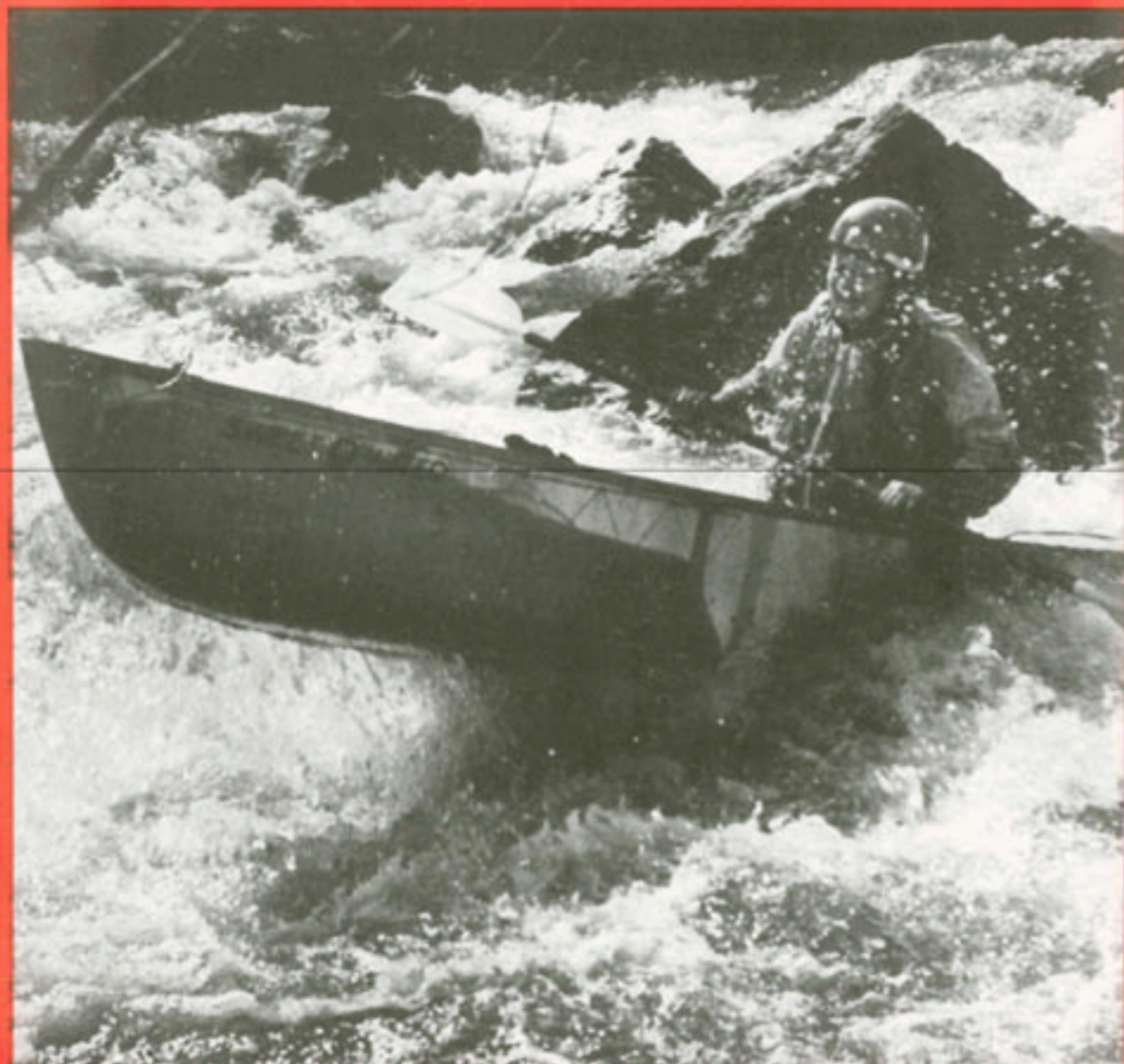


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Cover Photo: John Jarboe

Writer Sam Chambliss on one of his favorite Class 2 streams in the Mid-Atlantic area, the gorge of the Lost River in West Virginia. He reports, "The rapid in this photo is described by the most respected guidebook for the area as Class 4 with 2 ft. of water as pictured. I disagree; the capsized paddler swimming the full length of this rapid is in low-end Class 3." See accompanying feature. The boat is the writer's own design intended, in his words, "to get my aging and overweight self down delightful water in the most agile fashion."

Photo by John Jarboe

River Notes

River Conservationist of the Year

(LIBERTY, SOUTH CAROLINA) Perception, Inc. is pleased to announce that Frank Fly of Tennessee has been named 1986 River Conservationist of the Year for his efforts to stop the Columbia Dam on the Duck River, Tennessee's longest free-flowing river.

Fly has been fighting this Tennessee Valley Authority dam for the past 13 years, working as the attorney of record for environmentalist groups in New York, Washington and Tennessee. His work has made significant strides in 1985 and 1986, as damaging conclusions from the TVA's own cost-benefit studies have shown the dam to be an unprofitable venture.

"In fact, for the first time, it is possible to state that the Columbia dam project is really dead," said John Williams, conservation chairman of the Tennessee Scenic Rivers Association, Inc.

The dam's concrete spillway and diversion channels have already been built, but the earth-filled embankments that would complete the project have never been constructed.

Fly was nominated this year by the TSRA and Defense Fund, the Environmental Policy Institute, the Chota Canoe Club of Knoxville, the East Tennessee Whitewater Club, the Tennessee Citizens for Wilderness Planning, the Tennessee Environmental Council and the Middle Tennessee Group of the Sierra Club.

The original purpose of the Columbia Dam was to create a recreational reservoir that would also provide flood control for the surrounding area and a source of drinking water. The project was heavily supported by the local citizenry and their political representatives. But Fly and other environmentalists realized that the dam was not a good idea, and for the past 13 years, they have worked to bring their knowledge to the public's attention.

Among other things, Fly believed the dam would not provide drinkable water.

Tennessee's water quality control people supported Fly's contention that rapid growth of algae in the shallow reservoir would soon turn the lake into a foul-smelling, green pool.

The reservoir would not be suitable for shoreline development. Late summer, fall and winter drawdown of the lake for flood storage capacity would shorten its length by some 18 miles, exposing huge areas of mud flats.

Hand Rolling Competition, Seminars Planned for America's Outdoor Expo

A hand rolling contest, seminars on River Rescue, How to Plan a Canoe Trip, films and exhibits of recreation equipment are among the activities scheduled for America's Outdoor Expo, June 20-22 at the Knoxville Convention Exhibition Center.

The hand rolling competition is being organized by Kent Ford of the Nantahala Outdoor Center and will take place in a 24 foot pool inside the convention center. Eastern Airlines is providing the grand prize — a round trip ticket to anywhere Eastern flies in the continental U.S. All contestants will be eligible for drawings for a Kayak and other equipment.

Qualification is scheduled for 7-9:30 P.M. on Friday, June 20th. Qualifiers will be assigned times for attempts to win the grand prize. Advance registration for the hand rolling competition is recommended. For forms and details contact: The Knoxville Canoe and Kayak Festival, 530 S. Gay St., Suite 222, Knoxville, TN 37902, 615-524-1045.

Western Wilderness River Permits

The Wallowa-Whitman National Forest, Salmon National Forest, Challis National Forest and Bitterroot National

River Notes

WHITewater

Forest are seeking public input and comment on possible management changes for the Hells Canyon portion of the Snake River, the Selway River (Paradise to Selway Falls), the Middle Fork of the Salmon River and the Main Salmon River between Corn Creek and Vinegar Creek.

The Forests responsible for the management of these rivers are considering the following private river permit system changes:

1) Having a non-refundable application fee.

2) A consolidated system for selecting successful applicants for launch reservations. Instead of being an individual being required to submit four applications they would only have to submit one application for any or all of the four mentioned rivers.

3) The selection would be done with a random computerized drawing system. All of the rivers, except the Snake are currently utilizing lotteries.

According to Bob Martin, river manager for the Main Salmon River at North Fork, Idaho, "There is a lack of uniformity of systems among rivers that serve many of the same publics. This inconsistency makes it difficult for users to get through the various systems. The proposed changes are to improve service to the noncommercial boaters using these rivers and reduce costs for administering the system."

Public comments will be accepted through Monday, May 15, 1986, at the following river management agencies:

USDA Forest Service, Hells Canyon NRA, Wallowa-Whitman National Forest, 2620-B Snake River Avenue, Lewiston, Idaho 83501; phone: 208-743-2297; USDA Forest Service, North Fork Ranger District, Salmon National Forest, North Fork, Idaho 83446; phone: 208-865-2383; USDA Forest Service, Middle Fork Ranger District, Challis National Forest, Box 750, Challis, Idaho 83226; phone: 208-879-5204; USDA Forest Service, West Fork Ranger District, Bitterroot National Forest, Darby, Montana 59829; phone: 406-821-3269.

Dates Set for Perception Citizen's Race Series

The second annual Perception Citizen's Race Series gets underway Monday, May 26, immediately following the S-Turn Championship on Washington's Potomac River.

Dubbed the "Citizen's Rapid River Race," this first event in the summer-long series is a straight forward downriver race along the full length of the S-turn course, from Observation Deck Rapid to Rocky Island.

K-1 and C-1 paddlers from the U.S. Whitewater Team will run the course just prior to the race, setting a pace for all other contestants to measure their skills against. All competitors will be eligible for a grand prize drawing of a new Perception Sabre kayak, immediately following the race.

The race begins at 1 p.m. All participants should be at Great Falls Park in Great Falls, Virginia by 11 a.m. Register in advance by contacting Yuri Kusuda, 6109 Ridge Dr., Bethesda, MD, 20816. A \$5 registration fee includes a T-shirt.

"If last summer was any indication, we're expecting a super turnout for this year's race series," said marketing director Joe Pulliam. "It's clear this is the sort of racing event paddlers are interested in. It's competitive, but it's also a lot of fun. You get to taste the thrill of downriver racing, and for some paddlers that taste will be the beginning of a racing career. But mostly, it's just a great chance to get on the river and paddle like crazy, with lots of other folks doing the same."

The Citizen's Race Series continues in July with three "grand prix" slalom events, co-sponsored by the Nantahala Outdoor center. The Saturday afternoons of July 19, August 2 and August 16 are slated race dates, according to organizer Kent Ford.

A grand prix race consists of the fastest of two runs through a 15-gate course, with 50-second penalties added for missed gates. No penalties will be assessed for touches. K-1, C-1, and K-1 women's classes are planned.

Registration opens at 4 p.m. the day of each race. (No advance registration is available.) Racing starts behind the NOC restaurant at 5 p.m.

Entry in any of the races at NOC qualifies the competitor for a grand prize drawing of a new Perception Sabre, immediately following the last race. NOC will also be awarding a variety of other prizes. A T-shirt is included in the \$5 registration fee. For further information call NOC at (704) 488-2175.

Any paddler ranked "A" or "B" by the National Slalom and Wildwater Committee in the past three years will not be eligible to compete in any of the Citizen's Races.

Any type boat will be allowed, with the following exceptions: 1) no racing design boats in the races at NOC, and 2) no "wildwater" boats in the downriver race on the Potomac. All Perception kayaks are eligible to compete in any of the races.

Bechdel Joins Perception as Safety Advisor

(Liberty, South Carolina) Perception, Inc. proudly announces that Les Bechdel has agreed to serve as safety advisor to the whitewater kayak company.

"Primarily, Les will be giving us his comments and advice, based on his wealth of experience in paddling" said Perception marketing director Joe Pulliam. "He'll be giving us input on how our products can be improved and how we can develop new products that are superior and safer than anything currently available. He's already conducted two safety seminars at Perception dealer meetings and plans to do more whenever possible."

His friends half-jokingly call Les the "whitewater pioneer" in recognition of his 25 years' involvement with the sport. At the age of 15, Les raced in his first World Championship in Spittal, Austria. He went on to represent the U.S. in four more World Championships and was national champion four times.

Les has paddled on wilderness rivers in North, Central and South America, as well as Asia. In 1981, he was a team member of the first whitewater expedition into the Himalayan country of

Bhutan. They did the first descent of the Wong Chu River.

For the past ten years, Les has worked with the Nantahala Outdoor Center, one of the leaders in the whitewater recreation field. While with NOC, Les was instrumental in developing many of the modern techniques of river rescue. This interest led to the writing of "River Rescue" is available from authorized Perception dealers.

Les is a certified instructor trainer with the American Canoe Association and is an emergency medical technician. In 1981, he was awarded the National Certificate of Merit by the American Red Cross for saving the life of a victim of near-drowning while on the Bio Bio River in Chile.

This year, Les is starting his own business, Canyons, Inc., which will be running whitewater trips on the Salmon River in Idaho. He will also be conducting on-site river rescue workshops for outfitters, whitewater schools and Perception retail dealers.

Wild Bill for the Kings

On April 17th, Congressman Richard Lehman introduced legislation which would place the major undammed portions of the Kings River above Pine Flat Reservoir in the federal Wild and Scenic Rivers system. HR4629 had 68 cosponsors including Congressmen Tony Coelho, George Miller, and Bruce Vento (Chair of the National Parks Subcommittee).

The bill would give Wild River status to the Middle and South Forks of the Kings River in their entirety. These two branches originate high in the Sierra crest of Kings Canyon National Park and combined constitute 74.5 miles of the proposed 92.5 miles of river to be designated.

The most significant effect of the bill would be to prohibit construction of the proposed dam at Rodgers Crossing on the Main Fork of the Kings. This 18 mile stretch flows through the deepest part of the Kings Canyon (almost 8,000 feet deep) and provides outstanding opportunities for hiking, camping, trout fishing, and whitewater boating. The canyon provides 40% of the winter habitat for the North Fork deer herd, which has declined from 17,000

River Notes

to 2,000 animals in less than 35 years. due. in part, to the loss of habitat from three major hydro projects.

Lehman gave several reasons for his commitment to protection: the fundamental unsoundness of the Rodgers Crossing project as well as the availability of less costly and damaging alternatives. "...Most importantly, there is the great canyon itself. It is a national treasure, one of the crown jewels in the Forest Service domain. Next to Yosemite Valley, it is the most significant terrain feature in the Sierra. It would be a foolish travesty to destroy the pristine splendor of this magnificent area for such minimal and short-sighted gain."

We couldn't agree more.

Unfortunately, Congressman Chip Pashayan, in whose district the Kings River is located, did not agree. "KRCD has commissioned feasibility studies, and the very least we ought to do is wait for those studies." (The Kings River Conservation District is a water development agency based in Fresno.)

continued on page 15

Indonesia Adventure on the Air

ANGELS CAMP, CA — Travelers seeking the exotic are beginning to follow President Reagan's lead to Indonesia. The islands of Bali, Sumatra, Java and Borneo promise, and deliver, true adventure with a combination of unusual wildlife, tropical jungles, native villages and warm sunny beaches. SOBEK Expeditions offers the opportunity both to raft Sumatra's Alas River through the heart of the world's largest orangutan reserve, and a chance to preview this adventure on television this month. **River of the Red Ape**, a one-hour television special produced by SOBEK, will be premiered on The Disney Channel cable network on May 25, May 27 and June 7.

The Alas River begins on the slopes of Sumatra's highest peak, Gunung Leusser, and flows through wide fertile farming valleys, past friendly villages, and into isolated limestone canyons. In several places, wild orangutan populations inhabit the dense surrounding forest, along with gibbons, siamangs, macaques, and even the rare tigers, leopards and rhinos of Sumatra.

SOBEK offers trips to two different lengths on the Alas: a 6-day adventure through the heart of the limestone gorge region, available from September to April; and a longer 14-day "expedition" which includes visits to orangutan rehabilitation centers, Lake Toba and other scenic highlights of Sumatra. The Alas River Expeditions are scheduled for October 5 and December 20, 1986, and on March 29, 1987. For more information, contact SOBEK Expeditions.

The orangutan population along the Alas has lent the river its nickname, "River of the Red Ape." The one-hour film of that title, produced by SOBEK president Richard Bangs and directed by Emmy Award-winning photographer Peter Pilafian, chronicles the first-ever descent of the Alas in 1984 by a combined U.S./Italian crew under SOBEK's direction. Footage of orangutans, the people of Sumatra, whitewater action and the crew's own education in the wilds of Indonesia make for a diverse and unusually enjoyable viewing experience. **River of the Red Ape** will be screened on The Disney Channel at 2 pm on the afternoon of Sunday, May 25; and at 10 pm the evening of Tuesday May 27. Late-night viewers have a chance to see the film at 12:30 am on Saturday, June 7. See the movie, then take the Alas River adventure with SOBEK Expeditions, P.O. Box 333, Angels Camp, CA 95222; phone (209) 736-4524.

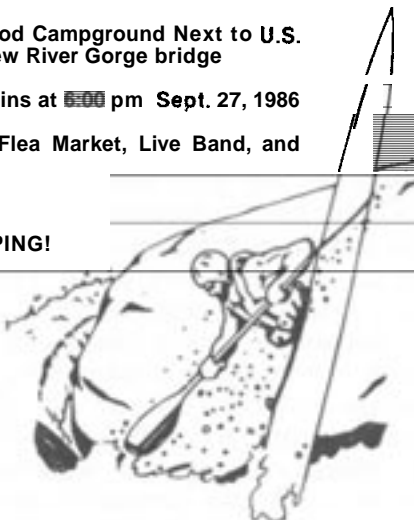
Gauley River Festival

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Letters To The Editor

from Charlie Walbridge
ACA Safety Chairman

On the weekend of March 15-16, four experienced kayakers drowned. This is more than normally die in a year, and is thus deserving of a greater than usual amount of thought. The accidents were as follows:

A 43-year-old Washington lawyer died as a result of an end-to-end pinning between two trees on the North R in Virginia. He was paddling a T-Slalom that lacked front or rear walls as well as full flotation bags. The water level was very high in a channel greatly changed and badly obstructed by the '85 flood. There was only one other person along and that person capsized and swam. Tools that might have been helpful were lost as a result.

A young North Carolinian died on the lower Gauley the same day. He was paddling an extremely low volume 'squirt boat' for only the 4th time. River flow was estimated at 20,000-plus cfs at the accident site. He was apparently running the rapid above Screaming Hell when he disappeared from view. No one could find him, and after a thorough search the authorities were notified. He was recovered at some distance downstream with PFD on and sprayskirt still in place. Experts hypothesize that he was pinned in a strainer located as much as five feet under water.

In Pennsylvania a 59 year old open boater arrived at Tohickon Creek for a scheduled release and found the stream running at 4 ft. At this level, hydraulic action is equivalent to the Cheat at 3 ft plus. Rather than run elsewhere, he launched and then swam several rapids. He was acting strangely afterwards, so his friends helped him work his boat to shore. He collapsed while dumping his boat and died a massive heart attack.

The fourth was a Texas man running with a commercial expedition on the Jatate River in Mexico. He apparently bailed out while running a Class V drop in a remote canyon and became trapped under a boulder. Details are sketchy, but reports are that he was not qualified for the trip and had misrepresented his ability to the leaders.

As a practical matter no one follows the AWA Safety Code 'by the book' at all times. But it should be noted that accidents often occur when a number of minor shortcuts combine with bad luck or severe environmental conditions; you don't have to make 'one big mistake' to find yourself in trouble. Each of the above followed that pattern.

In the case of the Washingtonian, an inadequately outfitted boat combined with a small party and a dangerous riverbed to lead to trouble. There is no doubt in my mind that if a strong party of four had been involved, or if he had installed a rear wall or full-size float bags, the incident would have turned out differently. The dangers of these flood-rearranged rivers are not to be taken lightly, particularly on fast, flatwater stretches at high water.

The North Carolina man was pushing his luck when, after only three outings in his new 'squirt boat", he attempted the Gauley at over 20,000 cfs. In the cold of an early March runoff most people would be excited enough running a conventional craft. 'Squirt boats', especially those of extreme design, increase an individual's exposure to the forces of moving water. They are very tiring to handle; the victim was said to be exhausted prior to his sudden disappearance. We don't need to know exactly what happened to suggest more caution here, particularly in cold, early season runs.

The Tohickon at 4 ft. is a run suitable for the most experienced open canoe paddlers. Given the cold water, I suspect that I would not have tried it without a prior 'scouting run' in an open canoe. As a season opener for a 59 year-old clad only in a wet suit, it seems an excessive risk. Although he collapsed on dry land and is not technically the victim of a boating accident, there is no doubt in my mind that the repeated dunkings upstream caused the problem to occur then rather than later. The next day, when the water had dropped to a pleasant 2 ft. the river offered a delightful open canoe run.

The Texan apparently misrepresented his skills to the leaders of the expedition. This is something that keeps people who lead trips from sleeping at night. There is no real way to prevent this problem. Each

person, even on commercial trips, is responsible for his or her own safety when stepping into a kayak or canoe. Nothing can change that. We all need to think twice about our qualifications for unknown runs, and should be prepared to portage as much as needed for safety.

Where does this leave us? Obviously, there are risks involved in river running which can be minimized but never eliminated. We cannot live in a risk-free society on or off the water. It would pay, however, to review the Safety Code and become more aware of those times when we may inadvertently increase the odds of an accident, and re-evaluate our participation when the 'deck' gets stacked against us. While intelligent risk-taking is the basis of our sport, we need to stop this epidemic of fatalities so that we and our friends will be around to paddle another day. I invite your comments and observations.

Charlie Walbridge

Dear Dave:

Your readers deserve exactly what they get and we want more of John Wilson's cartoons. PLEASE, don't cut him out!

Sincerely,

D.D. King
Editor

Triad River Runner Review
Winston-Salem, NC

HAVE YOU CHECKED YOUR PFD LATELY?

by Bill Ascari

I would like to share a story about an episode of "equipment failure" which gave me some anxious moments. Approximately four years ago I purchased an Extrasport Challenger life jacket with a "minimum buoyancy approximately 30-35 days each year. I became rather compacent about this "buoyancy force" partly because of the rivers I generally

run and partly because my roll has become fairly dependable.

All of this suddenly changed one day this past September when I found myself on the Colorado River in Granite Rapid. I never saw the wave that hit me, and the water was so turbulent I had difficulty setting up. I missed my first two attempts and then discovered my spray skirt was open. The boat filled with water, and I reluctantly bailed out. It was my first swim in almost three years.

I swear I spent 90% of the next two to three minutes under brown swirling water waiting to catch a breath as I broke the surface. I am a strong swimmer, but the force of the water kept pushing me through the waves. Fortunately I was swept into "Forever Eddy" where I managed to climb ashore, completely spent.

That evening I examined my life jacket and was horrified to find the buoyancy foam pads had shrunk to approximately half or less of their original volume. In retrospect, I was aware that the pockets of the vest were relatively empty, but I don't ever remember a sudden change in appearance. No one ever questioned the adequacy of its buoyancy.

I note that new Extrasport life jackets have a warning about dry cleaning. This I haven't done! On several occasions I have dried my life vest with other paddling gear in a clothes drier on low heat. Another possible cause for the collapse of the foam pads might have been my habit of storing my life jacket in a compact roll. Perhaps I shouldn't use my life jacket as a seat cushion during lunch breaks on rocky shorelines.

Let there be no mistake! This episode of "equipment failure" was **my** failure to examine and repair, if necessary, my safety equipment. My nasty swim on the Colorado was a grim reminder of why we wear these things in the first place. I note with interest (and increased insight) that Extrasport now includes the recommendation that all life jackets should be examined annually, prior to use, for loss of buoyance.

When did you check yours last?

THE RATING GAME

by Sam Chambliss

This paper proposes that with slight modification the International Scale of River Difficulty (ISRD) recognized by the American Whitewater Affiliation can be useful to unacquainted paddlers half a world apart, and to beginners as well. Part of the solution is to use quantitative components already in the scale, one of which has been overlooked to date. The remainder of the solution requires the paddler-reader's willingness to explore an "Ah-ha!" or "Eureka" type of insight.

An example of such an insight is one I wish I had invented. It was passed via Walbridge to me 8 or 10 years ago, and I have full respect for whoever originated it. Although it does not bear on the subject of the present discussion, its example is pertinent. It goes like this:

A big raft is far more dangerous for the beginner to paddle than a kayak. Why?

The raft is very stable, and the beginner is able to stay in it long enough to get out in really heavy-duty water. He is not dumped out of the raft until the water is ready to make a victim of him. Whereas the kayak, with its low lateral stability, will dump the beginner in the first little wave passing by, where a swim is a nuisance, not a death wish.

Insight: The kayak therefore is much safer for the beginner than a raft.

BACKGROUND — Walbridge's "River Classification" in the Jan-Feb 84 *American Whitewater* summarizes the difficulty encountered by a true river hero meeting another expert for the first time and trying to describe rivers which only he has paddled. The necessary yardstick has not been quantitatively scored. Experts who have paddled the same river can use our present rating scheme, but not others. Beginners are lost in any event.

DISCLAIMER — My words can be granted credibility reflecting my own skill and willingness, which extends to the mid-Class 3 water which I consider a fine challenge for me and my open canoe. I have never paddled Class 4 white water, but I know what it is. I saw Class 5 once, from a safe overlook.

FLATWATER — The ISRD-AWA code has the low end of the rating system pegged, which is non-wavy water. Which means the boat doesn't jump up and down, and there's nothing much to run into except the bank.

THE PROBLEM CLARIFIED

The trouble comes in at the high end. But ISRD has one specific criterion in its definition of Class 4. It's been lurking there unnoticed ever since Creation but is solid enough for disciplined paddlers to greatly enhance the scale without major changes.

The key is in the adjective "turbulent" in the Class 4 definition. "Turbulent" has a specific technical meaning that no engineer can mistake. Turbulent means erratic, unpredictable.

We hear true-hero paddlers refer to "explosion waves" and "travelling eddies" on flooded or high-level rivers. Such are easily seen to be unpredictable, and therefore Class 4. There's "white" frothy Class 4 in the boulder-



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filled gorges, and "green" Class 4 in the 20-ft deeps which produce old-fashioned non-frothy "whirlpools" and "suck-holes" during flood time.

One proviso needs stressing: We are not talking about tiny turbulence found in any little wave or kitchen sink; we mean turbulence of a size capable of flinging a boat around by surprise. This is Class 4.

ISRD's Class 4 "Precise maneuvering" is impossible in extended turbulent water. Another way to say it might be, "totally reflexive and extremely powerful movements are required to stay in the boat and continue breathing well, often in vision-impaired conditions."

(The proviso relating to Eskimo roll ability in Class 4 is funny ha-ha. The same for Class 3. Nobody runs decked boats down Class 3 more than once without a great roll.)

Would you like to see some Class 4, as the ISRD-chosen word "turbulent" defines it? At low water levels, Class 4 is rare in my own Mid-Atlantic area. The second drop on the Virginia side of Great Falls (just before the main drop) has small patches of white Class 4 in the middle of its runout, when the pertinent gauge reads 3.0 or so. S-turn and the eddy in the last deep pool at the bottom of Little Falls are Green-4 turbulent but so weak as to be inconsequential at gauge levels less than 3.5 ft. Higher, the turbulence becomes geometrically more significant.

Down south, Chattooga's Corkscrew has tiny touches of white turbulence below 2.0 ft, but the water can still be "read" and is not properly speaking Class 4. Down east, the Kennebec has explosion waves at 5000 cfs and qualifies as Class 4, but in low water such as a canoeist's 6 inches, it is a Class 1 13-fpm run. By and large, our East Coast rivers have no Four until floods and releases add extra feet in the gorges.

Exciteable guidebook writers and many paddlers often apply the Class 4 or 5 designation to steep drops with lots of boulders. Granted, these indeed are fierce, often threatening drops. But their currents and curlers keep the same relative positions to boulders while the observer is observing; there is no Class 4 here. There definitely is increased risk of

damage to body and boat; such may be properly covered in ISRD Class 6 definition, but not in Class 4.

Can you imagine the uproar of intermediate paddlers when I suggest that hardly any Class 4 water exists on Chattooga's Section IV under 2 ft? A little is found at the bottom of Seven-Foot Falls. There are maybe three 3-ft waves (Class 3) on Jawbone. Further, there is only occasional need for ferrying and eddying (implied in Class 3) except in two unnamed rock gardens which I find to be the best parts of Section IV.

The level of paddling skill necessary to get down Section IV is not very high — Class 2, except for the entry to Sock'em Dog's launching pad and the two rock gardens. What is high is the risk factor after making a small mistake and swimming in the last four of the Five Falls. This is why today's difficulty-rating system is inadequate, why the tendency has been to overrate the paddling skill requirements on bouncier rivers. The skill requirement has been confused with hazard consideration.

Interesting thought: Most vertical drops such as waterfalls, if they have clean entries and nothing but deep water at the bottom, require no more paddling skill than what we normally associate with Class 2 — regardless of waterfall height. This holds for decked boats only; open canoes in 20-ft drops are prone to swamping (Class 3) and perhaps breaking paddler bones (Class 5).

THE WINNING SOLUTION

The preceding paragraphs highlight the present rating confusion. We can reduce it. We can give our rating system much greater precision **IF we omit the paddling skill of the paddler.**

INSIGHT — As long as the paddler stays alive in his boat, his skill and the difficulty of the rapid are totally immaterial.

But, as the old saying goes: "It's not a case of IF you fall out of the boat; it's WHEN!" The moment of concern and truth is when the paddler is no longer in his boat.

INSIGHT — A meaningful rating system applies to the swimmer in the rapid,

not the paddler on it.

Fortunately, producing swimmer risk ratings from ISRD difficulty definitions is straightforward extrapolation:

- Class 1 risk: Lazy flush, easy breathing, minor scrapes at the worst.

- Class 2 risk: Not much. Possible collisions with skinny rocks causing bruises. Curlers require some deliberate breath control by swimmer. Tiny chance of injury from capsized open canoe. Water velocity is faster than strong swimming, so keep the feet up to avoid their entrapment. Assistance quite possible though mostly unnecessary.

- Class 3 risk: Swims longer than 15 seconds (or however-many you choose) are probable, breathing opportunities are erratically spaced. Bruises from rocks are almost guaranteed. Throwlines overpowered by water velocity for most of the rapid. Assistance from other paddlers is ill-advised except occasionally on wide rivers (New, Sacandagua release).

Open-boater is guaranteed to swim in long Class 3 unless there are eddies or unless canoe has enough flotation to qualify as a decked boat and can be rolled. Capsized canoe is threat to swimmer. Holding onto paddle reduces swimming speed to one-half.

Previous scouting from shore or eddies is desirable to plot swimming course, just in case. Prior agreement on oral and visual steering commands given by other paddlers is benefit to swimmer trying to catch an eddy real soon.

- Class 4 risk: In White 4 turbulence, swimmer often can't see smooth water, so breathing is spastic and mixed with froth. In Green 4, swimmer can be submerged for many seconds. Capsized paddlers often are stripped from opens and high-volume decks. Guidance and assistance impossible until end of drop. This class requires top physical condition including lung capacity. Swimming as such is often abandoned in favor of upward lunges for breath.

- Class 5 risk: Extended turbulence including rocks and terminal holes of Greyhound bus size. Green 5 includes well-developed hydraulic jumps which appear inescapable. Swimmer tumbled frequently. Breathing not recommended.

- Class 6 risk: Enough foam and fury

that paddler has trouble breathing even if still in the boat. Both disappear for many seconds at a time. Paddler sees high probability he gets damaged if he tries it, no matter how well he paddles (Great Falls above 5 or 6 ft). Gill genesis advised for swimmers. Visible hard-to-avoid strainers promote other classes to Class 6.

RECOMMENDATION

We can include swimmer risk ratings in the present AWA framework. In due time, the ratings can be streamlined to include swimming aspects only, but for the next few years the transition should be gentle to avoid shocking guidebook authors and many open-boaters which I don't paddle with much anymore.

Also, the present difficulty ratings are fodder for bragging, which is not to be dismissed lightly as a reason why many paddlers do whatever it is they call it. Canoespurt?

SUMMARY — We have described a river swim-rating scale not far removed from the present ISRD-AWA scheme. The scale adds to each class a risk factor pegged to swimming hazard.

The proposed scale requires no catastrophic break with what already exists, and is a logical extrapolation of it.

Bonus — The swimming rating permits precision handling of an enormous bugaboo in the rapid-oriented rating, the fluctuations in water level. This could well be a basis for a decimal breakdown; for instance, a Class 4.2 (2ft of paddling water) for a breathy tumble on the short 3-step drop of a 1500-cfs Savage, while Class 4.14 could promise a prolonged strangle through 14 ft of XX,000 muddy cfs on the Colorado.

Best of all, the paddler no longer has to relate his draw/pry/ferry or can-I-hit-a-tiny-eddy to a particular strange river. He relates to the swimming challenge instead; he knows how long he can hold his breath far better than he can guess his chances of paddling down the river still in the boat.

EUREKA!! We have a system which any paddler can use after a few hard swims. Strangers will be able to understand him.

BOATING IN BRAZIL

By Chuck *Palson*

WHITEWATER

While in Rio de Janeiro, Brazil for five weeks at the beginning of this year, I made an effort to contact the local kayaking club. I was able to find the Carioca Association of Boating (Carioca is the name of any inhabitant of Rio; it is an Indian name denoting "those who live in houses" which refers to the white man who brought that strange custom). The club is about 5 years old and was founded by a German couple, Eva Schneider and Uwe Peter Kohnen, devoted to bringing kayaking to Brazil. The only "whitewater" boats I saw there were primarily meant for surfing the waves along the coast. They appear to be caricatures of Jetis, having much larger volume in the front than in the rear. Instead of air bags, sealed bulkheads are used.

Before I left, they were kind enough to give me old issues of the club newsletters. What follows is a translation of one trip report I think American boaters will find of interest. It is a description of a trip down the Paraibuna River by Pedro Augusto Carlos Mayall. The reader should note that good safety equipment is generally hard to locate in Latin America, so the names of achieving safety varies significantly.

It all began when I was in my office one day and Eduardo visited me. He asked me what I was going to be doing on the weekend. When I said I didn't have anything planned, he told me he was looking for someone to paddle down the Paraibuna River with Dario and him, accompanied by some rafts. The idea immediately interested and excited me. I had already paddled this river 4 or 5 times in a raft, but no one had yet kayaked it because it is a high volume river with a very long run full of all kinds of furious activity. It would be a historic trip! We agreed to call each other early on Saturday.

On Friday I learned that the rafts would not go because of the weather. I called Dario to tell him, but he wanted to go anyway—the weather be damned. And on Saturday Eduardo called me to confirm the trip and also to inform me

that Mauro would be going. But when I called Mauro, he was sleeping and I had to insist to his maid that she wake him up. He confessed afterwards that he knew it was me and that he had decided not to do the river—hence, he was "asleep". At any rate, after I "woke him up", he had no choice but to say he would go with me.

We arrived in Petropolis and met Eduardo, Dario, Ricardo and Delsinho. Gilberto Amaro came just in time to help us to the shuttle; he did not want to paddle the river.

We arrived at the river and began preparing for the descent; none of us joked or smiled. We were all aware of the difficulty of the trip and how uncertain our futures were. When we were ready, I looked at the top of a nearby hill and made the sign of the cross. Ed, seeing me do this, was inspired and suggested that we pray. We all held hands and said the "Our Father". Gilberto, who only helped to shuttle, joined in. It was a beautiful moment. We then posed for a photo, and then started the trip, experiencing the most emotion that I had ever felt in boating.

After about 20 minutes, we got to the first drop, High Falls, formed by a river-wide natural dam. Eduardo went close to the drop to try to find the best way to run it. I was able to scout it from a rock to find the best place. When we ran it I was the only near casualty. At one point I was dashed against a rock and turned around, leaving me near the shore of the river. I nevertheless completed the run, but all the while remaining close to the shore. We passed the first test well.

The next test was a drop of about 300 metres in length. We decided that Dario would be first, followed by Ricardo, me, Mauro, Eduardo, and Dilsinho.

In the middle of the drop I inadvertently started closing in on Ricardo. At the point where I was going to pass him, a wave pushed him in front of me. I tried to help Ricardo while hearing Mauro from behind warning me that he was coming. At that instant he rammed my boat and I went over. I wet exited under a ton of water, and for several seconds I did not

know where I was because I couldn't figure the direction of the current. I shouted to Mauro to get my paddle, but he too was swimming by this time, so two paddles were floating somewhere. By luck he saved himself by finding and using my boat and hand paddling over to get his paddle. When we got to the eddy, I was wearing only one tennis shoe; the other was presumably floating downstream somewhere.

We rested for a while here, knowing that a greater test was yet to come, the famous "S" Turn. We put the boats up on rocks and proceeded to scout. We judged that we should go to the left, but we were unfortunately on the right side. We would have to paddle against the current to get to the other side.

Eduardo and Dario volunteered to go first, while we looked on. It was an amazing sight, as the water was very pushy because of the high volume and speed. These conditions created very big waves while at the same time the drop was making an "S" turn. The total drop was about 10 meters.

Eduardo and Dario went down together. It was a spectacular sight—they paddled with such elegance and enjoyment. Next, Mauro and I went, crossing the river looking for a place to descend. Only upon arriving at the top of the drop did we realize that we were a little tired from the ferrying. Then it was my turn, followed by Mauro. I went first to the left and then the left and got caught in an eddy where I almost capsized because of the rapid transition from moving to still water. I then continued down the main channel, paddling until I met Eduardo and Dario.

What then happened is very common. After doing the most difficult part of the drop and paying close attention, it seemed that we could relax on the part that was relatively less turbulent. But the river played its tricks and gave me a tumble. I capsized and again wet-exited and tried to swim toward the edge of the river with the boat in tow. Dario came to help me. He shouted that he would get my paddle and gear. When I saw that I could not pull my boat, I made a bad decision to let the boat go and I began swimming. The river then gave me a lesson on its strength, grabbing me for the next drop. I had some bad moments when, already tired, I had to try to

coordinate my breathing with the moments before I was buried in the water of a wave. I never got enough air and was in reality suffocating. Upon arriving at an eddy, all my strength sapped, Dario helped me get my boat up on a rock. I could barely move my legs. I gave the impression that I would not continue with the trip to the next drop, Tabogan. It is a drop of about 1.5 metres with a lot of volume, that ends in large waves and wave holes when it hits the bottom. It's a hell of a run. But after relaxing for a while, I recuperated and was able to continue.

When you are just ready to descend, you get the feeling that the kayak is going to go end over end because the drop is so steep. You enter the big waves and they completely envelope you in water that is moving very fast.

In all the turbulence, Ricardo capsized and swam. All turned out very well as Dilsinho was able to rescue him. We continued and Mauro further down was able to make his roll.

Finally, at the end, Gilberto was waiting for us. We were dying of hunger and thirst but happy with the ending of our historical adventure.

River Zen, River Being: A Trip Down a Sometimes River

by John Lane

Where I live, in southwestern North Carolina, the Fontana dam was scheduled for maintenance in the late fall of 1985. By December, for the first time in many years stretches of the Little Tennessee, the Nantahala, and the Tuckaseegee appeared from under the draining waters of the lake.

The re-appearance of a river brings out a different sort of spirit in river runners, especially if it is the end of the summer season. The day I paddled the lower Nannie, my first Sometimes River, I went down with a group of riverguides. I watched a playfulness emerge that is burned out of many guides by mid-July.

The last rapid on the Nantahala before the river catches up with the TVA's impoundment is called Wosser Wesser. River trips end upstream of this 20 foot drop through blasted granite left by Southern Railway when they diverted

the river years ago. Wosser Wesser is legend among paddlers of the Nantahala. The first time I came to the Nantahala, in 1974, the leader of our trip, John Pilley, stopped at the overlook above the rapid and told us how we would run it. We shook in our tennis shoes. Funny joke, we thought to ourselves, three hours later when we pulled out well above Wesser, changed clothes and headed to the restaurant for hot tea.

Sometimes in high water springs, I've been told Lake Fontana backs halfway up the falls and makes it into an easily runnable five foot drop. But high water or not, most river runners don't think beyond the horizon line of Wosser Wesser. This is usually the end of the whitewater world on the Nantahala, but it is the beginning of the Lower Nannie, the Sometimes River.

The day we paddled down the lower Nannie—five kayaks strong—we played for a little while at the bottom of Wesser; then we headed downstream toward Almond boat dock before the river disappeared again into TVA's idea of recreation.

As I dropped deeper into a part of the Nantahala gorge I'd never seen before, I had a strange sensation. I had the sense of transportation, the excitement of discovery. This was not a normal river trip. This effect, I soon realized, was caused by the lake's water line getting farther above my head. The old lake created a desert below its surface, and in receding had revealed high, red canyon country right in the Smoky Mountains.

There is another way in which this stretch of river is like some western streams. Out west, a stream might only run two months a year. The rest of the time the canyons are dry draws. Here, our Sometimes River sleeps for half a century under the thick pad of a lake, to emerge with a dropping instead of rising water level.

There were only three or four rapids along the two mile stretch of the Sometimes River, all Class 2 at best. This did not matter. In one rapid with a good drop and a slightly turbulent hole at the bottom, I sat in an eddy with friends and made up names for the places the river picked up speed—Popgun, Make my Minute, Here Today, Gone Tomorrow.

I stopped and surfed each new

standing wave, no matter how small. December surfing is a floating, steady joy. By late in the fall, Lake Nantahala, the source of the daily releases, is so low that the water is no longer Alaska cold, and the air temperature is still warm. Loren Eisley, the poet and scientist, said once, "if there is magic on this planet, it is contained in water." December is a good time for magic, to have a mind for water.

This Sometimes River was a perfect place to practice river Zen, river Being. I worked back and forth in the elbow of the river. Time collapsed around my boat, broken into the thousand glittering folds of aerated water. Each second was no more than a brace against no-time, becoming lost in the crook of the river. I was a calm center connected to the flow of the river by more than the bottom of my boat. Out from there, I was only one small part of a larger whole. The air, gorge walls, winter trees were all just extensions, parts of a larger being. When I pulled off the wave, back into the eddy, I was unsure how long I had surfed. Moments? Days? Centuries? I wondered, When the lake rises does a wave cease to exist?

Continued from page 7

In an action which provided an ironic counterpoint to the claim that the KRCD is "only performing feasibility studies for a dam at Rodgers Crossing", the KRCD Board in April authorized spending as much as \$543,975 in 1986-87 for the Rodgers Crossing project. The budget allocates \$278,875 for Bechtel Corporation environmental studies, \$10,000 for a FERC license to construct the dam, \$10,000 to fight wild rivers legislation, and \$57,100 to promote the project with the public.

The introduction of HR4629 begins another chapter in the Kings Canyon story. Ever since John Muir first set eyes on the Kings in 1875, a long and acrimonious battle has waged over the river and canyon. In 1940, conservationists won Kings Canyon National Park, although a concession to water developers excluded Tshipite Valley and Cedar Grove. In 1964, those two magnificent canyons were added to the Park.

In 1974, the California legislature enacted a five year moratorium on

CLAIRE GESALMAN'S AUTOBIOGRAPHY

development of the Kings River above Pine Flat Reservoir as a result of a bitter fight over legislation authored by State Senator George Zenovich which would have added the Kings to the Protected Waterways System. That bill was also introduced in response to a proposal to build a dam at Rodgers Crossing.

In 1984, protection was extended to the confluence of the Middle and South Forks through creation of the Monarch Divide Wilderness and expansion of the John Muir Wilderness by the California Wilderness Bill.

The fight will be tough; it always is when the future of Kings Canyon is at issue. However, early support has been given to the bill by the two major newspapers of the area (The Fresno Bee and the Visalia Times-Delta) as well as the cities of Fresno and Sanger. As in the case of the Tuolumne, the developers are well-monied and prepared to spend whatever is necessary to kill the bill. Also like the Tuolumne, California's Senators will play the pivotal roles.

The time for action is now. The developers will begin pressuring Senators Cranston and Wilson immediately; we must do the same. Write, and urge your friends to write, Senator Cranston and Senator Wilson asking for their support for Wild River status for the Kings River above Pine Flat Reservoir. Letters should be addressed to The Honorable U.S. Senate, Washington, D.C. 20510.

For more information, contact Donn Furman at (209) 436-1191 or the Committee to Save the Kings River, PO Box 4221, Fresno, CA 93728.

I first became interested in paddling while a student at Penn State in 1970. I began in open canoes and soon expanded my interests to decked boats, mainly K-1 and C-2. I raced for several years and attained a B level ranking in K-1W. I guided raft trips on the Cheat and Yough briefly (it is hard on boats!) in 1974.

About the time I left Penn State after seven years as a student, I built an open racing boat with my husband, and we raced and cruised quite a bit in it. I have always greatly enjoyed paddling and look forward to each trip. Lately, other responsibilities and interests have reduced my time available for boating, but I feel like a boater nevertheless.

Professionally, I am a scientist, masquerading as a management consultant. I work for a small company that was recently purchased by a large engineering firm. I worked for the government for five years before accepting my current position three years ago.

I live near Washington, D.C. Until two years ago I lived near Harpers Ferry, WV, along the banks of the Shenandoah River. The proximity of convenient and interesting whitewater led to lots of canoeing, at many water levels. However, it became more important to be closer to jobs and get more sleep (the length of our commute necessitated arising at 5 a.m.).

I volunteered as treasurer of AWA because I have always wanted to be involved in organizations I care about.

Ed. Note: Shy Claire would send no photo.



MILLRACE RAPID ON THE SALUDA RIVER

By John Lane

I have always been aware of the stretch of the Saluda River near Columbia, South Carolina that I could see from Interstate 26, about a mile northwest of the city limits sign. It was where co-eds from the University of South Carolina sunned on warm April days, and waders listened for the warning horn announcing a release from the Lake Murray dam upstream.

It wasn't until I started paddling a kayak that I looked more closely at where the Saluda leaves the crystalline rock of upcountry South Carolina behind. What I found there began in mystery and ended in delight.

As many rivers trips do—especially rivers you've never paddled before—mine began in an outfitter's shop. In Columbia there is a very good one on Meeting Street, The River Runner. The store is in an old, restored group of buildings right after you cross the Congaree, the river formed by the confluence of the Broad and Saluda. If you ask the people there about the Saluda they can tell you anything you want to know. They schedule trips down on a regular basis and have helped to form a group called "Save the Saluda," which is working to get the stretch just outside of Columbia designated a State Scenic River.

I walked in on a Monday in late October and asked if the river was running. One of the guys behind the desk said, "hold on a minute."

I followed him out the back door where he climbed a garbage dumpster and said, "looks like you've got a pretty good release from here. Could be five turbines."

"A good four turbines," Scott, another one of the guys from the store who'd climbed up to take a look, added. "Maybe more, but a good four turbines at least." They both agreed I'd lucked into a good day for running a river with uncertain releases from the power station upstream at the Lake Murray dam.

A house builder named David was in the store at the time and agreed to be my guide for my first trip down the Saluda. We made plans to set up a shuttle at five that afternoon.

The trip started in mystery because of one rapid. Millrace. This is the drop I could see from the Interstate as I drove into Columbia. Usually very little water poured through the rapid, but the few times I'd seen it with a full release, I was sure of its difficulty.

"A true class six," several of the paddlers repeated when I asked them about the long series of broken ledges, one old coffer dam, a jagged litter of blasted rock, a few metal rods, and fast water that roared on for about 100 yards. "But at high water you ride way above all the litter."

And above all the litter we would be.

When we arrived at the put-in, David told me that according to his markers—which rocks were covered and such—the river was running about three quarters of full release.

"What's that in cubic feet per second?" I asked, wondering how much water was blowing through at one time.

"About 12,000 cfs."

"Jesus. The Chattooga running at flood stage is only 7500."

To stand on the left bank of the Saluda and look at Millrace was a rare sight, at least for a southeastern paddler. The river was 100 yards across, dark green, and smooth for an eighth of a mile upstream. In the distance I could see the next small rapid.

Downstream, preceded by a bulb of green water where the river flowed over the rocks and other obstructions, were a 100 yards of five and six foot waves, offset holes, exposed rocks and swirling eddies. It was water twisting back on itself, a river grabbed by the heels and snapped like a sheet. It was the liquid equivalent of schizophrenia, water trying to go more than one way—up over rocks and downstream—at once. The mystery deepened in that hundred yards of churning.

"There's only one way I've ever seen it run," David said, as we walked to a piece of the old dam for me to get a better look. He held up his arm and pointed out the safest route to follow. "Hug the left bank and paddle like hell. It's the best ride north of Six Flags."

The route David described with the line of his finger was a straight shot through offset waves and one big hole, but was far left of most of the huge holes. If you drifted too far right, you would float into a slough of back to back swirling holes that might give you a ride to remember. I made note of this to David, who said terminally, "you don't want to be there."

So we went back to our boats and started to prepare for the descent. Two guys sat on a pickup and drank beer while we pulled on our sprayskirts. "The only way you'd get me in this water is if you tied me in that dang rubber boat." We told him he probably had the right idea and slipped off into the surprisingly cold current.

David explained that the water was fed out of the deepest part of Lake Murray, and even in the summer, when the air is skillet hot, the water is still mountain cold. Soon we would forget about the water's coldness. The drop was approaching and the mystery waited.

What I remember most about the run was not the ten seconds it took for the current to push us through the waves and holes, although my boat bucked hard and I braced to stay upright; instead, what lingers is that feeling of force moving under my boat, way below the shifting surface.

I felt as if another giant river, a twin to the one where I sat, flowed somewhere below me. I was only attached to it by the tiny bottom of my boat and my two thin, turning blades.

And there were things happening down in the depths that I could not marshal. I was like a water spider, my thin legs in contact with the surface of not one, but two great, roaring rivers.

We stayed below Millrace for a while, surfed a standing wave and caught eddies in the wide river. Then we headed downstream in the falling dusk. We passed a bridge piling claimed long ago by honey suckle, all that's left, David told me, of a bridge the Confederates blew

up as General Sherman approached Columbia in 1865. "Didn't do any good. He burned the town anyway," he added, floating on the current.

The rest of the rapids between Millrace and the Highway 378 bridge were quick flushes, delights, but nothing to make me forget what I had felt in the drop upstream.

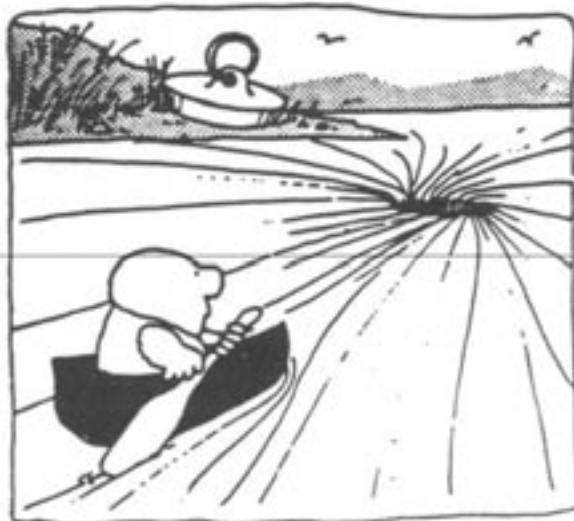
We pulled out of the river in the warm water where the Broad mingles with the cold water of the Saluda.

"Once I paddled this run by a full moon. I had been warm that day and there was a deep fog over some of the river," David said as we beached our boats. "Fog and moonlight. That's a run I'll always remember."

One thing I love about rivers is that contact with them always lingers. That night I was reading a book by the translator and naturalist Howard Norman. It was a collection of tales from the Swampy Cree Indians from Northern Canada. In one of his footnotes, Norman talks about walking across frozen lakes.

"It was hard walking. I felt how deep the lake was." Norman speculates that the hardship is a combination of the width of the lake and a perception of its depth, a mixing of distances: "as if testing the taut cover of a water drum by walking over it, hearing its tones, echoes, depths."

This is so much like sitting in a kayak over deep, turbulent water. Like fog and moonlight for David, it's something worth remembering, a mixing of distances.



WHEN NOT TO "GO FOR IT": A Safety Review

By Kristi G. Streiffert

WHITewater

"We've been planning this trip for over a year, and I think we should go for it!"

"But the high water has turned into a raging torrent, and this river is new to us..."

"True, but we may never get a chance to boat this river again..."

Common sense prevailed, and we didn't run Oregon's beautiful but dangerous Illinois River that spring. The planned trip was replaced with a weekend run on the Deschutes. It happens often: the weather turns ugly, the river is flowing higher than expected, or the most experienced crew member cancels. Then we have to decide—is the river trip we've planned safe for us?

An ill-considered decision will bring anything from extreme discomfort to extreme danger. Many variables must weigh in the decision making process. Equipment and weather conditions, the river character and your experience are some of them.

Your equipment must be suited to the demands of the river you intend to boat. Annoying faults (buckles that slip, ill-fitting life jackets) could become fatal under extreme conditions. Make a pre-season check for needed repairs. Repairs are better made at home with such conveniences as electric drills and rivet guns than at river side with duct tape.

Rain is a cold inconvenience, but snow and freezing conditions are a danger. Hope for the best but plan for cold and wet—even in August. In the spring plan for an alternate date for each trip. Postponements in the event of bad weather are always a good idea.

Does your experience match that necessary to run your proposed river? Are you experienced in fast water? In rocky water? In flood conditions? I found during my first trip on the Lower Salmon that Class IV experience in small, rocky rivers does not translate to Class IV experience in the pool/drop style of a "big" river.

There is more to experience than gauging oneself against the I-VI classification system. For example, a professional guide who has run a particular stretch of whitewater over a hundred times may be safe there at high water while others could be risking their lives. The story is often told of a veteran of the Rogue who made a 2 a.m. rescue run on that river at extreme flood stages.

River and rapid classifications vary with your informer, the river conditions, and the type of equipment running it. There is very little information in knowing that a certain river is "Class IV".

Information gathering is a crucial activity. You should first find a guide

Safety Quotes From Our Fearless Leaders

"While you do have the right to risk your life if you choose, you don't have the right to risk the safety of those who must come to your rescue." Ann Schafer, Canoeing Western Waterways

"Read the river like a book. And if still in doubt... Stay home. Read a book." Edward Abbey, Down the River

"Know your abilities and weaknesses, be honest with yourself and others..." William Sanders, Kayak Touring

"But we are sensible adventurers." James West Davidson & John Rugge, The complete Wilderness Paddler

"I learned quickly to be extremely careful and to make good safety habits almost automatic." Georgie Clark, Georgie Clark, Thirty Years of River Running.

"There is no shame in good sense." Norman Strung, Whitewater

book that contains your intended river. Reliability is a crucial factor here. Discuss the book with others to find out if it is accurate. Or test its reliability yourself by making the most familiar or easiest run in the book.

We all come to prefer different styles of guidebooks. My favorite is John Garren's (Oregon River Tours, Idaho River Tours). I wish every guide book used his logical, comprehensive river logging method. It is important that your guidebook enable you to accurately locate your position. In depth rapid instructions are worthless if you don't know your location.

In most guide books you will find necessary information concerning location of the rivers, runnable flows, river difficulty, and sources of current information.

In the section on locations, you will find maps and directions. This tells you if you can make it to the river and back home in your allotted time but, more importantly, the maps should give you some idea of how remote the river is. The first time we ever pushed off down a roadless remote river, I was terrified. The appeal of the wilderness is strong, but the security of boating beside a highway has its advantages, too.

As for water level—both extremes carry their own brand of hazards. Low water brings out the rock and with them comes damaged equipment, tiring portages, and ragged nerves.

High water's hazards are more complex. The combination of cold, fast water, log jams, floating debris, unmanageably difficult rapids, and absence of shoreline eddies is enough to daunt the most brave-hearted.

And, amazingly, it is enough to excite normally rationale people into ridiculously dangerous situations. As I have become more experienced, I have become more and more cautious concerning high water. I've found that a controlled run at reasonable water levels is just as satisfying as the nerve-racking, death-defying high water runs. Most of the river horror stories we hear originate during high water.

River runners can find out flow information from one of the government

agencies who maintain systems of gauging on many of our rivers. Your guide books should direct you to phone numbers for this information. Most "flow phones" are a recording that lists the levels of the rivers in a certain area. Be sure when listening to the recording that it is as current as possible. They usually indicate how often they are updated and when the last update was.

You will also need to call for the weather and road conditions. Look in your phone book for these numbers. It is especially important in the spring to make sure the roads to the put-in and take-out are open.

Your next source of information is people. Even if you know a stretch well, you should always remember to talk to people at the put-in to find out if there are any new hazards such as log-jams. Outfitters are a good source since they have usually made the run the previous day. B.L.M. representatives or river rangers can also be helpful.

Emotion is one factor that you should not allow to influence your decision. Picture this: eight friends and acquaintances gather at a put-in. The river is running higher than expected and everyone is worried and disappointed. Except one. This guy is running around slapping everyone on the back yelling, "HEY! What's everybody so scared for! It's gonna be great! Let's GO FOR IT!"

This fellow (the one with just enough experience to be dangerous) could succeed in causing the group to ignore their doubts and attempt the hazardous trip. Choose a group leader (during planning stages) who is the most experienced and sensible, not the most enthusiastic.

Disappointment is an understandable emotion. You've planned this trip for a long time, and you succeeded in getting a permit and you may never be "back this way again". Try to plan options. If the trip is cancelled before you leave home naturally your options are greater than if you leave the decision to riverside. If you reach riverside and must cancel the proposed trip—look for alternatives. Perhaps you can run an easier or more accessible stretch of the river. Take advantage of local camping and

hiking. Check out the local museums or arrange to tour an old mine.

With all this talk of caution, where does the challenge of whitewater boating come in? How can you improve if you never take a risk. You can have the challenge associated with whitewater boating if you plan carefully.

Calculate the risks involved. One way to do this is to picture various consequences. What is the worst that can happen? A wrapped boat? A broken leg? Hypothermia? Are you prepared to handle these problems should they arise? The best way to be equipped for emergencies is to have more experienced boaters along on the more challenging trips. Should something go wrong, you can combine experience and manpower to deal with the problem. To find other boaters, join a whitewater club or start one yourself.

If you can look at your challenge clearly and see that the risks you will be taking are necessary ones—if you know you've considered every possible problem in your planning stages—if you know that facts are making your decision and not emotions—then GO FOR IT!

THE ALASKA EXPERIENCE RUNNING THE SUSITNA

by Paul Kopczynski

It all started one bright, clear, sunny morning in Telkeetna, Alaska, where Jim Remington and I loaded our kayaks on a Cessna 185 enroute to Black Lake in the middle of the Telkeetna Mountains. Black Lake was the starting point for our six day self-contained kayak trip down the Black River to the Oshetna River and finally to the Susitna.

After a great flight over the Telkeetna Mountains where the pilot occasionally buzzed mountain sheep, Jim and I touched down on Black Lake. This is going to be great! We're actually going to have a six day wilderness kayak adventure!! On the first day of our trip Jim and I hiked up the mountains around Black Lake. Jim even chased a pair of Trumpeter Swans around the lake with his kayak. After a good night's sleep in a cabin on the north shore of the lake. I

was ready for the river. Unfortunately, the roof above Jim's bunk leaked and made it a little uncomfortable but after a few cuss words and Jim was raring to go. The Black River was a fun but rocky Class II, III river with very few play spots. The scenery along the Black River was beautiful; gold and red tundra as far as the eye could see.

That afternoon, Jim and I reached the Oshetna River, which was a large clear water river. The Oshetna is a Class II, III boulder drop river with a volume of approximately 2000 cfs, similar to the Upper Stillwater. While paddling down the Oshetna, Jim and I hoped to encounter a few Class IV and V drops but that was not to be. Instead, we encountered small herds of caribou. The second night out we found a grove of spruce to camp near which meant a campfire.

The next day we were back on the river again. It didn't take long on the fast moving Oshetna to reach the Susitna at the head of Watana Canyon. The Susitna was big, muddy, and full of play spots. In the canyon we found big play holes, breaking waves and great ender spots. It was a blast!!! After leaving Watana Canyon I started thinking about Devil's Gorge. It's gonna be big!!! The Susitna between Devil's and Watana Canyons was very scenic. It ran through many small canyons with fun play spots and the wildlife was fantastic. We even had a bear swim the river directly in front of us. On the fourth day of our trip the rain began to pour and luckily we found a cabin with a wood stove and padded bunk beds about five miles above Devil's Gorge. How lucky can we get!! Not much I figured!! Jim and I stayed in the cabin on the fifth day also, because the rain never let up and the river was rising. ALL RIGHT!! It's going to be even bigger and more fun!!!... Or it could be worse! The sixth day the rain quit and we were back on the river, which had risen about a foot from the rain. Our first stop was the big Class V Devil's Creek Rapid, and it looked MEAN!!! After scouting the rapid from the left canyon wall, Jim and I decided to run it on the river-right. A center run between two big holes was too hazardous at 18,200 cfs. On the right we still had a few big holes to contend

with, but they were thrashers and not keepers. Jim had a nice run; he made it look pretty basic. I was thrashed in the first hole and almost rear ended in the second. After Devil's Creek rapid we eddied out into the large waves of the Susitna and headed into the Nozzle. The Nozzle was a huge breaking wave with the biggest whirlpool I have ever seen behind it. We both had good runs through, although Jim was almost eaten by the Whirlpool. Down from the Nozzle there was a continuous section of big waves that led to Hotel Rock. Hotel Rock is a big boulder in the middle of the river where the Susitna is about 15 feet wide on both sides of the rock, plus the water was surging over the rock creating an ugly spot. Jim and I had good runs next to the right canyon wall. After Hotel Rock the canyon and river widened where we found countless play spots and ate lunch. After lunch and a lot of playing, Big Sue didn't waste any time getting to the next rapid, which is Screaming Left. Screaming Left was a continuous rapid possibly a couple of miles long. Jim and I had a great time on this one catching surfs on big waves, although I got stuck in a nasty eddy that took three tries to get out of.

The last rapids in Devil's Canyon were called Devil's Gorge and Pearly Gates. At the top of Devil's Gorge, Jim was surfed to the bad side of the rapid by a large breaking wave and took a beating in the big holes. In the process, his spray skirt popped off and filled his boat with water making it difficult to get to shore. He managed to pull into the last possible tiny eddy. Directly below him was the Pearly Gates, which is a big Grayhound Bus-sized hole with another big hole to the left of it. The hole on the left was definitely the one we were going to run—it looked a little more forgiving. And it was! Both of us had wild rides in the hole and it was actually fun! After a little Rebel yell, Jim and I paddled down to a little town called Gold Creek where people greeted us with Yahoos, whiskey and good old fashioned hospitality. There was one problem in running the Susitna — Now I want to do it again!!!

Editors Note: This is an "expert only" river, and very dangerous.

A SHORT CANADIAN RIVER TOUR

Northwest Rafters Association

by David Tyler

It was a toss up. Do we selfishly tell the people our trip to British Columbia in search of rafting was a waste? Or do we let the "cat out of the bag" when it comes, America really does "border on the magnificent," British Columbia, Canada.

Four of us set out for the unknown on Saturday; my wife Sandy Svatos and myself and Jim McGehee and his girl friend Laurie Agnew. We had set aside four days of rafting, followed by three days of civilization.

The trip really started at the Sportsmen's Show in February last year. For three years Jim, Sandy and I had attended the show together, and each year I received a great deal of literature, always tossing it out six months later. This year it would be different! We actually set a date for the trip and we are going again this year! Step one was to find out what the rivers were like. We wrote the Ministry of Tourism for rafting company brochures and, later, we actually sat down to read them the first week of July — just two weeks before our departure date.

We learned several things. No one we knew had ever gone up to Canada for a rafting trip. It's like Canada's a whole different country or something! Most of the outfitters ran only the Thompson and the Fraser, and then only in huge motorized banana boats — not exactly what we had in mind. Both are high volume rivers with Class V and VI water. From what we could gather, the Thompson ranges from 40,000 to 120,000 cfs and the Fraser was running at 225,000 cfs. Wow!

Only six or eight outfitters ran other rivers in B.C. I talked with most of them and heard the same story. Commercial rafting on most rivers was only two or three years old. The real surprise is that all claimed that there were virtually no private rafters in B.C. and that even kayakers were rare. It sounded great! Then reality set in: no guidebooks, no

shuttles, no friendly local rafters, plus Canada and whatever problems that would bring.

Let's be honest. The idea of a blind descent down unknown (to us) rivers did have it's appeal. With only two boats, however, and with no idea of what we were getting into, we decided to play it safe this year.

We wanted to go. Rafting the Rogue was getting real boring and suffering Deschutes was an ordeal we would rather avoid. Virtually any other runnable, overnight river was impossible to get on. B.C. offered that opportunity — rivers flowing strong in the summer, without permits. But, how to get down the rivers?

On our permitted rivers, private trips have to be completely private; all expenses shared. In B.C., no such regulations exist. We decided to try and hire a guide to direct us down, either in his boat or as a passenger in one of our boats. Two outfitters said they would do it, no one had ever asked them before, but our short notice might create some difficulties. It's a different world up there. Outfitters don't hate or fear private boaters — they're friendly and cooperative. My last call was to R.A.F.T. and to owner Vladimir Kulich.

When told what we wanted, Vlad said, "I'm your man," and the deal was struck. He would charge us what he pays his boatmen, \$90 a day Canadian (\$65 U.S.) plus meals, and would probably guide us himself. His base camp was on the Chilliwack, one of our planned rivers, and we would stay there. He would also have his vehicle available for the shuttle. For Vlad, this was a way to see if there might be business in guiding for private boaters.

By this time, we knew we wanted to run 1) the Chilliwack; one three hour float, Class II and III, with a couple strong IV's and a drop of 65 feet per mile, according to Vlad. Another three hour float in the Chilliwack Canyon (take-out at the put-in for the first float), a Class III and IV screamer with a drop of 90 feet per mile, according to Vlad, few eddies, no scouts and frequent log jams. The second river was the Nahatlach; a remote river, continuous Class III to IV+ and a drop of 95

feet per mile, again, according to Vlad. The final river was the Thompson, with the flow down to 60,000 cfs, we wanted to try a run. For this river we did have a map and decided to run it without a guide. Added comfort was a highway which paralleled the river for 2/3s of the run.

We assumed that British Columbia was not exactly the end of the Earth, so rather than hassle with customs, we crossed the border without food or beer, intending to hit a grocery store once we crossed the border. We had made a serious mistake. Pulling into Abbotsville (a city of 70,000) at 6 P.M., we headed straight for the supermarkers. All were closed. Next stop was a trusty 7-11 for dinner food, breakfast food and beer. More bad news. Grocery stores cannot sell beer or wine. It's all sold in provincial liquor stores and they wouldn't be open until Monday (even the pubs were closed on Sunday).

In seven hours from Portland we were at Vlad's base camp, setting up our camp next to the Chilliwack. The base camp is old saw mill camp close to the takeout on the regular run. Our host, Vladimir the regular run. Our host, Vladimir Kulich, suffered through our 1001 questions on rivers (continuous), the weather (great), water temp (wet suits), river politics (none) and his business. Vlad left Czechoslovakia in 1969 ("I rafted down the Volga amid flying bullets," he told us tongue in cheek). Along the way to Canada he spent time as a guide on the Colorado. His company, R.A.F.T., started operations on the Thompson, but two years ago switched to his Chilliwack base. All rafting in B.C. seems to be paddle rafts, with Vlad claiming to run the smallest boats, 11-foot Riken Pioneers. Although R.A.F.T. operates on several rivers, the bulk of their business is half-day trips on the lower Chilliwack, two trips a day of 35-40 clients each on the weekend and several weekday trips. They can be reached at 800-663-RAFT.

For our lower Chilliwack trip on Sunday, we "followed along" on Vlad's afternoon trip. The put-in just below the Slessee Creek bridge, right off the paved road. The road parallels the river the entire trip, but in several hundred yards away in most places and never noticed. Forest kept it out of view. Accompanied

by five paddle rafts of seven people each, we set out on this seven mile stretch. River level was low for this time of year, 1.1 meters at the lower bridge gauge. Usually the Chilliwack is runnable commercially until mid-August, but this year it was "petering out" in mid-July (sounds like home except we were out of water in mid-May). Source waters for the river are snow melt and Chilliwack Lake.

The river was busy. Lots of covered rocks and holes and a fun Class II and III ride of fairly continuous rapids. About three miles downstream we passed a large left bank waterfall, then plunging into a fun river bend rapid with standing waves reminiscent of Bob's Hole on the Upper Clackamas. Beaching on the left after the rapid, Vlad jogged to the top of the rapid and jumped in! (We were later to learn this was standard operating procedure for him). It certainly wasn't a rapid we were all too sure we wanted to swim, despite the 90 degree heat. Vlad enjoyed it and "invited" everyone to join him. One by one, we decided to walk around the bend to the top of the rapid where Vlad awaited to give signals. Downstream, guides waited with rescue boats and throw lines. Like lemmings, one by one we jumped into this Class IV-rapid. It was great! Big water, hard to breathe, and real hard to swim to shore, but great. The clients (he won't call them dudes) knew they had really accomplished something, and we were pleased to get the practice. After hearing about the rivers to come, we were resigned to the fact that flipping was inevitable.

After waterfall rapid, we decided we could handle the river on our own, and with Vlad's instructions regarding two IV's at the end, we headed for the takeout. The river continued its II's and III's. On the left bank, we encountered what looked like a summer camp — long cabins, mess hall, riverside benches for fishing, blacktop basketball court and a satellite dish tucked into the bushes. It wasn't a summer camp. It's a medium security prison (barbed wire was the first clue, as well as posted warnings not to dock our boats). It seems a little unusual, a prison in "paradise". Our questions about these strange ways (paradise prisons, no rafters, beer) always received

the standard Vlad response, "This is Canada!"

We settled into the busy routine of the river, looking for the bridge a half-mile above the takeout. Vlad had warned us that it was difficult rapid, but we had seen the upper section of the rapid on the drive up and weren't that impressed. We were wrong. One thing we failed to spot on our driveby were the cables high across the river — kayaking gates. Entering the rapid without scouting, our mistake was immediately obvious. It's actually two Class IV rapids, one above and one below the bridge; a malestorm of submerged rocks and holes. It was much more intense than say, Whitehorse on the Deschutes, and the rating of the rapids together should be IV+. As usual, no pool and drop here. It was a lot like Hells Corner Rapid on the Oregon Klamath at low water. For four or five minutes we pulled left and right to avoid obstacles. Having not scouted the rapid, it became a choice of choosing which rocks to run over (we each hit at least two).

With cramping arms, but no disasters, we tumbled through and into the comparatively peaceful continuous Class II's down to the takeout.

Around the lantern that night (fires were prohibited due to the extreme fire danger) we learned that bridge rapids had a bad reputation for thrashing boats. Somewhat more disquieting was the news that the next day's run on the Chilliwack Canyon run was like the bridge rapids for two-and-a-half hours!

Put-in for the canyon is at the second bridge crossing after the lower section put-in, at a picnic area and a tributary mouth. Here the canyon begins and runs for five miles of this seven mile "float", with the takeout at the lower section put-in. In theory, both sections could be run in a day. This is a bad theory. Or, as we sarcastically said, "It sure was lucky we're both in top physical condition." Everything we knew about the canyon made us nervous. It is continuous (continuous as in it makes the Metolius look like the Willamette in downtown Portland), it can't be scouted and it is rarely run, and then mostly by kayakers. Being so narrow, with rain forest like vegetation, the Canyon is plagued with log jams and

strainers, which have to be cut out each year. Vlad's report was that the river was free of logs as of two weeks earlier. Rapids are Class III and IV, continuous, except for the last two miles, where a dirt road is occasionally visible, and the river slows to a Class II (with one notable exception).

We left camp at 9 A.M. that Monday morning, with Jim and Laurie in their 14-foot river rider, Sandy and I in our 14-foot cataraft and Vlad with three of his guides in an 11-foot Riken Frontier paddle raft. At the put-in the river looked shallow, but most of the rocks were covered. We launched into Class II - III water with Vlad leading and us with our overactive adrenalin glands following.

The first five minutes were great — extremely busy Class II - III action. It was really tiring, however, and we were looking forward to the end of the rapid. Reality hit. And it hit hard. There wasn't going to be any end of the rapid! We were going to scream down the river. Our biggest fear was fatigue. Vlad had related a story of some Seattle rafters who recently took on the Canyon, got too exhausted to continue, and had to hike out. To conserve strength, we didn't try to perfect runs. Vlad was adept at spotting mini-eddies and we were able to catch six or so. Once we even got to scout a rapid! Unfortunately, hitting the eddies was even more work than running the rapids.

Our memories of the Canyon aren't real specific. We were working too hard to enjoy much of the scenery, but what we saw was absolutely beautiful. The water was as clear as the Illinois, but the forest itself was the real treat — dark, deep and lush. We kept hammering through the rapid's, III's and occasional IV's, trying to pace ourselves. Our nasty surprise was an unanticipated strainer blocking the main channel of the river (and a great rapid). Vlad saw it in time and we snuck through a boulder bar past the dangerous obstruction.

Finally, the Canyon opened up and a dirt road was visible on the right in spots. The river slowed to a Class II - III and we caught our breath. Soon, however, we were at the hatchery rapids. An island split the river with the main channel on

the left and an out of view boulder dam blocking 4/5's of this channel. On the scout it looked easy. We were both a little surprised at how difficult the pull to the slot turned out to be. From down stream, the rapid looked especially ugly, causing us to count our blessing.

The remaining run to the takeout was not dramatic. We briefly (very briefly) considered running the lower section back to camp. Fortunately, sanity prevailed. We were tired and not ready for more technical water without a break. It could make a very exciting two day trip, but we found our "base camp" arrangement to be very convenient.

In reflecting on our run, the Chilliwack Canyon is not a "fun" river unless you enjoy technical whitewater. Out water level was low, showing 1.5 meters on the canyon gauge and the Class V water was at most Class IV+ when taken individually. The river's continuous nature, however, raises the rating in our book. For warming up in running the Canyon, we would recommend Class V technical experience.

That afternoon (we were off the river by 12:30 P.M., we helped Vlad out with shuttles and got a closer look at the operation. If you would like to try these Canadian rivers with an outfitter first, R.A.F.T. would be an excellent choice. The boats are small (11-foot), with six passengers each. R.A.F.T. shoots pictures and videos on the first several rapids and both are shown at dinner. Several stops are made for water fights, swimming beaches and swimming rapids. After the takeout they serve up a barbecue dinner complete with beer and fancy deserts on silver platters. We talked with several of the clients and much of the business is repeat. Our big regret is that we didn't set aside time to take out one of his trips — a surprising feeling from us rapid private boater types.

We finished the afternoon and evening exploring the Chilliwack area. Beer was a 45 minute drive, but that satisfied (and with the 5% alcohol content), we headed up to Cultus Lake. It's a beautiful (and crowded) lake, but the real "in" spot is night sliding at the giant water-slide park. After the day's workout we said. "No thanks."

Tuesday morning we broke camp and left on a three hour drive up the Fraiser River Canyon to the Nahatlach. We crossed the Fraiser at Boston Bar, using the only automobile air tram in North America. From the town of North Bend across the river, it was a dirt road up about 20 miles to the put-in. There was a huge fire in this area in August and we're not sure the river corridor was spared.

As usual, the Nahatlach is impossible to see or scout from the road, except in a few spots on the rim. The lower section of the river is a canyon of continuous Class IV - V that even guides usually refuse to run. It eats 18-foot boats. In September, the canyon is said to be a bit easier. We are planning to lead an NWRA exploratory trip next August 1986.

The takeout is a 15-foot bank in the middle of a Class II rapid and just before the canyon. The put-in in contrast is absolutely beautiful. The section we ran starts at a peaceful mountain lake. Welcome to paradise. A beautiful lake, no company and the only structure is an abandoned cabin and picnic table at the put-in. We rowed the lake (about 20 minutes of pure pleasure), which emptied into a quarter-mile stretch of Class II followed by another lake. It was another pristine lake we were in no hurry to pass by, but all too soon it dropped off into rapids. The river looked like the drop of 90 feet per mile that Vlad claimed. We covered distance fast in the continuous Class III water. Without eddy or slack-water we approached Meatgrinder, a charming monster, and the only rapid we were able to scout from the cliff and the road above. Meatgrinder is the worst rapid on this section. It slams around a corner with huge standing waves and holes. I lead through with Vlad in my boat and I came the closest I have ever come to flipping. Jim sailed through on a wild ride. We were even able to eddy out below.

Back on the river, we went through more Class III - IV roller coasters and hole dodgers coming up to The Wall. The Wall is like the lower section of Green Wall on the Illinois, with a big drop and an attempted slam into the wall

below. Both boats cleared with near grazes and we eddied out for a beer. Our two guide/passengers took the opportunity to swim part of the rapid. Do all Canadian rafters have a swimming fixation?

The trip to the takeout was a roller coaster good time and the ladies pronounced the Nahatlach their favorite trip. We were back across the tram by 10 P.M. and looking for dinner in Boston Bar. Getting a restaurant meal in B.C. after 8 P.M. is about as hard as buying a beer on Sunday. We did find an all night truck stop/trailer park in Boston Bar. Wonderful.

Wednesday morning we set out for the mighty Thompson and the Jaws of Death. In Lytton (the takeout) we had to get written permission from the Tribal Council to takeout. They don't like doing "same day requests", but were very helpful and, for \$3 a head, we were on our way.

The Thompson, flowing at 60,000 cfs looked like the Willamette with rapids. Rowing to shore did not look fun. The rapids themselves looked real straight forward. Huge waves, some holes, many whirlpools. If anyone wants a taste of the Colorado's Grand Canyon, this water is real similar.

We launched at a campground below Spence's Bridge. The weather was great the entire nine days. This day it was at least 95 degrees. The canyon was baking and we were wearing wet suits. All of us were expecting to flip. We were told to expect it, particularly in Jaws, where sometimes 8 out of 10 "little boats" like ours flip on many days.

The first few miles we took it easy, but slowly we started going for it and enjoying the coasters. We did have a guide book on this river and were starting to get annoyed. What they were calling Class IV on a scale of I to VI looked more like a Class II. Was this river going to be a big disappointment? Finally, the canyon narrowed as we came upon "The Frog", a mid-island rock which from below really does look like a frog. The waves in this Class IV rapid were 6-8 feet. We both made the cut. Of greater concern were the whirlpools now forming below the

rapids. We had plenty of practice running eddy lines on the Colorado, but our tubes were being grabbed constantly. In the washout of a rapid below "The Frog". Sandy and I saw Jim's boat disappear less than 100 feet in front of us. Even sitting five feet out of the water in my pig boat, the other raft was completely out of sight, with only their heads and shoulders showing. A whirlpool had grabbed the raft, spinning it down and down, with a wall of water above. Just as water began running in, up popped in the raft, with Laurie destined to hate the Thompson forever.

One after another, the rapids below The Frog were great standing waves, bigger than anything in Oregon and, again, reminiscent of the Colorado, but, unfortunately, without the scenery. Ahead, loomed the Jaws of Death and we docked left to scout. We had to scout from approximately a quarter-mile up river. To get any closer was to invite disaster due to the strong current. We had had a very strong upstream wind all day and had not been effected. The rapid was a set of eight huge standing wave, followed 50 yards later by two monstrous standing waves, with assorted holes thrown in.

Looking up from our scout, we saw the "vultures" on the highway. The road leaves the river just before Jaws and 25 people had pulled off the highway to watch us run the big one. You could just hear the tourists saying "those Crazy Canadians!" We thought the right side might be a sneak route, but planned to run the center unless it looked ugly. We took the first set of waves head on and were flung toward Jaws. Two things became obvious. First, the right side was alive with raft-flipping whirlpools. It was not going to be a "sneak route run". Secondly, we couldn't get over there if we wanted to. It was going to be full speed down the throat.

The first smaller standing wave (10-15 feet) was no problem. The big wave was big (20-25 feet). We both flew over the top and made it to the eddy for a promised beer. Here a commercial

motor-raft was waiting to make sure we made it through O.K. The rapids to the takeout were nice Class III rollers, with the riverbanks actually becoming attractive now that the highway and one railroad were gone.

At the takeout, Jim got a ride up to Lytton with an outfitter and went to Kumsheen River Tours' office. Rob, one of the guides, had volunteered to shuttle us up to the truck. This he did (50 miles round trip), then refused to take any money for it! This wouldn't do. Several beers later, at a local pub, Rob shared lots of info on B.C. rivers. He said our flow on the Thompson at 60,000 cfs was much easier than lower or higher flows. What was Class IV-IV+ for us would have been a solid Class V.

What a different world. Outfitters going out of their way to help private boaters. Private boaters helping outfitters. Taking quasi-commercial trips together with guides and our equipment. Why does it work? Canadian rivers aren't at carrying capacity yet. There's room for everybody. It was hard to read just our thinking. Outfitters were not the enemy and they didn't instantly get defensive just because we were private boaters.

Our river touring done, we settled into the rest of the vacation. We took the air tram at Hells Gate on the Fraser—pronounced runnable in my "pig boat" (any Bill Hines cataraft customers up for an expedition?). From there we traveled to Harrison Hot Springs for 2% hours of R & R, speedboating, swimming and dining al fresco with many drinkies. To end the trip we spent two days in Vancouver, including a tour of the EXPO '86 site. It's going to be quite an event and well worth the trip this summer.

In looking back, our four river trips were all at the easiest flows. It was a nice introduction to rafting opportunities in British Columbia. This year we plan to run an exploratory trip in Nahatlach Canyon, followed by six days on the Chilko-Chilcotin. Four different outfitters have described it as the best run in B.C. With great summer water.

STREAMFLOW PREDICTIONS FOR THE WESTERN STATES

by Keith Thompson

Each year the National Weather Service and Soil Conservation Service (SCS) publish streamflow forecasts for nearly 300 rivers in the western U.S. The forecasts are mainly for the benefit of irrigators and other water consumers, but they also interest those of us who use the water as passage to excitement.

How Do They Do It?

Most streams in the western states are fed by melting snow that has accumulated in the mountains during the winter and spring. Each year between December and May, the SCS, Forest Service and other agencies take monthly measurements of the mountain snowpack's depth and water content at established "snow courses", and use them to predict the total volume of runoff for numerous streams at specific gaging stations.

The predictions are given in terms of the expected runoff as compared to the long-term average runoff at each gaging station. An "average" year would have 100% of normal runoff, while a "much above average" year might provide 150% or even 200% of normal runoff. The predictions assume that average weather conditions will prevail during the runoff season, so they don't take into account exceptionally warm or cool weather, or above- or below-normal rainfall which could rapidly melt the snowpack and cause a short boating season with flood flows or extend the boating season but provide only small peak flows. The total volume of flow, though, is usually a fairly accurate predictor of the length of the boating season.

How Was The Weather?

Much of the West was blessed(?) with an early and wet winter, which began in September and lasted through mid-December. It made for wet soil conditions and a heavy, wet snowpack

that carried us through the following three month dry spell. Early spring precipitation was much above normal in California, southern Oregon, southern Idaho, Wyoming and parts of Colorado, but was well below normal in the northwest.

Rainfall combined with warm temperatures through March to melt low-elevation snowpack, and got the boating season off to an early start. The predictions made at the end of April are calling for an earlier than normal runoff this year, so by the time this reaches you the snowmelt runoff will probably be in full swing in the central and northern parts of the West.

What Did They Say For This Year?

In general, we're looking at relatively dry conditions in the northern states (see map), and a wide swath of near-normal conditions in northern California, southern and central Idaho, and southern Montana. South of there, through central California, Utah, Colorado, and Wyoming, we find above-average snowpack accumulations, while Arizona and New Mexico are desperately short of water.

The streamflow predictions, as of the April 1 measurements, range from a low of 35% of normal for the Little Colorado River in Arizona (see the "Lone Kayaker Challenges Giant Mudballs" photo on Sandpiper Publications' river runners calendar) to 210% of normal for the American River in California. It looks like Colorado, the Sierras and the major southwestern rivers will provide good boating until late in the summer, but Washington, northern Idaho and Montana may be hurting for water relatively early this year. Alaskan rivers will probably be at below-normal levels, except for the Yukon which is predicted to be slightly above normal. Here are the latest forecasts for a few of the more popular western rivers.

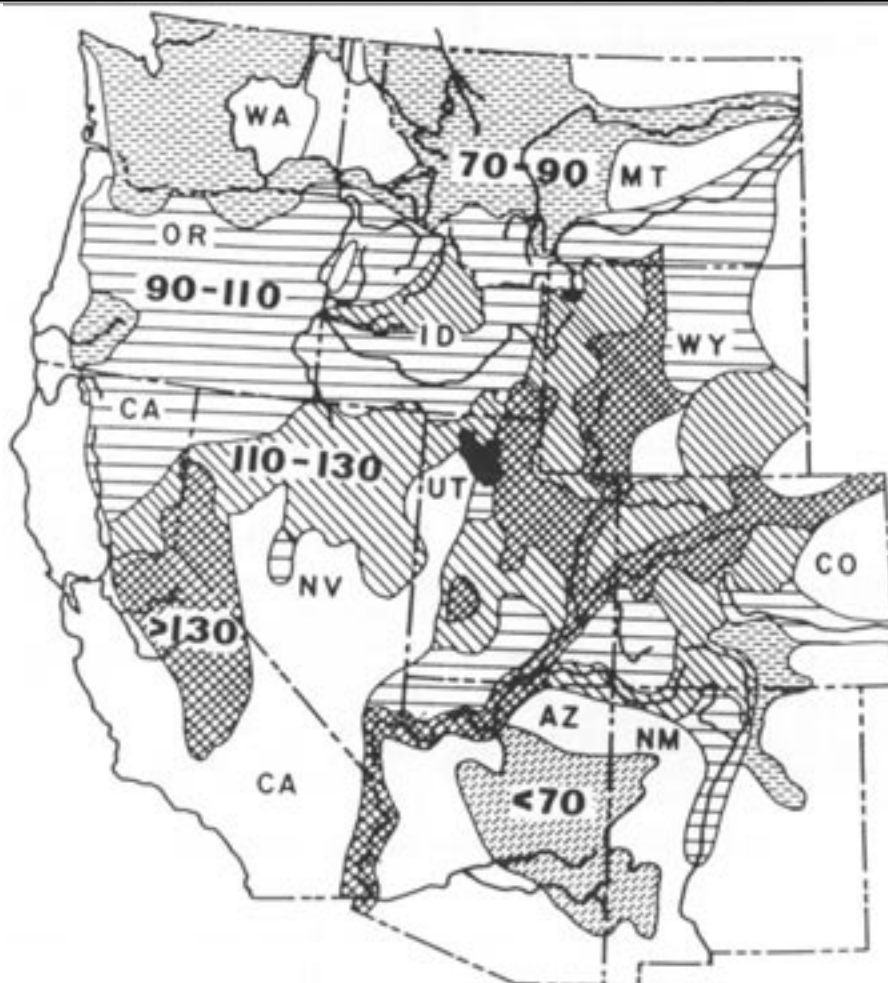
Stream and Station	Forecast (Percent of Avg.)
Trinity R. at Clair Engle Lake, CA	136
McCloud R. abv. Shasta Reservoir, CA	125
South Fork American R. nr. Camino, CA	182
Tuolumne R. nr. Hetch Hetchy, CA	164
Stanislaus R. at Melones Reservoir, CA	184
McKenzie R. nr. Vida, DR	88
Rogue R. at Raygold, OR	85
Klamath R. at Upper Klarnath Lake, OR	118
Owyhee R. at Owyhee Reservoir, OR	161
Skagit r. nr. Concrete, WA	80
Snake R. Hells Canyon, ID	113
Salmon R. at Salmon, ID	111
Boise R. nr. Boise, ID	112
North Fork Payette R. at Cascade Res., ID	98
Clearwater R. at Orofino, ID	69
Flathead R. at Flathead Lake, MT	80
Yellowstone R. at Corwin Springs, MT	93
Green R. at Green River, UT	149
San Juan R. nr. Bluff, UT	113
Colorado R. at Lake Powell, UT	145
Yampa R. at Maybell, CO	120

Dolores R. at Dolores, CO	109
Arkansas R. at Salida, CO	108
Salt R. nr. Roosevelt, AZ	52
Rio Grande at Otowi Bridge, NM	102
Rio Chama nr. Chamita, NM	100
Susitna R. at Gold Creek, AK	88

Where Can I Get Mine?

The "Water Supply Outlook for the Western United States" is published by the National Weather Service and the Soil Conservation Service monthly from January through May. Copies may be obtained free of charge from: 1) National Weather Service, National Oceanic and Atmospheric Administration, Silver Spring, MD 20910, or 2) Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, OR 97209.

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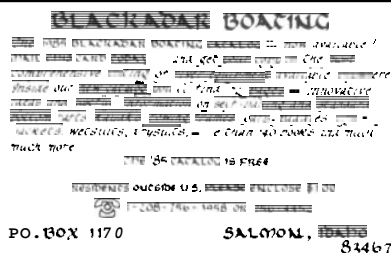
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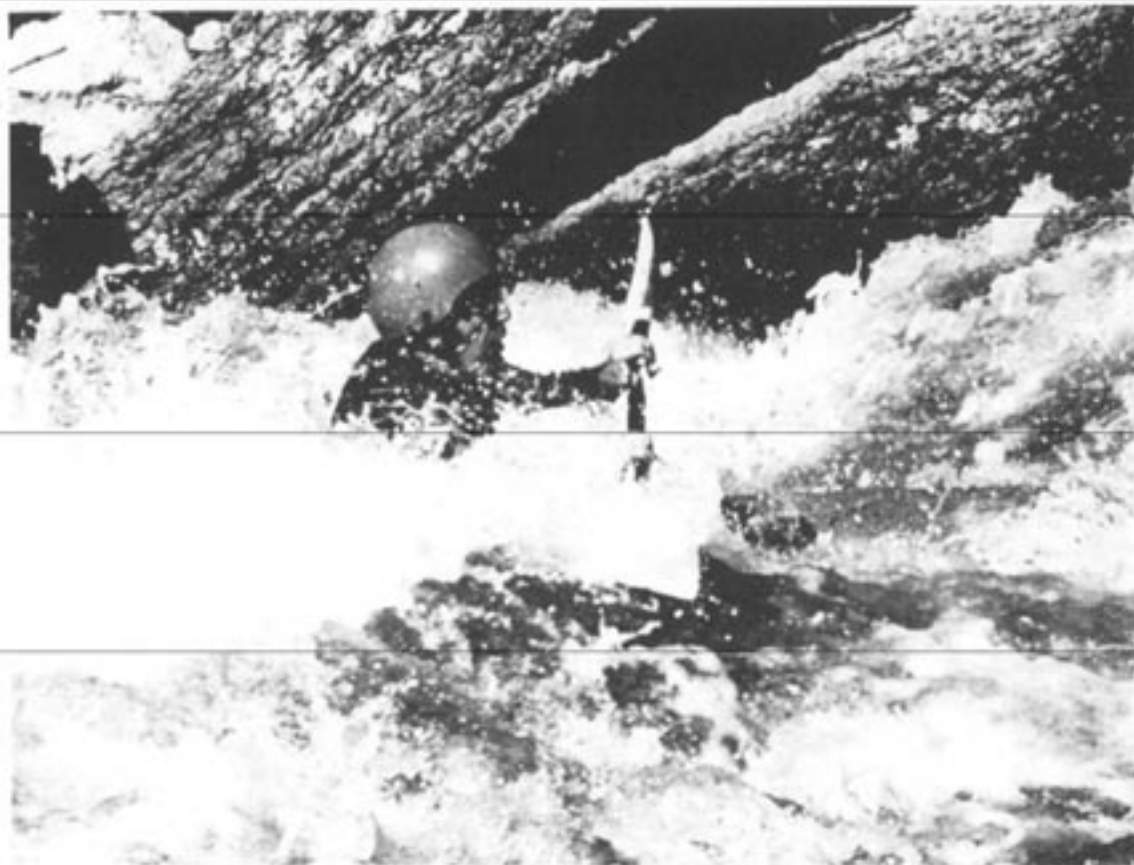
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