


The Confluence

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A Tribute to Steve Arrowsmith

by Tim Thomas and Friends

For Steve, it all started with a Grand Canyon trip.... a gangly fourteen year-old asthmatic kid from West Virginia, seeing the West and the Colorado River for the first time. The river worked it's magic and Steve returned West to live and start a guiding career with the American River Touring Association (ARTA) in California. A quick study, Steve picked up on the more important, yet subtle aspects of river running; how not to burn dutch oven desserts, bring your guitar whenever possible, sleep late if you could, don't be indecisive in a Class V rapid, and a love for that which gives much to your life and asks nothing in return.

While in college at the University of Colorado, Steve became more involved with river conservation issues. Being quite articulate, he used his knowledge and love of rivers to impassion others towards the river's plight. After graduation, Steve started his own commercial river rafting business and named it Humpback Chub River Tours, operating from "Granny's Attic" in Dolores, Colorado. The name, Humpback Chub (an endangered fish), itself is a testament to Steve's concern for the river and it's inhabitants. In retrospect, it seems fitting that the particular river Steve choose to base his company on was the Rio de Dolores, or The River of Sorrows.

After numerous low water years in the late 80's (post McPhee Dam), Steve moved to Moab, Utah, where he could also run commercial raft trips on the Colorado and San Juan Rivers. Humpback Chub offered some of the lowest priced commercial river trips available to environmental organizations and concerns, as well as special populations and individuals who otherwise would have been unable to afford a raft trip. This was Steve's way of sharing the river experience and simultaneously encouraging others to protect this unique natural resource. (Which is also how Steve could range from talking about pancakes to river politics in the same breath.)

In 1992, Steve decided to sell Humpback Chub's operation to Canyonlands Field Institute, an organization he believed to share his concerns about educating others on environmental issues. Steve's decision was based largely on his continuing struggle with asthma, which constantly hampered his abilities to accomplish the goals he had set for himself. A malady since childhood, Steve's asthma eventually killed him in June of 1992. Steve's death revealed much about his personal wealth, which while alive he continually down-played. Namely that he left numerous, generous bequests to environmental and social advocacy groups, in addition to helping fund such ventures as Operation Nighthawk (aerial watchdog group) and the Valdez Principals. In light of his untimely death, at the age of 30, those of us fortunate enough to have known Steve are amazed at this man who accomplished so much and touched so many in his own quiet and unassuming way. Steve... you'll always be in our hearts... and we'll all be down the river.

The Confluence

...is published quarterly by and for Colorado Plateau River Guides. Help us grow. Join the membership today!

Colorado Plateau River Guides is a non-profit organization dedicated to:

- * Protecting the rivers of the Colorado Plateau.
- * Setting the highest standards for the river profession.
- * Providing the best possible river experience.

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Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

From the Eddy

by John Weisheit

The comment period for the Draft EIS on the operation of Glen Canyon Dam ended April 11. Personally, I felt extremely frustrated when composing my letter of opinion. Mostly because my personal desire is to have Glen Canyon Dam removed and yet I am fully cognizant that such an aspiration is quixotic. Or is it? Glen Canyon Dam has a life expectancy and will be decommissioned someday anyway. Silt aggradation or structural failure, whichever comes first, will force us to face the eventuality. The GDC EIS will serve to reform Western water policy. How far will the reform go? When the day comes for a decommissioned Glen Canyon Dam, will we as a society be ready? Will we have new technologies implemented to provide electricity, water, and food? In my view, the dam is already dead. Might as well start now. Free the gates!

In the meantime, the immediate reality is this: A huge political soup kitchen with a constituency that spreads from the Grand Ditch to Laguna Salada. The menu for today's special reads a Modified Low Fluctuating Flow with scheduled high water releases to build beaches and improve fish breeding habitats. Okay, but what's on the dessert tray? I hope to see the reality of an endangered fish recovery program that gives criterion to the relatively intact habitat above Glen Canyon Dam. I don't want the height of the spillway gates at Glen Canyon Dam increased to submerge yet more riparian habitat in Cataract Canyon, the San Juan River, and all the small tributary streams within Glen Canyon National Recreation Area. I also hope that the momentum has started for a scientific study of the entire basin's ecosystem at reasonable costs with minimal impacts. And please - no more water projects - I find my thirst is quenched!

Special Thanks

As you all know the "sour dough" November meeting of Grand Canyon River Guides fermented into a baked Colorado Plateau River Guides loaf. Some other things were cooking that day, master nutritionists Sarah Martin and Dennis Silva.

Apologies

When we went to press for the first issue, we tabled an article about the new boat ramp at Clay Hills Crossing on the San Juan River written by Bill Bishop. Unfortunately, the article did not appear in the text. This was a computer glitch we did not observe until it was too late. Bill, we're very sorry! The article appears in this issue.

Bill has a wonderful collection of Desert Magazine, with wonderful articles about the Colorado Plateau that are now true classics of river running history. Bill is gracious enough to make copies of articles to help river historians with their research. Contact CPRG.

The Prez Says

by Susette DeCoster-Weisheit

Welcome to summer! The other day, as I was rowing the last few miles of Westwater Canyon against the wind, I looked around and realized that spring was fast-fading to brown here in the canyons. I also realized that the next issue of The Confluence was still strewn along the stairs in our house -- unfinished. So with a day-off and laundry in the wash, I have set down once again to update you on the turn-of-events at CPRG.

A big thanks goes out to Tex's Riverways and The "Three D's" for hosting our Spring Meeting on April 9 in their warehouse. Due to the efforts of our Vice President, Secretary/Treasurer, and 19 members the meeting was a success. Although I was on the river and unable to attend the meeting, I got a full update and would like to pass some details on to you.

José Tajade, from Sheri Griffith River Expeditions, spoke regarding Workman's Compensation (WC) and needed reforms. Utah guides are among the highest use percentage for WC withholdings. Compared to Arizona Grand Canyon Guides at 6% our Utah 20% seems outrageous.

How can we change rates? According to a WC representative speaker at the Utah Guides and Outfitters meeting this spring, we can only hope to bring rates down if the incidents are reduced. What can guides do to help? Safety. Most injuries occur during rigging and de-rigging. Ask for help in lifting (food coolers, water coolers, motors, etc.). It is not a question of if you can lift something alone; but, rather a question of should you lift it alone. Much of the equipment is large and awkward. Watch for abuse and be willing to remind your fellow guides they need to take care. Talk with your employer about offering incentive programs; fewer injuries bring higher returns and less equipment damage.

It was suggested that incident reduction is only part of the problem and that fraudulent claims are also a contributor. What can be done about fraudulent claims? Outfitters may be the key in the reduction of fraud. After medical approval, outfitters can by law request the claimer return to work and perform suitable light duty work. This in turn reduces the time the injured party draws against WC and reduces the possibility that someone can take a paid vacation at the expense of the guides paycheck and outfitters profits.

Jeanne Treadway of Canyonlands Natural History Association (CNHA) attended to present CPRG with a proposal for non-profit status. CNHA is a non-profit organization

and they have established a non-profit "umbrella" called the "Canyon Country Volunteers". They have offered to accept CPRG under that umbrella. This would allow CPRG non-profit status as well as some use of CNHA's office equipment and personnel. Why? Because our missions set out to achieve cohesive goals. What do they want in return? Cooperation in achieving our missions. What do we give them? Our book work. They will maintain our accounting with a yearly audit and we gain the security that we will not be responsible for a tax error. Sounds too easy? Well, CNHA has been and continues to be a key force in the protection of the canyons and as a non-profit organization they divert any profits to the lands and river ways they are trying to protect by means of direct funding and through education. CNHA views CPRG as possible means in achieving such goals.

Westwater Ranger Station underwent some changes. The gravel pit operation is gone. Skip is gone and will be sorely missed; however, he can be found not so far away in Desolation Canyon. We are now greeted by Alvin, Chad (returning), and Chuck -- welcome. You may see Doreen in Westwater, she is busy doing wildlife sightings and monitors. There is a bald eagle nesting at Mee Canyon, a Golden at miners cabin and another bald 2 miles below the Ranger station. River otters were introduced once again on the Gunnison River and once again they're moving downstream. If you see something interesting, help Doreen out by writing down the information: the what, where, when, and drop it off at the ranger station on your next trip.

Westwater is getting some much needed attention this year. The miner that bulldozed into the miner's cabin area last year is in trouble. His bulldozing violated four different ecological acts so most hope we have seen the last of him and his destruction. The new ramp at Cisco take-out is making life easier for guides and private boaters alike. Westwater is being considered once again for Wild and Scenic designation; however, it is going to take some letters from us guides and from our guests as well to get things underway. Check out the "Friends of Westwater" for a one day/next day patrol and clean up. No permit needed. Contact CNHA or CPRG.

Other business included a motion that CPRG remain a "river guides" organization which was seconded and passed. Also put to the floor was a motion to accept the by-laws with noted changes.

I hope you enjoy this issue as much as I have and I look forward to hearing your comments. We need articles, art work, and ideas for the next issue please help us out if you can. Have a great summer and see you on the river.



Clay Hills Crossing Boat Ramp. Photo courtesy of Linda Richmond.

Clay Hills Takeout

by Bill Bishop

GOOD NEWS: Recent telephone conversations with Vic Knox, Chief of Professional Planning Services, and Ken McMullen, Environmental Specialist for Glen Canyon National Recreation Area indicate that all permits and approvals have been obtained and funding has been secured for the improvements to the river takeout at Clay Hills. It will take about three days to complete the project and it is anticipated that all work will be completed before March 1, 1994.

The existing access road will be widened to 25 feet and two 18 inch culverts will be installed in the slough. The takeout ramp will be expanded to approximately 130 feet wide by 90 feet deep - almost doubling the river access and increasing the cleared area four fold. The silt bank at the river will be leveled and the area graded to attain a 5:1 slope for the entire ramp. The ramp and access road will be covered with filter fabric and then three inches of gravel.

An open-air, port-a-potty will also be provided. NPS is going to construct the slab and privacy enclosure; the commercial outfitters will supply the toilet and supplies. A sign discussing takeout etiquette will be erected.

No improvements to the county road or parking area are proposed at this time. River runners will still need to pack out all trash and human waste as no receptacles will be provided.

Ironically, the last permit to be obtained was from the Army Corps of Engineers. Section 10 of the Rivers and Harbors Act of 1899 requires a permit for the deposition of fill into navigable waterways. It seems ironic that the agency responsible for so many boondoggle water projects throughout the west was concerned because a little dirt could accidentally get pushed into the river.

Animas-La Plata Water Project Threatens Animas and San Juan Rivers

by Tamara Wiggans

Running the maze of Southwestern water politics gets tedious and I'd much rather just be out running the river. But running the river has become a threatened and endangered activity, especially the Animas River near Durango, Colorado and the San Juan River in southeastern Utah.

The threat comes in the form of yet another major water development scheme known as the Animas-La Plata Project (A-LP). This project would reduce the Animas River to a mere trickle, rendering rafting impossible. And as the main, free-flowing tributary to the San Juan River, Animas water is often the only thing keeping boating (and fish) alive on the San Juan. Flows are already depleted by irrigation via Navajo Dam and Reservoir upstream of the Animas and San Juan confluence. In dry years, the Animas is literally a life-safer to the San Juan.

Rafting and kayaking on the Animas is now estimated to be an annual 3 million dollar business in Durango. 1993 Bureau of Land Management figures show that last year approximately 12,000 people floated down the San Juan, famous for its Anasazi archaeology and scenic "Goosenecks" canyon. These popular and unique stretches of river will be lost to boaters, and as important habitat for endangered fish - if A-LP is ever built.

The proposed project is a complicated and extraordinarily expensive series of pumps, pipelines and reservoirs. Massive amounts of electricity would power the pumps, taking water out of the Animas River, pushing it over a thousand feet uphill, into Ridges Basin Reservoir and points beyond, ultimately ending up in the La Plata River drainage to the west.

The Bureau of Reclamation desperately wants to build A-LP, probably its last big project ever. The price tag alone is an astounding -- \$675 million -- and the return is estimated to be 62 cents for every \$1 invested, making A-LP a real boondoggle. The Bureau doesn't have a real good track record of staying within its budget. A-LP will likely follow in the footsteps of the nearby Dolores Project, which at 79% completion was 750% over budget, hiking A-LP's possible price tag up to \$5 billion!

Glaring omissions in the Bureau's 12-year-old Environmental Impact Statement have provided opponents with plenty of ammunition, with which they've gone to court and repeatedly won. After a feeble attempt in 1992 at updating the 1980 EIS, the Bureau was hammered by negative public comments, including substantial criticism from the Environmental Protection Agency for ignoring the Clean Water Act.

In addition, U. S. Fish and Wildlife Service researchers have been finding endangered Colorado Squawfish in the San Juan. The Bureau has now been forced into funding a 7-year study of the fish and their habitat needs (See "What is a R.I.P.?", in this issue). The Bureau still hopes to re-revise the EIS soon, which could be challenged again in courts by opponents.

All of these complications would have killed any other project in these days of money problems and increased environmental awareness. But A-LP has two things going for it:

1. The main motivation for building A-LP is to satisfy water rights of the Southern Ute and Ute Mountain Ute Tribes. By providing the Utes with water to develop their large coal reserves and agricultural lands, A-LP will take care of the tribal water claims that might otherwise threaten Anglo farmers and water users. The popular U.S. Senator Ben Nighthorse Campbell of Colorado is a long-time supporter of A-LP and makes his home in Ignacio, center of the Southern Ute Reservation. Campbell is Northern Cheyenne, and angrily accuses opponents of A-LP as being anti-Native American.

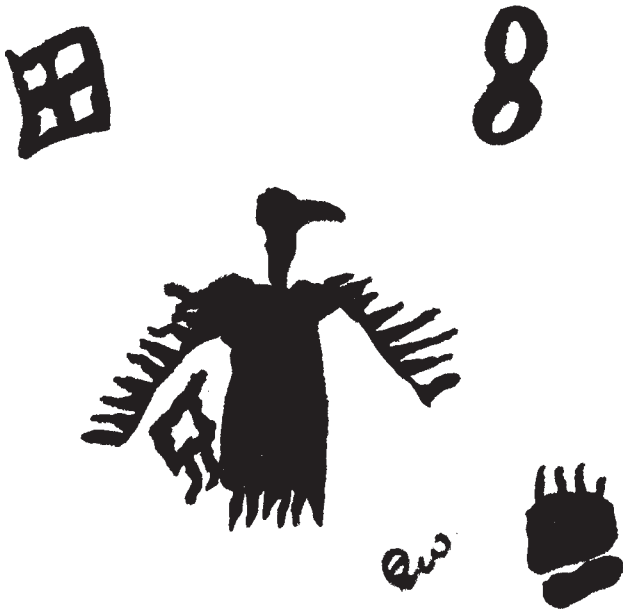
2. Frank E. (Sam) Maynes, Durango's aggressive and legendary water attorney, has held the A-LP together despite repeated setbacks. His Durango law firm represents the Southwestern Water Conservancy District, the A-LP Water Conservancy District, five other sub-districts, the Southern Ute Tribe, La Plata Electric, and at times, Pittsburgh and Midway Coal Co. Intimidating, enormously influential, and a mastermind in the game of water politics, Maynes' tenacious leadership has kept the project afloat since 1968 when it was first authorized by Congress.

THE GOOD NEWS is that support for A-LP is eroding, and that opposition to the project is gaining momentum. Many Southern Utes have joined farmers, boaters, fiscal conservatives, and environmentalists in fighting A-LP, creating a diverse and determined force to be reckoned with.

Soaring costs and federal deficit have forced A-LP backers to split the project into two phases. Phase II, which would now receive no federal funding, is the phase that would build pipelines, pumps, and ponds to deliver the water to the Utes. So while the tribes would be given water in the Phase I reservoir, they would have no means to utilize it.

The City of Durango is looking at less-expensive alternatives to A-LP to satisfy their growing needs. The tangled financial mess plaguing farmers on the Dolores Project, as well as the CUP (Central Utah Project) and CAP (Central Arizona Project) has agricultural interests running scared. Many farmers along the Animas River in southern Colorado and northern New Mexico are members of the Four Corners Action Coalition (FCAC), who represented in court

(continued on page 16)



The Best Expedition of 1891

by John Weisheit

Many of you have read David Lavender's book River Runners of the Grand Canyon. In the pictorial section there is a wonderful photo of Harry McDonald taken in 1891 by the photographer of the Best Expedition, James McCormick. That image was taken on the right side of Rapid #15 in Cataract Canyon. It is an interesting story to tell and one I would like to share, courtesy of the Marston Collection at the Huntington Library, San Marino, California.

Beginnings

The Best Expedition of 1891 was a dream conceived by a placer gold miner, Harry McDonald. McDonald, as many such miners of the 1880's did, learned to handle a river boat through necessity. His first recorded trip on the Colorado River occurred in 1887 when he floated a skiff from Grand Junction, Colorado, to Westwater Creek in eastern Utah. McDonald would build a small cabin on the right side of the Colorado River near the mouth of a side canyon 2 1/2 miles above the Utah/Colorado border. Today, that side canyon is called McDonald Creek. McDonald's placer trade eventually took him to the gravel bars of the Colorado River in upper Glen Canyon. There, in 1889, McDonald met Frank M. Brown and Robert B. Stanton, overseeing a boating expedition to survey the Colorado River canyons for a railroad route. McDonald joined that ill-fated river trip, which eventually included the drowning deaths of Brown and two crew members in Marble Canyon, and where Stanton abandoned the expedition by hiking out. Stanton would reorganize that expedition in the same year and made McDonald his lead boatman. While on that expedition, just below the confluence with the Little Colorado River, McDonald noticed a potential mining enterprise in the Cardenas Lava, a geological formation of the Unkar Group that is over one billion years old. For reasons that still remain vague, McDonald left the expedition by foot at Crystal Creek and in the dead-of-

winter, completed the amazing feat of traversing the Kaibab Plateau to the then nearest town, Kanab, Utah.

Enter James D. Best

McDonald soon found himself in the financial center of the Intermountain West, Denver, with a plan that needed a willing capitalist. With some persuasion James D. Best, a principal of a real estate brokerage firm called **McKnight, Best, and Company**, became the lead financier of a river expedition to investigate the mining potential of Colorado River canyons. A company was formally organized by four directors, by-laws submitted, and stocks issued. The name of the company was: **Denver, Colorado Cañon Mining and Improvement Company**.

The expedition members, other than Best and McDonald were: John Hislop, boatman and engineer; Elmer Kane, boatman; William Hiram Edwards, boatman; Luther Jewell, boatman; John Jacobs, boatman; and J. A. McCormick, photographer.

Boat Craft

Two boats were ordered from the Douglas Boat Factory in Waukegan, Illinois. They were identical to the boats used by Stanton during his second expedition. To successfully operate the two boats, six boatmen were required (three per boat). Sitting with their backs to the downstream current, were the bow and stroke positions, where each man worked two 10 foot oars. Standing in the aft position was the steersman with a single 12 foot oar. The concept was to have the bow and stroke positions pulling hard with their oars to give the boat "speed". The steersman would then use his oar as a rudder giving the craft direction.

The boats had a carrying capacity of 2100 lbs., were 22 feet in length, 4 1/2 feet in width (beam), and 32 inches deep; constructed of oak planks, 3/4 inch thick for ribs, 1/2 inch thick for gunwales; were round-bottomed with a steel-plated keel; 10 watertight compartments were lined in galvanized steel with a total storage capacity of 144 cubic feet. When empty, each boat weighed 800 lbs. and cost \$1000.

Underway to Disaster

The trip launched from the railroad town of Blake (Green River), Utah, and was to exit at the railroad town of Needles, California. They launched on the 10th of July, 1891, and reached The Confluence on July 20th, where they made camp at the head of the first rapid in Cataract Canyon. Trip photography indicates a water flow of about 15,000 cfs. On the 21st, at about 3:00 in the afternoon, the party arrived at what is now known as Mile Long Rapid, or Rapids #13 to #18. The men pulled ashore to assess the danger of this boulder-choked course. The decision was made to run the boats through with crew gear.



The following is the testimony of a crew member, William Hiram Edwards: "The first boat pulled out into the current and the two oarsman pull hard as the boat must go faster than the water in order to get steerage way. All goes well until they get about half way down the rapid when they get too close to a big whirlpool near the right shore which catches the boat and whips it around into an eddy and they pull ashore. We follow with our boat and when we see them on shore suppose they have discovered something wrong with the lower part of the rapid and try to follow them but find the current so strong we cannot make it. In trying to turn we lose steerage way and the boat turns about but with the help of the steersman's oar we back water and slip between two big boulders, landing about 100 yards below the first boat at the head of the last fall in the rapid [a successful run of Rapid #15]. The first boat then makes another start, but the current being very swift from the opposite shore they cannot get their boat straight with the current and drift down striking broadside on one of the big boulders we had barely missed. The boat capsizes instantly and took the four men down with it. One of our crew looking up saw the head of the steersman, Mack [McDonald], ...the current carried him to the rock and he climbed up on it. Next we see two of the others [Kane and Jewell] come up 100 feet downstream [and drifted down river for about one mile]. Best [had] been caught in the boat but finally freed himself [and] came to the surface [where McDonald pulled him] up on the rock."

The crew tried to free the pinned boat with what tools they had and were unsuccessful. On the 25th, Hislop hiked out of the canyon and went cross-country to Dandy Crossing (Hite) where he acquired some explosives. He returned to the wreck site on the 29th, where they attempted to blast the rock apart, to thus free the boat. This method of white water rescue also proved unsuccessful. The final disappointment occurred when flood waters caused the river to rise 4 to 5 feet, submerging the rock and ending their hopes to free the boat.

Conclusion

They spent a week at Rapid #15 trying to salvage Boat #1. Probably while waiting for Hislop's return, most of the members left inscriptions on the talus boulders of the river right side. Today, this is a popular hike for photography, to scout the rapid, and watch modern boats pass through - sometimes with similar difficulties. The rapid is affectionately known today as, "Capsize". However, river historian Otis Marston preferred to call Rapid #15, "Best Rapid".

The expedition continued toward Dandy Crossing in boat #2 whenever quiet waters allowed for such an opportunity; otherwise, they walked the shoreline. No portaging or lining was done on the trip. Upon reaching Dandy Crossing, they acquired a skiff to relieve the load and floated to Lees Ferry, AZ. At that point, the idea of boating to

Needles was abandoned and the members then purchased stock animals and traveled up into the Kaibab Plateau and down into the Grand Canyon following Bright Angel Creek. No formal mining enterprise was ever accomplished.

When the Best Expedition was formed in 1891, only two expeditions had made complete runs through the Colorado River and the Colorado Plateau. In definitive language, the historic Colorado River (pre-1921), starting geographically at The Confluence of the Green and Grand rivers and through to the geographic end of the Colorado Plateau at the Grand Wash Cliffs. However, both expeditions, Powell's Expedition of 1869 and Stanton's trip of 1889 - 90, both met with boat loss and crew desertion.

It is my impression that the Best Expedition was to make the first trouble-free trip through to the Grand Wash Cliffs. Funding for the trip amounted to \$10,000 with every possible need taken into consideration. Three of the crew members (Hislop, Kane, and Edwards) were veterans and non-deserters of Stanton's completed expedition. According to physical descriptions in various clippings from the Denver and Salt Lake City newspapers, the boatmen were physically fit, and all were over six foot tall, which is not likely to be a 19th century coincidence.

Interestingly, the Best Expedition was to be the last trip for the round-bottom boat class. This was outside of Clyde Eddy's romantic idea to replicate the concept for his river trip in 1927. On that expedition, Eddy too lost a boat and had crew desertion. In 1896, Nathaniel Galloway and George Flavell completed trips with flat-bottomed boats using upstream ferries for steerage. A boating innovation that brought repeated success to the future traverses of the Colorado River.



"The scenery between Bridge Canyon and the Crossing of the Fathers is more wonderful than that of any section of the Colorado River above Lee Ferry. In fact, in some ways it is more interesting than the Grand Canyon proper."

Eugene LaRue, 1921. USGS hydrologist and proponent for construction of a high dam above Lees Ferry.



Colorado River at mouth of Lockhart Canyon. Photo by Jim Knipmeyer

"Lost" Inscriptions Found

by Jim Knipmeyer

For the past seventeen years I have been locating and photographing old, historic inscriptions that early explorers, prospectors, settlers, and travelers left drawn or carved on rock boulders and canyon walls of the Colorado Plateau region. Some I have found on my own, many I have learned about in various readings, and a number I have been told of by friends and other interested people. Most of the names and/or dates that I have recorded are prior to 1900, unless they are of some particular significance historically since that time.

One group of inscriptions I read about was in the 1889 diary, or notebook, of Frank C. Kendrick. Kendrick was a mining engineer hired by Frank M. Brown, Colorado, to survey the route of a proposed water-level railroad from Grand Junction, Colorado, to the joining of the then-Grand River with the Green. Kendrick and four other men of his party left Grand Junction on March 29, 1889, and arrived at The Confluence on May 4.

In his diary entry for Thursday, May 2nd, Kendrick wrote the following paragraph: "At Sta [station] 7144+20 we found a little valley coming in from the South where it appears some few cattle come to water, the first below Moab. On a large rock at the East side of canon there are many Indian inscriptions. Snakes, lizards with 2 heads, men & women & cet & many things we could not make out. Also the names of many cowboys written in 87 & 88 (sic)."

It was, of course, the last sentence that attracted my attention. Using Kendrick's surveying distances I determined that his "little valley" was probably Horsetheif or Lockhart Canyon, left-bank tributaries of the Colorado at about Mile 26.5. I had also long been wondering about the name Lockhart Canyon, the national Park Service, the Bureau of Land management, or various local histories not being able to shed any light on the matter.

Eventually I heard that Mitch Williams, long-time Moab

guide and tour operator, had recalled some time before of seeing a name, "Ollie Lockhart," near the mouth of the canyon. He and others had subsequently looked for it, but without success. Therefore, in the summer of 1993 a friend of mine, Mike Ford, and I set off to search for both the reported Kendrick inscriptions and the Ollie Lockhart name. A graded road had been put in to the mouth of the canyon from the Lockhart Basin road by oil interests in the 1920's, and had been improved again by uranium prospectors in the 1950's. So we drove in Mike's Jeep rather than go by boat down the Colorado River.

A short search finally resulted in my spotting the correct location, some more recent initials and Kendrick's "Indian inscriptions" showing up first. A closer examination revealed other names lightly scratched onto the rock surface, several with dates of 1887. Then Mike spied the Ollie Lockhart, with a date of 1988, very faintly scratched into the sandstone. Other writings immediately below were finally deciphered to be the words "Silverton Colo." Our search had been a success and the Kendrick inscriptions and the Ollie Lockhart name had turned out to be at the same place and part of the same grouping!

Some of the early names are John E. Brown, James C. Blood, and Frank C. -----, with a date of "Jan 9 1887". Others are of B - Buchanan, - - Savage, and J - Blood, accompanied by a date of "Mch [March] 1887". The full date with Ollie Lockhart's name is "Feb 8th 1888".

As Kendrick had stated, most of these names were of cattlemen. John E. Brown had settled on nearby Indian Creek in the vicinity of present-day Dugout Ranch in 1887. James C. Blood was ranch foreman for the Pittsburgh Cattle Company, headquartered up near Old La Sal, from 1884 until 1887. Jehiel V. Savage was the cattle foreman for the Pittsburgh company during the 1880's.

But Ollie Lockhart is still somewhat of a mystery. Upon checking with the county historical society in Silverton, Colorado, I did find that Oliver Lockhart was a resident of that town in 1888. However, he was the county clerk, a man of the "clerical mass", and there were no indications that he was ever involved with either mining or cattle.

So what Ollie Lockhart was doing at the mouth of a seldom-visited Colorado tributary canyon a little over a year prior to the river survey of Frank Kendrick is open to question. Perhaps it is the opinion put forth by the gentleman at the historical society in Silverton, that Lockhart's presence in Utah may have simply "been a one-time vacation-adventure". After all, I have been doing that exact thing in southeastern Utah for over thirty years now!

These names and dates near the mouth of Lockhart Canyon have not, of course, really been lost. I have since learned that other people do know of them. But to my knowledge this

is the first time that they have been associated with the inscriptions mentioned by Kendrick in his 1889 diary. It is also important, I feel, that a record was made of these names and dates before they are completely erased by time and the weather.

Cryptobiotic Crust Holding the Place in Place

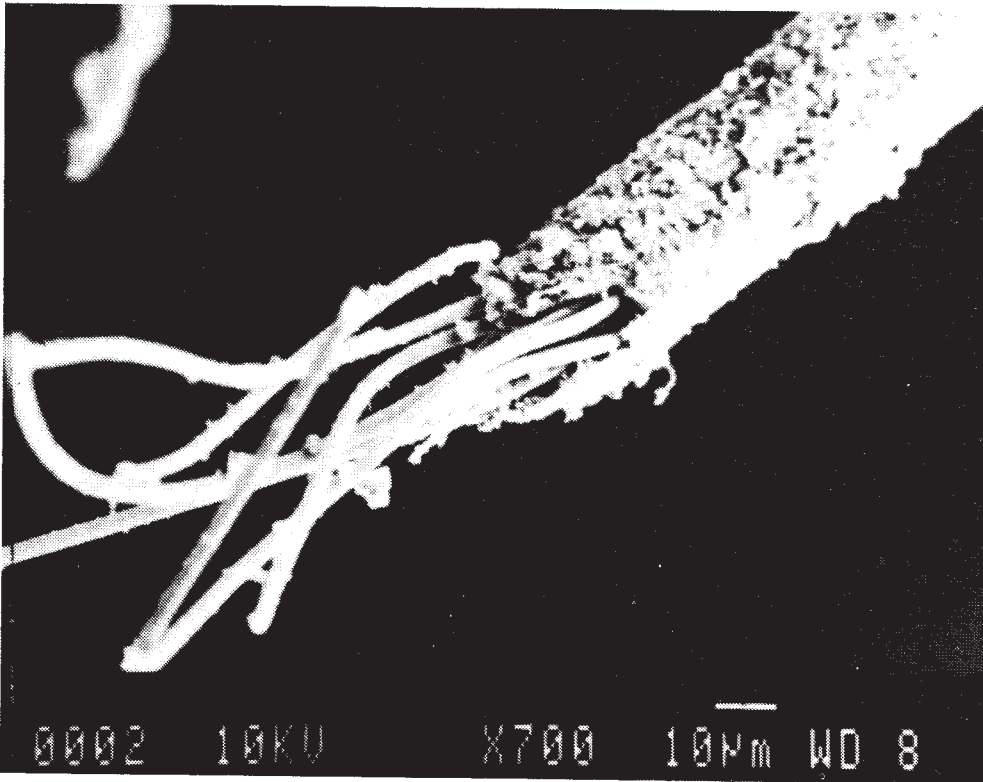
by Jayne Belnap

Living soil crusts are found throughout the world, from the hottest deserts to polar regions. In arid regions, these soil crusts are dominated by cyanobacteria, and also include soil lichens, mosses, green algae, microfungi, and bacteria. These crusts play many important roles in the ecosystems in which they occur. In the cold deserts of the Colorado Plateau region (parts of Utah, Arizona, Colorado, and New Mexico), these crusts are extraordinarily well-developed, often representing over 70% of the living ground cover.

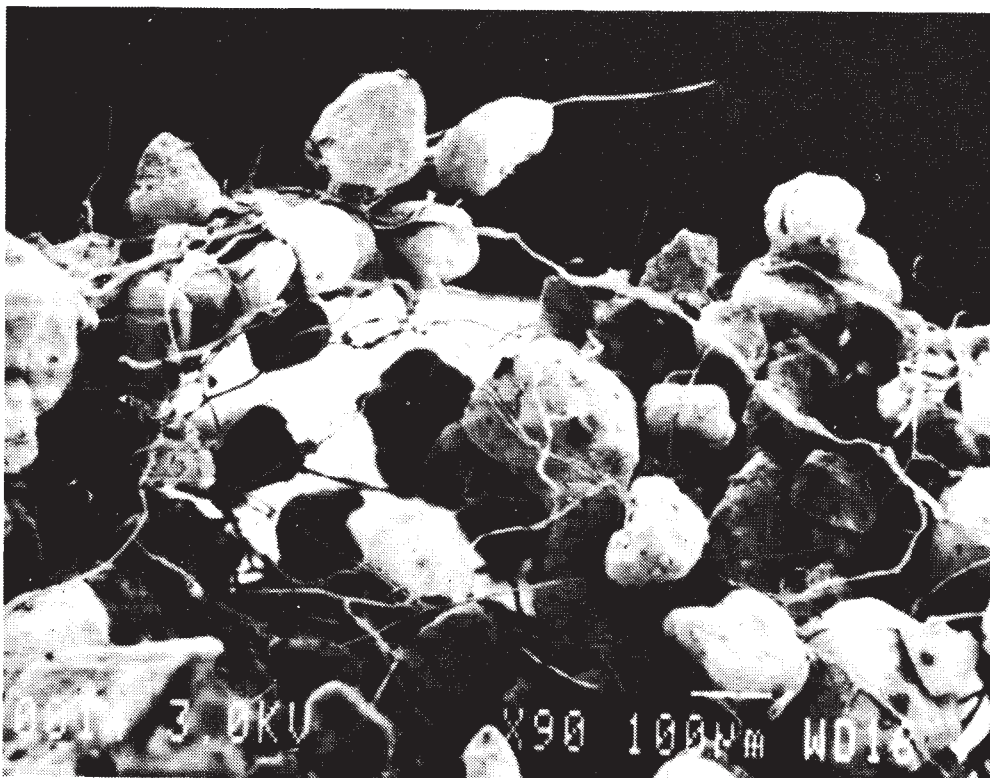
Cyanobacteria, previously called blue-green algae, are one of the oldest forms of life known. It is thought that these organisms were one of the early colonizers of earth's land masses and integral in the formation and stabilization of the earth's first soils. Some of the earliest fossils found, called stromatolites and dating more than 3.9 billion years old, are extremely thick mats of cyanobacteria. These mats are believed to have played an important role in converting the earth's original carbon dioxide-rich atmosphere into the oxygen-rich atmosphere necessary for the evolution of life as we know it today.

Cyanobacteria occur as single cells or as filaments. The most common form found in desert soils are the filamentous type. The cells or filaments are surrounded by sheaths that are extremely persistent in these soils. When moistened, the cyanobacterial filaments become active, moving through the soils and leaving a trail of the sticky, mucilaginous sheath material behind. This sheath material sticks to surfaces such as rock or soil particles, forming an intricate webbing of fibers in the soil. In this way, loose soil particles are joined together, and otherwise unstable and highly erosion-prone surfaces become resistant to both wind and water erosion. The soil-binding action is not dependent on the presence of living filaments: layers of abandoned sheaths, built up over long periods of time, can still be found clinging tenaciously to soil particles at depths greater than 15 cm in sandy soils. This provides cohesion and stability in these loose sandy soils even at depth.

The crusts have other functions as well. They are important in the interception of rainfall. When moistened, the sheaths absorb up to ten times their volume of water. The roughened surface of the crusts slows precipitation



Crust in sandy soils. The visible fibers are Microcoleus vaginatus. Note how Microcoleus connects the otherwise loose sand grains together, thus preventing wind and water erosion.



Microcoleus vaginatus, the dominant organism in the crust. Microcoleus is important in enhancing water and nutrient relations within the soil, as well as increasing soil stability.

QUOTE

"An adventure is a poorly planned trip."

Mark Twain



QUOTE

"We do not remember days; we remember moments."

Cesare Pavese

runoff and increases water infiltration into the soil. This is especially important in arid areas with sporadic, heavy rainfall. Vascular plants growing in crusted areas have higher levels of many essential nutrients than plants growing in areas without crusts. Electron micrographs of sheaths show them covered with fine clay particles to which cling essential nutrients, keeping these nutrients from being leached out of the upper soil horizons or becoming bound in a form unavailable to plants. In addition to the functions of stabilizing surfaces and increasing water harvesting, crustal organisms also contribute nitrogen and organic matter to ecosystems. This is especially important in desert ecosystems, where nitrogen levels are low, and often limiting to the systems' productivity.

Unfortunately, many activities of man are incompatible with the presence and well-being of these cyanobacterial crusts. The cyanobacterial fibers that confer such tensile strength to these crusts are no match for the compressional stress placed on them by footprints (cows or people) or machinery, especially when the crusts are dry and therefore brittle. Crushed crusts contribute less nitrogen and organic matter to the ecosystem. Impacted soils are left highly susceptible to both wind and water erosion. Raindrop erosion is increased, and overland water flows carry detached material away. This is especially a problem when the destruction is in a continuous strip, as with vehicular or bicycle tracks. These are highly susceptible to water erosion as channels are quickly formed, especially if on slopes. Wind blows pieces of the pulverized crust away; it also blows the underlying loose soil around, covering nearby crusts. Since crustal organisms need to photosynthesize, burial can mean death. When large sandy areas are impacted in dry periods, previously stable areas can become a series of moving sand dunes in a matter of only a few years.

Large areas that are impacted may never recover. Under the best circumstances a thin veneer may return in five to seven years. Even a single footprint has a long-lasting effect: nitrogen fixation stops, and underlying sheath material is crushed. Damage done to the abandoned sheath material underneath the surface cannot be repaired since the living organisms are only on the surface. Instead, sheaths must build up slowly as a result of many years of cyanobacterial growth.

It is critical that we take care of the soil crusts around us, as they are an essential part of the ecosystem. They are the topsoil of the desert. Stay on trails or try to walk only in washes or on rock when possible. Help us keep the place in place!

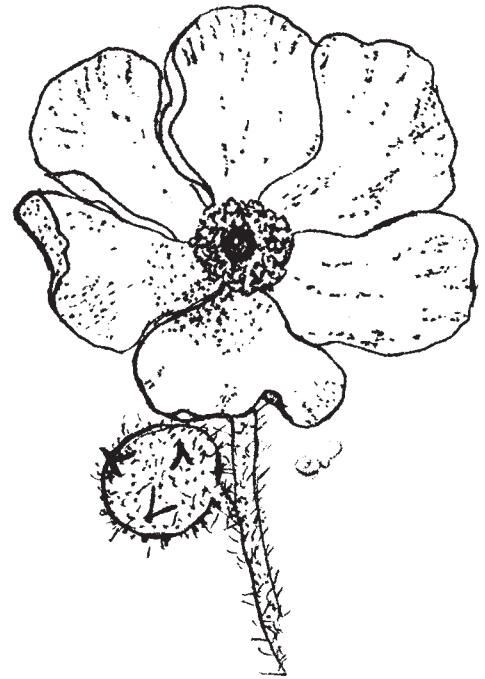
What About that Cryptogamic Stuff?

Cryptobiotic crusts were formerly called cryptogamic crusts since the majority of the organisms in the crust were once considered cryptogams. Cryptogam, meaning "hidden marriage" in Latin, is used to refer to non-vascular plants

that include the mosses, green algae, and other such organisms that do not have true flowers.

Cyanobacteria, the dominant group of organisms in the crusts, were at one time considered to be part of the cryptogam group, thus making the crusts almost entirely cryptogamic species. Since then, however, cyanobacteria have been reclassified, and are now considered to be either their own kingdom, or of the kingdom Monera, which also includes true bacteria.

The name "cryptobiotic crusts" was chosen since it was easy to remember, and carries no taxonomic implications. "Cryptobiotic" means "hidden life", and thus covers all the organisms found in the complex universe of these crusts.



QUOTE

"Once a journey is designed, equipped and put in process, a new factor enters and takes over. A trip, a safari, an expedition is an entity, different from all other journeys. It has personality, temperament, individuality, uniqueness. A journey is a person in itself, no two are alike. And all plans, safeguards, policing and coercion are fruitless.

We find after years of struggle that we do not take a trip, a trip takes us. Tour masters, schedules, reservations, brass bound and inevitable, dash themselves to wreckage on the personality of the trip. Only when this is recognized can the blown-in-the-glass bum relax and go along with it. Only then do the frustrations fall away. In this a journey is like marriage. The certain way to be wrong is to think you control it.

I feel better now, having said this, although only those who have experienced it will understand it."

John Steinbeck

What is a Rip?

by Tamara Wiggins

In a world of abbreviations, acronyms, and alphabet soup, RIP is a funny one, conjuring up images of sharp rocks and old boat bottoms, of climbing over a barbed-wire fence, or the feeling I get when I pay taxes.

RIP stands for Recovery Implementation Program. RIP is related but separate to the U.S. Fish and Wildlife Service's current efforts to designate critical habitat for endangered fish (see the 1994 Winter issue of The Confluence.)

There are two RIPs operating on the Colorado Plateau: one for the upper Colorado River basin and a separate one for the San Juan River. The goal of the programs is to protect and recover the endangered fish while allowing water development to proceed. These conflicting goals make RIPs open to criticism from both pro- and anti-fish interests.

The upper basin RIP group is composed of representatives from the U.S. Fish and Wildlife Service (FWS), Bureau of Reclamation, Western Area Power Administration, the states of Wyoming, Utah, and Colorado, as well as the National Audubon Society, the Environmental Defense Fund, and the Colorado and Wyoming Wildlife Federations.

The upper basin RIP has recently released RAP (What's next, a FLIP?) RAP stands for Recovery Action Plan. RIP/RAP contains a set of specific measures with time frames for achieving their goals. Priorities are adequate in-stream flows, improved habitat, stocking native fish, studying competition from non-native fish, and on-going monitoring and research.

Some fish biologists privately concede that the RIP's RAP is flawed, that the competing agendas of RIP's participants have resulted in a RAP that drags its feet. Obviously research and flow comparisons do take time, but it's unclear if RIP/RAP will work in time to save the fish.

Meanwhile, on a separate front, FWS is required by law to designate critical habitat for the endangered fish for the Colorado River system. RIP/RAP and critical habitat designations are good initial steps: the first is a policy process, the second is law. It is doubtful whether the fish can tell the difference. The San Juan RIP is still in its infancy, and environmental groups are refusing to participate, calling it a sham.

The San Juan RIP was formed after the FWS issued a biological opinion in 1990 regarding the proposed Animas-La Plata project (A-LP) in southwestern Colorado. Colorado squawfish were found in the San Juan River, and construction of the project would deplete flows of the San Juan, jeopardizing survival of the endangered fish (see article on A-LP in this issue). After a year of negotiations, a so-called "reasonable and prudent alternative" emerged where the Bureau of Reclamation, who desperately wants to build A-LP, agreed to fund seven years of research and to develop a RIP for the San Juan.

The San Juan RIP consists of representatives from FWS, Bureau of Reclamation, Bureau of Indian Affairs, Bureau of

Land Management, the states of Colorado, New Mexico, and the Southern Ute, Ute Mountain Ute, and the Jicarilla Apache tribes.

Accused of focusing on politics instead of biology, the San Juan RIP is banking on "re-operation" of Navajo Dam on the San Juan upstream of Farmington, New Mexico. They're hoping that the increased water releases from Navajo will let the controversial A-LP off the hook when it comes to San Juan depletions.

So far, the Navajo Nation, whose water rights are most affected, are protesting the San Juan RIP and refusing to participate. The state of Utah is still unsure of what it wants to do. The Park Service, although it manages several miles of shoreline along the lower San Juan, has not been allowed to join the RIP. Environmentalists fighting A-LP say it is crazy to let more water out of an existing facility just so that another one can be built.

From The Southeastern Utah Wilderness Alliance

by Scott Groene

Green River Canyon Slated for Development

The Green River is currently threatened by two proposals. First, BLM will soon release a new proposal to allow a slew of natural gas wells to be drilled on either side of the Green River just north of the head of Desolation Canyon. The proposal would turn a pristine area, generally reached only by flat water float trips down the river from Ouray, into a mess of scattered roads and pipelines. Over twenty of the wells would be drilled within a proposed wilderness area. This threat appeared to be dead a year ago, when the BLM state director ruled in SUWA's favor on an appeal against an earlier proposal to drill 52 gas wells in the "Desert Springs Unit" in this same area. But the oil and gas industry is back. To get on the mailing list for the plan call the Vernal BLM office at (801) 781-4410.

Second, the BLM's Vernal District Office is proposing to open Nutter's Hole area, on the east side of the Green River near Sand Wash, to commercial collection of building stone, with permits granted for 150 tons of stone per year per permit (with apparently no limit on the number of permits issued). Trucks and hoists would be allowed cross-country travel to retrieve the stone, degrading the remote and rarely visited area which is now proposed for wilderness. Comments on the project, or requests for information, can be directed to:

Richard Wilson, BLM-Vernal District, 170 South, 500 East,
Vernal UT, 84078, (801) 781-4410.

The Dolores River Synopsis: An Unequaled Opportunity

by Bill Dvorak, Vice Chair
Colorado River Outfitters Association

In April of 1993, the Bureau of Reclamation (BOR) issued a scoping document regarding the modification of the operation of McPhee Dam. The intention is to change existing water release criteria established for fisheries in 1977, and acquire additional water rights for fish and wildlife purposes. BOR has since asked the Bureau of Land Management, National Forest Service, State of Colorado, and others to help partner, i.e., help pay for these additional water rights. It appears the time is right to expand this process to include other recreation users of the resource, not just fish and wildlife.

BOR has identified 8600 acre feet of water as being available for purchase. My though thought is by enlarging the scope of beneficiaries to include other recreational users, all parties can gain. The fisheries people want a pool of water to utilize as they deem necessary. The problem for the boating recreator is that the water managers have to predict run-off as accurately as possible or conservatively as the can to keep in the irrigators good graces. This year they aired on the extreme side of conservation run-able flows of 800 cfs were guaranteed only through June 18th, yet the release from McPhee continued to be in excess of 800 cfs, for the next nine days and over 600 cfs into the first of July. Unfortunately the folks who regulate the resource choose to ignore scientific data such as SNOTEL and soil conservation readings, and relied on photos of the La Plata Mountains. By acquiring water rights for recreation, we can take much of the guesswork out of the process.

If there were 8600 acre feet of water available for recreation, the flow regulators would have the ability to be far less conservative on flow predictions knowing they could utilize this water for augmentation. This would greatly enhance the length and reliability of the whitewater recreation season. (In case you are unfamiliar with the resource, the Dolores River ranks as one of the three or four best river trips available in this country, rivaling the Grand Canyon and the Middle Fork of the Salmon River.) Additionally the volume of water not utilized to augment flows to 800 cfs for whitewater could then be utilized to keep flow at 250 - 300 cfs for secondary low water season. This would allow canoes, kayaks, small rafts, inflatable kayaks, etc., additional access to this tremendous recreational/fishing resource.

This scenario would also benefit the fishery in many ways. Principally, it would conserve the fish pool so that there would be a significant amount of time elapsed before it was needed. had this program been in effect in 1993, it would have been the end of July or the first of August before the fisheries pool kicked in. It would also expand the fishery allowing it progress downstream as well as enlarge and improve fisheries habitat. This low-water season would also create a viable fishing resource.

Hopefully, you will see that this is a win for all concerned. The BOR will have a featured project it can use as an example for its' new direction, "An unequaled Opportunity." The recreational interests will have a longer and more reliable season as well as a secondary season. The Fish and wildlife will have an improved and enlarged habitat, plus an additional method of egress. We can't go wrong. Let's Do It!

Contact: Dan Fritz,
Bureau of Reclamation
(303) 385-6500

From the United States Fish and Wildlife Service

Recovery Program for the Endangered Fishes of the Upper Colorado

In the early 1900s landing Colorado squawfish estimated at 20 to 80 pounds gave some anglers the thrill of a lifetime, according to a research document released this week by the U.S. Fish and Wildlife Service (FWS).

"I pitched that green frog out there and this [Colorado squawfish] hit it, just about straight across, and he ran down that fast water, riffles, and took out about 200 feet of line before I turned him around," the report quotes Maybell, Colorado, resident Gene Bittler as saying. "It was one of the most thrilling fish I ever caught if you want to know the truth."

The report, "Historical accounts of the upper Colorado River Basin endangered fish," is based on more than 100 interviews conducted last year with senior citizens in Colorado, Utah and Wyoming. Written by Fred Quartarone, who worked for the Recovery Program for Endangered Fish of the Upper Colorado River, the document includes historic photos of the fish as well as residents' first-hand accounts of catching and eating the now-endangered Colorado squawfish, humpback chub, bonytail chub and razorback sucker.

Anglers reported catching voracious Colorado squawfish on everything from swallows and mice to earthworms and chunks of chicken or rabbit.

Tim Merchant of Green River, Wyoming, said his grandfather caught squawfish using chicken parts to bait multiple hooks on a clothesline. His grandfather tied the line to the bumper of his truck and waited.

"When [the line] went tight, they'd just back the truck up and drag those fish out on the bank," Merchant said. "They wee as big as a junior high school kid, 90 pounds. That's a big fish."

Anglers told of Colorado squawfish that were up to 5 feet long and 80 or more pounds; most recalled squawfish in the range of 20 to 40 pounds.

Many of the seniors said they used Colorado squawfish for food, especially during The Depression. Humpback chubs, bonytail chubs and razorback suckers also were consumed, but reportedly were bonier.



Photo courtesy of Colorado Division of Wildlife.

Three boys pose with a 17-pound Colorado squawfish they caught in the Green River in the early 1920s. Colorado squawfish once grew to nearly 6 feet long in the Colorado River Basin and were called "white salmon" by early settlers. Now endangered, these fish are found nowhere else in the world.

"I know those bonetails [referring to all chubs] aren't edible because I tried to eat one when I was a kid, and they're absolutely sickening," Merchant said. "There's about 2 million bones in each of them."

But Tom Hastings of Green River, Utah, recalled a trapper who regularly ate razorback suckers.

"He'd catch those suckers and eat them. I don't know how they fixed them, but they thought they were better than catfish," Hastings said.

Several seniors compared the taste of Colorado squawfish to salmon. "Gut them and chunk them and put them in quart jars, pressure cook them. Damn, they made salmon taste bad," said Lyndon Granat of Palisade, Colorado.

Seniors recounted both positive and negative attitudes toward the fish. As Don Hatch of Vernal, Utah, explained, "When you grow up and all your life you've been told they are just trash fish, it's hard to get over that feeling. Of course they're valuable, of course they're endangered so that's the reason you should take care of them. We know now."

Anglers used several different names for each fish, sometimes making identification difficult. For example, Colorado squawfish commonly were called "whitefish," as well as "white salmon," "Colorado River salmon" and "landlocked salmon."

Looking at a razorback sucker photo, Bill Allen of Vernal, Utah, showed how confusing the identification process was back then.

"Now that was the humpback," he said. "We'd still call them roundtail, but we called them humpback roundtails ... squawfish ... kind of a humpback squawfish sucker."

Quartarone used photos and detailed descriptions about the fishes' decline. Dams changed the river habitat, they

The fish swam into irrigation ditches and became trapped or were flushed into the fields. Some squawfish were found dead with catfish lodged in their mouths, reportedly because the barbs on the catfish punctured the squawfish's insides and killed them. And the chemical

rotenone was used to reduce native fish populations and make way for non-native sport-fish in and upstream of Flaming Gorge and Navajo reservoirs.

The Recovery Program is a three-state, multi-participant program aimed at recovering endangered fish while providing future water development.

Do you have questions or comments for the U.S. Fish and Wildlife Service on their endangered fish recovery program?

Contact: Connie Young
U.S. Fish and Wildlife Service
Denver Federal Center
P.O. Box 25486
Denver, CO 80225
(303) 236-2985

The Last Page

There is good reason to become and stay a member of CPRG. As a united voice, we can achieve our mission to improve our guiding careers along with the quality of our river trips. The membership does grow steadily so the interest is there, but we need more than a roster - we need your talent and ideas! The board members, quite frankly, can't do it alone. It takes a tremendous amount of energy to make CPRG work and become influential, a potential it can achieve. Be CPRG's eyes and ears. Write articles. Express your talents. Send us your artwork, poetry, and photographs. We are indeed a clearing house for art, history, science, and useful information.

Guides who have trip leader status should be thinking seriously about joining CPRG. If you're timid or apprehensive about CPRG, you should call the board members and talk to us directly. We need your input. Show your appreciation for your position and help encourage new guides coming into the industry to share your attitude about your job, the place you work, and the river you run.

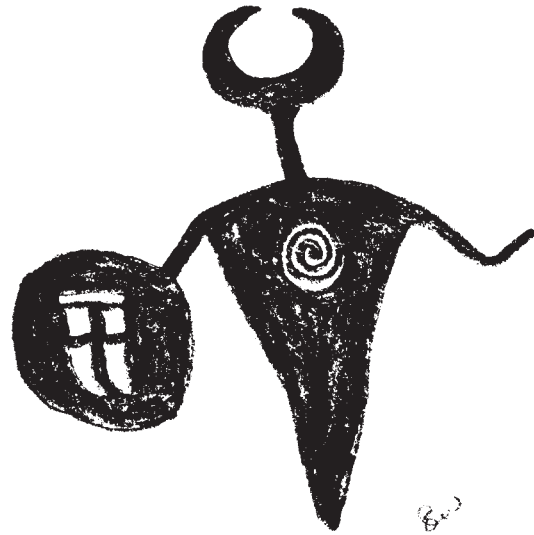
Company owners too should think seriously about CPRG. We can be a medium for your frustrations as an employer. We can serve as an intermediary for difficult situations with employees and vice versa.

Join CPRG. Help CPRG. Make it work for all of us!

Coming Next Issue

The Confluence will have a special four page pull-out section on river rescue that will fit into your ammo can for ready use. It will contain drawings of knots, mechanical advantages, etc.

From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077



(AL-P continued from page 5)

the Sierra Club Legal Defense Fund, has several legal victories under its belt concerning A-LP.

Opponents of A-LP include FCAC, Taxpayers for the Animas River (TAR), the Southern Utah Wilderness Alliance (SUWA), the Sierra Club, a growing number of Ute tribal members, and others. Now they have hired former Colorado State Engineer Jeris Danielson to formulate alternatives to A-LP that will satisfy everyone's water needs while lowering environmental and financial costs.

For updates and more information contact:

Mike Black of Taxpayers for the Animas River at (303) 385-4118 or Jerry Swingle of Four Corners Action Coalition at (303) 247-5797.

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