flow around some deep holes and ride the five-foot standing waves. The next day, watching the kayaks was too much for David. He heaved his empty Grumman back to the top and ran down along the

**Besides standard 1:250,000 topo sheets, we were following strip maps (1 inch to the mile) prepared by the Onatrio Government. These maps are excellent, containing relatively accurate descriptions of rapids, portage trails, campsites and points of interest. Of course, they were not a substitute for scouting and prudence.*

right side of the island, taking on only a little water.

The next ten miles to Bearhead Lake went quickly as we rode the high water through a series of short stretches of fast water, listed on our map as Highrock and Muskeg Rapids. Just below a fishing camp on the left bank of Bearhead, the water began to pick up speed, twisting around boulders and falling through some shallow riffles. Russell, in his kayak, was running ahead of the others as we worked our way from eddy to eddy to find the drop at the end. Just about the time we were becoming skeptical, the river swept out around the end of an island and then left, across some shallows disappearing over a sharp drop. In the kayak, Russell easily rounded the bend of the left bank in the deep swift water, crossing to the right bank for the last eddy before going over the brink. While he was debating the issues of the rapids below, he looked up to see David and Naomi shooting down the swift left bank straight for the drop. Four well-executed draws by Naomi brought them to the right bank just above the lip. At this point David literally abandoned ship in the middle of the eddy while Naomi clung to a rock. It was **not** out of fear of being in the same boat with her, but because a gust of wind had blown the map case overboard. After dodging some large holes in the center, the kayaks swept down nearly 200 feet

through huge standing waves. It was time for lunch of cheese and crackers and a short swim to escape the bugs.

We certainly cannot recommend a route through this set of rapids, but on further scouting from below, we did find the portage trail and several other channels. One chute ends in a small falls. **Bearhead** should be treated with respect for one could easily swing around the tip of the wrong island and find himself confronted with a Class VI rapid.

We paddled three more miles through some narrows to Hole Lake. Here an exhausted crew spent their second night. ~~This~~ day had been a foretaste of the next two.

The seven major rapids and falls of this stretch (detailed in Appendix I) are entwined in our minds between numerous sections of riffles, containing rock gardens and short lakes. Nine major rapids are identified on the Provincial strip maps of the Winisk. Each should be scouted. By exercising some caution, it is possible to avoid any lengthy portages. Two people can easily lift the loaded canoes over the ledges which form sharp rocky, unrunnable drops. The out-flows make for some fast, exciting runs.

As with all Class III and IV rapids found in the wilderness, running them entails accurate positioning and the **Winisk** is powerful at this water level. We felt that **Tashka** Rapids and Baskineg Falls should be approached with particular caution. One can run to the left of the island in the center of Sea Shell Rapids or carry over the island and run the **out-wash**.

The first 80 miles are undoubtedly the most exciting to any water rat. If we were to run the Winisk again, we would allow more time to play in the upper section. We know now that there was little chance of not finishing the trip as scheduled. As the Winisk breaks out of the Canadian

Shield, it actually picks up speed and slices swiftly through the Hudson Bay Lowlands for the next 200 miles. The landscape is characterized by high cut banks of glacial deposits, topped with muskeg, **fireweed** and string bogs. The upstream end of each island is swept clean by the ice during the spring breakup and the grass which gains a foothold provides summer feed for countless flocks **Of Canada Geese**. ~~We~~ actually saw few geese, but their presence only weeks earlier was clearly indicated by numerous tracks and feathers.

We saw numerous kinds of birds but few mammals. We did see two lynx, but in general, we were disappointed as we had expected beaver, mink and moose to be plentiful. The Winisk is a major route to winter traplines and presumably, the river is hunted rather heavily.

In the lower stretches, as the river approached Hudson Bay, we found a number of pole-and-sod-hut winter camps. We certainly had no desire to spend a winter evening in these primitive dwellings. In this area, the fisherman can find at least one large walleye or pike at the mouth of each tributary and Bob, who is an ardent fisherman and an excellent cook, served up some delicious fish chowders, as well as several other **scrump-tious** dishes.

About 50 miles from the village of Winisk, the river cuts through limestone cliffs, forming four separate drops which are linked by fast riffles. In this five mile stretch, the distance between the **seven-foot** standing waves is quite great. Canoeists can have a wonderful roller coaster ride by avoiding the large holes. The route **indicated** on the map through "Limestone Rapid" is a good choice, but with scouting, a number of other possibilities exist.

Just beyond Limestone Rapids, as the river approaches the estuary, we entered

Polar Bear Provincial Park. Numerous minor drops gradually give way to a wide braided river system, filled with gravel bars and shallows. With the current continuing strong and the wind, for once, behind us, our spirits rose. We literally hoisted sail (a dirty shirt stretched between two paddles) and coasted the last two days into Winisk. This was a particularly sweet treat for the canoeists, who had had to watch the kayakers play so much more nimbly in the backcurls

and standing waves. The kayakers' attempts to hoist sail simply drove them in circles.

The whole trip took 13 days (including two half days at each end) and we did not push ourselves. The cost per person, everything included, round trip from Ottawa, was about \$375. The only significant way to economize would be to schedule the trip to meet the bi-weekly scheduled flight from Winisk to **Moo-sonoe** rather than chartering, as we did.

APPENDICES

I. River Classification

Class III overall; Class I between about mile 75 and mile 225.

II. Rapids Classification and Analysis*

Strip Map No.	Mile	Name	Class	Type	Our Reaction in:	
					Open Canoes	Kayaks
1	10	Winisk Lk. Outlet	III	B	Ran Empty (left)	Ran (left center)
2	24	Bearhead R	III	B	Portaged	Ran (rt. center)
—	44	Wye ("First Big") R.	II	A	Ran (rt. then mid)	Ran (rt. then mid.)
3	48.5	—	III	C	Ran (mid. then left)	Ran (mid. then left)
4	49	—	IV	B&C	Lift Over (left)	Ran (mid. then left)
5	51	Tashka	V	C	Portaged (right)	Portaged (right)
—	51.5	Lower Tashka	—	B	Portaged (right)	Portaged (right)
6	55	Baskineig	V/VI	B	Lift Over (right)	Lift Over (right)
7	55.5	—	IV	C	Lift Over (left)	Lift Over (left)
8	57	—	IV	B	Lift Over (right)	Lift Over (right)
9	60	Sea Shell	III	A&B	Ran (left then mid.)	Ran (middle)
—	227	Limestone	II/III	A	Ran (left then rt.)	Ran (left then rt.)
—	—	Others***	I	A	Ran	Ran

"Judgement based on relatively high (but not flood) levels in upper reaches and moderate levels in lower.

**Typing is as follows: (A) stretches of "fast water", choppy waves, rocks in some places and big standing waves in others, some holes, but no sharp drops; (B) ledges going all across the river and few chutes, big back curls at the base; (C) constricted channels where the river pours through a gap in one main chute with big holes and/or rock on either side.

***Includes Bend, Gneiss, Muskeg, High Rock and other rapids.

Note: Type A Rapids are all runnable; the easiest course is generally to the outside of a bend where the course is longest and rocky points absent. Type B Rapids are most likely to be unrunnable because of danger to boats and size of back curl. Type C Rapids are generally runnable but dangerous if the main chute is narrow.

III. Reference Materials

Booklet: "Northern Ontario Canoe Routes," Dept. of Lands & Forests, Toronto, Ontario (free).

Canadian Topographical Maps (1:250,000) as follows: Landsdowne House (43D); Winisk Channel (43E); Clendenning River (43L); Sutton Lake (43K); and Winisk (43N). 50c per sheet.

River Strip Maps (1 mile to the inch): Ontario Dept. of Lands and Forests, \$10.

IV. Main Costs

Canoe rental from the Hudson Bay Co.: \$50 per canoe per week (17' Grumman)
Train from Ottawa to Nakina, Ontario, Canadian National RR., Coach: \$25 per person

Charter Flight from Nakina to Webequi, Austin Airways, single engine Otter (200+ miles): \$500

Charter Flight from Winisk to Moosonee, Austin Airways, single engine Otter (350 miles): \$900

Train from Moosonee to North Bay, Ontario, Ontario Northlands RR, Coach: \$20 per person.

Bus from North Bay to Ottawa: \$10 per person.

Shipment by Hudson Bay Co. barge and Ontario Northlands RR from Winisk to Ottawa of kayaks: \$30 per boat.

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ACCIDENT REPORT FORM

The American Whitewater Affiliation, a non-profit, volunteer organization of river runners, is interested in compiling river running accident statistics from the entire United States. The primary purpose of this endeavor is to analyse accident causes, contributory factors, and rescue efforts, for the benefit of the entire boating community. From this point of view, an accident is defined as a chain of events which resulted in death or injury, or one which could have without luck and/or quick, correct rescue action. We also want to hear about any circumstance which caused you to learn something important about equipment, technique, or safety, even if it did not involve danger. In other words, we want to learn vicariously from the experiences of others.

In supplying us with accident information, please be as complete as possible. Try to do a thorough analysis, as the source of a report is best qualified to make judgments about what happened and what should have happened. If you hate forms, don't fill it out: describe the accident in prose, poetry, or pictures, trying to include all relevant topics from the form. Feel free to use extra pages and sketches, try to be coherent, and please be legible.

Anonymity can be assured on request of the source.

RIVER RUNNING ACCIDENT REPORT FORM

RIVER _____ State _____ County _____
 Put-in _____ Take-out _____ Date(s) _____
 Intended no. of days _____ Approx. mileage _____ No. in party _____
 (people) _____

TYPE OF VESSEL(S) IN ACCIDENT (Check where appropriate)

- | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inflatable
<input type="checkbox"/> Air mattress
<input type="checkbox"/> Inner tube
<input type="checkbox"/> Inflatable canoe/kayak
<input type="checkbox"/> Raft (circle one):
1,2,5,7,10,15 man
<input type="checkbox"/> Shorty pontoon (25 ft.)
<input type="checkbox"/> Giant raft (30+ ft.)
Other: _____ | Canoe
<input type="checkbox"/> Open Canoe
<input type="checkbox"/> Whitewater C1
<input type="checkbox"/> Whitewater C2
Kayak
D1-man
02-man
<input type="checkbox"/> Folding
Size: _____ | <input type="checkbox"/> Fiberglass
<input type="checkbox"/> Aluminum
<input type="checkbox"/> Canvas covered
<input type="checkbox"/> Wood
<input type="checkbox"/> Polyethylene |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

How was it propelled?

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Small aluminum oars
<input type="checkbox"/> Large oars
<input type="checkbox"/> Bow and stern sweeps
<input type="checkbox"/> Motor | <input type="checkbox"/> Canoe paddle(s)
<input type="checkbox"/> Kayak paddle(s) double bladed
<input type="checkbox"/> Pole
Other: _____ |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
- If raft, was it equipped with rowing frame? _____




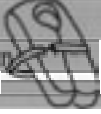
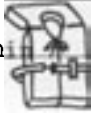

ACCIDENT

Date _____ Time _____ Location (near start, half way,
 name of rapid, nearby tributary, etc.) _____
 No. of vessels involved: _____

WATER CONDITIONS AT ACCIDENT SITE

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Still
<input type="checkbox"/> Flowing, hut smooth
<input type="checkbox"/> Riffles
<input type="checkbox"/> Rapids | Give AWA 6-level difficulty rating
if you are familiar with it:
At accident site: Class _____
Run, overall is Class _____
Water temperature (moderate, cold, freezing, °F): _____
What was the flow or stage of the river? _____ cfs; _____ Feet (at
_____ gauge); low, medium, <u>high, flood (circle one)</u> _____ |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

PERSONAL FLOTATION DEVICES (ie. lifejackets)

TYPE I		TYPE II		TYPE III		SPECIAL
KAPOK 25 lb min buoyancy		KAPOK or GLASS 16 lb min buoyancy		FOAM 15-1/2 lb min. buoyancy		AIR-CELL or FOAM KAYAKER'S VEST
FOAM 22 lb min buoyancy		FOAM 15-1/2 lb. min buoyancy		SKI VESTS 15-1/2 lb min. buoyancy		TYPE IV CUSHION 16 lb min buoyancy

OTHERS: Inflatable vests (Mae Wests), ski belts, Float-jackets (sleeved)

PERSONS ON BOARD INVOLVED VESSEL(S) :

1	2	3	4	5	OTHERS? ...
NAME: ADDRESS: or city, state					
AGE:					
SWIMMER: yes, weak, or no					
PFD (lifejacket): yes: type, or no					
WETSUIT: full, 1/2, or no					
HELMET: yes: type, or no					
STATUS in PARTY: skipper, paddler, passenger, other?					
INJURIES: yes: describe or no					

EQUIPMENT FAILURE: Please describe any equipment failure which contributed to the accident. Include if possible any insights which may help improve design. Describe damage to vessel(s).

OTHER FACTORS

1. Was cold weather, cold water, or fatigue a factor (explain)?
2. How many of which type vessels were in the party (list)?
3. Were other vessels close enough to assist in rescue? _____
Did they? _____
4. Was this a club trip? _____ Rented boats? _____ Commercial party?
_____ Private accompanying commercial? _____ Private? _____
5. Had the skipper of the accident vessel had
 - a) boating training (with what group)? _____
 - b) previous river experience? _____ in that vessel type? _____
on rivers of comparable difficulty? _____ (No. of runs: _____)
 - c) run the river before? _____ at this level? higher? _____
lower? _____ (how many times? _____)
6. Had anyone in the group
 - a) previous river running experience? _____ how many persons? _____
how many runs? _____ on rivers of comparable difficulty? _____
 - b) run the river before? _____ how many times? _____
at similar water level? _____ higher? _____ lower? _____
7. Had it been ascertained that the river was run before? _____
8. Did the leader know what sort of flow level to expect? _____
9. How was the river selected?
 - Heard about it from others
 - Guide book. Title: _____
 - Convenient, local river
 - Other: _____

DESCRIBE HOW ACCIDENT OCCURRED, obstacles involved, rescue efforts, equipment or techniques which could have prevented accident or aided rescue. Use sketches where helpful.

Reported by: _____
Address: _____

I request anonymity for the persons involved. Yes No (circle one)
First names only may be used in publication. Yes No (" ")

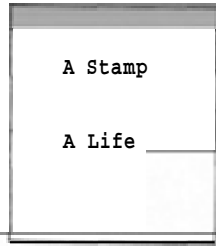
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ELECTION RESULTS GENERALLY GOOD FOR NATION'S RIVERS

(From the American Rivers Conservation Council newsletter, Vol. II, No. 3.)

The 1974 elections proved on the whole to be an outstanding success for those concerned with environmental issues generally and with river conservation in particular. 32 of the 40 candidates which the League of Conservation Voters supported were victorious. The League is a national nonpartisan campaign committee working for the election of environmentally minded legislators. Eight of the twelve Dirty Dozen members of Congress singled out by Environmental Action were defeated. There will be more than 90 new members of Congress and numerous vacancies on key committees like the House Public Works Committee. ARCC will be working to try to get some of the good newly elected members appointed to those committees like Interior and Public Works which deal with our nation's rivers.

The election of a top conservationist Dick Lamm as the new Governor of Colorado should be a giant step forward toward protecting the great rivers in that state. The reelection of Alan Steelman in Texas should help to keep the massive Trinity River Canal from moving forward. Farmers and conservationists in South Dakota fighting the \$400 million Oahe Diversion Project succeeded in electing their 4 candidates to local conservancy district offices and put a new Congressman in office who is opposed to the presently planned project. The most successful way to halt destructive water

projects is to run your own slate of candidates for all available offices on the local, state and national level and to elect as many as possible.

Despite general success nationwide, conservationists in several areas of the country are worried about the implications of the election for rivers in their states. In Kentucky Senator Marlow Cook who was opposed to damming up the great Red River Gorge was defeated by the present Governor Wendell Ford. In Ohio the defeat of Governor Gilligan by former Governor Rhodes will likely hurt efforts to halt destructive Corps' dams and will make it difficult to move the promising state scenic rivers program forward. Conservationists lost two river initiatives in California which would have stopped the New Melones Dam and the Warm Springs Dam.

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RACING TIPS

How to Run a Slalom

by George N. Thomas & Carole L. Stemmler

Part 1 of 2

A slalom is a competition held on a whitewater river. The object is to negotiate a fixed course through a series of gates without fault in the shortest time. One's score is the sum total of penalties from gate faults, and running time. The lowest score is, therefore, the winner.

To run a slalom, one chooses a river with suitable rapids and flow. 25 to 30 gates are hung, according to International Canoe Federation (ICF) rules, on a course not more than 800 meters long through the gates from start to finish. A competitor's running time is measured and gate penalties recorded and all is then summarized on a posted score sheet. Each class is run separately so that kayaks do not compete against canoes. The question now is: How does one accomplish this smoothly and efficiently all in one weekend?

There are many facets to running a slalom, and each should have its own set of workers to worry about these problems. The chairman is overseer of the whole deal and may be in on, or part of, all the phases. Once it is decided to run a slalom, key personnel should be recruited at once. Simultaneously, a site search should be started if one has not already been chosen.

First of all, adequate whitewater is needed. The rapids should be of the class desired for competition (i.e. class I-IV). When looking over a set of rapids, keep in mind that you will have to string wire where you want to hang gates, so look over the trees. Does the water per-

mit left and right turns, and places for upstream gates as well as waves to ferry on? How good is the view? Is there a suitable place to camp at the site or nearby? A good slalom site should have easy access for both the competitors and the public. Heavily overgrown riverbanks should be avoided.

Whose property are you now thinking of using? Is it private or publicly owned? In either case, you probably will need permission or a permit of some kind. On public property any workmen present may not be able to help you, but they can give you their supervisor's name and start you up the ladder to the proper person to contact for permission.

Is there a good natural flow at the time your slalom will run or is the river dry? You will have to investigate the possibility of obtaining a water release if there is a storage facility upstream. Some possibilities are the Corps of Engineers Flood Control Dams, and Federal or State recreational lakes with dam control. The dam keeper can not turn the water on without authority, but he can be helpful by telling you who to contact to get authority to release water, and also he knows how much they normally would have at the time of interest and the volume in CFS he can run. A chat with a friendly dam keeper can be enlightening.

Course Design

The first step in designing a slalom course is to decide the competition level, that is, a novice class I or a novice-intermediate class II, etc. Keep in mind that a reasonably competent boater in



this class should be able to perform everything you plan. Impossible gates should be avoided: for instance, an upstream gate in a fast current that can not be paddled against. The idea is to test the competitor's ability, so the course should be fair. The number of left and right hand turns should be equal, including eddy turns as well as turns in the current. Ferries should be balanced. A downstream gate can be used to force the paddler to go in a particular place so everyone will have the same advantage for the next gate. The progression from gate 1 to 2 to 3 and so forth should seem smooth and logical. A slalom course is always run numerically in order with the green and white pole on the paddler's right hand side.

Upstream gates can be hung in eddies where the boater may use the quiet water to negotiate the gate and then proceed into the downstream current with a ferry or other maneuver, while leaving the gate. A gate can be placed in moving water a boat-length above an eddy so that the eddy can be used to turn the boat for the next gate, which might be a reverse gate. This technique allows two gates to be placed about two boat-lengths apart and still have the competitor negotiate a reversal. After the course is decided upon, mark the trees or places where the gates go. Also, make a map. This will be a help when putting up the course. A good way to study a course layout is to go to someone else's slalom if you can and study the course and paddle on it.

The only way to test a course is to paddle on it. Try it a section at a time and ask yourself: Is it smooth with no awkward maneuvers? Can you make all the gates? Is the course workable in a K-1 and a C-2? If you are in doubt, have a friend test it.



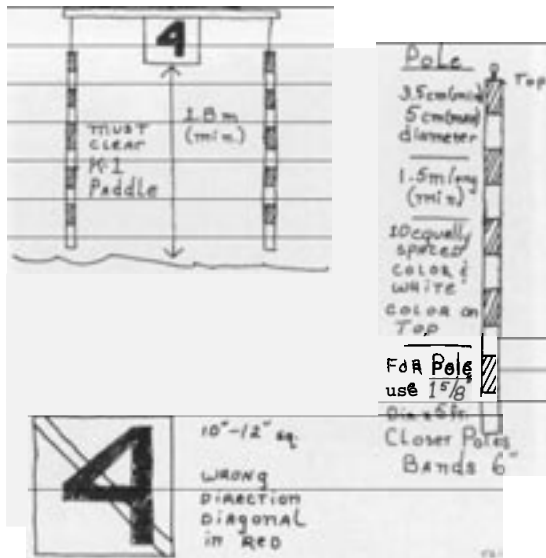
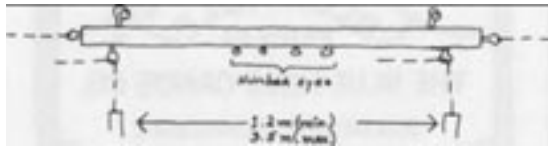
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Slalom Gate



Equipment

A gate consists of one green and white pole and one red and white pole hung from a horizontal bar. The bar also has a number (and an R if it is a reverse gate). Specifications for gates are shown in the illustration. Have a lumberyard cut the materials to size when you purchase them. Paint everything with two coats of good white enamel, then add the colors. The R signs for reverse gates should be backgrounded in orange for high visibility. All numbers and letters should be large and easy to read, with black figures on both sides. The reverse side (or wrong direction) should be struck out with red. Include a few spare poles in the initial set.

The actual hanging requires a piece of #16 SWG galvanized steel wire. This can be purchased in 5 pound spools of about 300 feet. Large quantities of twine are also needed, one length for each pole, and one length for pulling the opposite side of the gate bar. Nylon mason's twine is excellent as it does not change dimensions with moisture as cotton does. If you can get it, tire cord is excellent. This is a rubberized polyester cord used in tire manufacturing and should be less expensive than mason's twine. Winders and reels will allow you to salvage much of your twine and steel wire for reuse; however, hold off making winders until the other problems are worked out.

On the AMC Farmington River race in Massachusetts, we have two separate crews to hang gates. Crew #1 puts up the wire, and "A" frames whereneeded. They also leave one piece of twine near each wire for pulling the gate across the river. Five people are about right for this crew. The second crew assembles a gate, pointing the number in the correct direction, and adding a reverse R if needed. Remember, the green pole is always on the paddler's right hand side. We use a four person crew here, three assemblers and one puller on the far bank.

Now is a good time to start testing and adjusting the course layout. Someone should start to paddle the course from the beginning to see whether it works as planned, or whether adjustments will be needed. You probably will find that many gates will need a slight right or left positioning for optimum results.

Competitors should be kept off the course until the course architect and race chairman declare the course ready. The race organizers will determine the policy on practice runs, which will be dependent on time and circumstances.

For instance, at the Farmington race, the rules allow practice runs of a continuous nature in the order that the competitors line up at the start. Brandywine slalom does not allow any practice runs. At the national championships, each competitor is given exactly one practice run.

Scoring and Timing

There are two critical functions at the slalom itself: scoring and timing. Scoring needs an area large enough to handle 6 or so score sheets at one time and room for the scoring people to walk around. These people will also need tables (card tables or sheets of plywood on horses), chairs, and a sun/rain fly. An area 12' x 12' is none too large, and it should be roped off to keep everybody out except those working in the area. It is most frustrating to the scoring people to be harrassed by competitors wanting to know how they did. The scorers need peace and quiet to work properly. Timing has a similar problem except that the timers must be located on the finish line. Again, exclude all but timers.

Communications

The single most important communications link in the whole slalom is from start to finish, and it must be reliable. The best method is a private telephone line. Two ordinary surplus telephones, a length of two-conductor wire, #22 AWG, and a 6 or 12 volt battery are the required hardware. String the wire where no one will trip on it or catch a boat on the line. Put the wire well up in trees, or partially bury it when it crosses a road or goes under a bridge. Your communications group should have its own expert and helpers. If you can locate an electronics engineer or technician to care for your telephones and public address system, so much the better. A later refinement

is to add gate station penalty reporting, and time reporting to your telephone system. Initially, runners are fine.

A borrowed public address system is very useful for calling gate judges to their stations and boaters to the start when classes are about to change. The PA is also useful to let the spectators know what is going on by describing the race to them along with some of the rules, etc. A knowledgeable, fluent announcer is good for this job if one can be found. Our experience with portable citizen band radios has not been as satisfactory as expected. At the Farmington, we experienced dead zones due to trees and undergrowth. On both the Farmington and at Esopus (N.Y.), skip has been a real interference problem. Talk to a radio amateur friend about 10 & 11 meter short skip. These problems have forced us to rule out the use of citizen band radios for starting or any other critical function.



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We still find these radios useful for communications between officials, as missed conversations can be repeated, and they are useful to help locate people as long as they have their radio on. If you are borrowing radios, take what you can get. Later on, when you purchase, get only good quality, high power 5 watt transmitters, and don't forget these units must have the FCC license application filled out and mailed in as required by law. Have an individual listed as licensee, not your club, as this seems to make less problems with FCC.

Registration

Race Entry forms and information sheets should be ready to mail at least 2 months before the race. Preparations to form a mailing list should be made even earlier. Your mailing list should include all of last year's competitors, plus persons and organizations known or believed to be points for reasonable distribution.

An important consideration is closing date for registration. Most slaloms have mail **registration** with the closing date 10 to 14 days before the event. The great practical advantage to this date is, the race organizers have time to prepare the running orders, assign racing numbers, and prepare gate judging assignments or other duties. Many races need to assign competitors to gate judging as this may be the only source of reliable gate judges.

Entry forms should clearly state the number of events a competitor may enter as well as any other entrance requirements. If junior and senior classes are included, ages should be stated. Don't forget to include information about the entry fee, which can be a flat rate or graded. A common entry fee is \$2.00 to **\$3.00** per person for the first event, and slightly less for the second, third, etc.

Facilities

Unless your race is one-day or very local, many competitors will want a place to camp either at the race site or very close to it. Some races like the **Farmington** have indoor camping available, i.e. heated dormitories where you bring your sleeping bag at Otis Ridge Ski Camp. Otis has dining facilities so meals can be arranged in advance. Many races offer Saturday night dinner through a Legion post, volunteer fire department or church. Many times the dining spot can also be used after dinner to show movies. Inquire of the local people to see if any organization may be interested in arranging a dinner.

A day-time food concession is very nice to have and again, the concession may be run by a local volunteer group to help raise funds. These people work very hard and try to please. Once you have made contact, this will give you local support that is so very **necessary** with the desirable fringe benefits of an ambulance for first aid, good relations with the police for traffic control, and local advertising so the people living nearby will come to the race. It could be that you live in the same town and a successfully run race can only enhance your standing. Keep in mind that the police, and especially the chief, may become very concerned about safety if you are near or on a busy **highway**. **All** those cars parked on the shoulder narrow the right of way and people walking around can set up conditions that make accidents difficult to prevent. A discussion of problems with the chief of police could ward off many potential sources of irritation.

One thing every race needs is portable toilets. These are a must. If you are using park land, try working through the agency involved. They will

want the toilets and may be able to obtain them at a lower rate. Sometimes the park will pay for the toilets; otherwise, you must be prepared to cover the full cost.

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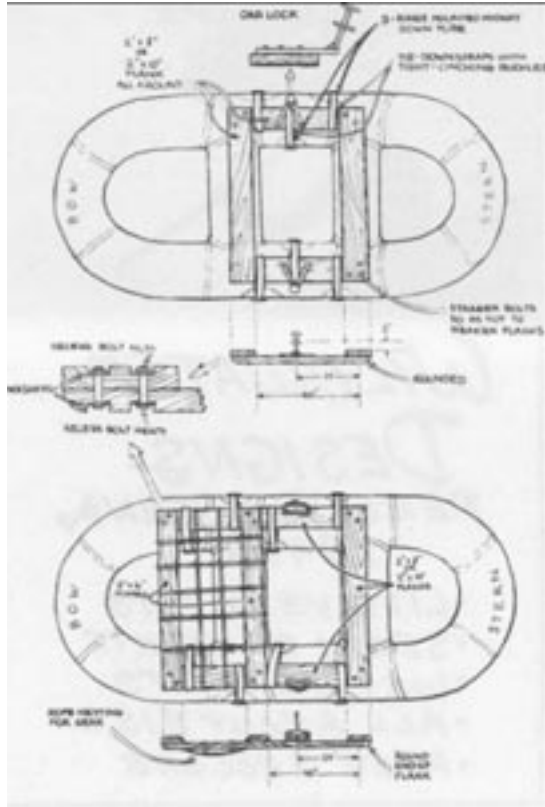
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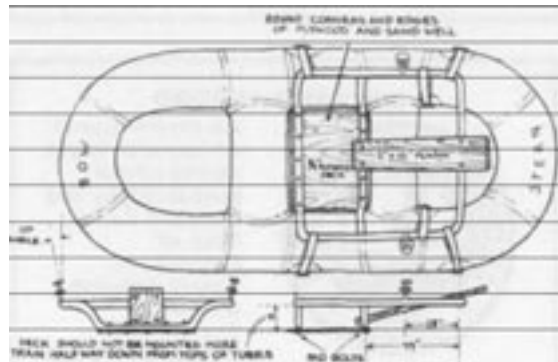
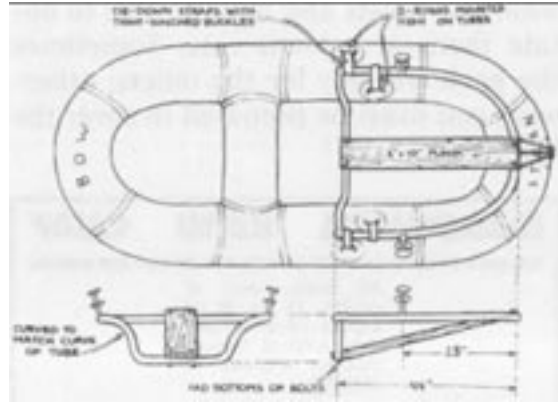
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TWO ROWING FRAMES OF METAL TUBING. Rugged, yet exceptionally light, the frames shown here can be made of 1" steel or 2" aluminum tubing. The sloping seats accommodate oarsmen of widely varying sizes.

ROWING FRAMES

by William McGinnis
1811 Tulare St., Richmond, CA 94805

This article is an excerpt from the book WHITEWATER RAFTING by William McGinnis, to be published by Quadrangle, the New York Times Book Company, in April 1975.

A rowing frame is a sturdy, usually rectangular contraption that sits astride a raft amidships. As a luggage rack this frame, sometimes called an oar frame, holds the baggage up off the floor, allowing the raft to slide easily over shallows and reducing wear on the raft's bottom. As a rowing device the frame

© 1975 by William McGinnis.

allows the raft to be controlled by a single pair of oars and provides an elevated seat for the oarsman.

A frame offers several advantages. One person with a frame and oars can perform easily what many people with paddles break their backs to accomplish. Because the long oars can maneuver the boat with a speed and certainty that paddles cannot duplicate, the crews of oar boats feel safer, further from the edge. Unfortunately, though, the confrontation is largely between the oarsman and the river — and the group is not welded together, as are paddlers, by common effort. But there is an advantage in this: because one skilled person controls the raft, other, inexperienced



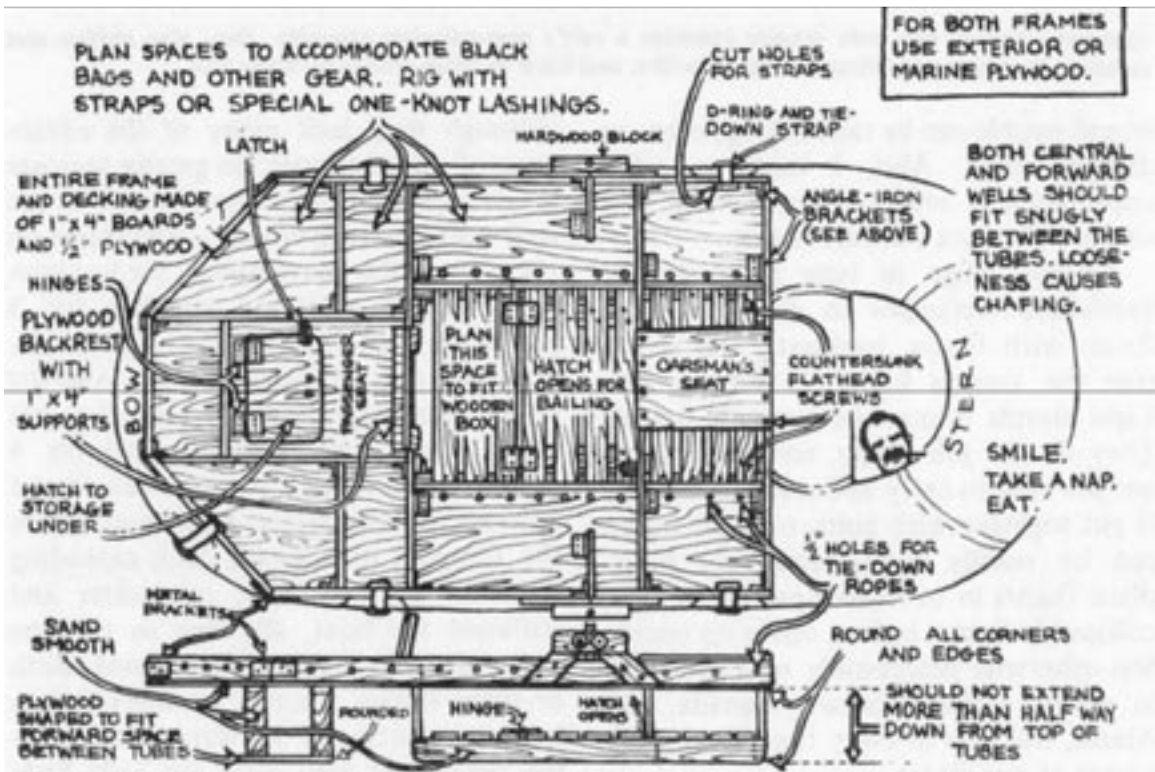
Elaborate frames not only greatly increase a raft's gear-carrying capacity, they also stiffen and stabilize the boat, rendering it snug, ship-like, and hard to wrap. Photo by Mike Gill.

enced people can be taken along, even on difficult runs. Also, I think, a raft's appearance is rendered more snug and riverworthy by a stalwart frame.

Frames range in type from simple, barebones rectangles to elaborate platforms with floors, backrests, and so on (see the various frames in Figures 1-4). Light simple frames are generally better. They do the job nicely, are inexpensive, and are easy to carry and store. Moreover, if put together with bolts, a simple frame can be readily disassembled for bush-plane flights in to remote put ins. A light collapsible frame, in fact, opens up countless otherwise inaccessible runs not only in nearby Maine, Montana, Canada, and Alaska, but also in every far-off, roadless corner of our planet.

Elaborate frames, on the other hand,

although they lack many of the advantages of simple frames, do greatly increase a raft's gear-carrying capacity and so are well suited to long voyages. The frame on the right in the above photo, for instance, once carried gear and supplies for 3 people on a 14-day trip down the Middle Fork and main Salmon in Idaho. And the rather extravagant frame on the left carried gear and 21 days' food for 4 people on a voyage through the Grand Canyon. This big frame performed well in the Canyon; its forward deck extending clear to the bow kept out water and stiffened the boat, allowing us to nose easily through high cresting waves. Both of these frames, though cumbersome on land, are poetry on the water, transforming their rafts into solid yet agile little ships.



TWO ELABORATE WOODEN ROWING FRAMES

Figure 3

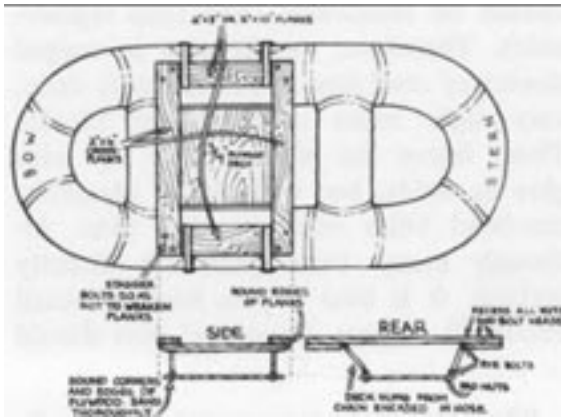


Figure 4

A WOODEN FRAME FOR A PADDLE RAFT

One solution to the question of frames and carrying capacity is the poop deck (Figure 5). This is a flat platform capable of carrying an enormous amount of gear which sits on the stern of a raft. This deck is normally used in conjunction with a simple, square frame. The poop sits on the stern, the frame rides amidships, and the crew lounges up forward, where the waves come crashing in, where the excitement is. A sturdy, rigid poop deck can be made from a single 4 by 8 sheet of $\frac{3}{4}$ inch marine plywood: cut the sheet to fit your raft's stern, then beef up the edges with 2 by 4 on edge. Or a lighter "deck" can be made by suspending a taut, flat rope netting across the stern from the tubes and frame. Like oar frames, poop decks are attached to the raft by means of D-rings. Gear is stacked on the deck, covered with a tarp, and securely lashed down with strong line. Instead of poop decks, paddle rafts often use bow decks.

Although it is possible to have frames and poop decks of wood, aluminum, and fiberglass custom made, there is great satisfaction in building your own. A simple, wooden frame can be made with ease in the average home workshop. You can choose one of the designs shown in Figures 1-4, or you can invent a design of your own.

Notes on building frames

- It is important that you buy your raft before constructing the frame, for the frame must be built to fit the width and shape of the particular raft. A frame should span from the top center of one side tube to the top center of the other.
- The distance between oarlocks must be coordinated with the length of your oars. Because the oarlock falls slightly less than $\frac{1}{3}$ the way down an oar's length, the distance between oarlocks should be a bit less than $\frac{2}{3}$ the length of your oars. For example, with 8-foot oars the oarlocks should be roughly 5 feet 3 inches apart; with 9-foot oars oarlocks should be about 5 feet 10 inches apart; and with 10-foot oars, the most common length, they should be about 6 feet 6 inches apart. The distance between the oarlocks and the oarsman's seat should be such that the oar handles are a bit farther forward of the pins at the start of the stroke than they are behind the pins at the end of the stroke. Also, the oarlocks should be slightly higher than the oarsman's seat. Generally, oarlocks are between 2 and 4 inches above and about 2 feet forward of where the oarsman sits.
- Thole pins should be made of $\frac{3}{4}$ inch solid steel rod. If at all possible, pins

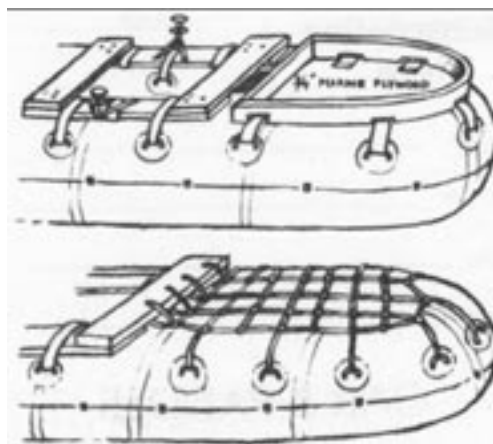


Figure 5 THE POOP DECK

Drawings by Tom Joyce



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should be removable (and thus replaceable). Therefore, mount pins in rugged sleeves of steel pipe or in extremely deep, very tight holes in hardwood blocks. Then, fasten the pins in place not with glue or welds, but with 3/16" diameter, hex-head bolts used as cross pins. Although many thole pins are directly vertical, it is best if pins lean outboard about 10 degrees. Uncapped pins should be plenty long (see Figure 7).

– When the frame is mounted on the raft, the oarlocks should be a bit closer to the stern than to the bow.

– The oarsman must have an unobstructed view forward, a place to brace his or her feet, and room to swing each oar a full 180 degrees.

– Wells, floors, and decks which go down inside the raft – these can be hung on rigid vertical supports or suspended on chains – should not go more than half way down from the top of the tubes. Otherwise, when the raft passes over sharp rocks, the floor may be ground between the frame and rock.

– Frames should not cover or in any way hamper access to air valves. Also, easy bailing should be possible.

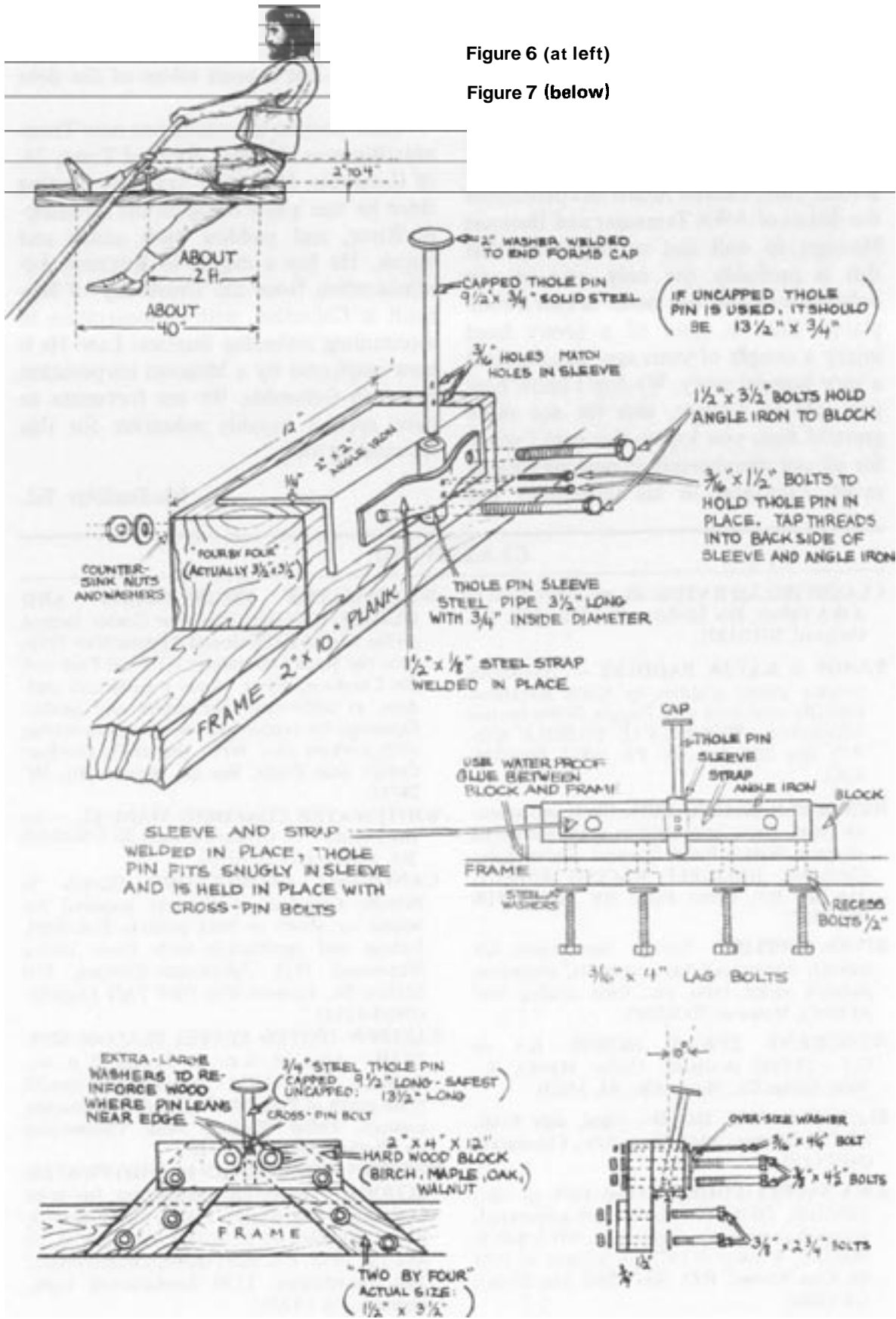
– All bolts should be countersunk; there should be no sharp or protruding edges; and the surfaces contacting the raft should be smooth.

– Above all, the frame should be plenty sturdy. An oar frame must be able to withstand severe punishment if it is to survive a river's blind fury.

Frames and poop decks are attached to rafts by means of tie-down straps and **D-rings**. Four outboard D-rings, one below each corner, plus two inboard D-rings suffice. Some rafts have little, toy oarlocks attached. A bolt through the earlobe type will help secure a frame, but don't bother securing anything to the swivel type – these pop off under mild strain.

Figure 6 (at left)

Figure 7 (below)



EDITOR'S SOAPBOX

CHANGING OF THE GUARD

It is always hard to find the right words when a person of inestimable value retires from a key position. In the past several years Charlie Smith has performed the duties of AWA Treasurer and Business Manager so well and so efficiently that this is probably the only area of our organization that has never drawn a complaint. This in spite of a severe head injury a couple of years ago that required a very long recovery. We don't know how you did it, Charlie, but we are more grateful than you know. I'm sure I speak for all our membership in wishing Charlie much happiness in his retirement and

recent marriage. A lifetime membership in AWA is but a small token of the debt we owe.

Time now to introduce our new Treasurer/Business Manager, Richard Treat, 24, of Columbia, MO. Dick has been boating since he was a boy living on the Mississippi River, and paddles both canoe and kayak. He has a degree in Business Administration from the University of Missouri at Columbia, with concentration in Accounting including Business Law. He is now employed by a Missouri corporation based in Columbia. We are fortunate to have such a capable volunteer for this demanding job.

— Iris Sindelar, Ed.

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AWA SAFETY CODES, revised 1974, at cost: 100/\$10, 50/\$5.50. Send self-addressed, stamped envelope for single copy. AWA BACK ISSUES. 4 issues of 1973 \$3; 6 issues of 1974 \$4. Geo. Larsen, P.O. Box 1584, San Bruno, CA 94066.

WHITEWATER INSTRUCTORS AND GUIDES. Nantahala Outdoor Center located on the Nantahala River and Appalachian Trail, near the Smoky Mountains National Park and the Chattooga River, needs experienced paddlers as whitewater instructors and guides. Openings for restaurant, motel and outfitting shop workers also. Write Nantahala Outdoor Center, Star Route, Box 68, Bryson City, NC 28713.

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