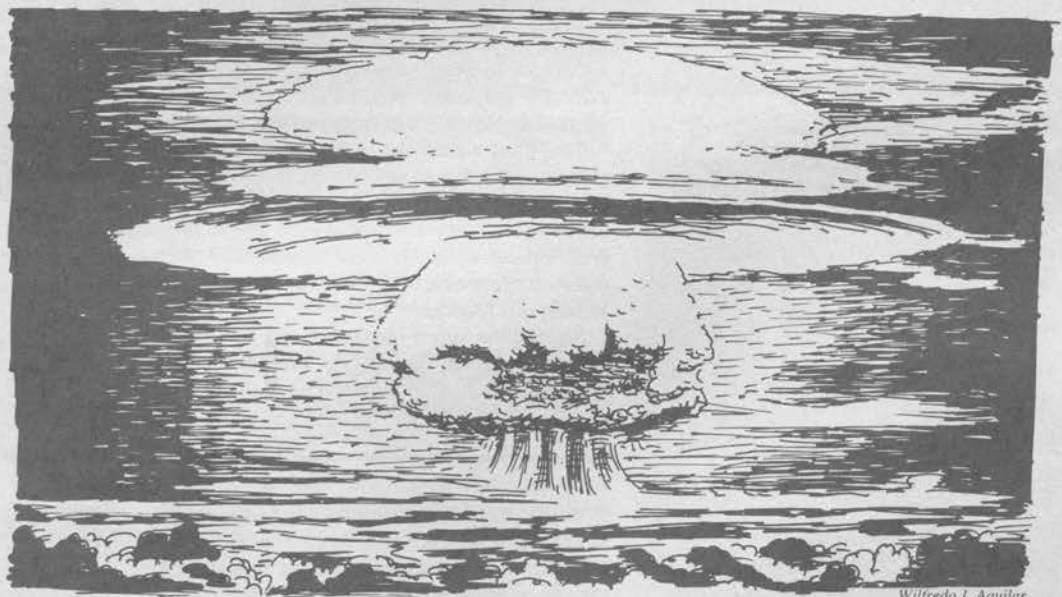




HEADWATERS

FRIENDS OF THE RIVER

Vol. 6 No. 1
Jan/Feb 1982



Wilfredo J. Aguilar

The Environmental Threat to End Them All

Briefs

SMITH . . . Assemblyman Bosco is authoring a bill to delete a tributary of the Smith, Hardscrabble Creek, from the state wild and Scenic River System. The bill has passed the senate and is expected to come before the assembly in January. Pushing hard for passage is Cal Nickle, a mining firm interested in putting a dam on the creek. The bill's number is A.B. 2214 and your state Assemblyman deserves to hear your feelings on it.

SOUTH FORK TRINITY . . . Cal Trout, together with the U.S. Forest Service and the Department of Fish and Game has signed an agreement to begin a model steelhead demonstration project on the South Fork of the Trinity. Funding will come from all three organizations for the 20-30 year program. The goal will be to restore the once abundant steelhead fishery to waters polluted by logging and watershed abuse. In the same basin, Grouse Creek, a heavily silted up tributary, became the beneficiary of a \$25,000 clean-up contract awarded to the South Fork Trinity Watershed Association and made possible by a bill authored by Assemblyman Bosco and State Senator Barry Keene.

TRINITY . . . efforts to restore the Trinity River Basin to a semblance of its pre-Lewiston Dam days are still mashing ahead through the State water bureaucracies. Currently a Trinity River Management Program, the result of a five year study, has identified a list of goals most of which have to do with restoring the decimated salmon and steelhead fishery. The program is available for review from: U.S. Fish and Wildlife Service, 2800 Cottage Way, Rm. E-2727, Sacramento, CA 95825

EUNUCHS EUNITE . . . Reagan's appointment to chief of conservation for the United States Geological Survey is Andrew V. Bailey who, in a lower post in that agency in 1976 signed a memo chiding its environmental section for using the word "disturbed" to describe strip-mined lands. "Inflammatory words such as disturbed, devastated, defiled, ravaged, gouged, scarred and destroyed . . . are words used by the Sierra Club, Friends of the Earth, environmentalists, homosexuals, ecologists and other ideological eunuchs opposed to developing mineral resources."

TENN-TOM . . . The Tennessee Tombigbee barge canal (the Army Corps' answer to the nation's arguable need for another Mississippi River) made its 1982 funding by its narrowest margin yet. In the house, 198-208 and the Senate 48-46. The Tenn-Tom represents the ultimate abuse of the porkbarrel system, raising even the opposition of such institutions as the *Wall Street Journal*, the *New York Times* and — most recently, 48% of the U.S. senate. If you want to help change that to 51% in 1983, write Senators Alan Cranston and S.I. Hayakawa (U.S. Senate, Washington D.C. 20510) both of whom voted for the project's continued funding.

Arizona's Orme Dam a "No" Vote

For 8 years the Maricopa Audubon Society in Phoenix Arizona has been fighting the proposed Orme Dam, part of the Central Arizona Project sited at the confluence of the Verde and Salt Rivers. The Maricopa chapter has funded professional hydrological and economic studies of the proposal contending the structure would be a massive waste of water and money. The resulting controversy led to the appointment of a 28 member "blue-ribbon" commission to study alternatives.

In August the group made its final recommendation, voting almost unanimously against the project and in favor of four smaller dams (including a "Baby Orme" that the Maricopa Chapter is still fighting).

While prospects for final deauthorization are still problematic, the future of the dam has never seemed dimmer. For further information, contact: Maricopa Audubon Society, CAP Fund, P.O. Box 15451, Phoenix AZ 85060.

JUNIPER-CROSS MOUNTAIN . . . opposition to the Bureau of Reclamation plan to dam the Yampa River in Utah (see Jan/Feb Headwaters) has coalesced into a local opposition group. Their address: *Friends of the Yampa River*, 2895 Darley Ave., Boulder, CO 80303.

BRAD WELTON . . . FOR's longtime counsel and guiding light has moved his considerable talent and 16-hour-a-day energy over to the Hyatt Legal Services (4125 McArthur Blvd., Oakland 94612) a low-cost, community service legal aid center. Move over Perry Mason.

THE T-SHIRTS AND BOOKS BLANK



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Tuolumne and
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Colorado River Threatened (again) by Glen Canyon Dam

Bob Lippman

The Bureau of Reclamation announced on October 21 that the government's original proposal to expand Glen Canyon dam to make possible additional "peaking power" capacity has been dropped. Commissioner Robert Broadbent cited a "lack of strong public support for the project." Secretary Watt called it "the wrong idea, at the wrong place, in the wrong time."

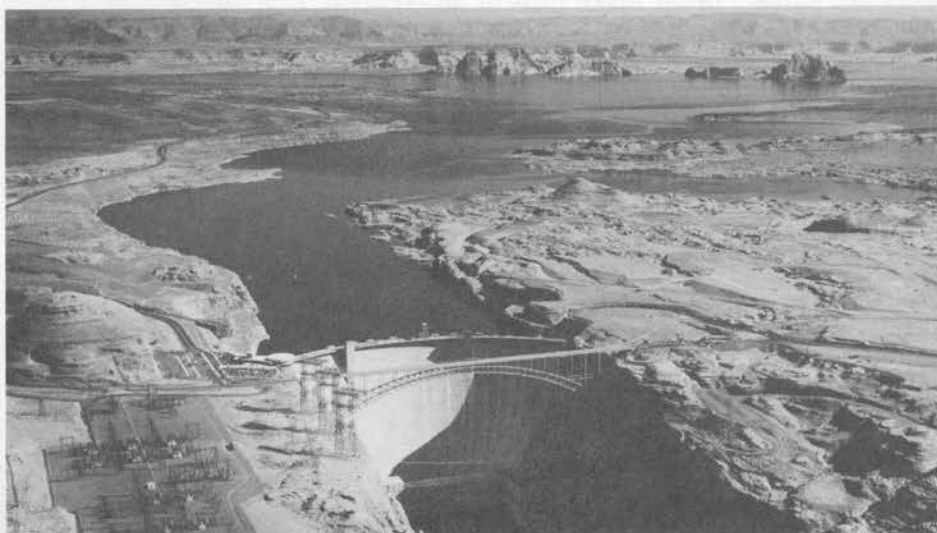
Simultaneously, however, the Bureau of Reclamation was going ahead with a somewhat less ambitious plan to re-wind and upgrade generating facilities throughout the Colorado River basin, including those at Glen Canyon. This scaled down version of the original plan, a scheme which would have made recreational use of the Colorado virtually impossible, is still a serious threat to the ecology of the incomparable Grand Canyon. Specifically, there will be less water available for release in the months of April, May, June and October — off-peak months. At the same time, during the "peak-load" months (July, August, September, December and January) visitors to the Grand Canyon will witness even greater daily fluctuations in water level than have been experienced in the past.

As a result, the erosional and biological impacts that have been degrading the canyon since Glen Canyon was first built in 1964 will accelerate. In addition, the number of boating accidents and jam-ups caused by low water will most certainly increase, as will the amount of contact between trips, as beaches are eroded and boat mooring hazards aggravated.

In response to the concern that environmentalists have raised over these changes, the Bureau of Reclamation has responded that they are not significant. The National Park Service, which administers the river downstream of the Glen Canyon dam, was not even informed of the re-winding plans until they were already underway. There has been no Environmental Impact Statement, no investigation with public oversight, no opportunity at all, in fact, for public involvement.

Colorado Plateau Office Formed

The Colorado River watershed comprises the single most important "bio-region" in the Southwestern United States. The number of interests competing for its various resources have multiplied to the point where it may be safely asserted that the Colorado River's management and use have become matters of permanent litigation — just as final water management authority for the six state basin has become a matter of permanent Congressional debate.



U.S. Bureau of Reclamation

In response to the dramatic increase in development pressure being brought to bear on the basin, FOR has opened a Colorado Plateau Office. The new office will help sponsor research into the ecology of the watershed, publish findings, provide channels for volunteer energy and a mechanism for public involvement in a debate dominated too long by special interests.

The address of the new office is 20½ Cherry Avenue, Flagstaff AZ 86002 and it's directed by Bob Lippman, another starving lawyer and Southwestern desert fanatic.

Besides the re-winding plans at Glen Canyon, the new office will immediately be faced with the prospect of similar proposals on the Green River (at Flamingo Gorge), on the Dolores and Yampa Rivers, as well as in Desolation and Cataract Canyons in Utah. Updates on these projects and the activities of our new office will be carried in future issues of HEADWATERS.



WHAT YOU CAN STILL DO:

The issues regarding flow management at Glen Canyon dam are far-reaching in their national implications for environmental protection, river recreation as a legitimate public resource to be protected, and continued public access to our National Parklands. Write to your elected representatives, including the Arizona Congressional delegation (Senators Goldwater and DeConcini, Representatives Udall, Rhodes, Rudd, and Stump) and relevant Congressional committees (e.g. House Sub-committee on Public Lands and National Parks, Rep. John Seiberling, Chairman) and Federal agencies (National Park Service, Bureau of Reclamation). Please send copies/inquiries to *Friends of the River, Colorado Plateau Office, Box 1115, Flagstaff, AZ 86002.*

REAGAN: THE END OF YEAR ONE

IT HAS BEEN 365 DAYS SINCE PRESIDENT REAGAN TOOK HIS 47% popular plurality, his new economics, and his special perspective on the relationship between government and private enterprise, and settled into the offices on Pennsylvania Avenue. He has, in that brief time, managed to successfully engineer passage of the major parts of his economic package, and at the same time brand his own biases deep into the fabric of the bureaucracies. As a political performance, Reagan's first year has been extraordinary. If his success rate continues, Mr. Reagan threatens to join FDR as the second President of this half century to fundamentally reshape economic life in America.

In 1980, President Reagan ran on the frustration ticket. Very early in his campaign he recognized his winning issue — inflation, and he never let go. "Are you better off now than you were four years ago?" It never failed to get a good crowd response, and Reagan wrung it dry.

A year later we don't hear the question quite so much, but even so, it seems appropriate, particularly from an environmentalists' point of view, to answer it anyway. And to aid in that process, we've assembled a brief point by point comparison:

- At the Environmental Protection Agency, Anne Gorsuch has replaced Russell Train as chief administrator. Gorsuch is a former Colorado attorney, an old friend of Jim Watt's who, in the words of one retiring EPA official "is concerned as much with dismantling the agency as making it work." Over the first two



E.P.A.

years she has proposed cutting staff by one-third and the operating budget by one-fifth. Reagan's budget officials are looking to cut it even more. Among the programs on the block are: the Clean Air Act, the Toxic Substances Superfund, auto emissions requirements and industrial pollution standards — along with hundreds of other individual regulations. Under Gorsuch's directions the EPA has experienced a staff turnover variously estimated at about 80%, due either to firings or quitings, many of which have gone unreplaced.

- At the Department of Interior James Watt



Rocky Mtn. News

has been one of the administration's prime lightning rods, with his combative flamboyant style: would that he were all style. In twelve months Watt has, among other things: acceler-

Anne Gorsuch

A two-term veteran of the Colorado House of Representatives, Gorsuch's involvement with environmental issues before the E.P.A. was limited. One exception being an aborted effort to transfer state responsibility for hazardous waste cleanup to the counties.

- Meanwhile, over at the Department of Energy, immediate plans to dismantle the entire agency have been dropped, but in their place the budgets for dozens of programs have been reduced to honorariums. Among them: energy conservation, down by 79%; solar, down by 66%; nuclear, meanwhile, up by 50%. The Council on Environmental Quality? Down by 64%. The Urban Mass Transit Administration? Down by 36%.

But the budget cuts are only a part of the story. Behind them is a thorough-going policy reversal, implemented with an arrogant disregard for 25 years of bipartisan environmental protection that leaves little room for debate: the Reagan administration is out to completely disarm the Federal regulatory agencies.

Interior Secretary Watt

"By the 4th day we were praying for helicopters . . ." Mr Watt commenting on his Colorado River trip in 1981.



San Francisco Chronicle

President Ronald Reagan

Former 'Old Ranger' current 'New Federalist'.

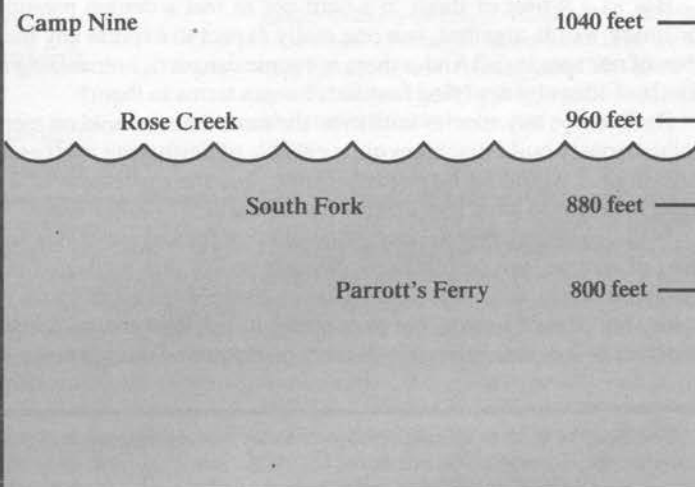
WHAT YOU CAN DO:

Reagan's appointees and his environmental policies have got to be made political liabilities. Given the current state of the economy, and Reagan's well correlated popularity standings, he may soon recognize the need for making new friends. The Wisconsin legislature recently passed a resolution calling for Secretary Watt's ouster. Other elected bodies can do the same — as can citizen and civic groups of every stripe and purpose.

The nation's air quality standards are a particularly sensitive area, clearly pitting industrial against citizen interest. In the House right now is a bill, H.R. 5252, the "Dirty Air Bill" which would dramatically lower the standards of air quality allowable over American cities. Top executives from the auto industry are making personal visits to Washington for the bill and Reagan has put Vice President Bush and Chief of Staff James Baker behind the White House lobbying effort. Your Representatives need to hear from you now in order to counter this effort. Urge them to oppose H.R. 5252 and any degradation of clean air standards.

Update: The Stanislaus

HOW HIGH WILL THE RESERVOIR GO?



ON THE LEGAL FRONT

Since late January the State of California has been seeking an injunction to force the Federal Bureau of Reclamation to operate the New Melones Reservoir in compliance with Decision 1422. Decision 1422 is the 1973 State ruling that recognized the unique value of the upper Stanislaus canyon and sought to preserve it until contracts for the irrigation water from the reservoir's storage are signed.

The Supreme Court, in 1978, ruled that the State does indeed have authority to dictate the terms of operation on a federal project unless those terms come into conflict with "clear Congressional directives". Whether or not Decision 1422 did, in fact, conflict was an issue remanded to a lower court and which is now being considered by the 9th Circuit where a final ruling is not expected until later this year.

In the meantime, on February 2nd, the San Francisco Federal Court issued the State sought injunction whose intent was to hold the reservoir level down until the larger "Congressional directives" issue was resolved. Unfortunately the injunction was qualified with some significant conditions that make it, from a river preservationist's point of view, a flawed victory.

The biggest loophole in the court ruling concerns the amount of water the Bureau will be allowed to hold back for the purposes of preventing downstream "flood damages". The terms "flood damages" and "downstream property interests" are quite vague and the Bureau is at liberty to interpret them rather broadly. Judging from past performance, the Bureau may well evade compliance with the spirit of the injunction by citing a somewhat arbitrary estimate of potential flood damages.

The Bottom Line

The injunction is a victory — without it the Bureau could have filled the reservoir to over 1000 feet in elevation. But is seriously compromised by the degree of latitude allowed the Bureau in determining safe downstream flows. To what extent the Bureau will abuse this latitude is unclear at this time (a couple of important variables are the weather and the effectiveness of FOR's campaign) but the possibilities range between 890 and 990 feet (Razorbuck and Bailey Falls).

The real issue of course is not the legitimacy of the flood control concerns — the dam could prevent any flood damage no matter how estimated and still preserve the upper canyon. The real issue is how the Bureau intends to manage the storage kept for State recognized purposes (water quality, fish and wildlife, prior irrigation rights). If the Bureau

integrated these various claims together into a release management plan, the storage height behind New Melones could be held to acceptable levels. Instead, the Bureau is adding the different claims and using worst case assumptions in an effort to maximize storage. The aim seems to be to cut the debate short by presenting both the courts and the conservationists a drowned canyon and thus a dead issue.

ON THE POPULAR FRONT

The California Water Protection Council is in the thick of its signature gathering campaign for the Water Conservation and Efficiency Act. As of February 1st, 125,000 names had been collected with another 375,000 to go before the deadline of April 30th.

As described in the latest issue of *HEADWATERS*, the act would legally define flowing streamwater as being in "use", allowing it to compete in the courts with other "uses". Additionally, the act would bring some coherence to the unregulated frontierland of groundwater usage (where the basic rule is "He who has the biggest, deepest well survives — at the expense of the water table and smaller farmers"). And, of course, the Act would give the force of law to State Decision 1422, protecting the upper Stanislaus.

The California Water Protection Council has its main office at 401 San Miguel Way, Sacramento CA 94819. Volunteers and donations are desperately needed to put the act on the November ballot. Would-be petition circulators and philanthropists can also contact the Council at one of its regional offices.

Los Angeles

8356 Westlawn Ave 90045
(213) 649-4197

Santa Ana

831 N. Minter 92701
(714) 542-2426

San Diego

4246 40th St 92105
(714) 284-9655

Santa Barbara

6706 Sabado Tarde #B 93117
(805) 685-6058

San Jose

6139 Prospect 95129
(408) 257-3330

San Francisco

942 Market St #606 94102
(415) 397-7784

Santa Rosa

4823 Bennett Valley Rd 95404

Arcata

1091 "H" St 95521
(707) 822-6918

THE BOMB IS BACK

THE FOLLOWING ARTICLE DISCUSSES THE POTENTIAL effects of a nuclear war and the current administration's nuclear arms policy. Unavoidably, phrases such as "the eradication of our species" and "the destruction of civilization" crop up in the context of an otherwise rational public policy discussion. Most readers will probably plow right through them with the accustomed indifference of our modern megaton age, proving once and for all that *anything* can be trivialized by too much exposure.

But as a writer of them, it's hard not to feel a certain presumption. By stringing 5 ordinary words together, can one really expect to express any measure of "the eradication of our species"? And is there not some danger of humanizing and familiarizing these kinds of ideas by applying familiar, human terms to them?

Rationally, any species with even the most tenuous hold on mental health ought not to industriously build machines quite capable of destroying itself entirely. Ideally, even the notion of it would be incomprehensible, and the expression of it impossible — natural selection would have implanted a biological censor in the brain.

Without attempting to pass judgement on the degree of our racial mental health, we are, of course, not so inhibited. We like to say that nuclear war is unthinkable, but of course it's not. We settled that issue in 1945. What's left for us is not to sweep it away with shudders of horror, but to confront it, confront the grim lesson of our history, and work with the dedication of prisoners on borrowed time to make it not happen.

— JBC

The figures, as near as either side will make them public, are these: total number of U.S. and Soviet land and sea based intercontinental missiles (ICBM's), 2452; total number of intercontinental bombers, 724; short and intermediate range bombers, roughly 1000; short range ("tactical") missiles, 2,144. There are, in addition, large stockpiles on both sides of air launched nuclear missiles, nuclear torpedoes, nuclear landmines, nuclear depth charges, and nuclear artillery shells. All told, and including the small but growing inventory of the United Kingdom, China, France, India and (probably) Israel and South Africa, the world is today home to approximately 40,000 nuclear warheads. The total amount of explosive force represented by this number is equivalent to that of 3 tons of TNT for every man, woman and child on earth.

Of course, in the event of a full-scale nuclear war, all this explosive force will not be distributed equitably around the globe. Rather, it will be directed accurately (thanks to the sophistication of modern guidance systems) towards tactical (military and industrial) and strategic (population center) targets in the U.S., U.S.S.R., Europe and perhaps China. Giving some idea of the consequences of such an apocalypse is quite totally beyond anyone's descriptive power.

To illustrate that point consider the effects of a hypothetical one megaton air burst centered over downtown San Francisco on a clear, still, typical weekday afternoon. Such a blast might result from the detonation of 2 of the 8 independent warheads attached to each of the U.S.S.R.'s 300 SS-18 missiles.

Within a radius of 1½ miles atmospheric overpressures will be 20 lbs plus — everything and everybody will be incinerated or vaporized. Out to 3 miles, winds will exceed 160 mph, anyone exposed will be seriously burned if not crushed by debris. At a range of 8½ miles

overpressures will still be 2 lbs or more, destroying most unreinforced structures and turning every window into glass buckshot traveling at speeds over 100 mph. Of the 3,613,000 people in the San Francisco metropolitan area, 780,000 would be killed outright. Including the delayed effects of disease and injury, total casualties in this hypothetical blast would number 1,162,500 — every third person. It would be, unarguably, the single most catastrophic minute in the history of the western world. And

"While the long-term toll of fallout contamination could be a 30 percent increase in cancer incidences, this, though undesirable, could be cancelled out by neglecting to rebuild the cigarette industry."

— a foreign policy advisor to President Reagan as reported by the *New York Times*.

we are talking about one quarter of the destructive power of one Russian missile.

Belaboring such grisly statistics would, at first glance, seem to be a pointless and macabre fixation. The fact that we all face nuclear annihilation is one of those "facts of life" in these United States.

At least it used to be. Recently, however, a growing number of officials have begun to talk of "first-strike capability", "enhanced Civil Defense procedures", "acceptable casualty levels", "demonstration shots" and "limited nuclear war". All of which lend obscene credibility to a proposition that must never seriously enter the beliefs or conversation of civilized men or women anywhere: the belief that a nuclear war is winnable. The survival of our species depends on the eradication of this, the biggest of the "Big Lies".

President Reagan, in announcing his new \$180 billion defense budget this past October, repeatedly cited the phrase "window of vulnerability" as part of his program's justification. At approximately the same time, the Pentagon issued a 99 page booklet "Soviet Military Power", which, with the help of colorful graphics, tabulates the might of the Soviet arsenal and build-up. Little in the report is new. The facts and figures presented have been available in recent years in Defense Dept. budget presentations and congressional reports and hearings. The PR impact though is not inconsiderable and was clearly designed to help bolster the President's defense budget rationale.

Reagan's "window of vulnerability" refers to his perception that Russia might be tempted to launch without warning an attack directed solely against our land-based ICBM's, knocking out a significant fraction of them. The President, the theory then goes, his retaliatory forces crippled, thus would be forced to surrender or face a second strike directed against American cities. A frightening scenario, scripted to help sell a frightening arms package, and fortunately for us all, totally preposterous.

A few of the obvious flaws.

In order to catch the U.S. missiles in a base state of readiness, the U.S.S.R. would have to initiate this hypothetical first strike during a time of normal world relations. There would be no crisis councils, no mounting threat. The decision to commit the most heinous act of mass murder in history would have to be made delib-

erately, over time, presumably by more than one man, and during a period of relaxed international tensions.

Additionally, such a massive coordinated strike is extremely difficult technologically, as well as being obviously unrehearsable. In order to achieve success, tolerances have to be within fractions of miles and seconds — for each of several thousand warheads.

Even assuming that morally the Russian leaders are capable of making this kind of peacetime decision, and additionally they win their technological mega-bet and disable a large proportion of the U.S. ICBM force, what then?

The U.S. President would still have at his command forces with apocalyptic potential — a significant fraction of the ICBM's, nearly all of the B-52 bombers, the entire nuclear submarine fleet and, of course, the NATO arsenal. In

addition, he would have just suffered between 25-50 million American deaths. What fraction of their own country would the Russian leaders be willing to bet on his response?

though is not the additional "kill power" it represents — most inhabitants of the 20th century have just about reached the numb point on that — but the trend of its assumptions.

"Well, I would — if they realized that we — again, if, if, we led them back to that stalemate only because that our retaliatory power, our seconds, or strike at them after our first strike, would be so destructive that they couldn't afford it, that would hold them off."

— President Reagan clarifying his position on limited nuclear war

If speculating about Strangelovian questions such as this one seems a peculiarly nightmarish exercise, it may be comforting to know that no one, least of all Reagan and his advisors, seriously believes in the "window of vulnerability" scenario. The basic problem that it focusses upon, the vulnerability of missile siloes to nuclear blast, is unsolvable. Reagan scrapped Carter's "solution", the race-track MX plan, rightly pointing out that the Russians can target new missiles as fast as we can dig new holes — and probably a lot more cheaply. The President's counter proposal, to "harden" 36 existing Minuteman siloes, is just as futile. No silo, however reinforced, can withstand a direct nuclear hit, and the presence of "super-hard" installations will simply spur the development of better guidance systems — another turn in the spiral.

The President's other proposals — to build and stockpile 65 new MX missiles, to go ahead with the B-1, and to develop a new, more accurate Poseidon II missile — taken together form a package whose rationale is largely political. Candidate Reagan promised us he'd get tough with the Russians, and here's the hardware he's going to do it with. Unfortunately the B-1 will be obsolete before it's built, the new MX missiles will be warehoused until a basing mode immune to a direct nuclear hit is conceived (liable to be a long wait), and the improved Poseidon will almost certainly be seen by the Russians as the ultimate first strike weapon, a perception with potentially disastrous consequences for arms talks as well as the whole notion of mutual deterrence.

Whether anyone on either side of the world — with the possible exception of the defense contractors — will sleep better as a result of these proposals is highly problematic.

The most disturbing aspect to Reagan's plan

The real window of vulnerability does not involve any scenes of the Politburo sitting around a table quietly planning lightning megadeath: human beings are more incrementally spirited. Technologically we may be able to destroy civilization at a stroke, but emotionally and politically we are (mercifully) not quite so abrupt.

Instead we take the route of indirection, we make the non-decision. We export nuclear technology because it's profitable, because it's politically expedient, and because the weapons connection is a bit vague. As a result, without the actual sale of a single nuclear warhead, we can expect to see the Nuclear Club grow from today's 8 to something like double that by the

year 2000 (tops on the list is Pakistan).

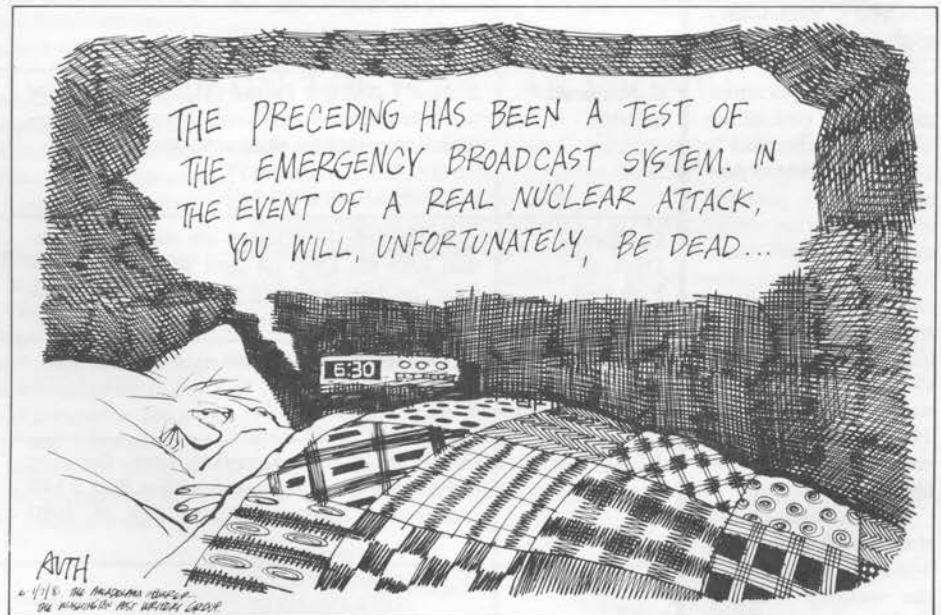
Meanwhile, the nuclear threshold, the distinction between conventional warfare and nuclear, continues to erode through technological advance. The trend is to smaller, faster, "smarter" bombs. The term "surgical strike" is frequently heard. The idea being that an exchange of pinpoint accurate nuclear weapons to purely military targets could be held to just that — a single exchange. At the same time we are experimenting with "little nukes" designed for specific tasks. Hardly nukes at all in fact, more like conventional bombs, just a little bigger and better.

And while all this is going on in the weapons labs, the brushfire wars and the ayatollahs continue to flare up with the regularity of history.

Taken all together, the entire picture can be seen either as "business as usual" or a recipe for Armageddon: it is, unfortunately, both. We have pointed a gun at our heads, equipped it with a hair trigger and someday, to our short-lived surprise, it is going to go off by itself.

WHAT YOU CAN DO: As hostages in the nuclear stalemate, we all have a certain stake in the direction the "negotiations" are taking. And in keeping with our **HEADWATERS** tradition, we are recommending grassroots action.

• **Contact Citizens for a Bilateral Nuclear Freeze** (7250 Franklin Ave. Suite 101, Los Angeles, CA 90046). This citizens group is attempting to put an initiative measure on the



courtesy Philadelphia Inquirer

"... a nuclear war would alleviate some of the factors leading to today's ecological disturbances that are due to current high population concentration and heavy industrial production."

— an official in the Office of Civil Defense

ballot which would put the State on record as supporting a complete halt to additional weapons stockpiling. The measure (unfortunately) would be "advisory" only; it would not have the force of law. But the spirit it invokes and the direction it moves are both positive. It would be, incredibly, the first opportunity the nuclear hostages anywhere have ever had to vote their

continued on page 9

A Legion of Little Dams Small Hydro Projects Threaten State's Rivers

TAKE YOUR AVERAGE stream. Pour it down a pipe and into a turbine. Attach that to a generator. Open the gates and it makes moving electrons — from an accountant's point of view, cheap ones. How many depends on the height of the dam and the size of the stream. The formula is $KW = QH/14$, and for a skyrocketing number of developers big and small, it's just part of California's small hydro boom, the rush for the state's "white oil".

The Federal Energy Regulatory Commission is the government office that handles permits to build hydroelectric dams. It's the first of several bureaucratic hoops potential developers have to jump through before they can start pouring concrete. Prior to 1979 FERC handled a couple of hundred "preliminary applications" from California a year. Preliminary applications amount to first claim "hunting licenses". The engineering or economics of a potential project are not really looked at until later. Suddenly though, between 1979 and '80, the number of applications tripled. FERC was swamped. In a one week period in April 1980, the agency received 32 California applications.

The reasons can be traced back to the 1978 National Energy Act, the weighty five part package that Jimmy Carter negotiated through Congress over 2 years. Tucked away in that package, and mostly unnoticed, was language requiring the large utilities to "buy back" electricity at premium prices from any small-scale producer —

be he solar, wind, geo-thermal, bio-mass or . . . hydro. Then in 1980, Congress added more incentive in the form of additional tax credits — and suddenly producers had a guaranteed market combined with some attractive tax benefits. The rush was on.

Environmentalists, although generally supportive of efforts to decentralize power production, are viewing with alarm the dimensions of the new "white oil" boom. Small hydro, as it's called, can be any project up to 5 megawatts capacity, enough for the needs of a few thousand residential customers; and while many of the applications are for retro-fit projects on existing structures, many are for entirely new projects — frequently in very sensitive wilderness areas. In addition to which, the bulk of the interest is coming not from the nation's backwoods tinkerers, but from a handful of new companies that are blanketing the country's waterways with claims. In California, for example, one outfit, Consolidated Petroleum Industries of Houston, has filed for fully one-fourth of the state's new claims. The situation threatens to get out of hand. As one Senate staff member put it — "We've created a futures market in hydro sites."

Conservationists concerned about this latest wrinkle in resource investment are taking scant

comfort from the protections offered by FERC, a regulatory agency which, even before Reagan, had a history of spotty enforcement. Its offices are understaffed and underfunded, and in keeping with the new political realities, under pressure to cut the red tape and get out of the way. As a result, in response to the tremendous increase in workload represented by the new applications, FERC has proposed lifting entirely the licensing procedures for all projects under 5 megawatts. To date, no action has been taken on the proposal, but the lesson is plain: if there is to be a responsible degree of concern for the environmental implications of small hydro-electrical development in California, it is going to have to come from the public.

WHAT YOU CAN DO:

Small hydro is very frequently a private investment: the profit motive rules. If an investor feels that any given project is subject to a significant amount of environmental review or mitigation, he may simply choose to take other financial options. To activists accustomed to battling Federal projects with public funding, the change to hard-nosed bottom line accounting can be most welcome.

What follows is a listing of the review stages for any hydro project, the relevant agency, and the process for getting involved.

AGENCY	PROCEDURE	WHAT YOU CAN DO
Federal Energy Regulatory Commission	Application for preliminary permit. This confers "first claim" rights to developer, and authorizes detailed study of site feasibility.	You can intervene in the application to ask FERC not to grant the prelim-application. You must do so within 30 days of the Federal Register notice. FERC's Div. of Public Information (825 North Capitol Street N.E. Rm. 1000, Washington D.C. 20426) will put you on a mailing list if you wish to be kept informed about what claims are being filed, where, and by whom.
U.S. Forest Service	Special Land Use Permit (SUP). Required for activities impacting Forest Service lands — which may include study activities.	The F.S. is supposed to solicit public input before any decision to issue a SUP, generally in the form of an Environmental Analysis. Once the decision is made, it can be appealed at various levels in the F.S.
California Dept. of Fish and Game	Consultation. Developers are required to consult with the DFG on their study plans (and, later, on their operating plans) to assure consideration is given to fishery resources.	You can help the DFG identify problem projects (and project problems) and pressure them to be tough on particular projects.
State Water Resources Control Board	New dams require a water right from the state.	You may be able to intervene and contest water rights applications on the grounds that they do not serve the public interest.
FERC	Application for exemption from licensing; FERC can exempt projects of less than 5 MW under the Energy Security Act of 1980.	You can intervene to insist on licensing: exemption is discretionary. If an exemption is granted, a F.S. SUP may be the last hurdle (on U.S.F.S. lands).
FERC	Licensing.	The licensing procedure is fairly formal. You need to intervene to participate. An Environmental Analysis of the project which should include public input, is included. It is often done cooperatively between the F.S. and FERC (whose environmental division is in Washington D.C.) The analyses done in this manner cover both FERC licensing and F.S. SUP issuing.

For more information about these procedures and what opportunity they provide for public involvement, contact Dick Roos-Collins at FOR/San Francisco or Betty Andrews at FOR/Sacramento.

INTRODUCING THE TUOLUMNE RIVER PRESERVATION FUND (and John Amodio)

Since 1975 the future of the Tuolumne River has been a central concern at Friends of the River and the focus of a great deal of our energy. For seven years, while the dam proposals have been held in abeyance, FOR has been working to raise public awareness of the value and beauty of this incomparable river. In October of this year, however, if no action is taken, federal protection of the Tuolumne will be lifted. The development proposals are already engineered and on file at the Federal Energy Regulatory Commission. This fall, the Modesto and Turlock Irrigation Districts fully expect to begin the process of damming this river.

In response to this extraordinary threat, FOR has helped to sponsor the formation of a new group, the Tuolumne River Preservation Trust, directed by John Amodio. The purpose of the Trust will be, most immediately, to find a Congressional sponsor for a Tuolumne Wild and Scenic Bill before the deadline expires; concurrently with that, TRPT will aim to educate the public, lobby officials, sponsor research and publications, and to provide an easy mechanism for volunteer involvement.

You can help more directly in this effort by contacting the Trust at our San Francisco offices, (415) 441-8778.



John Amodio

SOUTH FORK OF THE AMERICAN UPDATE

Plans to dam the lower stretch of the South Fork American have been all but scratched. As reported in the Sept/Oct HEADWATERS, the El Dorado County Irrigation District has formally withdrawn its interest in developing the lower river. The final nail in the coffin, a bill sponsored by Assemblyman Berman (AB 1354) has passed out of the assembly and is now being considered in the senate. If passed, the bill would prohibit any application for water projects on the lower river. Prospects for the bill's passage were considerably enhanced by a compromise worked out with a potential diverter, Georgetown, whose interest in a small amount of water will not be affected by the bill.

Meanwhile, the upper project, a multi-dam scheme on the South Fork and several of its major tributaries upstream of Chili Bar, is still being pursued. El Dorado County, the sponsor, will be taking their water rights application before the State Board in late February. Friends of the River has filed a protest with the Board, charging that additional diversions are unwarranted until the existing delivery system — an aging collection of pipes and aqueducts with a 30-50% leakage rate — is updated.

F.O.R. has also intervened in the Federal licensing procedure, hearings on which were held in October, asserting insufficiency of the Environmental Impact Statement. Meanwhile, El Dorado's potential power customer, the Sacramento Municipal Utility District, has held up on its commitment to buy any electricity until municipal bond interest rates drop below 10%. This last development is potentially the most damaging for the project since it leaves El Dorado financially out on a very long limb. Its prime contractor, Ebasco, has agreed to work in the interim on a deferred fee basis, but, for the moment at least, interest rates are showing no signs of going down.

For boaters and fishermen on the lower river, water releases below Chili Bar will probably remain more or less unchanged from last year's. PG&E has indicated its "interest" in providing more release for recreation, but as yet nothing definite or binding.

WHAT YOU CAN DO:

By writing Carla Bard, chairwoman of the State Water Resources Control Board (1416 9th Street, Sacramento 95814), you can help bolster F.O.R.'s protest. Indicate your interest in seeing that alternatives for providing El Dorado's applied for 30,000 acre-feet are fully explored.

THE BOMB IS BACK.....continued

support or opposition to the arms race.

- Agitate. Make the nuclear issue a topic to be dealt with. Force your representatives to make a stand. Do they support the export of nuclear technology? What level of defense expenditures? What kinds of weapon systems? What is their opinion about the notion of "limited nuclear war"? Do they believe the Reagan "window of vulnerability" scenario?

- Become more informed by staying up with the issue in the papers and reading from the suggested list that follows. Public awareness and activism feeds upon itself. If a noise in the streets is heard, books will come out, movies will be made, demonstrations held, the noise will get louder. Be a part of it.

SUGGESTED READING AND VIEWING:

- **The Effects of Nuclear War** (Office of Technology Assessment) \$5.50 postpaid from Superintendent of Documents, U.S. Govern-

ment Printing Office, Washington, D.C. 20402. Order no. 052-003-00668-5.

- **Nuclear Nightmares** (Nigel Calder. \$4.95 postpaid from Penguin Books, 299 Murray Hill Parkway, East Rutherford, New Jersey 07073).

- An excellent periodical is **The Bulletin of the Atomic Scientists**, 1020-24 East 58th St., Chicago, IL 60637. \$15 for 12 issues.

- **The New Yorker** recently ran a 3 part series (Feb 1/8/15) by Jonathan Schell which does an admirably thorough job of describing the potential effects of a holocaust. Entitled "A Republic of Insects and Grass."

- **The Last Epidemic**, a film produced by Physicians for Social Responsibility is a needed reminder of what the stakes really are. You can buy it for \$25 through the **American Friends Service Committee**, 2160 Lake Street, San Francisco 94121. For a copy of a complete "filmography" describing and providing access to more than 70 films on nuclear war and the various facets of the arms race send \$2.00 to **David Brown, Nuclear Film Filmography**, 2114 Golden Gate, San Francisco 94118.

Oregon's River Saving Scheme

Reasserting its claim as one of the nation's most environmentally progressive states, the Oregon legislature has passed a bill which provides significant tax incentives to private holders of riparian lands who act to maintain or rehabilitate waterside ecosystems. The program is entirely voluntary, but observers expect thousands of land owners will take advantage of the tax savings by investing in the health of their streamside property. The bill was a carefully crafted piece of legislature, constrained on the one hand by private landowner's rights, but inspired on the other hand by the public interest in healthy streams. It is a measure of the authors' success that the bill was carried by a leading Portland liberal and a conservative lawmaker from the Eastern half of the state.

Citizens' Initiatives

The Half-a-Million Names Game

Non-returnable cans, bottles and nuclear missiles are the subjects of two initiatives being circulated in California this winter.

The Can and Bottle Recycling Initiative, if it became law, would: require a 5¢ deposit on all metal and glass beverage containers, save an estimated 40% of the bottling industry and statewide energy consumption, and create an estimated 4,700 jobs. Bottle bills have already passed in 8 states — Maine, Vermont, Connecticut, Oregon, Michigan, Iowa, Delaware and most recently, Massachusetts where the Governor's veto was over-ridden by the state legislature. Here in California the legislature has failed to approve bottle bills in 8 sessions, despite public opinion polls showing strong support for the idea.

Californians Against Waste is the name of the organization sponsoring the initiative drive. As of February 2nd, the group reports that 500,000 signatures have been collected, more than enough to put them over the top before their deadline of March 25. Efforts are now being turned to what promises to be a harrowing political campaign leading up to a November 6th showdown. Would-be volunteers can get hold of them at 1517 23rd St. #2 Sacramento, 95816 (916) 443-5422. In the Bay Area, 2701 College Ave., Berkeley 94705 (415) 540-8148.

The Bilateral Nuclear Freeze Initiative

A second group, Californians for a Bilateral Nuclear Freeze, is collecting signatures in an effort to put an advisory measure on the November ballot entitled "The Bilateral Nuclear Freeze Initiative". As an advisory measure, the bill would not have the effect of law, but it would put the State of California on record as opposing the nuclear arms race as it is currently being pursued (see accompanying article).

• Volunteers can get in touch with them at 5480 College Ave., Oakland, CA 94618. In Los Angeles, 7265 Franklin Ave. 90046 (213) 850-0853 or in Sacramento at 725 21st St. 95814 (916) 442-2010. As of February 2nd, the group reports 322,000 signatures gathered with a goal of 500,000 before a deadline of April 22nd.

Down the Colorado

Grand Canyon Will See More Visitors in 1982

The Colorado River Management Plan, finalized in 1979 after years of study and public involvement, and then scuttled in 1980 by a last-minute appropriations amendment authored by Senator Orrin Hatch (UT), has been re-written in part to reflect "political realities". The controversial phase-out of motor powered

... as it stands right now, there will be approximately 800 people scattered between Lee's Ferry at Mile 0.0 and Diamond Creek at Mile 220 during the course of an average summer day in 1982.

craft has been axed. Instead, there will be a September 15 to December 15 period of "oars only". During the rest of the year there will be the usual mix of oars and motors.

The other controversial aspect to the 1979 plan, the increase in usage, has been maintained in the new plan. Non-commercial usage, which was held at roughly 7,000 user-days for 1973 to 1979, was upped approximately 800%, to 54,000. Allowable commercial usage went from 89,000 to 115,000, a 29% increase. Significantly, although the "summer period" was shortened in the new plan from 5½ to 4½ months, there was no corresponding reduction in the usage figure. As a consequence, out of the 170,000 user-days permitted for the year, 106,000 will be between May 1 and September 15.

In relating these changes, Steve Hodap of the National Park Service noted that none of the figures is "set in concrete" and depending on future adverse impact, allowable usage levels could conceivably be rolled back. But as it stands right now, there will be approximately 800 people scattered between Lee's Ferry at Mile 0.0 and Diamond Creek at Mile 220 during the course of an average summer day in 1982.

ZAP!

*Where we
get our energy,
how we use it.*

THE SWARMS OF SMALL HYDRO projects currently in the planning stages for installation on California's waterways (see related article) combine to form a more serious threat to the State's fisheries than the complex of dams built over the last 50 years that today comprise the California plumbing system.

Most of the dams are small by hydro standards, enough to meet the electrical needs of 500 homes or less. But they could well serve as the final blow to the State's decimated fisheries.

Consider a 5 megawatt turbine is installed at the foot of a dam, the reservoir would have to be between 30 and 100 feet deep in order to turn the blades efficiently. If it were installed at the base of a penstock, a large pipe designed to shunt water out of its natural bed, the effect would be to drain one section of a stream, while drowning another. Downstream of the turbine, the watercourse is threatened with erratic "floodings" as releases are made in accordance

with market demands, not habitat requirements.

To illustrate: a dam on Bishop Creek, high in the Sierra above Owens Valley, has dried up or reduced the flow of over 33 miles of "first-class trout fishery". Built in the early 1900's by Southern California Edison, the dam supplies enough electricity for 1500 homes. The Department of Fish and Game has requested a change in the operation, to restore the fishery, but the utility has resisted, and at the same time proposed another dam on the creek, Cardinal Mine, which would also damage the already small trout resource. This situation represents in microcosm the nature of the small hydro threat, because stream damages are cumulative. Small projects, scattered over the length of a small watershed, have big impacts. This is a fact neither the State or Federal level regulatory agencies are dealing with — applications are handled on a case-by-case basis.

Protected Areas Threatened

Among the thousands of new applications being considered by the Federal Energy Regulatory Commission are a great many located in areas being considered by Congress for special protection. Among them: the San Joaquin, Carson-Iceburg, Ishi, Trinity Alps, and Red Buttes wilderness areas. Dams have also been proposed in the existing Golden Trout and Domelands Wilderness in the Kern River watershed, and in the National Wild and Scenic zone of the Feather River.

Neither of the regulating agencies, FERC or the State Board, are in the habit of turning applications down flat. Instead, if environmental damages are alleged, conditions will be attached to the license in order to mitigate the adverse impact. Unfortunately, much of the damage to the environment is unmitigatable, in addition to which, neither agency has sufficient manpower to do a credible job of enforcement. This absence of enforcement has indirectly served to fuel some of the interest developers have shown for sites that are environmentally sensitive.

Briefs

SMITH . . . Assemblyman Bosco is authoring a bill to delete a tributary of the Smith, Hardscrabble Creek, from the state wild and Scenic River System. The bill has passed the senate and is expected to come before the assembly in January. Pushing hard for passage is Cal Nickle, a mining firm interested in putting a dam on the creek. The bill's number is A.B. 2214 and your state Assemblyman deserves to hear your feelings on it.

SOUTH FORK TRINITY . . . Cal Trout, together with the U.S. Forest Service and the Department of Fish and Game has signed an agreement to begin a model steelhead demonstration project on the South Fork of the Trinity. Funding will come from all three organizations for the 20-30 year program. The goal will be to restore the once abundant steelhead fishery to waters polluted by logging and watershed abuse. In the same basin, Grouse Creek, a heavily silted up tributary, became the beneficiary of a \$25,000 clean-up contract awarded to the South Fork Trinity Watershed Association and made possible by a bill authored by Assemblyman Bosco and State Senator Barry Keene.

TRINITY . . . efforts to restore the Trinity River Basin to a semblance of its pre-Lewiston Dam days are still mashing ahead through the State water bureaucracies. Currently a Trinity River Management Program, the result of a five year study, has identified a list of goals most of which have to do with restoring the decimated salmon and steelhead fishery. The program is available for review from: U.S. Fish and Wildlife Service, 2800 Cottage Way, Rm. E-2727, Sacramento, CA 95825

EUNUCHS EUNITE . . . Reagan's appointment to chief of conservation for the United States Geological Survey is Andrew V. Bailey who, in a lower post in that agency in 1976 signed a memo chiding its environmental section for using the word "disturbed" to describe strip-mined lands. "Inflammatory words such as disturbed, devastated, defiled, ravaged, gouged, scarred and destroyed . . . are words used by the Sierra Club, Friends of the Earth, environmentalists, homosexuals, ecologists and other ideological eunuchs opposed to developing mineral resources."

TENN-TOM . . . The Tennessee Tombigbee barge canal (the Army Corps' answer to the nation's arguable need for another Mississippi River) made its 1982 funding by its narrowest margin yet. In the house, 198-208 and the Senate 48-46. The Tenn-Tom represents the ultimate abuse of the porkbarrel system, raising even the opposition of such institutions as the *Wall Street Journal*, the *New York Times* and — most recently, 48% of the U.S. senate. If you want to help change that to 51% in 1983, write Senators Alan Cranston and S.I. Hayakawa (U.S. Senate, Washington D.C. 20510) both of whom voted for the project's continued funding.

Arizona's Orme Dam a "No" Vote

For 8 years the Maricopa Audubon Society in Phoenix Arizona has been fighting the proposed Orme Dam, part of the Central Arizona Project sited at the confluence of the Verde and Salt Rivers. The Maricopa chapter has funded professional hydrological and economic studies of the proposal contending the structure would be a massive waste of water and money. The resulting controversy led to the appointment of a 28 member "blue-ribbon" commission to study alternatives.

In August the group made its final recommendation, voting almost unanimously against the project and in favor of four smaller dams (including a "Baby Orme" that the Maricopa Chapter is still fighting).

While prospects for final deauthorization are still problematic, the future of the dam has never seemed dimmer. For further information, contact: Maricopa Audubon Society, CAP Fund, P.O. Box 15451, Phoenix AZ 85060.

JUNIPER-CROSS MOUNTAIN . . . opposition to the Bureau of Reclamation plan to dam the Yampa River in Utah (see Jan/Feb Headwaters) has coalesced into a local opposition group. Their address: *Friends of the Yampa River*, 2895 Darley Ave., Boulder, CO 80303.

BRAD WELTON . . . FOR's longtime counsel and guiding light has moved his considerable talent and 16-hour-a-day energy over to the Hyatt Legal Services (4125 McArthur Blvd., Oakland 94612) a low-cost, community service legal aid center. Move over Perry Mason.

THE T-SHIRTS AND BOOKS BLANK

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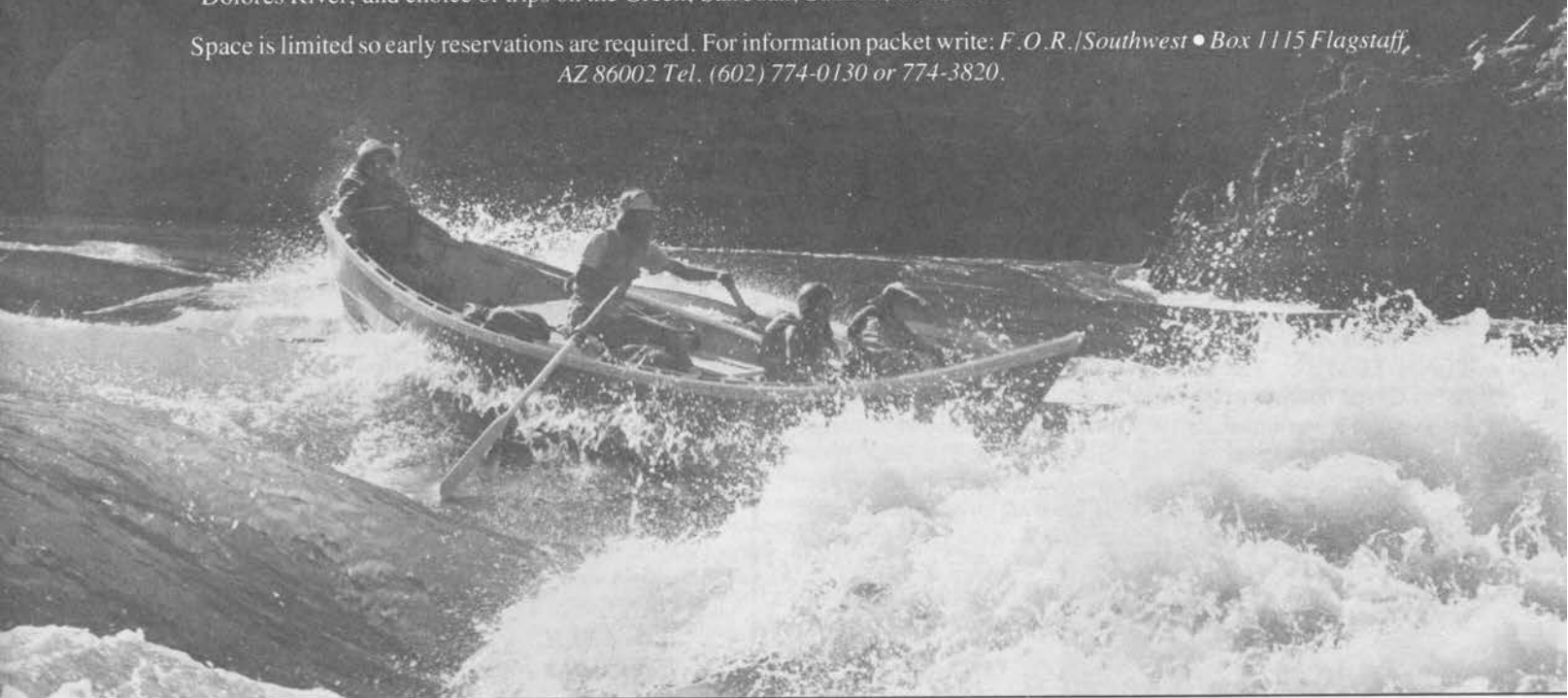
FLOAT THROUGH THE GRAND CANYON

and Help Save the Colorado River

As part of Friends of the River's Southwest Office fundraising efforts to protect the Grand Canyon from the destructive effects of peaking power, we are offering both charter and non-charter space on several trips, at special price! These guided trips are made available and operated by authorized concessions under permit from Grand Canyon National park. Lots of hiking, off-season wilderness, small group size, great food, excellent interpretation, and the incomparable Grand Canyon experience! Bring your own kayak, be part of a paddle crew, or ride a raft and try your hand at rowing, to *HELP SAVE THE GRAND CANYON!* Write for details regarding the following trips:

- A. F.O.R. Charter #1: Run by Arizona Raft Adventures, Oct. 3 through 17. Fifteen days at the 13 day price, with additional discount to kayakers (\$1040.00 raft/paddle; \$798.00 kayak). Kayakers must have advanced expertise.
- B. F.O.R. Charter #2: Same as above, Oct. - Nov. 3.
- C. Other non-charter dates available for full or partial trips, at up to 25% discount, with licensed concessioners!
- D. Trips on other rivers also available, at special prices. High water trips on the endangered Dolores River, and choice of trips on the Green, San Juan, Salmon, and Snake.

Space is limited so early reservations are required. For information packet write: *F.O.R./Southwest • Box 1115 Flagstaff, AZ 86002 Tel. (602) 774-0130 or 774-3820.*



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