

# Swirling in the Current

## My Journey from Army Brat and Juvenile Delinquent to Exploring the Geology of the River Canyons of Western China

by Peter Winn



The author on the Mekong Headwaters on the Tibetan Plateau.  
Photo by Tang Jiangzhong, 2012.

“Once I, Chuang Tzu, dreamt that I was a butterfly, a butterfly flying about, feeling that it was enjoying itself. It did not know that it was Chuang. Suddenly I awoke and was myself again, the veritable Chuang. I do not know whether it was Chuang dreaming that he was a butterfly or whether I am now a butterfly dreaming that it is Chuang.” Taoist philosopher 2400 years ago.

Photos by the author unless otherwise noted. There are a lot of photos, so the total amount of text is probably only 150 pages.

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Although there are a total of 250 pages, there are many pictures, and due to a decision not to use word wrap, there are many blank sections, so there are about 150 pages of text.

## **Introduction**

This is a work in progress, started when I turned sixty-six on November, 17, 2014, really a story about unintended consequences. My mother, Shirley, wrote an autobiography when she was about seventy, called “Mom Spills the Beans.” She was quite a character. It didn't occur to me to write my memoirs until my son Travis suggested it. At first I decided not to, but upon reflection, I realized that at least Travis and my daughter Carmen would enjoy reading the story of my life, so this is dedicated to them. I hope claiming me as their father isn't too embarrassing. Then, when I contacted siblings and old friends to make sure my memory wasn't too far out of line, they all asked for a copy. Even the driver of the truck who delivers my frozen food orders asked me for one. Mom didn't publish her autobiography, and I don't plan to publish this.

I started out life as an Army brat, but was the second in four generations not to serve in the military. In 2008, I started taking disabled war veterans on kayak trips through the Grand Canyon, which I probably would never had done had I not spent my first seventeen years living on or near US Army bases. Along the way, I became a juvenile delinquent, worked as a professional river guide and outfitter in the western US, got married and raised two amazing children, earned a BA in psychology and a BS and an MS in geology, worked as an independent consultant in the mining industry all over the world for nearly thirty years, and eventually became one of the first geologists to explore the canyons of the major rivers draining the Tibetan Plateau. I have never been able to predict my future, except for short periods of time, hence the title.

## **Ancestors**



Brigadier General Dean F. Winn, Commander of  
the Presidio Army Hospital in San Francisco, CA.  
Photographer unknown.

I'm descended from a series of US Army surgeons. My grandfather, Brigadier General Dean F. Winn (1886-1970), was the family genealogist and a veteran of both WWI and WWII. My great great great grandfather, Colonel Francis John Winn, was a surgeon before becoming a South Carolina Congressman. Out of the blue I received an email in 2007 from Katie Spencer, a history senior at Emory University in Georgia. After confirming that the picture of Colonel David Evans Reed Winn (Francis' son) on a website that I had created to honor my father was in fact a picture of my great great grandfather, a Confederate Army surgeon, she sent me her honors thesis, based on a collection of letters from David Read Evans Winn to his wife during the Civil War, archived at the University of Georgia. It's a tear jerking story. He died in the Battle at Gettysburg, fortunately after having a baby boy, John, who became a candy store owner. My parents took me to his store when I was a youngster, then run by a nephew. My grandfather was a surgeon at a hospital on the Russia Front in WWI (at the time the US and Russia were allied against the Germans), and when the war was over and the Bolshevik Revolution began, he and the Russian nurse he had fallen in love with (my grandmother, Alexandra, whose family was a property owner), escaped to Finland, then England and the US – a wild story included in the family genealogy. By WWII, Granddaddy was responsible for the construction of about seventy VA hospitals, for which he was honored by having Winn Army Community Hospital near Savannah, Georgia named after him (see [www.winn.amedd.army.mil/default.aspx](http://www.winn.amedd.army.mil/default.aspx)), a fact which later had a significant effect on my life.



Granny (Alexandra) with Dad and his sister, Marguerite, 1990s.  
Probababy a self photograph.



Mom's father, about 1930. Probably a professional photograph.



Mom's mother (Momo), 1963.  
Photograph by Dean Winn.

Mom's father died when she was seven, so she wasn't able to tell me much about him. Her mother raised four girls and boy, but I never got to know any of them very well.

## **Parents**



Lt. Col. Dean F. Winn, Jr. and Shirley Liddell Winn, 1966,  
just before he retired. Probably a self photograph.



Mom and Dad on their 50<sup>th</sup> Anniversary, July 4, 1996.  
Probably a self photograph.

## Dad

My father, Lt. Colonel Dean F. Winn, Jr., was a genius. He graduated from high school at sixteen, from college at eighteen and from Harvard Medical School at twenty-one (in 1945). After getting married in 1946 and completing a surgical residency at Cleveland General Hospital (where I was born), he joined the US Army and moved us to the Presidio Army Hospital in San Francisco (now part of Golden Gate Park), where three of my brothers were born (David, Michael and Steven). He's also a war veteran - he was a surgeon in a MASH unit (mobile army surgical hospital) during

the Korean War in the early 1950s. He once told me the movie, MASH, wasn't far from the truth, though the TV serial stretched it. When he left Korea, he became the Chief of Thoracic Surgery at Yokohama Army Hospital in Japan and moved his wife and four sons there for two years.



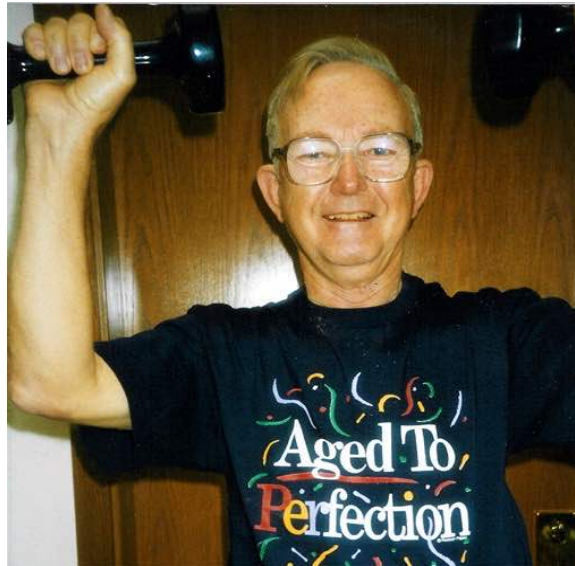
MASH Unit in the Korean War. US Army file photo, early 1950s.

After Japan, we moved to Fitzsimons Army Hospital in Denver, Colorado ([en.wikipedia.org/wiki/Fitzsimons\\_Army\\_Medical\\_Center](https://en.wikipedia.org/wiki/Fitzsimons_Army_Medical_Center)), where he became the first military surgeon to be trained in open heart heart surgery, and he added two more children to his family (Chris and Robin). I have fond memories of living there. When former President Eisenhower had a heart attack in the early 1960s, Dad was one of his attending surgeons. After five years in Denver (Aurora), we moved to Landstuhl Army Hospital in Germany for three years, where his last child (Heidi) was born (and where I learned to pull pranks). Dad eventually trained dozens of other cardiovascular surgeons for the US Army before he retired. In 1966, he was asked to manage the US Army's MASH units in Vietnam but declined. He later told me he resigned because he thought we would lose the war and that he would help me and his other sons avoid the draft. Mom told me that they were worried about sending seven children to college on a military salary, and civilian surgeons earned far more. Many years later, while wandering around Kunming (the capital city of Yunnan, China), a couple of young women that I met in a tea house invited me to join their English language college class. It was taught by a retired Chinese colonel, who had fought against the imperialist Americans in the Korean War, capturing and interpreting our communications. Oddly, we became friends. "The times, they are a-changing."



Landstuhl Army Medical Center, Germany. From Wikipedia.

Landstuhl eventually became the US Army's largest hospital outside of the US. Wounded soldiers from the Afgan/Iraq war are flown to Ramstein Air Force Base, just across the Rhine River from Landstuhl, for transfer to the hospital. I delivered newspapers at the hospital in the early 1960's. After Landstuhl, Dad moved his wife and family of seven children, ranging in age from two to fifteen at the time, to Fort Sam Houston (Brooke General Hospital) in San Antonio, Texas, for two years (where I got into a lot of trouble for pulling pranks). We lived in a huge house on the parade grounds, which were about a mile long and gave our family dog, a poodle named Mac with a long tail, a lot of exercise chasing airplanes. When Dad retired we moved to Woodland, California where I enrolled in the local high school as a senior – the first school I attended that wasn't on an army base. Woodland is a small rice and tomato farming town near Sacramento, where Dad was the Chief of Thoracic Surgery at the Woodland Clinic for the next twenty years. While there, he often took us skiing at the big ski areas near Lake Tahoe. Late one day, he and I were riding on the Squaw Valley tram, a huge cable car with about fifty other skiers, when the power went out. The operator had a climber's harness and long rope and proceeded to lower us, one at a time, to a ski patrol team on the ground, a time consuming process. The team on the ground made a big mistake – they sent up a case of wine to keep us happy. After a while, people had to pee, so first all of the women stood at one side of the the tram car, tilting it so the pee would drain out, not realizing the ski patrol team was going to wonder about getting soaked by yellow rain. After sending all seven of his children through college, he and Mom retired to Medford, Oregon, where they both lived until they passed away.

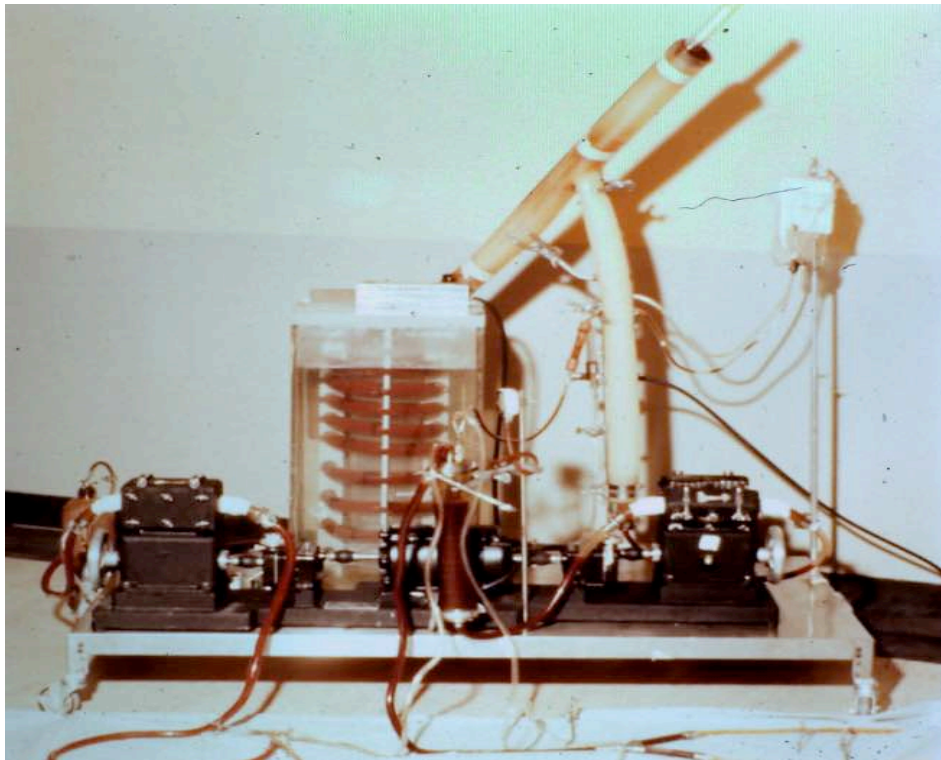


Dad in the mid 1990s, photographer unknown.

Dad died at age eighty-four from a seizure due to Parkinson's disease in 2006, in the arms of his daughter Robin. At the time, I was one of the more computer and photography savvy of my siblings, so they gave me Dad's computer and photo collection. His computer contained files about extensive research into various diseases, including studies on Parkinson's and Alzheimer's diseases (which Mom had). He maintained close relationships with many of the surgeons he had trained and kept up with their work, which included studies on dietary control of atrial fibrillation, a condition I had. Over the next two years, I viewed about ten thousand pictures, mostly thirty-five millimeter slides, from his ancestors through childhood to his death, including photos of all of his travels. I eventually scanned about five hundred of the best photos to JPG, which his granddaughter Jessica still uses to create our annual family calendar. One of these was taken by a sailor on the US Navy troop ship which carried Mom and her first four sons to Yokohama when Dad moved there from Korea. It's pretty funny – to control us, she dressed us all alike and put dog leashes on us when she walked around the decks. Unfortunately, I can't find the picture.

Dad had many interests. He loved hunting, hiking, camping, skiing, chess, photography and was pretty good at home repairs. He was also really into puzzles, legos and science kits for kids. I remember when he taught me to build an electric motor with nails, copper wire and a battery. He taught me and his other six children many of these skills, and later, after I had left home, he took up abalone hunting and skin diving, which he taught to my youngest brother, Christopher. Mom once bought him a Labrador Retriever to swim out and get the ducks we shot at local lakes. Unfortunately, Sheba was gun shy, so I had to swim in the frigid water to get the ducks (Sheba was smarter than I was). Remarkably, I still enjoy a duck dinner (especially Peking Duck) and swimming, though not at the same time. He also took me deer hunting, and that was when I realized I wasn't a hunter. Many years later, while living at the American River Touring Association's warehouse in Sparks, Arizona, our neighbor, who raised chickens, asked me to shoot a coyote that was eating her chickens. She gave me a twenty-two rifle, which I practiced with by hitting beer cans at one hundred feet or so to help me remember my sharpshooting days in high school. An hour before dawn, I climbed about fifty feet up a pine tree in the middle of the chicken yard and waited. Just as the sun hit the yard, I saw a coyote digging a hole under the fence. It was so beautiful I couldn't kill it (it was obviously well fed). So I shot right next to it, scaring it away. It didn't come back while I lived there. I think Dad would have been proud of me.





Heart-lung machine, circa 1960, probably photographed by Dean Winn

As a heart surgeon, Dad knew a lot about the causes of heart disease. Mom's father, who was a heavy smoker, had died at forty-two from a heart attack, and Dad saw evidence of cancer in many of his patients who smoked, years before the FDA required warnings on cigarette packages. While we were in Germany, Dad joined the Danish Cancer Society, which, in addition to publishing some of the first research that cigarette smoke was a cause of lung cancer, sold anti-smoking posters. He would place these posters over cigarette dispensers in the hospital. They included one showing a silhouette of a pregnant woman where the smoke in her lungs passed into her uterus, choking the baby. Another showed a silhouette of a man smoking, with the smoke changing into a snake biting his heart. They didn't last long – the general in charge of the hospital was a smoker. When I went to college, Dad gave me some of his posters and asked me to put them up by cigarette dispensers in the student union. Needless to say, they were quickly replaced by pro-marijuana posters. Neither I nor any of my siblings smoke cigarettes, though most of us smoked marijuana in college. Interestingly, he also noticed that twenty year old soldiers in Korea had arterial sclerosis, a blood vessel disease caused by deposits of cholesterol, typically a disease of the elderly, especially those who are overweight. He and some of his colleagues eventually discovered that halozone, chlorine based water disinfectant used by the military in the Korean and Vietnam wars, combined with organic molecules dissolved in surface water and dietary fats to form triglycerides, which the body converted to cholesterol. The military eventually switched to iodine based water purification (and many cities which rely on surface water for culinary uses have switched to ozone).

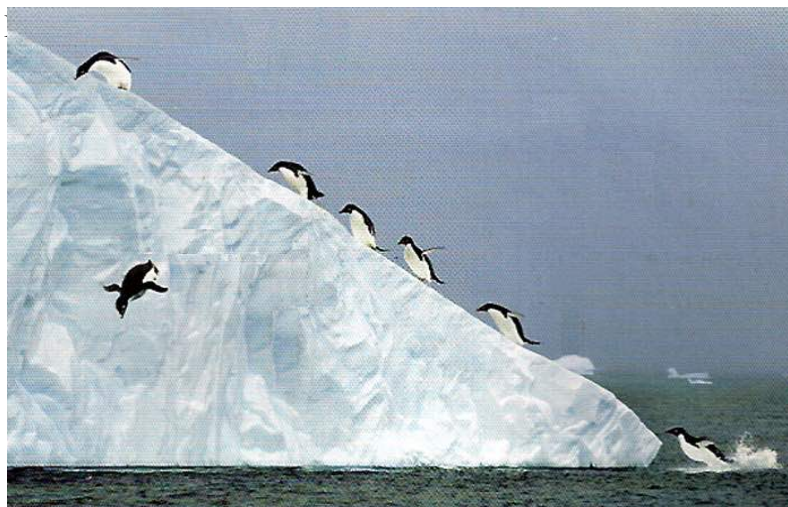
During his career as a thoracic surgeon in Woodland, he and several colleagues interviewed dozens of patients that were over one hundred years old. I still remember a few of their conclusions: most were women, most lived in two story homes for most of their lives (so they got daily exercise), most played bridge, chess or crossword puzzles (so they got frequent mental exercise), most had been involved in some sort of athletic activity as youth, including the women (mostly dancing) and besides climbing stairs enjoyed daily walks (getting outside, often walking dogs), most were active in social groups such as churches or book clubs, few of them were vegetarians and few of them ate fast food. Their diets included fresh vegetables, fruits and nuts, an average amount of starch and

fatty foods and an above average intake of high protein foods, with no specific preference for fish, poultry and red meats, plus most drank a small amount of alcoholic and/or caffeinated beverages.



The Leaning Tower of Pisa, from Dad's computer, photographer and date unknown.

Dad also enjoyed practical jokes. He once told me that while he was a student at Harvard Medical School, he and a friend whose father owned a crane company, “borrowed” a crane one night and lifted the car of one of the medical professors (who they apparently didn't like) onto the roof of his house while the professor was out of town. He also had a book, “One Hundred Uses of Human Skin,” which featured a lamp shade on the cover. The book was a boring novel. He also had some other amusing pictures which are too risqué to include. I inherited some of his spirit and also inherited his preference for very spicy foods. A couple of times each month, he would take his family to El Charro in Woodland for a jalapeno hit. I still add red peppers to at least one meal a day.



When Dad turned eighty, he and a friend about the same age, both of whom had Parkinson's Disease, traveled to Antarctica on a tour. Both of them forgot spare batteries for their hearing aids and ended up having to yell at each other. Dad sent me the postcard above, with a short note: "You'll live longer if you have fun!" One of my favorite memories of Dad in his old age was watching him cruise the halls of the Rogue Valley Manor in Medford, OR, where he and Mom had retired. He needed a walker, but that didn't stop him from having fun. He put on a French Beret and added a bicycle bell to his walker, then raced though the Manor halls, ringing his bell and yelling "kamakazi walker coming through!"



Dad sailed to Antarctica on the Marco Polo. When his ship arrived in port, he took of picture of this ship, added the name using Adobe Photoshop and sent me a story about having to swim to shore.

He was really proud of his military service and arranged for us to go on tours of an aircraft carrier, a nuclear submarine, a nuclear missile silo and a B-52 stratofortress (first built after WWII, they're still in use). I'm still impressed by the military acumen of the US armed forces and the fact that much of its cutting edge technology has filtered down to the general public, such as GPS, which I often used years later on my exploratory river trips in western China. Google Earth maps are based on it and satellite photos. About twenty years after Dad retired and two years after he died, I started taking disabled war veterans on kayak trips through the Grand Canyon. I hope he's proud of me.



Mom and Dad and their seven "kids," Estes

Park CO, 2005. Professional photograph.

## Mom

My mother, Shirley Liddell, was also very intelligent (and had about twenty-five middle names). Before I was born, she worked on a PhD in psychology at the University of Wisconsin under Alfred Kinsey, who published Mom's research as part of one of the first major studies on male and female sexuality (she later told me I was her first “experiment”). Her mother (we called her Momo) raised her four daughters and a son and sent them all to college (Mom was the youngest girl). Her younger brother and her older sisters have all passed away. Mom went to the women's college at Tulane, then to the University of North Carolina (where she stole Dad from another woman) then to Wisconsin. She had seven children over thirteen years – chronologically, Peter (1948), David (1949), Michael (1951), Steve (1953), Christopher (1957) – all named after saints, Robin (1958) – born in the Spring, and Heidi (1963) – born in Germany. Dean and Shirley were Presbyterians and both of them were born in the South (southern Texas and New Orleans, respectively) to parents who had witnessed the rapid growth in black family size. They believed they needed to help counteract this. However, after seven children and after getting to know many very intelligent black military medical personnel, they encouraged their children to avoid racism, and eventually encouraged us to pursue our own religious beliefs. However, Mom never quite got over her concern about interracial families, and was very disturbed when Michael married a black woman from Ethiopia. She was happy when he got divorced before having any children.



Mom and her airplane in the 1970s.  
Photo by Dean Winn.

Mom also had many interests (besides getting pregnant). She was the president of all of my school PTAs and those of all my siblings – for forty years or so – a lot of schools, since the Army moved us every few years. She was also the president of the California Medical Auxiliary (mostly doctor's wives at the time). She used to practice her speeches on me, including those as the president of the Powder Puff Derby, a women's airplane racing club. After Dad retired to the Woodland Clinic, he made a lot more money and bought Mom an airplane. When she passed the pilot's license exam with a near perfect score, the exam administrators thought she had cheated and made her take it again. She collected excess pharmaceutical company drug samples from physicians all over California and flew them to hospitals in Mexico. She flew in Powder Puff Derby air races all over North America, from Alaska to Central America to the Bermuda Triangle. Cindy (my wife) and I once went to a lecture by Edward Abbey (a famous author of ecoterrorism novels) at NAU in Flagstaff, AZ. He might have been a great writer, but he was a terrible speaker. The lecture was so

bad that most of the audience (including us) went next door to a lecture by Charles Berlitz about the Bermuda Triangle. His lecture was based on a book he had written about his belief that the Triangle was located in a magnetic anomaly, causing plane and ship compasses to malfunction, resulting in their disappearance. To disprove it, Mom organized a successful air race to Bermuda. I once talked her into taking me on a flight over the canyon of the Little Colorado from its confluence with the Colorado in the Grand Canyon to Cameron, Arizona (north of Flagstaff) to scout it for a kayak trip, a few years before Brad Dimock and Tim Cooper did their kayak descent (their epic story is in Christa Sadler's book, "There's This River"). Mom was on her way back from a Powder Puff race and her co-pilot let me sit in front so I could see better. The canyon of the Little C (as we called it) is very deep and narrow and not easily seen until you're right over it. When we turned to fly up it, we went from about a thousand feet above the land surface to four thousand feet over the river in seconds, which caused the copilot to puke all over the back of my seat. Mom hated cigarette smoke and had a sign in front the passenger seat: "If you must smoke, please set outside." I inherited a fair bit of Mom's craziness.

Mom also loved to play Bridge. If you're not a player, it's a card game with two sets of two partners. It's based partly on luck but mostly on strategy, and like Poker, it requires remembering every card that has been played and an innate understanding of people and probability. She was a very good player and teacher, and I eventually learned to play contract bridge, a competitive "sport." While in college, I played for a penny a point and after hundreds of bridge games where winners often won several dollars, I only lost about ten dollars. I taught my wife, Cindy to play, and once when we were playing with another couple in Flagstaff, the wives went into the kitchen to make a snack and John and I split all of the high cards between us (it was husbands against wives). Needless to say, they were furious when they figured out what we'd done. It's still my favorite card game. However, the bidding rules have changed over time – they've become so complicated that Uncle Tully (Mom's younger brother) sent me a book he'd written, kind of like a "cheat sheet."

Besides encouraging Dad to take positions at military hospitals in Japan and Germany, Mom planned camping trips to many national parks, including Sequoia (to camp among the big trees), Glacier (to ride snow cats - both in the US and Canada), Mesa Verde (with its incredible Pueblo Indian ruins), and Grand Canyon (where we hiked to the Phantom Ranch and back to the rim in two days, in loafers!). Mom loved traveling so much that she planned trips all over Europe while we lived in Germany, where we visited the Berlin Wall, Brandenburg Gate and so many medieval castles and churches that they eventually made me sick. They bought a VW bus and camp trailer and hauled six and eventually seven kids to England (where we visited the Royal Palace, the London Tower and met Granny's sisters, who had also escaped from Russia), Wales and Ireland (with very strange town names), Norway (where we visited fiords), Sweden (where we visited some pornographic statues), Holland (tulips and windmills, of course), Denmark (to see the big dikes made famous by the Grimm Brothers), France (where we visited the Louvre, Notre Dame, Arc de Triomphe, and climbed the Eiffel Tower), Switzerland (skiing on the Matterhorn at Zermatt), Austria (skiing at St. Johann), Spain (bullfights), Greece (Mount Olympus, the Parthenon and Acropolis, etc.), and Gibraltar and Morocco (great food). While visiting Mount Olympus, we met an Australian family who also traveled in a VW bus. Theirs was named "Matilda," and that evening Mom used some tape to name our VW "Matilda." In Italy we visited the Vatican and Mt. Vesuvius, where a volcanic eruption had preserved a town with people still at the dinner table. I sometimes wonder if this childhood experience influenced my decision to become a geologist.



Matilda with the White Cliffs of Dover, England, in the background.  
Photo by Dean Winn, early 1960s.

Camping was fun – we got to meet kids from all over the world. One summer, Dad was sent to Skopje, Yugoslavia for six weeks with a MASH unit to help thousands of Yugoslavians who'd been injured in a large earthquake. While he was there, we camped at Lake Garda in northern Italy, a large warm lake where the older kids learned to water ski. Dad met us there and we took the ferry from Italy to Greece with our VW van and camp trailer, an overnight trip. David, Michael and I went to the stern to watch the wake light up as algae fluoresced. One of the sailors was hanging out there, smoking a cigarette and playing with his prayer beads. He'd made the trip hundreds of times and never tired of it. We also traveled all over the US (I've probably been to forty states), including the Washington Monument (we walked five hundred fifty feet up the stairs, no longer possible), the Smithsonian Museum (to see the Wright Brothers airplane) and went to the New York World's Fair in 1964 (we watched the first Imax movie in the IBM "Egg"). Mom also planned all of our bi-annual family reunions after we'd all left home. We traveled to a lot of fun resorts in towns such as Steam Boat Springs, CO, Bend, OR, Rocky Mountain National Park, CO, Kaua'i, HI, and Mazatlan, Mexico. After Dad retired, they continued their international travel, all planned by Mom, eventually going to over one hundred and fifty countries, including China. When I first started running rivers in western China, I visited some of the places they did, such as the Great Wall, the Forbidden City and Tiananmen Square in Beijing, Green Lake and the botanical gardens in Kunming, and Victoria Peak in Hong Kong. However, I've never visited the karst topography along the Li River that makes Guilin so famous in Chinese art or the terracotta warriors at the Qing tomb near Xian. I found some great pictures of these sites in Dad's files, including a flight to Alaska with Robin and Heidi in Mom's Cessna and a trip to Stonehenge. Now many pictures are easy to find on the internet – just search for any place on Google Earth (it's by far the best free app you'll ever download) and click on the photo link.



Mom at her “Take them off party.” Photo by Dean Winn.

When Mom and Dad retired, they moved to the Rogue Valley Manor in Ashland, OR. It was the only affordable retirement community they could find that would take Dad with his Parkinson's diagnosis. At first they lived in their own apartment, bought a small RV and joined an RV club. Most of their trips were around the west coast states, though they did visit David at a famous musical competition in Louisiana, Cindy in Grand Junction (I was out of town) and put their RV on a flat car for a train ride through the famous Copper Canyon in Mexico. They loved costume parties and some of my favorite pics of them are from their parties. Mom was diagnosed with breast cancer and decided she didn't need her breasts any more, so she planned a “take them off” party. Another time she had a heart valve replaced with a cow's heart valve, so they threw a Moo Moo party to thank the cow. After about ten years they moved to an apartment in a high rise building with a very nice restaurant. Once, when I was visiting them, Dad asked me to buy a large box of adult diapers for Mom at Cosco. It took me a while to figure out why everyone was grinning at me. After Dad's memorial ceremony at the Manor, which all seven of us attended, the manager asked us to meet with him, then told us Mom had Alzheimer's disease and couldn't live alone. Dad knew this and had arranged for her to live in the Manor's Alzheimer's unit after his death. Her mother (Momo to me) also had had Alzheimer's. I went to visit Mom many times, once on her birthday. I asked her what she wanted, and she said “a green convertible – Dad wouldn't buy one for her (she'd stopped driving and flying in her 60's due to vision problems, a problem I probably inherited from her), so I bought her a scale model a few inches long. She loved it, though I knew she was red-green blind and her vision had degraded to near blindness. I stopped visiting her after I realized she didn't know who I was, a very depressing experience. I didn't want to remember her that way. My cell phone rang, and she accused me of being a telephone salesman and threw me out of her room, screaming so loud that several of the unit's staff members came running. I much prefer to remember her when she practiced her Powderpuff Derby and California Medical Auxiliary speeches on me – she was the ultimate optimist.



Mom and Dad, rafting in Costa Rica in the 1990s.  
Probably a self photograph.

I'm sure my parents love of travel was the reason that my siblings and our children are all world travelers, and perhaps one of the reasons I decided to study geology. I was very fortunate to have them as parents. Thanks Mom and Dad – you were the best parents a boy could ever have!



“They are not stars, but openings where our loved ones smile down to reassure us they are happy.” Old Intuit saying. NASA file photo.





The author holding Lucy, dancing with Aunt Frankie at Chris' wedding.  
Photo by Dean Winn, 1984.

## **Aunts, Uncles and Cousins**



Extended Winn Family, Estes Park, CO 2005. No wonder why the world's population is exploding. Professional photographer.

Although I had several aunts, uncles and quite a few cousins, I've only met most of them a few times, mostly as a child. I'm not even sure how many cousins I have. Terry, the son of one of my mother's sisters is a retired counselor for army public schools and spent quite a bit of time in Germany. He's also an amateur magician, and when our daughter Carmen was in elementary school he performed an hour's worth of magic tricks at her birthday party, quite a treat for all of us. I also occasionally kept in touch with Julia, one of the daughters of Dad's sister, Aunt Rita. Julia is a retired medical research scientist.

## Siblings



David, Julie, Alice, Christopher, Lucy and Johnny at Havasu Creek in the Grand Canyon, mid 2000's. Photographer unknown.

David, about a year younger than me, was born at the Presidio in San Francisco when our grandfather was the commanding general. David is probably the most intelligent of my sibs. He speaks several languages (so do his four children), has lived in Europe for most of his life, plays a Grand Piano competitively, is a natural leader, and is the wealthiest of my sibs, among other things (like having the biggest mortgage and the most children). While at Yale, David earned a black belt in Judo. It was a good thing he did, because one year he decided to ride empty box cars from the West Coast to the East Coast. Somewhere along the way, he climbed into a box car where a vagrant was riding. Before long, the vagrant decided to rob David, only to be thrown off the train by David, which fortunately for the vagrant wasn't moving very fast. David and I also worked together on a tomato harvester for a few weeks in Woodland, CA. It took us a while to like tomatoes after that. My daughter Carmen, born twenty-five years later, hates tomatoes – makes me agree with the idea of epigenetic heritage. While in high school in Woodland, after I'd left home for college, David was either the captain of the WHS football team or its chief waterboy, depending on whether you believe Mom, who wrote her memoirs while in the early stages of Alzheimer's, or some of my siblings, who probably tried hallucinogenic drugs while in college. During college summers, David and I worked together as guides on whitewater rivers in California, Oregon, Idaho and the Colorado in the Grand Canyon. After he graduated, he moved to Europe, getting jobs like looking for unexploded WWII bombs in the Rhine River and posing as a nude model for an art class in Berlin until he got a bad cold and couldn't stand still enough. His and my families have skied together for years. He had an apartment in Paris for thirty years and now has a home near the Crested Butte ski area in Colorado. Over the years I've met a few French geologists, who always seemed to “look down over their noses at me.” I asked David why French geologists thought they were superior to me, and his response: “Don't take it personally, the French look down over their noses at everyone, including other Frenchmen.” David met Julie at Yale (her autistic brother was the model for Dustin Hoffman in “Rain Man”), and married her a few years after I married Cindy. Their oldest daughter, Lucy, also a Yale grad, is now married and works in the Hollywood movie business. Johnny, a University of Virginia grad, works in the advertising business in London. Christopher, a recent University of

Chicago grad, studied music and math and can compose music. Alice, who graduated from Oxford, is the most like her grandmother, Shirley (they called her Mimi). Alice could easily play the role of Alice in “Alice in Wonderland.”



Jem, Emerald and Michael Winn, 2015, photographer unknown

Michael, about three years younger than me, was also born at the Presidio. He studied Russian in high school and is the only one of my siblings to travel there. After I graduated from Stanford and while David was a senior at Yale and Michael was a junior at Dartmouth, I drove from California to Boston, then David and I drove to Hanover to visit Michael to watch a Yale-Dartmouth football game. We had a gas – geek college students aren't known for brute force, they're known for muscles in their brains. The teams were equally matched, but Dartmouth was ahead by a touch down near the end of the game. Yale had the ball, and just after the center hiked the ball to the quarterback, a whistle blew and of course all the players stopped. The Yale QB slowly walked through the Dartmouth defense, then ran a touchdown. It turned out none of the referees had blown the whistle and no one knew who did (of course, it had to be planned by the QB and a Yale fan). After much discussion, the referees and team captains agreed to a tie game. I'll bet there's now a rule against fans blowing whistles. He worked as an editor, writer, became a talented photographer and is a co-author with Mantak Chia of “Awaken Healing Energy Through The Tao.” He's now the President for Life of the International Tai Chi Society (because he created it). I'm only being partly facetious, because he's quite successful (see [www.HealingTaoUSA.com](http://www.HealingTaoUSA.com)). Several times a year, he organizes trips to exotic foreign places. He's taken clients to meditate in the Great Pyramids, South Sea islands, monasteries in Tibet, ancient Buddhist caves in China, etc. He hosted a really fun family reunion in the Cascades of northern New York. He has an amazing way of convincing stressed out wealthy New Yorkers that Tai Chi, meditation and other eastern philosophies and practices can help them cope with the stress of being a big city dweller. He lived in Ethiopia for a while (where he met his first wife, the daughter of a local black minority ruler). He was there buying rugs for resale in the US when the Ethiopian government collapsed and the new government became a Soviet ally, so he was put in prison for being an American. He managed to contact Dad,

who wired bribe money to get him released. He started and ran an Ethiopian restaurant in New York for many years. His second wife, Joy, died of cancer about ten years ago, and he recently married again, this time to a twenty-five year old woman, Jem, who has given him a boy, Emerald. They were married in China on top of a famous mountain. My sister Robin and brother Steve were at the wedding and I've seen their pictures – quite an impressive place, not for anyone with a fear of heights. Mike and I worked together as river guides in Idaho and the Grand Canyon, then he convinced National Geographic Magazine to give him enough money to buy two rafts and run a first descent of a river in Yemen. Don Briggs, a good friend that I'd worked with in the Grand Canyon, joined him on this trip. The river soaks into the ground before reaching the sea, and at their take-out, Yemenis leading a camel caravan decided to play “king of the rafts.” Michael once convinced one of the first female Grand Canyon guides, Martha Clark (profiled in Louise Teal's book, “Breaking into the Current”) to join him on a jeep expedition across the Sahara Desert - that was the last adventure she went on with him. Michael also took Dad and Mom on a jeep trip along the southern Silk Road in Afghanistan. He and his family live in North Carolina. Adventurous guy!



Michael, Steven, Geri and Kripa, 2005.  
Photo by Dean Winn

Steven, about five years younger than me, was also born at the Presidio. He graduated from the University of California at Santa Barbara, which is not easy to get into because of its location near the Pacific Coast. He married Geri at a church in New York in the winter, with no heat, so she and her bride's maids nearly froze. At the reception dinner, we played a game where everyone hung a spoon on his/her nose, not easy to do. I'm sure Geri's family thought we were crazy. He's a Christian minister in Fairfield, Iowa, and a strong supporter of the Maharishi School located there (because it's very near the center of the US, see [www.maharishischooliowa.org/](http://www.maharishischooliowa.org/)). There are many many varieties of Christianity, and one of them is Vedic. Steven once sent me book in which the author asserts that as a young man, Jesus traveled to India and studied Hinduism, then returned to Jerusalem to teach the Jews about salvation. The reference in the New Testament to incense, frankensence and myhrr, all herbs from India, support this concept. He didn't die on the cross, but was rescued and taken back to India, where he lived and preached until his death. As an aside, Jesus lived and died about six hundred years after Gautama Buddha rejected the Hindu teachings about always being reincarnated into the same caste, and believed it was possible for everyone to reach Nirvana. The teachings of Jesus in the New Testament are more similar to Buddhism than to Hinduism or Judaism – maybe Jesus studied Buddhism? Today, people all over the world still

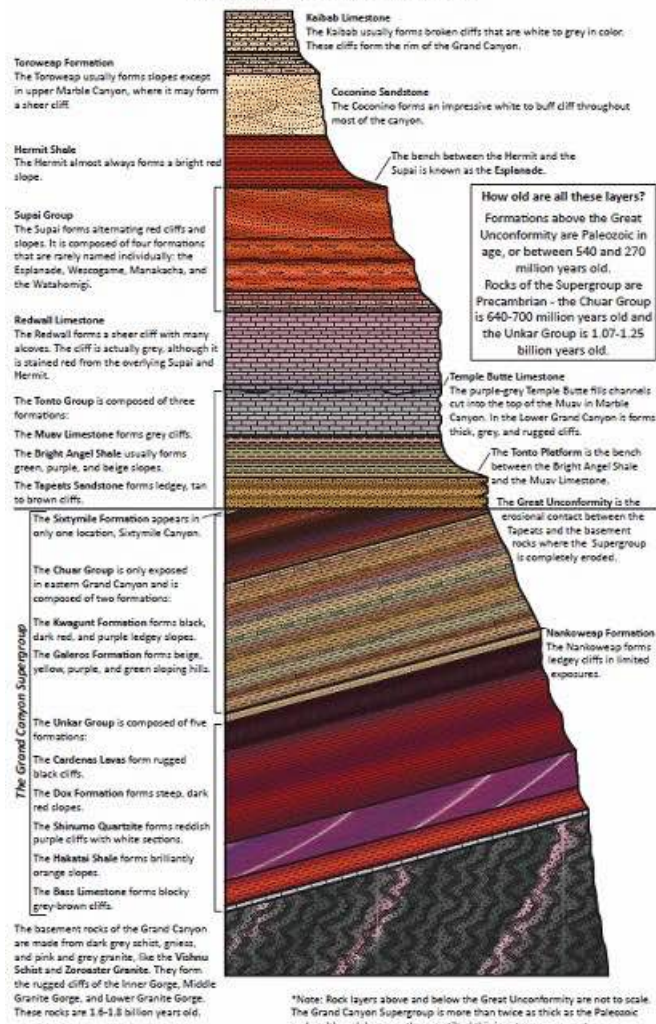
practice Vipassana Meditation as taught by the Buddha (called “Mindfulness”), though this is different than the meditation taught at the Maharishi School in Fairfield, which is derived from Hindu teachings. Steven hosted a Winn family reunion in Fairfield (with Heidi, who was getting married), and in addition to taking us on tour of the huge meditation domes (one for men, one for women) and the local university (parts of which are completely off the grid), he took us to a fascinating outdoor park with replicas of ancient Indian astronomical instruments. Kripa, Steven's daughter, graduated from Mills College in Oakland, California and is now married. His son Michael graduated from a university in India and is now working for Ammachi, a female guru in India that had a significant spiritual impact on Steven and his family. Both Kripa and Michael live in India in Ammachi's ashram. Steven also worked as a river guide, including the Snake River Gorge in Idaho, which is deeper than the Grand Canyon. He rowed a raft and kayaked through the Grand Canyon on a family trip in 1971.



Chris, Jessica, Nancy and Mark in Hawaii, 2006

Chris, about ten years younger than me, was born at Fitzsimons Army Hospital in Denver now a commercial area, when Dad was the Chief of Thoracic Surgery and training for open heart surgery. Chris is part of my parent's second family, along with Robin and Heidi. He graduated from Sacramento State University and married Nancy at my parents' home in a beautiful ceremony in Woodland, CA. Nancy had been adopted and later found her original family. Chris is a self employed accountant and Nancy works for a non-profit organization. They have two children, Jessica, who volunteered for the Peace Corps in Ruanda before deciding to study law in Philadelphia (and now works as for a judge in Spokane, WA), and Mark, who's an engineer in San Diego, CA. All of them are river guides. Chris rowed a fifteen foot raft through the Grand Canyon on our family trip in 1971 when he was fifteen years old, which could be a Guinness World Record. I was kayaking and still remember seeing his red cowboy hat in a big hole in Crystal Rapids, right side up! I rowed Chris' raft in Bedrock Rapids on that trip, flipped and swam the left side, really spooky (I should have let him row). Chris and I put the stern line in our teeth and towed the upside down boat to shore. Mom was also on the raft and was picked up by Steve, and until the day she died she loved to tell the story of her swim in Bedrock. Many years later, Chris ran a Grand Canyon river trip with Duane Whitis, who produced a Grand Canyon rafting map, later co-authored with Tom Martin. Carmen, my daughter, was one of the guides on the trip, met Duane, and the last edition of his map has a geologic cross section describing the rock layers from river to rim made by her. Thanks, Chris.

### Rock Layers of the Grand Canyon



Carmen's geologic cross section of the Grand Canyon, from Whitis and Martin's Grand Canyon guidebook.



Robin and Yarrow at Haleakala, HI, 2016? Photographer unknown.

Robin, eleven years younger than me, was Mom's first daughter, after five sons. She was also born at Fitzsimons. Mom later told me one of the reasons she kept getting pregnant was that both she and Dad wanted a daughter. When we returned from Germany, Mom and Dad took us on a camping trip to Maine, loaded up in Matilda and headed south, then about four hours later, when we reached our campground, a policeman stopped and asked Dad if he had all of his kids. Robin, who was only about six years old, was missing, shame on all of us. Dad drove back to Maine to get her. Needless to say, she still has a strong memory about this incident. When Robin was about thirty, Mom organized a family reunion in Bend OR. All seven of her children played in a skit where we set up chairs and pretended to be in their VW van, Matilda, reliving the experience for Robin. When she and Heidi were still living at home, Dad bought a small raft (an Avon Redshank), made a rowing frame and took them the down the Stanislaus River in California. It was low water and getting to be technical. Dad had been on several river trips with me but really wasn't very skilled and flipped in "Death Rapids." Fortunately, a commercial river party rescued them and Dad made it the rest of the way without flipping. Because of our age difference, I didn't get to know Robin very well until she came on one of Cindy and my San Juan River trips while she was a college student. I heard from my parents that she had a boyfriend in high school, that she had gone to Mills College in Berkeley and had become a river guide on California rivers, but really didn't have much contact with her. When Travis was about six months old, I invited all of my siblings on a San Juan river trip in southeast Utah. It's very mild, only Class II. David and Julie brought Lucy, who's about six months older than Travis. Robin brought three girl friends from Mills, including one of her professors. Cindy, who by then was an accomplished river guide, and I always got up early to start coffee. I carried a tray of cups with a pot of coffee, tea, chocolate, sugar and cream to our guest's tents to wake them up for breakfast. When I arrived at Robin's tent, I saw four naked women, two couples making love. Needless to say, I didn't need to wake them up. Robin married Yarrow in a beautiful setting in the Redwoods in northern California in the early 1990s. They lived in Berkeley, CA for many years, both working as massage therapists, and Robin's very talented. In fact, after typing my life story for two years, I could use one of her massages. If she has a touch screen, maybe I could lie on my laptop screen and get one (who knows, maybe someday). Robin has an MS in sociology and has studied Tibetan Buddhism. They're a really cool couple, now living in Hawaii.



Heidi's extended family – Jean and Sharon and their sons Tomas and Pasha, and Heidi's daughters Beatrice and Emily. Professional photo.

Heidi is thirteen years younger than me. She was born at Landstuhl Army Hospital in Germany. I left home when she was four, and didn't get to know her until she was in college. I'd heard she'd lived with a Turkish family for several months while in high school as part of a foreign exchange program, and that her Turkish "sister" had lived with Heidi and my parents in Woodland for a while. She once liked women better than men and lived with Thresa in Maine for many years. During this time, she had a very upsetting stillbirth, then two children by artificial insemination. Both Beatrice and Emily are really smart, like all of their cousins. Then Heidi and Thresa split up and Heidi moved to Fairfield, IA, where Steve lives and where she met and married Jean, a really cool Frenchman (and of course a great cook). Jean's wife decided she liked another woman more than she liked Jean, so they got divorced, and, amazingly, they're all good friends. Jean's ex and her partner played music and sang at Jean and Heidi's wedding in Fairfield. Unfortunately, Emily (who changed her name to Finn) passed away in the summer of 2017. Heidi was nine when I led our family Grand Canyon raft trip in 1971 and she only walked around two rapids – Bedrock and Lava (a good idea – she avoided potentially bad swims). She's now a psychotherapist in Fairfield. In 2015, she and her family went on a raft trip on the Rogue River in Oregon with Chris and Robin and stopped by Moab Utah to visit me on their way.



## Childhood and Education



Dad, the author and Mom, early 1970's.  
Probably a self photograph.

I was born in Cleveland, Ohio during the Year of the Rat and under the sign of Scorpio (still my favorite constellation and a fascinating arachnid), so I guess I'm a scorpion with rat whiskers. I didn't like Cleveland (and still don't like cities) and cried so much my parents decided to join the Army and move to the Presidio in San Francisco. About that time I stopped crying (amazing what babies can cause parents to do :). I really don't remember much about my first five years or so, except from "Mom Spills the Beans" and Dad's photos. In Mom's book, she tells the story of me at about two years old, climbing out of my crib and out of the room while they were still asleep, then hiding from them in a closet. From Dad's photos, we played Cowboys and Indians a lot, using curved sticks as guns. I later found out one of the streets at the Presidio had been named "Winn Way" after my grandfather who had been the commanding general at the Presidio when we lived there, then stole one of the street signs for my college room.



Aunt Marguerite and Dean Winn, 1987. Probably a self photograph.

## Elementary School

When Dad went to Korea, Mom had to move away from the Presidio and we ended up in a new housing development in Mill Valley, just northeast of the Golden Gate Bridge. I went to first and second grade there. It was a new housing development for “war widows.” Once I was sitting in our yard, which was just dirt with a few oil puddles, and instead of sticking my popsicle in my mouth, I sucked on a stick covered with muddy oil. I also remember that she would put pink food coloring in my milk, which I thought was funny because it grossed out my classmates. Maybe that's why I used pink colorant in the first kayak I made and used pink tempura paint to disguise the ugly color of the mescaline caps I sold in college. Though written about wives left behind during the Iraq war, I wonder if Mom and her war widow friends had to deal with experiences described in Siobian Fallon's book “You Know When the Men are Gone.”

In Japan, Mom decided that David and I were too young to move to the next grade in school, so I repeated second grade. The school in Yokohama, Japan, was on an army base and all of my classmates were the children of US military personnel. All I remember is that we played soldier a lot, and because the school was right next to the base swimming pool, we all learned to swim really well. Once David and I snuck into the girl's locker room and switched around all of their clothes. We got caught because we were laughing so hard about our prank.

I remember a little more about living in Colorado, where I went to third to sixth grades. For the first year we lived in Aurora, off base. Our next door neighbor's daughter, Nancy, was in my class, and we became friends. She was a redhead, and I still think of her when I see a redheaded woman. She was a bit of a tomboy, and liked to join me and some other boys in a game of soccer after school. When the weather was bad, we played at her house. One day when neither her mother and father weren't home she asked me to go into their garage. She told me she'd take off her clothes if I took mine off. Both of us were curious about the other sex – at the time I only had brothers and she was an only child. Neither of us knew why she had a hole between her legs and I had a floppy little penis and tiny testicles. Nowadays, ten year old kids should be required to take sex ed. All I remember about fifth grade was that if a dust devil (mini-tornado) happened to cross the playground

during recess, I would grab a girl classmate who was wearing a dress and drag her into it. Of course, her dress would fly up and she'd get really mad at me for embarrassing her. In sixth grade, I took my third year of Spanish (a school requirement). My teacher, Mr. Villapando, and I didn't get along at all. On the last day of school, I filled a squirt gun with soapy water, and as I walked out the class, I squirted him in the eyes and ran like hell. Many years later, I learned that my best friend in sixth grade, Steve Hanson, had been killed in Vietnam.

Dad was into exercising daily. One day he pulled a prank on me. He had installed a pullup bar and when I got home from school told me all my brothers had done ten pullups, so I felt obliged to do that many. Turns out David did four and Michael and Steve had each done three – ten total. I still like to do pullups, but can only do five now. However, I rowed an eighteen foot raft through the Grand Canyon when I was 65 (though rowing against the wind is exhausting). Dad had me join the Boy Scouts, which was really fun – lots of camping and exploring (and pranks). I earned merit badges in life saving, first aid, bird identification and many other subjects. The Boy Scouts, like Outward Bound, is an offshoot of the British military – get those kids ready for war! Dad decided to learn to ski, and eventually taught all of us to be very good skiers. Back then, the air was always really clear and the Rockies seemed really close. We mostly skied at Winter Park and Loveland and Berthoud Passes. Skiing became a lifelong addiction and I eventually raced, learned to telemark and taught both Travis and Carmen to ski (I asked a friend to teach Cindy), then for a few years before I retired I taught disabled school kids and disabled war veterans to ski at Powderhorn Resort near Grand Junction. By then I had been a telemark skier for over thirty years and was the only instructor with old leather boots mounted on racing skis (and bad knees).

### **Junior High School (Grades 7-9)**

Living in Landstuhl, Germany was really fun. I liked school, but by then had learned that it was so easy that I didn't have to pay very much attention to get good grades, except I regularly got poor grades in handwriting and for a couple of pranks. I was born left handed, and Mom insisted I learn to write right handed. I still can't write script and have to block print everything (and my signature is illegible – perhaps an epigenetic result of being the son of a doctor). Mom made me take a typing class in ninth grade, for which my classmates teased me mercilessly – I was the only boy in the class. Of course, nowadays boys of all ages can type. We skied about a week a year at Zermatt, on the flank of the Matterhorn in Switzerland, or St. Johann in the Austrian Alps, but I also loved sledding down the hills at Landstuhl when there was enough snow.

It was in Germany that I began my career as a juvenile delinquent in earnest (I don't recommend doing pranks anymore – nowadays you might end up in jail). I started out as a thief. I had a high mechanical aptitude and decided to build a go-cart so I could “sled” down a steep hill during the summer. It was easy to scrounge lumber and nuts and bolts on the base, but the only wheels and axles I could find were on wagons and tricycles, which unfortunately belonged to my little brothers and their friends. I made several of these go-carts so I could race with my friends. Of course, I eventually got caught, and had to repair the tricycles. To keep me busy, Dad made me get a job delivering the Paris edition of the New York Times, which meant I had to get up real early and climb up and down lots of stairwells. I remember being really intimidated by huge nurses in the hospital. Apparently, being a large woman was a good way to avoid sexual harassment by soldiers with too much testosterone. It was my first job and I learned the value of hard work - and luck (for me, anyway). President Kennedy was assassinated in 1963 and Dad told me to buy an extra twenty copies of the paper the next morning. I paid a nickel for each and sold them for a hundred dollars each about twenty years later.

I remember getting into trouble at school several times. One year I got to my history class early and climbed into the foot well of my teacher's desk. It was really deep, so he didn't know I was there. While he was sitting at his desk I carefully tied his shoestrings together. His chair was on wheels, so when he pushed his chair back, turned and stood to write something on the black board, he fell flat on his face. Needless to say, I got caught, but my punishment wasn't that bad. He was a big black guy who liked to wear fancy clothes and shoes (and a great teacher – I still love history). I had to shine all ten pairs of his shoes, one pair a day after school, in the teachers' lounge while they teased the little white boy about shining a black man's shoes. Even my parents got a kick out of it. No one was very happy about my next prank – it backfired big time. I put a thumb tack on my art teacher's chair, but when he sat on it, it went into his tail bone. He jumped up, then fell back down on the tack, driving it so far into his tailbone that he had to go to the hospital to get it removed. I got an F in art that semester, and zero allowance. I didn't like my science teacher at all (he didn't like me either). I put marbles in his car's hubcaps, which make a lot of noise when the car was going slow. He had to take it to a mechanic to find out what the noise was. I also crapped in a paper bag for a few days, stuffed the top with crumpled newspaper, put it on his doorstep, lit it on fire, rang the doorbell and ran like hell. I guess he'd never heard of this prank, so his first reaction was to stomp on the bag to put the fire out. Fortunately I didn't get caught, so I didn't have to clean his shoes. Unfortunately, the last prank I played on him backfired on me. I could buy little glass vials of hydrogen sulfide in Landstuhl, which is what makes rotten eggs smell. On the last day of school, I put one under each of the legs of his stool, so when he sat down they would break. When he realized what had happened, he walked out of the room and wouldn't let any of us out. It took most of the class for the smell to dissipate through the windows. My classmates were pretty ticked at me. I also didn't like my English teacher. She made us write an essay at the beginning of each school year, and in eighth grade I wrote one about being an illegitimate child, and that my mother's pregnancy resulted in a shotgun wedding. Mom and Dad found out and got really mad at me (years later I compensated by putting up a website in their honor). When I entered my ninth grade English class, my teacher was obviously pregnant, so I wrote my essay on reverse evolution – the human mother gave birth to a chimpanzee. Both the teacher and all the girls in the class were totally grossed out. This is not a good way to brown-nose your teacher or make friends with girls. Sorry, ladies.

We could buy clay marbles about a half inch in diameter in Landstuhl. They were too soft for playing marbles, but perfect for slingshot ammo. When the weather was good, the military police drove around in open top jeeps, wearing bright white hats. David, Michael and I made slingshots out of coat hanger wire, rubber tubing that we scrounged from hospital dumpsters and leather we could buy in Landstuhl. We'd climb up a stairwell (a different one each time), open the window and shoot marbles at the military jeeps as they cruised by. The marbles sounded like bullets when they hit the jeep, causing the police to jump and run. For some reason, they never looked up. We'd shut the window and laugh our heads off. In our minds, we were just part of their training.

We were all in Boy Scouts and our scoutmasters were all soldiers. One of them was Jewish and decided to teach us to use slings, like the one David used to kill Goliath (the Tibetans also use them to herd yaks, and in 1906 lost a war to the British near Lhasa, who had guns). Our scoutmaster showed us how to make our own slings, and we got so good at slinging small rocks that at one of the Boy Scout Jamborees, where dozens of troops from all over Europe (not just US military bases) would get together for various types of competition (like knot tying, fire building, etc.), we slung raw eggs from a hundred feet away into other troop's campsites, then hid behind our tents, laughing as the other scouts looked up to see which bird had dropped an egg on them. Even our scoutmaster thought it was funny.

I've only been in two fights, both in Landstul. I won the first one, started by a classmate who smashed my head into a drinking water fountain, giving me a bloody lip. I turned and kicked him in the balls. Fortunately, there were several witnesses, so I didn't get in trouble. He never bothered me again. I lost the other one. One evening I saw a soldier and nurse making out on a bench. I hid in the bushes behind the bushes and started making sucking noises. The soldier gave me bloody nose. I never bothered him again.

While in Landstuhl I met Cathy, the daughter of my Eagle Scout troop scoutmaster and one of my classmates. Her parents were good friends of mine. Dr. Boysen was also a ham radio operator and taught us Morse Code, plus we learned to ride horses and to do flips off the high dive board at a local pool. Her family moved to Fort Sam Houston, Texas, where I met her again. We've kept in touch over the decades, meeting once again while I was at Stanford. I just been dumped by my girlfriend, and she gave some advice I'll never forget: "be patient, there are lots of fish in the sea." She was right, though she married another guy. She went on to become an editor of the *Utne Reader* and is now a grandmother. Her father spent some time in a North Korean prison camp, and she recently published a book about the effect this had on him and his family ("The War Came Home With Him" by Catherine Madison). I'm really glad my Dad wasn't captured (or even injured). He was not like many other army fathers, as described in Mary Truscott's book "Brats," though he taught his kids to sit up straight at the table, stand at attention if he was upset, and never to talk back. Mom was also unlike many other "Army Wives," as described in Tanya Bank's book.

Cathy was too shy for me to ask her to play strip poker, so I asked another classmate. She had a blind sister, Moureen, who had only a mental concept about the difference between boy and girls. We played with Brail cards, I lost and she learned what male genitals felt like. Unfortunately, both she and her sister drowned while crossing a frozen lake later that year.

We could also buy firecrackers in Landstuhl, and when there was a soccer game in town, we'd hide in the trees, load one in a sling, light it and send it sailing over the soccer field, making it hard for a player to focus when trying to kick a goal. The referees always thought the firecracker was thrown by a spectator supporting the other team and both they and the players would start yelling at the spectators. We never got caught doing this. The main reason I thought this was acceptable was that I was on our junior high soccer team, but we always lost to the German youth teams, mostly because they were allowed to wear shoes with metal cleats but we could only wear shoes with rubber cleats, so we went home with bloody legs. We also played ice hockey, where size matters as much as speed – it's a rough sport. The only teams we beat were from other US bases, including Ramstein. The German boys were generally bigger and meaner. They must have had some epigenetic grudges after loosing WWII.

Landstuhl was like many German towns and had an old castle. It was mostly in ruins and was definitely not a tourist trap, but it was a really fun place to play hide and seek, especially in the old dungeons. They were really spooky - the first place I ever began to think ghosts might exist. I still enjoy *Ghost Busters* and *X-Files*, though I nearly had a heart attack when the creature jumped out of the chest of an astronaut in the movie *Alien* (and I was only in my twenties). After making my own videos, I learned to watch them from the point of view of the videographer and producer, both a disadvantage and an advantage. Today, I'm surprised by the human need to see aliens as having a head, torso, arms and legs – such as in the movie "ET"). I'm more inclined to believe Carl Sagan's concept of non-physical "beings" such as in the movie "Contact." I'm even more inclined to believe in non-carbon based life forms, such as silicon (there are many sci- fi stories and movies about silicon based computers taking over). Pretty scary, but not necessarily a bad thing. In a few generations, we'll all be "bionic" robots that live for centuries,

before evolving into spirits.

My last prank was on the day before we were leaving Landstuhl for Fort Sam Houston, Texas. We had moved out of our apartment and were living in temporary housing overlooking a small valley inhabited by several German gypsy families (the base is on a plateau). David, Michael and I found a hole in the base fence and a break in the trees where we could see their shacks, covered with tin roofs, about a hundred feet below and about that far away from our position. We had been out target shooting with our slings, and decided the roofs would be a good place to practice. Every time one of our clay marbles hit a roof, everyone inside would run out and look around, but by then we were hiding behind a tree, doing our best to stifle our laughs. After doing this a few times, Michael and I decided to leave before they caught on. We were hanging out near our temporary quarters when this big gypsy came down the street with David in tow. About that time, a military police jeep passed them, and the German hailed it. He didn't speak English, and they didn't speak German. He kept pointing at the sign on their door that said "Police," then at David, so the police loaded them up took them to the police station. About half an hour later, a police jeep dropped David off at our quarters. After the police left, David explained that no one in the police station spoke German except him, so he translated. Of course, he blamed someone else. Years later, when David and I were working as river guides in the Grand Canyon, I told this story on one of our trips. Another guide, Don Briggs, nicknamed David "the Silver Tongued Devil."



Brooke Army Medical Center, Fort Sam Houston  
San Antonio, TX. US Army photographer.

### **High School (Grades 10-12)**

At Cole High School (on the base), I met some other imaginative juvenile delinquents. All of us were in tenth grade English – vocabulary and grammar, and none of us liked the subject or our teacher, a mousy woman who couldn't control the class. After a few weeks, I realized she always wore a tight-fitting pink corduroy dress every Friday, so the next Friday, before she got to class, I put about a teaspoon of water on her chair, one of those that was form fitted to your butt. There wasn't enough water for her to notice, but enough to make a dark pink spot on lower part of her butt, which made it look like she had to pee and was having trouble controlling it. Every time she'd turn her back to the class to write on the blackboard, the whole class would laugh. I don't think she ever figured it out. Another time, I soaked all of her blackboard chalk in water, then put it back in the carton. Every time she'd try to "diagram" a sentence, her chalk would break. The final prank took four of us. One Friday after school, I made sure one of the classroom windows was unlatched, then on Sunday night we climbed in the window and hauled her desk and chair to the roof of the class room. When she showed up Monday morning, she went to the school principle and quit. She

was an unfortunate victim of my hatred of having to learn grammar. I still have trouble with “their, there and they're” and “it's and its.”

We lived at Fort Sam at the height of the Cold War, when there was a high fear of a Soviet nuclear attack and we often had surprise drills, where we all marched to the gym (really, did this matter?). On the way back from one of these drills, Cathy “lost” one of her contacts so we could all spend the rest of the class “looking” for it.

Dave, one of my best friends, was learning to play golf from his father, who owned a golf cart. We were all taking driver's ed that summer and thought driving golf carts would be good practice. However, being caddies wasn't appealing, so instead we snuck out on nights when there was a lot of moonlight, and “borrowed” electric golf carts from the recharge shed on the base's eighteen hole golf course. At first we just went for joy rides, then we started racing, and eventually played hide and seek. Sometimes, just for fun, we'd move the flags from the holes to another location (I hope no one reading this likes golf). Once I forgot there was a pond just over a hill, and ran into it. It took us a long time to get the golf cart out of it. When we finished our golf cart games, we'd drive them back to the recharge shed and plug them in, with no one the wiser. However, I made the mistake of telling my brother Michael where I was going in the middle of the night, and he and some of his friends started “borrowing” the carts also. Unfortunately, one of them ran under a low branch at full speed and ripped the canopy off the commanding general's golf cart. Somehow the general found out who did it and called my parents in for a serious lecture about controlling their sons, and both Michael and I got grounded for a month with no allowance.

That didn't stop me for long, however. The father of another friend, Tim, was in charge of the base's vehicle storage compound. Any vehicle you've seen in a war movie was parked there, from jeeps, personnel carriers, huge trucks, tanks and truck mounted howitzers to road building equipment – all of them with push button starters – no keys necessary. Tim had always wanted to drive a steamroller, so one night we found one and started it up. Unfortunately, they're hard to stop and hard to turn, so Tim ran into a loading dock and flattened it before the steamroller stalled out. That was the end of our adventures there – his Dad, not knowing it was his own son who was the culprit, began posting night guards at the storage facility. Tim later told me his Dad thought kids from off-base were responsible.

We also pulled a lot of minor pranks, like throwing rolls of TP into large trees (which usually required a call to the fire department to wash the “decorations” down), writing nasty words in lawns with salt, which killed the grass and required that it be dug up and replanted, and perhaps worst of all, throwing raw eggs into the intake vents of air conditioners causing the whole house to smell like rotten eggs. On the plus side, we weren't thieves and never pulled pranks on pets – just our “friends” and their parents.

The end of my career as an increasingly serious juvenile delinquent ended with a bang, literally. I had joined the track team in the Spring of my junior year, and of course all of our races started with a shot from a blank gun. There was a stunningly beautiful girl in some of my classes, Candy (I'm not sure if this was her real name or one we gave her), who enjoyed being a prick tease. She would pick a guy, lead him on, then dump him. Tim, Dave, another guy, Andy, and I were all victims of hers. We found out she was working weekends at an A&W just off base, and Andy had a car. It was a ten year old three speed sedan with a worn out transmission and no emergency brake. We hatched a plan to scare the crap out of her. I “borrowed” the track coach's blank gun on a Friday after practice (I still have bunions from running on asphalt wearing Converse shoes), and on Saturday about noon, Andy dropped Dave off about a block from the A&W, with me riding

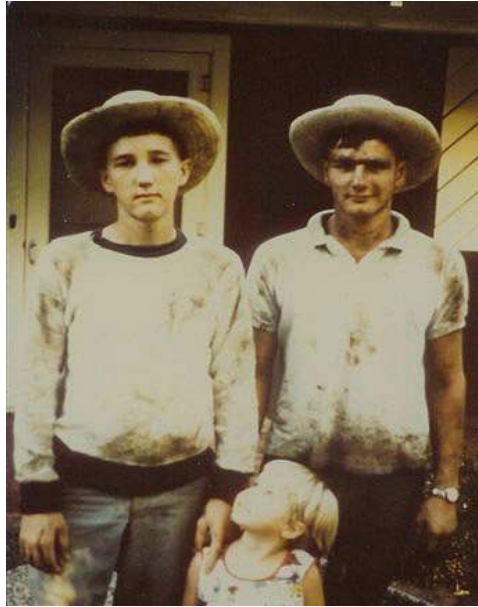
“shotgun” and Tim in back. We waited until Dave had time to buy some fries with extra ketchup and get settled at a picnic table right in front of Candy's window. Then Andy drove up and stopped right in front of Dave's table, and I shot him with the blank gun. Dave had stashed the ketchup in his palm, promptly hit his face with it and fell dead, face first in his fries. Tim and I jumped out of the car, grabbed Dave and threw him in the trunk, jumped back into the car, then Andy drove off while we all laughed about the expression of terror on Candy's face. Well, we didn't see the San Antonio police car parked in back, and soon the cop was chasing us and rapidly gaining. Andy made the mistake of pulling over while going up a hill, and had to keep his foot on the brake to keep the car from rolling backward. The cop threw open his door and hid behind it, yelling at us to get out of the car and put our hands on top of it or he'd shoot. Tim and I got out and did as he said, but we tried to tell the cop Andy couldn't get out – he had to keep his foot on the brake. After even louder threatening, Andy got out and the three of us walked the car down the hill until it crashed into the cop car at about two miles per hour. We really thought the cop was going to shoot us. Meantime, Dave was pounding on the trunk and yelling “let me out of here!” For about five minutes no one moved, then another cop car showed up. They let Dave out of the trunk, handcuffed us and hauled us off to the police station. When the desk Sargent saw that it really was a blank gun and Dave's blood really was ketchup, he cracked up. We all got ninety days probation for disturbing the peace, and Candy stopped being a prick tease, at least for a while (for some women, it's genetic).

Dad made me get a summer job, hoping I'd stop causing him trouble. I cleaned windows for a local motel chain, pretty mindless work. One day I was hanging over the rail at the end of a second level pathway to knock down an old bee's nest, but found out it was still inhabited. I got over a hundred bee stings before diving into the motel pool and holding my breath until they left. I had to go the hospital to control the swelling, but fortunately wasn't seriously allergic to their kind of formic acid (fire ants and scorpions are another story). After that I got a job mowing lawns, only to find out I was allergic to Kentucky Blue Grass. I had to get shots to control it, and am still highly allergic to a few plants.

Since I was pretty good at track, Dad encouraged me to join the football team. I could outrun most of my teammates, so the coach, my biology teacher, had me train as a far end. My job was to run as fast as possible past the defense, turn and catch a pass and run for a touchdown. What I didn't know was how painful it was to be tackled. Why work so hard to get a headache when all you had to do was drink too much alcohol. The team captain invited me to a party, where I learned that gin hangovers can be much worse than getting tackled. Usually I'm a pretty fast learner, but I learned the hard way that gin is toxic in more ways than one. While in college, I went to Mexico, where I bought a bottle of gin. When I returned, I accidentally dropped it on the floor in my dorm room, where it promptly bleached the linoleum floor. It could have bleached my throat and stomach. I should have brought Tequilla (aka ToKillYa). Years later, I learned to drink Southern Comfort (aka Sudden Discomfort), which nearly killed a diabetic friend.

One of my favorite classes at Cole High School was chemistry. My teacher was Mrs. Schwartz, one of those unforgettable characters we sometimes meet in life (I've probably had more than my share). I invited a girl from the class to our Junior Prom, only to find out she didn't like dancing – I guess she enjoyed being a wallflower. For some reason, Mrs. Schwartz' husband wasn't there, and I ended up dancing all evening with her.





David, the author after working on a tomato harvester,  
and Heidi, 1967. Photo by Dean Winn

When Dad retired at the end of my junior year, he, David, Steve, Chris and I (Michael was at the Philmont Scout Ranch in New Mexico) drove from San Antonio TX to Woodland CA in Matilda, the family VW van. We stopped on the way to hike to Phantom Ranch from the South Rim of the Grand Canyon – a fourteen mile, eleven thousand foot elevation round trip - in loafers. After arriving at Phantom about noon, we hung around Bright Angel Creek and the river, then decided to hike out that night in the full moon to avoid the summer heat. I wonder if this experience led to my working a river guide there. When we got to Woodland, David and I got a job riding on a huge tomato combine, tossing rotten tomatoes off a conveyor belt (the best job, throwing green tomatoes off, went to Mexican illegals. The next year, I got a job for the two weeks after the river season ended and before college began driving a fork lift on the night shift at the local tomato cannery, Contadina. I wasn't very good at it and within a few shifts had dumped a ton of freshly picked tomatoes onto the ground. I had to shovel them into a dumpster – it took the rest of night. Then, to further punish me, they moved me the “can line,” where empty open cans were carried from huge bins along a moving cable, held in place by small iron rails. My job was to turn upside down cans right side up and, when a can got stuck and caused dozens of cans to fall to the ground, to unstick the can and clean up the mess. Before long I figured out where and why this was happening, and brought a candle to my next shift, which I used to lubricate the sticky spots and avoid spills. Pretty soon all of the other can line workers had cushy jobs. After working as a slave laborer, I agreed with Dad that it was important to get a good education that led to a more interesting job.

I didn't discover how much fun girls could be until we moved to Woodland. I was a new senior and didn't know anyone, so my parents suggested that I learn to play tennis. At first I was in men's singles, but one of the girls in mixed doubles, Kathy, who was in my trigonometry class, was distractingly cute and a very good tennis player. It probably helped that her older brother had been the best tennis player at the high school a few years ago. I was a quick learner and soon asked the coach if I could play mixed doubles. Eventually he agreed, and I got to play both with and against Kathy, who had just broken up with her boyfriend. One day she told me she was having trouble with her trig homework and asked if I could help her. I was a math wiz and usually finished my homework in class, instead of listening to the teacher, and was happy to help her. One thing led to another and we fell in love. What a rush! No more “disturbing the peace.” She was also a good skier, so we often went up to Heavenly Valley that winter, where we found an isolated meadow with

a spectacular view of Lake Tahoe. After a sack lunch, we'd spread out a space blanket and make out on it. She was really a lot of fun. Kathy was also in the Outdoor Club and talked me into joining it. We had both both turned nineteen that fall, but our parents and sex ed teachers had brainwashed us to avoid premarital sex, which worked until the night we graduated. She was a farmer's daughter, so it's appropriate that we found ourselves in one of his barns, lying naked on a blanket over rice hulls that night. Unfortunately, just before I took off to work my first summer as a river guide, we borrowed her Dad's canoe for a romantic paddle trip down the Sacramento River and lunch in a beautiful green meadow. As a Boy Scout, I'd learned to identify poison ivy and to avoid it. We learned the hard way that poison oak doesn't look like poison ivy. Years later, I learned that if you drink milk from a goat that grazes on poison oak, you gain immunity to it. I later named my first raft after her. She was a Southern Baptist, and after a couple of years of failing to convert me, she left me for another guy. As she put it, we were "chimes out of tune." She later married a guy who became a Baptist minister and now has a dozen Baptist grandchildren, adding to our population explosion.

I got in a little trouble at Woodland High School, both times resulting in an "F" for the semester. Fortunately it was Spring semester and I'd already been accepted to college. Both pranks involved student teachers, both blond young women, in their final year of college, easy victims. My English teacher had asked us to write a satire before he got sick, so I plagiarized one from the San Francisco Chronicle, thinking she probably didn't read Art Buchwald. She was so impressed by it that she read to some others teachers, at least one of whom immediately recognized it. The other was a take-off on the prank we played on Candy with the track gun. This time, I brought a small cap gun to my physics class and shot my best friend, who again played dead. The smell of gun smoke permeated the room. The poor teacher nearly had a heart attack. Fortunately, by then my parents had stopped putting me under house arrest – they had six other kids to worry about. I'm sure they were happy when I left in June for my summer job.

The teacher sponsor of the Outdoor Club, Loren Smith, worked as a river guide in the summer for a company called the American River Touring Association (ARTA). It was starting to expand and needed to train new guides. Back then, there weren't any female river guides (except for Geogie White in the Grand Canyon) and I was the only guy in the club, so he asked me if I'd like to learn to row a raft through whitewater rapids. Of course I said yes, and, like learning that I really liked falling in love, the result was a major change in my life. Ron and Duncan Coldwell and Gary Dubois were among the other young men who learned to row at the same time (Spring, 1967).



Dad, letting me watch open heart surgery, mid 1960s. Brook Army Medical Center, US Army photographer.

## Stanford

Dad programmed me to follow in his footsteps, I'm sure that's because his dad did this, etc. and I actually enjoyed it. I'm sure most parents do this, and I'm sure I did this with my kids, without even being aware I was doing it. All through my education, Dad had helped me with science fair projects oriented towards the heart. In sixth grade, he gave me a clear plastic puzzle with all of the major organs and bones of the human body, and taught me where everything went. In seventh grade he gave me a clear plastic puzzle of the heart, with all of the veins, arteries, valves, atria and ventricles and taught me how to assemble it. In eighth grade my science fair project was on the evolution of the heart, from earth worms to crustaceans to fish to amphibians to reptiles to birds to mammals. As a result, I breezed through my comparative anatomy class at Stanford, one of the pre-med “weed out” classes (along with organic chemistry). In ninth grade my science fair project was the use of radioactive dyes used to diagnose heart disease, and they just got more complicated in high school, including futuristic ideas such as using a miniature rotorooter to clean out coronary arteries (when Dad retired his specialty was angioplasty, which had become the commercial use of this technology, until he gave up doing this as a result of too many lawsuits). One year for Christmas he gave me a copy of one of his old medical texts, “Gray's Anatomy,” complete with really ugly pictures of all kinds of diseases. Before he retired from the Army, he let me stand next to him in a full surgical gown with mask and gloves while he replaced an aorta that was clogged with cholesterol and showed me how a heart lung machine worked. He was named after his father (Dean Flewellyn Winn, Sr.) and I'm glad I wasn't named Dean Flewellyn Winn III.



Heart model, by the Anatomical Chart Company.

While at Stanford, learned I had mitral valve blowback and atrial fibrillation, which fortunately have rarely bothered me.

I had really good grades and did really well on the Scholastic Aptitude Test (SAT), getting a near perfect math score. I got accepted, but found out when I arrived at Stanford in the fall of 1967 that it didn't have a “Pre-Med” major – not only did I have to take all of the pre-med courses (three years of biology, two years of chemistry, a year of psychology, a year of calculus and a year of physics), I had to take all of the courses required for another major. The university really discouraged majoring in biology, and since math was easy for me I chose it. Unfortunately, the math department required that I take two years of calculus the first year and it fried my brain. Mom convinced me that I should switch to psychology (her field of study), a field few doctors studied, and it was a good decision. The only math required was a class in statistics, which was an eye opener. We studied the statistical analyses used in several well known studies, only to learn the researchers had either misinterpreted the statistics or used the wrong statistical methods, calling their conclusions into question. Even today, this is a common problem. Up to sixty percent of drug testing and environmental studies are called into question for making projections based on misuse of statistics and/or limited data. Maybe people choose to study psychology or climate change because they're not good at math.

One of the psych classes I took focused on the physiological basis of memory and learning and various techniques for enhancement. The prof also gave us research papers on the effects of various types of drugs on learning and memory. Each of us had to design and carry out an experiment on our classmates. A lot of mine were using dexamethedrine, a prescription diet pill related to methadrine (meth), to stay up all night to complete term papers or study for finals. I had twenty of them memorize a list of words after taking “dex,” then had half of them list as many as possible while still on dex, the other half after the dex had worn off. Though this is a very small sample, the results suggested that if you studied for an exam on dex, you'd do much better if you took it on dex. It's called “state dependent learning.” A few years later, I kayaked the Grand Canyon with a friend who had buried two food stashes at campsites on his last trip as a pro guide (Dan Marshall), while somewhat drunk. When we stopped to find them, I had to break out my bottle of Southern Comfort to help remind him where he'd buried his stashes (which of course included more alcohol). A couple of years later, while I was managing a whitewater rafting company in Moab, UT which ran trips through Westwater and Cataract canyons of the Colorado, I caught one of the guides smoking marijuana on a trip (DS). This wasn't uncommon – many of our passengers brought their own (this was near the end of the decade of free love, free sex and drugs), so I wasn't upset with him, but it occurred to me to try an experiment. DS had learned to row rapids while stoned and was a really great guide (and friend). I talked him into forgoing his early morning smoking routine on a day with really big rapids. After a couple of rapids, he stopped to climb behind a boulder to smoke a joint – he was freaked out.

My freshman dorm roommate, Jim, was also pre-med. I became good friends with him and identical twin brother, John. When Jim asked me what I wanted to do when “I grew up,” I told him I planned to be an Army cardiovascular surgeon like my Dad. His reaction blew me away – didn't I know the Army was the enemy? They were semi-professional water skiers and it was fun to watch them do flips and other tricks and, amazingly, to water ski barefoot (they even had scars on their feet from hitting driftwood). They looked and behaved so much alike that they often took turns dating the same coeds, much to my amusement.

In one of my physics classes, the professor explained how much thrust it took to lift a 747 off the ground – enough to blow you off your feet if you weren't tied down. A few of us decided to test his theory, so we went out to SFO. First we wandered around the concourse giving out Monopoly Money to the Hari Krishna acolytes, then followed the fence to the end of one of runways. We strapped our chests to fence posts and waited for a 747 to take off (they were first commissioned in 1970). Sure enough, for a minute or so we were gagging on jet exhaust with our bodies parallel to the ground, nearly ripping the posts from the ground. Don't try this! Later, a Japanese Air Lines 747 landed in the San Francisco Bay a few hundred yards short of the runway. No one was hurt and the water was shallow enough to see the top half of the plane from Highway 101 for weeks, until they figured out how to get it out of the bay. The pilot was demoted to co-pilot.



JAL file photo. Nowadays, JAL is a premier airline.

I also took a class in computer programming, which at the time was based on punch cards - no keyboards or monitors – just printouts, and when you made a mistake you either got nothing or garbage. However, I stuck with it, later learning to write statistical programs at NAU and geostatistical programs on Kennecott's main frame, eventually writing them to automate drill hole data organization for PCs and learning to use MineSoft (for computing mineral reserves, costs and economic analysis) and Arc GIS (a sophisticated geographic analysis and map making program, used to make Google Earth images). My programming skills now are limited to writing html for my website, [www.shangri-la-river-expeditions.com](http://www.shangri-la-river-expeditions.com). Nowadays, people make a career creating websites.

One of the most popular classes at Stanford was “Human Sexuality,” taught by Herant Katchadurian. He even cited Alfred Kinsey's study of female sexuality that included some of Mom's research in the 1940s. My strongest memory of the class is a lecture by an un-named prostitute from San Francisco (no pictures allowed). She'd started as a street girl, then moved up the ladder to the top, servicing Congressmen and business leaders (not to mention law enforcement agents), most from out of town and most of whom were married, then to owning her own business as she grew out of the “desirable” age range. Her lecture was mostly about the business of prostitution, from drugs to extortion and international trade in young women, and how it was totally based on men's need for variety and to remind them of their youth. The oldest profession – world wide, and still going strong. It's one of the major causes of the worldwide spread of HIV, now a huge problem in China – an unexpected result of their one child policy and their cultural preference for sons.

One of the required courses I took was art history, which was really boring until the professor told us we didn't have to take the midterm exams if we went to a showing of Picasso's paintings on display in San Francisco. I went with one of my fraternity brothers, Bob Kuhn (also a psychology major) and was blown away. The painting were organized from earliest to latest, and clearly showed a man slowly going crazy.

After a couple of years of basic courses in psychology, sociology, calculus and the hard sciences (plus distribution requirements in English, history and art, etc.), I was allowed to take courses from some pretty famous professors, like Paul Erlich's population biology (he authored “The Population Bomb”), Linus Pauling's biochemistry (he was a Nobel Prize winner), William Shockley (one of the inventors of the transistor) and my senior year I took three classes from Karl Pribram. Erlich almost convinced me to get a vasectomy, Pauling was not happy that Watson and Cricks had beaten him to the discovery of the structure of DNA, and Shockley was a bigot. Pribram had a PhD in

psychology and was a brain surgeon at the Stanford Medical Center. The third class he taught was primarily for med students. We were the guinea pigs for his book, "The Language of the Brain," in which he argued the brain was more like a 3D hologram than a computer, an idea that has become increasingly accepted. Different parts of the brain not only communicate via nerve cells (like a complicated wiring system), but by the much faster electric field generated by these cells (measured by an electroencephalogram or EEG). One of the course requirements was participating in his experiments with Rhesus monkeys. We would train them to choose between a red or green square or other colored shapes while hooked up to an EEG machine with electrodes he had inserted in various parts of their brain, then he would send a high voltage charge into some of the electrodes, killing the nerve cells. We would then test the monkey's memory and retrain them with electrodes implanted into other parts of the brain, basically creating a 3D map of the brain. Nowadays, this research is non-invasive, using fMRI, CAT scans and other techniques. Although I decided not to go into medicine or psychology, I still follow brain research as a hobby.

I also took a class in paranormal psychology. The professor convinced all of us that we really do have a sixth sense, such as déjà vu and the ability to recognize that someone is staring at you, even if they're behind your back. Blind people have developed this skill far beyond sighted people. We all had to do some kind of "paranormal" experiment. One of the women in my class, a seminar where about twenty of us sat around a large table, openly stared at me until about ten minutes until the class ended. I was starting to fall in love with her, only to find that I was the experimental subject. I still wonder what kind of guy (or gal) would marry her. So now you know how to get someone's attention, though the last time I stared at a guy who was a really good Contra dancer (trying to learn from his moves, really), he threatened to rough me up.

My parents encouraged me to try out for the Stanford track and tennis teams, but I didn't qualify. By then I had bunions from high school track. However, I did qualify for the ski team, which was in its infancy but had a great coach. There are three types of ski races: slalom, giant slalom and down hill. We trained at Squaw Valley, which had been the site of the 1964 winter Olympics and had the largest amount of developed ski terrain of all of the Lake Tahoe ski areas. The coach had us race all three types of races. Slalom is the shortest and requires very fast reflexes. Downhill was the longest and requires no fear of very high speeds (or sixty mile per hour crashes) and a high level of endurance. Giant slalom is in between, and I excelled at it. Over the four years that I raced, I often placed third, sometimes against five or six other college teams. The only race I won was the beer slalom, after the last race of the season my senior year. It was only two hundred yards long, but each racer had to stop at each of the ten gates and guzzle an Olympia seven ounce beer. I cheated (so did most of us) by pouring most the beer down my chin into my sweater. The prize was a keg, which of course I couldn't drink all by myself, so it was really just the next step in a big party. Fortunately, we had all arrived in buses, but frequent pee stops meant a long ride home.

My first year I lived in a dorm and met some guys who have been friends ever since, mostly because they became river guides. They include Richard Schwartz and Bill and Bob Center. On one outing, we drove to Death Valley, CA and hiked to the top of Telescope Peak, about ten thousand feet above the valley floor. On the way down, Bill fell and slid about a hundred feet down an avalanche chute. Fortunately, he was able to climb to safety. Later he and Richard joined me on a weekend river trip on the Stanislaus, once a famous whitewater run on the west slope of the Sierras ( now flooded by the New Melones dam). Richard, who later became a guide for ARTA on rivers in Utah, is a retired communications engineer and lives in a beautiful home with spectacular views of the La Sal Mountains and Castle Valley, about thirty miles north of Moab, UT. We get together a few times a year. Richard volunteers as a DJ for a non-profit radio station in Moab and has the most amazing collection of music I've ever seen, not to mention his book library. He has

cats and I occasionally take care of them when he travels. My son, daughter, one of my nieces and some of their friends have also done this - it's a real treat. He and I have many interests in common, including subjects like quantum mechanics and relativity and rafting and hiking in Red Rock country. Richard also turned me on to science fiction (my favorite is Aldous Huxley's "Nightfall," though I also really enjoy Ray Bradbury's novels). His parents lived in Columbia, where Richard learned fluent Spanish, and when Y2K became an international digital fear, Richard, by then an accomplished telecommunications expert, helped the Columbian government make sure their communication systems wouldn't fail. Bill Center eventually directed the American Whitewater School, managed the American River Touring Association (ARTA) and later bought its California division. He and his wife Robin bought Camp Lotus on the South Fork of the American upstream from Sacramento. Unfortunately, Bill recently passed away, but his son Charlie has taken it over. His brother Bob, another Stanford student who also worked for ARTA and authored a couple of river guide books, was Richard's business partner for many years.

I only pulled a few relatively harmless pranks at Stanford. I joined a Greek geek fraternity (we were all math or science majors) for two years before it was disbanded by the national office because we allowed a black student to join (Delta Chi's headquarters were in Atlanta, GA). The fraternity's idea of "hazing" was to blindfold the pledges, drop us off about an hour's drive from Stanford with no ID or money and tell us we had to find out where we were and then get back to the campus. When I took off my blindfold, I was next to a beach where a group of guys and gals were playing volleyball and drinking beer, so I went down to find out where I was, only to find out the guys were from my fraternity and I was the brunt of a joke with a happy ending. While at Delta Chi, I got in the habit of chewing cinnamon Chicklets, which were bright white, and had a bowl of them on a coffee table in my room. They kept disappearing while I was in class, and I didn't know who was taking them. Ex Lax, an over the counter anti-constipation drug, was also sold in chewing gum form and looked just like Chicklets, so one day I put them in the bowl, then went to the bathroom, where the toilets had black seats, and carefully put black shoe polish on each of the seats, without polishing it too much. I skipped class that day, and when I heard a guy screaming about having a black butt, I knew who was eating my Chicklets. I used to leave a stash of marijuana joints on my desk, and one day I noticed that some of them were missing. I replaced all of them with catnip joints, which may cause cats to get high but make people puke. The thefts stopped. Another time, I had asked a classmate to go to a party with me, but after a while she left the party with another guy. A few days later, after she had gone to class, I went to her dorm room and filled the doorknob's keyhole with Elmers glue, which, after it hardened, made it impossible for her to open her door. A university repair guy had to replace the door knob. I heard later from other girls in the dorm that she guessed it was probably me, but she never retaliated. Of course, I wasn't the only one who pulled pranks. Probably the best one was pulled by one of my professors. In an April 1<sup>st</sup> issue of the Stanford Daily, he published an article about missile silos in the hills above the campus, with a picture of one. This was near the end of the Vietnam War, which many students were strongly opposed to. Needless to say, they were outraged – it was bad enough that the Stanford Research Center was involved in planning bombing runs over North Vietnam. The "missile silo" was the cover of one of Stanford's water supply ponds.

I was also the victim of a nasty prank. One evening, while drinking beer on the Delta Chi porch, which overlooked the street, we watched some guys from another fraternity drive over and trash a bicycle. It was mine, a real bummer. I was really attached to it – one night while riding home from a seminar, I ended up flat on my back, gasping for breath. When I was finally able to stand up, there was my bike, upright in the middle of the path. My handlebars had hit a newly installed post, designed to keep cars off the path. Pretty eerie. After that I bought a bike lamp, which got trashed as I watched.

I didn't date very often at Stanford. At the time, the ratio of men to women was about four to one, and Stanford "Dollies" were mostly interested in upperclassmen – clearly they were sexists. Things began to change, though. The Stanford sports teams were called the "Indians," but were eventually changed to the "Cardinals." Travis went to the University of Oregon, whose team is called the Fighting Ducks. However, if an all womens' football team makes its debut, I doubt anyone will call them "the Fighting Minnies." One of my dates got so drunk I had to throw her over my shoulder and carry her home. I eventually fell in love with another girl, who hinted that she wanted to make love with me, but she wasn't on the "Pill," which was just making its first rounds, so I had to use a condom. I went to a local pharmacy to buy some but after wandering around couldn't find them. Finally the pharmacist, who probably suspected I was casing out the store for a theft, asked me what I was looking for. I sheepishly told him, and he said they're behind the counter because they're the most often item that was stolen. Unfortunately, she changed her mind. It still boggles my mind that forty years later there are several birth control methods for women but only condoms for men (and Viagra is a best selling drug).

One of my favorite memories from my years at Stanford was a basketball game. I'd enjoyed playing basketball in high school, just pickup games with my friends – I wasn't tall or good enough to play on the school team. I liked it because it was a fast sport, not like baseball or football, more like ice hockey and kayaking, and enjoyed watching the Stanford team play. Like most college teams, they were dominated by really tall Blacks. One time, when they were supposed to play the Brigham Young University team, the whole audience watched while the BYU team walked onto the court, all Caucasians. The Stanford team came out, mostly Blacks, sat down and didn't get up. Their coach finally announced that they wouldn't play against BYU until the Mormon Church allowed Blacks to become Bishops. Then they left. Now there are Black Mormon churches and the famous Utah Jazz has many Blacks on its team, though I don't know if the Stanford basketball team had anything to with this.

Another was Vicki Drake, a stunningly beautiful junior. She decided to run for Senior Class President by going from dorm to dorm to fraternities and dancing topless to the Door's "Light My Fire." She won the election, much to the consternation of the faculty. She later became a Playboy Centerfold. The other was a halftime show by the Stanford Marching Band, on national TV. The Stanford football team was playing USC (their quarterback was OJ Simpson). Vicki had become the Senior Class President, and the Band decided to celebrate her victory. While playing "Light My Fire," they marched into two large circles, which then metamorphosed into the male and female symbols (male with an arrow, female with a cross), then the male symbol marched the arrow into the female symbol, then merged with it, forming a large egg shape. Needless to say, there were a lot of angry calls from all over, and the band wasn't allowed to perform on the field for the rest of the football season.

When I graduated from high school, I started working as a whitewater river guide during summer vacations, at first on rivers in the California Sierras, then in Oregon, Idaho and eventually in Utah and Arizona. I found that, with the exception of a psychology class on deviant behavior (called "Abnormal Psychology", which dealt with criminal behavior and diseases like schizophrenia), I learned more about people on river trips that I did from most of my professors, who only knew about people from their experiments. The Abnormal Psych prof had just completed a study comparing various counseling disciplines such as Behaviorism (taught at Stanford, based on neurophysiology), Freudism, Gestaltism, Yungianism, Catholicism and Protestantism and Parallelism. His conclusion? The differences between the various therapeutic theories didn't matter at all – what mattered most was the rate at which a particular client developed a trusting relationship



with the counselor. The faster this happened, the less time clients spent in therapy and the happier they were with their choice of therapists. Of course, the more successful therapists had a high turnover rate that required a greater need for new patients. The only discipline that resonated with me was Parallelism, an early twentieth century Austrian theory which proposes that when we're born, we're blank slates, and our parents, siblings, teachers and friends help give our slate depth, color and memories. For example, a baby born in China becomes an American when raised in America. Our past is a series of "fictive" memories, and all psychiatric theories merely attempt to manipulate them to ease mental and emotional pain (and deviant behavior). However, nowadays it's been determined from studies on identical twins separated at birth that about sixty percent of our behavior is determined by our genes – including sexual preference.

I started three small businesses while at Stanford. My second year, when I joined Delta Chi, one of my new friends had decided to transfer to a less expensive university and asked me if I'd buy his Coca Cola bottle dispenser machine. Back then, Coke was a quarter a bottle, but I had a different plan. I bought beer by the case, then put a bottle in every other slot, making enough to pay off the machine and get free beer. Marijuana was popular and easily available, but I hated to inhale hot smoke (I eventually decided I like alcohol more than pot). One day in a liquor store I saw a bottle of Chianti wine with a pour spout in a cute basket. I bought some copper tubing, drilled hole in an inch wide copper pipe cap and the cork, soldered the tubing into cap, and bought some blacklight children's jump ropes to make a wine hookah by attaching the jump rope to the spout. My classmates liked them so much I started making them by the dozen.

The other business was actually legal at the time but eventually became illegal. While working as a river guide in the Grand Canyon I met Wesley Smith, who knew a Navajo that had a gunny sack full of peyote buttons for sale. Wesley wanted to know if I could re-sell them to my college friends, five buttons at time (the typical "dose"). I tried some and they made me puke, but after that it was a mellow high, better than marijuana and much better than LSD, which I'd also tried and didn't like. LSD was OK in half doses and outdoors, but I made the mistake of taking a full dose in my frat room, and still occasionally see large spiders crawling on my ceiling when I awake in the middle of the night (psychologists call them "flashbacks"). I had such a bad trip a friend (Richard Schwartz) took me to the emergency room for a tranquilizer. I liked Psilocybin mushrooms but they were expensive and hard to get. I was taking organic chemistry at the time, looked up the psychoactive ingredient in peyote (mescaline), and learned that it was soluble in a common chemical that was only toxic in high doses, but also very volatile and easy to vaporize. I filled a kitchen blender with buttons and the chemical, strained out the solids and evaporated the chemical from the liquid, leaving crystals that had the color of diarrhea. Wesley and I ground them up, tried some and got a very pleasant psychedelic high but didn't get sick (and I didn't get a nasty cough, like I got from smoking marijuana). We bought the sack of buttons, then decided to add pink tempura paint powder (used in elementary schools because it's non-toxic) to make the diarrhea colored crystals more marketable, then filled capsules with the powder (I'm sure Viagra is dyed blue for the same reason). I sold thousands of capsules at Stanford, UC Berkeley and other Bay Area colleges, including to my psych profs, before it became illegal a couple of years later. Aldous Huxley wrote a book about his experiences with mescaline, "The Doors of Perception."

In the Spring of my junior year (1970), a student demonstration against the Vietnam War at Kent State University in Ohio resulted in the shooting death of four students by the National Guard. This caused riots all over the US and was one of the main reasons for the end of the war – even parents started supporting this. At Stanford, the sons and daughters of wealthy parents drove their fancy sports cars around the campus, throwing fire bombs at the Stanford Research Institute, which had a contract with the US Air Force to plan bombing runs over North Vietnam, and computer wizards

figured out how to shut down the university's entire system. Stanford, along with dozens of other universities, closed and sent their students home. I used the time to take a class on how to repair Johnson and Mercury outboard motors, which most of the Grand Canyon river outfitters were using. I guess my history as a military brat was influencing my life choices (and still is).

I enjoyed organic chemistry but there were too many pre-med students and the school used it to weed some of them out by making us memorize about two thousand chemical reactions. My mind just refused to do this – why memorize a dictionary? So I got a C but needed B to get into medical school, so I took it again, a waste of time. When I told Dad I wasn't going to apply to medical school, but had a job offer to manage ARTA's Grand Canyon rafting operation, he sent me to see a psychiatrist. I had really disappointed him. He hadn't tried to brainwash any of my other siblings to follow in his footsteps, and none of them did. Years later, he admitted I'd made a good decision. The only one of my sibs who worked in the field of medicine was Chris, who after getting a degree in medical engineering became a salesman for heart pacemakers for a few years, and so far none of Dad's grandchildren are going into medicine (though, who knows, my niece Jessica may end up making a living suing them as a lawyer).

As soon as I graduated, I became eligible for the draft, to become a soldier in the Vietnam War. By then it was becoming apparent that the US would lose the war – casualties were mounting and Congress was losing the support of parents. I had drawn a low number in the draft lottery so Dad told me to start losing weight – I was pretty skinny, so losing another ten pounds to get a “4F” was doable, plus I was working as a river guide in the Grand Canyon – really hard physical labor. At his suggestion, for the last two trips I ate tuna fish packed in water (for protein, which takes more calories to digest than it contains), and tomatoes and grapefruit (which are mostly fiber and vitamins) and lost twelve pounds. On the last trip I arranged to teach a new guide to row because I was so tired. Then, on the way back to California at the end of season, I read that Congress had not renewed the draft law, so I didn't have to report for my pre-induction physical. I stopped at the first convenience store and bought a bag of Oreos, only to puke them up. After graduating, I went into the business of whitewater rafting, then geology (which required going back to college for a BS and MS), and eventually combined them to explore the geology of the river canyons of western China. Of course, none of this was planned – the current of life just carried me there.

## Whitewater River Guide



ARTA Snout Raft in the Grand Canyon. The author helped design and build these in 1972 and trained numerous guides to row them. Photo by Rob Elliott, 1974.

“There are many ways to salvation, and one of them is to follow a river.” - David Brower. Life changing experiences are common on whitewater river trips. We often brought along books like “Siddhartha,” about the Buddha, and “Jonathan Livingstone Seagull,” about learning to fly.

## **The American River Touring Association (ARTA)**

I worked for ARTA during the summers of 1967-'68, full time in '71-'73 and the summers of '75-'76. In 1969-'70 I ran my own whitewater rafting company (American Guides Association) with David and my high school outdoor program sponsor, Loren Smith (mostly a summer job). From Fall of 1973 to Spring 1974 I ran ecological survey river trips in the Grand Canyon for the Museum of Northern Arizona and for the rest of 1974 I worked as a river ranger for Grand Canyon National Park. In particular, the experience boating the Grand Canyon has had a major impact on my life (and that of my wife, children and dozens of friends, both guides and passengers).

ARTA was formed by Lou Elliott in the early 1960s. Lou had a print shop in Oakland, California and was an active Sierra Club member. In the late 1950s, the Sierra Club, under the leadership of David Brower and Martin Litton, was instrumental in forcing the Bureau of Reclamation to give up building the Echo Park Dam at the confluence of the Green and Yampa in Dinosaur National Monument. Lou had joined a river trip that the Sierra Club had chartered to learn about the area. He got hooked on rafting, bought several army surplus rafts and began taking his Sierra Club friends on river trips in California, Oregon and Idaho. ARTA used military surplus gear for years until the industry got big enough to justify design, construction and sales of rafts made specifically for whitewater. Commercial rafting companies and private groups still use surplus “fifty millimeter ammo” boxes for cameras, books and other small personal items and “rocket boxes” for toilets.

One of the things I really liked about Lou was that he emphasized getting ARTAs clients involved in all aspects of the river trip, from helping rig, load and unload rafts, cook and cleanup meals, taking them hiking, teaching them about the geology, archaeology and ecology of the river canyons (he encouraged the guides to learn this first) and how to row. He pioneered the idea that great meals were essential, including cakes and cobblers cooked in a Dutch Oven. Our trips came to be called “float and bloat.” He also asked his guides to volunteer on one or two day trips he ran for juvenile delinquents on rivers in the Sierra Nevada (needless to say, I had no trouble relating to them). Three of his guides later formed ETC, which took disabled and disadvantaged kids rafting. I'm sure this played a part in my decision to take disabled war veterans on river trip many years later.



Lou, Joanne, Jimmy, Claire, Rob and Linda in Mexico in 1967, unknown photographer.

### **The Elliott Family**

Lou was like a second father to me, and his wife Claire, sons Rob and Jimmy and his daughter Linda (now Julia) more or less adopted me into their family. They did this with several of their early guides. Lou let me stay in a penthouse apartment above his print shop without rent and, in addition to working as river guide and eventually as head cook and lead guide, he hired me to work in his warehouse, building raft frames. He appointed me as Area Manager for his new oar-powered program in the Grand Canyon in 1971, then asked me to join ARTA's board of directors and direct ARTA's whitewater school in 1973. In 1975-76 he asked me help manage his California and Utah rafting divisions, which were struggling with rapid growth problems, area manager burnout and lack of trained guides. By then ARTA had become one of the largest whitewater rafting businesses in the US and probably the world (along with Hatch and Western). Lou was one of the first rafting company owners to commission the construction of a commercially built whitewater raft. He chose Avon, a British company that made tenders for yachts. Avons rapidly replaced the old army surplus boats used by the whitewater rafting industry and led to many competing raft manufacturers.



Rob Elliott, owner of Arizona Raft Adventures (AzRA), trip leader on the first Chinese charter trip through the Grand Canyon.  
Photo by Scott Sanderson, 2004.

Rob, Lou's oldest son, taught me how to row in the early spring of 1967, while I was a senior in high school, plus he and other guides taught me all of the many other skills needed to be a river guide, such as rigging and loading the rafts for whitewater, river safety, sanitation, menu planning, food packing and cooking for large groups, wilderness first aid and the importance of making friends with every client – a critical part of their enjoyment of their trip (and critical for “word of mouth” advertising). He became one of my best friends - we did a lot of kayak trips and later family raft trips together. Rob was a pacifist and qualified as a Conscientious Objector, so instead of being drafted to fight in the Vietnam War, he worked for the Colorado Outward Bound School (COBS). Oddly, programs like COBS had originally been established to provide training for soldiers. At the time, COBS took high school and college students on three week long backpacking and climbing trips. Rob helped convince them to start their own a paddle rafting program on the Green, Yampa and Colorado rivers in Utah, which is still a major part of their program (my niece Jessica has been one of their instructors, and I asked one of their rafting instructors, Kate Belknap, to lead a couple of Team River Runner trips through the Grand Canyon with disabled veterans in kayaks). By the time Rob returned to run their new whitewater school (1971-72), ARTA had expanded significantly. Rob ran ARTA until he bought the Grand Canyon operation in 1974. After Lou died in 1981, Lou's widow, Claire, decided to sell the business, but Rob only wanted the Grand Canyon operation, so she sold the California, Oregon, Idaho and Utah divisions to the local area managers. These are all still in business, though ownership has changed over the years and ARTA Grand Canyon is now called Arizona Raft Adventures (AzRA). Rob has had several wives (only one at a time), some of which were friends of mine. With the exception of his third one, Jessica Youle, they weren't very involved in his business. Jessica became his business partner and really helped grow the business. She learned to row her own boat and became friends with many of the guides. After their divorce, she married one of them for a few years, Boyce McClung, who worked as a psychologist in Florida until he retired. Jessica moved to Phoenix to study law and eventually worked as a water rights attorney until she retired.

Rob donated funds to our first river trip in China so Peter Molnar's wife Sarah could join us, and was an oarsman on the first descent of Moon Gorge of the Mekong in northwest Yunnan. Via my 501c3 organization, Earth Science Expeditions, he also helped arrange for AzRA to donate two rafts to Travis for his first trip with all Chinese clients through the Great Bend of the Yangtze in 2009.

Rob, his son Adam and I were also guides on the trip, and a Chinese journalist published an article in China's version of Outside Magazine about the history of our families. Rob's daughter Alex and her husband Fred bought AzRA from Rob and still manage it. It's one of the most well run and profitable rafting businesses in the Grand Canyon. Rob was profiled in the Boatman's Quarterly review: [www.gcr.org/bqr/18-1/rob.html](http://www.gcr.org/bqr/18-1/rob.html). He describes the history of ARTA in detail in his interview – well worth the read.

Jimmy, Lou's youngest son, had a death defying swim on river trip as a youth and never got into guiding, though he and Bob Melville took turns rowing a boat on a Winn family private trip in the Grand Canyon that I ran in 1971 and both did just fine. Jimmy took over the job of building raft frames and buying and maintaining the expanding fleet of vehicles ARTA needed for its rapid growth. He and Lou taught me to build raft frames, including designing and welding them. We built dozens of them over the years. When ARTA first started operations, all of their rafts were Army surplus from WWII and the Korean War, and all of the frames were made of wooden boards with plywood decks suspended by chains. ARTA had half a dozen different types of rafts, so we had to design frames for all of them, though over the years we discontinued the use of some raft types, such as “basket” boats (life rafts which were too flimsy) and “needle” boats (ship tenders with a motor transom, which were too narrow and flipped to often), and eventually switched to rafts designed specifically for whitewater. In 1967, ARTA had ten guides including me and could only run two oar trips at a time, so we drove from river to river (ARTA had a motor raft it used in the Grand Canyon, but I never ran one of these commercially). By the time I quit to study geology in 1976, ARTA had about a hundred and fifty guides and nearly one hundred rafts, all with metal frames that Lou, Jimmy and I had designed, made from bent aluminum scaffolding pipe and fitting or welded galvanized steel, and Jimmy managed the need for new equipment and trained guides to maintain it. In 1973, when I was the Director of ARTA's whitewater school, Jimmy was my assistant, managing logistics, driving the equipment truck and running our shuttles. He met his wife on our last Grand Canyon trip together in the mid 1970s and eventually moved to Alaska to help build the new pipeline. He now lives near Mt. Rainier in Washington.

When I first met Linda, Lou's youngest daughter, she was dating one of the guides Lou had hired the year before me. They broke up and I ended dating her for a year or so. Back in those days, being a guide was for machos, not for women, even if they were macha, so Linda was relegated to rowing flat water, cooking and doing dishes. The dish washing system (still in use today) consisted of four five gallon galvanized buckets: cold rinse, hot wash, hot rinse and cold chlorine rinse, and was named the “Chickie Pail” system, probably after Linda. She didn't seem to mind and it was a lot of fun to have her on a river trip. She changed her name to Julia and we still keep in touch.

### **ARTA's Early River Guides**

In addition to the Elliott family and my Stanford friends, I met and often worked with a lot of really interesting ARTA river guides, starting in California and moving on to working with guides in Oregon, Idaho, Utah and most memorably those who worked in the Grand Canyon in Arizona. All though all river trips can be life changing experiences, working as a river guide in the Grand Canyon is one of the most addictive.



S Rig, used by AzRA and many other Grand Canyon river outfitters.  
photo from [www.AzRAft.com](http://www.AzRAft.com).

With the exception of Grand Canyon Dories and Mexican Hat River Expeditions, all of the Grand Canyon river outfitters ran motor trips in the late 1960s, using Korean War surplus inflatable bridge pontoons. These include elongated doughnut-shaped thirty-three by nine foot and the twenty-two by three foot “snouts” that were originally used to fill the doughnut hole, in various configurations. Georgie White, an exception to the general belief that women weren't capable of being river guides, started running three thirty-three foot pontoons rafts strapped together, powered by a twenty horsepower outboard motor, in the early 1960s (the “G” rig). Jack Currey, who started Western River Expeditions, invented the “J” rig, which used the twenty-two by three foot tubes from the doughnut hole (snouts). He cut the fourth air chamber off the back end of a snout tube and glued the remaining three chambers to the back end of another tube, making a thirty-nine foot tube with snouts at each end, then strapped two of them on each side of a twenty-two foot tube (making a thirty-nine by fifteen foot raft) and used a forty HP motor on a heavy steel frame to speed through the two hundred eighty mile long Canyon in five days instead the eight day trips run by other companies. Other companies used variations of these rafts, but the motive was the same: more people per guide (up to twenty-five) and faster trips meant more profit and a bigger market. Most of the companies, including ARTA, used a central thirty-three foot pontoon with twenty-two foot outriggers (the S rig, first designed by one of the early GC rafting companies, Sanderson).

After working on small mountain streams in California, Oregon and Idaho for ARTA in the summers of 1967-68 using fifteen foot “assault crafts” left over from the invasion of Normandy in WWII, my brother David and four friends (including Loren Smith and his son Mickey) started the American Guides Association and ran it for two years. In addition to running the same mountain rivers ARTA ran, we decided to run trips through the Grand Canyon. We couldn't afford a motor rig, so we used the assault crafts, with great success. After David and I decided we couldn't work with Loren, we went back to work for ARTA in 1971, this time in the Grand Canyon. Lou wanted to start up an oar-powered division, which expanded from four trips in 1971 to twenty-eight per year by 1974 (AzRA now runs over sixty trips per year, combined motor and oar).

Gary Dubois and I learned to row on rivers in California at the same time. He and I once spent the night in a cave on the Stanislaus River in California, without any watches or flash lights. Another guide had to come get us in the morning - we had no idea what time it was. Gary joined us the first year of ARTA's oar trips (1971), then went to work for Wilderness World, owned by Vladimir Kovalik. A few years later one of WiWorld's passengers, Edie Schneiwind, bought the company from Vlado, and Gary (we called him Gar) ran the business for her. By then I'd quit working in the Canyon but heard that he'd really changed the business. They changed the name to Canyon Explorations (CanEx), hired more women than another other company and served healthier food.

One of their guides was Christa Sadler, a geologist, who later collected about forty stories written by Grand Canyon river guides and published them in "There's This River," including four stories I wrote and many by old friends of mine. It's a really fun read.



Scott Imsland, on left, with the author, his son Travis, Allen Wilson and Will Downs on the Rogue River, 1991.  
Photo by Cindy Appel

Scott Imsland also learned to row on rivers in California at the same time I did. He migrated to the Idaho operation for a few years before we talked him into joining the GC oar-powered operation in the early 1970s. We've done a lot of private trips together, including family trips (he has four boys). Perhaps one of the most memorable was a San Juan trip at very high water – ten times the typical flow. Normally the San Juan is a beginners' trip, Class 2 to 2 ½. Scott and I were kayaking and when we saw the huge sand waves just below the mouth of Chinle Creek on the second day, we decided to stop for lunch so we could surf them. The San Juan is famous for them. The waves on the river's surface conform to the waves of sand on the river bottom, so no how matter how big the waves get, the depth doesn't change. Usually they're only a few feet high at most, but these were at least ten feet high, smooth (almost no whitecaps), and they move slowly upstream. They're caused by an excess sediment load, and Chinle Creek was also flooding and dumping so much silt in the river that it formed the huge sand waves. They were so big that Scott and I could not only surf the same wave but could changes places – one of us would back paddle up the wave while the other paddled into the trough, then we'd surf past each other – with thirteen foot kayaks! Scott owned this ancient eighteen foot raft that looked like it was about to sink, and on one of our private GC trips, we stopped next to another group that was parked at the mouth of the Little Colorado. Their boats were brand new, and one even had a beer can holder mounted on a universal joint so it wouldn't spill beer when the boat went up and down as it went through the waves (though I wondered if it would fill up with river water if the raft flipped). We took a picture of Scott, wearing shorts that were so old and dirty they would probably stand up on their own, sitting on his ragged boat next to the guy with fancy boat, who was wearing designer shorts. We called it "twenty years of experience versus five years of money." Scott got in big trouble on one of his ARTA Grand Canyon trips in the mid 1970s when his entire trip showed up at the take-out, nude. The Hualapai ranger filed a complaint with GCNP, and Lou had to fire Scotty and the whole crew. Big mistake – before the next season began, Lou's entire GC crew threatened to quit if Scott and the other guides weren't rehired. It worked, though Scott decided to work with me as a guide for the Museum of Northern Arizona's Ecological Survey. Nudity still happens, but not at the take-out. About twenty years



later, Travis once ran Lava Falls nude, with a family of nude passengers, only to get fired. He decided to start his own whitewater rafting business in China. Times have changed. Scott once drove from California to Chile and back with a girlfriend. The adventure was too crazy for her and they broke up. After Scott left ARTA in the 1980s, he got a cool job making the ovens used to bake computer chips in Santa Cruz CA, where he also plays saxophone in a local band. He learn to surf and all four of his sons are expert surfers. Scott also made a lot of super eight videos, including many of our early river trips and one of my wedding to Cindy, which he's slowly converting to digital films. He was one of my best men at our wedding.



The author, pretending to kill Allen Wilson on the hike to Deer Creek Narrows. Photo by Terry Andrews, 1990.

Allen Wilson started running ARTA motor trips in 1969, the same year I ran my first oar trip in the GC. His nickname was “Crazy.” He’s a diabetic, and if he ate enough oranges, he could beat anyone from the river at Phantom Ranch to the South Rim Village on trail that rose a mile over seven miles. He always won the prize for the most scars on his arms and legs at the end of the season. I passed him in camp more than once with the parts of two motors spread out on a tarp, trying to make one that would run. He, like many of the motor guides, eventually switched to oar boats, most of which at the time were made from two snout tubes held together by straps with a three foot wide metal frame between them – a total of nine feet wide. Allen built the first one. They were heavy boats, but very stable and could carry up to seven people. He called it a “snout boat” because the tubes tapered to a point at one end (he should have called them “pig” boats). He

gave me the idea to build them for ARTA. We called them Cadillac boats. He and I were the point men on a crusade to convince Lou to hire women to row for ARTA in the Grand Canyon to help alleviate our chronic shortage of guides. We and several other guides used to wear mumus or skirts and talk in falsetto voices, just to embarrass Lou. Allen quit working as a guide for ARTA about the same time I did (1976) and started up his own rafting company near Gold Beach, Oregon, where he still lives with his wife, Terry. He also took up carpentry and website design, and in 1995 I asked him to help me set up my website, [www.shangri-la-river-expeditions.com](http://www.shangri-la-river-expeditions.com), about first descents in western China, which I still maintain after twenty years (using html code that I learned from Allen).

Allen was a guide on a USGS trip in 1975 and I stopped my ARTA trip to visit their trip. I had just finished a couple of semesters of introductory geology at NAU, so he introduced me to Don Elston, a USGS geologist based in Flagstaff who was developing a paleomagnetic time scale for “young” Precambrian rocks (about a billion years old, nearly a billion years younger than the “old” Precambrian rocks in the Grand Canyon) - geologists definitely have a different perspective on time than most people. Don was drilling short holes in the sandstone units with volcanic layers for paleomagnetic analysis. Samples from the volcanics provided radiometric dates. Allen was not only his primary river guide but helped build a machine which could measure the magnetic orientation of magnetite (a form of iron oxide) when the sand grains containing the magnetite were deposited. The earth's north and south poles periodically switch places (a process that takes up to fifteen thousand years), and by dating magnetic rocks using radioactive elements and measuring the magnetic orientation of those rocks, a paleogeomagnetic time scale can be built. This process was and is critical to the extension of Plate Tectonic theory to the distant past. This time scale can then be applied to rocks which have a magnetic signature but don't contain rocks with radioactive elements. Pretty cool, although I once really pissed Don off. He and his wife Shirley had invited Allen to Christmas dinner, but Allen and I drank too much Southern Comfort that afternoon, which resulted in Sudden Discomfort for Allen, a diabetic, and he missed the dinner. My Bad. Years later, Allen, his first wife Gloria, Cindy and I went camping in Chiricahua National Monument and got dumped on by an all night long cloudburst. When we got up in the morning, someone had stolen the battery from my pickup. Eventually I got a ride to a ranch, borrowed an old tractor battery and got it started. Then we went up to Mt. Lemmon northeast of Tuscon, where I locked a new battery in the cab. In the middle of the night, we heard someone trying to break into the truck, only to find two drunk kids trying to hotwire it. They'd had an accident and the girl was injured. I ended up giving them a ride to a hospital in Tuscon. Since then, Allen and I have avoided car camping together.



Motor raft flip in Lava Falls, late 1960s. Photo from

Mike Castelli was an early motorboat guide and one of Allen's best friends. He knew lots of guides from other companies and was a key player in naming rapids that Powell hadn't named on his first descent in 1869, such as President Nixon Rock at Mile 100 or so (at high flows, when the river is easier to row, the run is to the left), Spiro Agnew Rock (named after Nixon's VP, which hid behind Nixon Rock and was a nasty place to get hung up on), and the mid-river Rancid Tunafish Sandwich Rock near Mile 113, where some river party had had lunch and left a tuna fish sandwich that Mike found. He also named Pancho's Patio, a shady camp where ARTA usually cooked a Mexican meal for dinner. He was the lead guide on a two boat motor trip when the second boat, run by John Benedict, flipped in Lava Falls. He was taking pictures and when John flipped, he gave his camera to a passenger, and got everyone back on his raft to rescue the swimmers and overturned raft. The passenger with Mike's camera claimed he'd lost it, but a few months later the picture showed up as the centerfold in the Saturday Evening Post. To my knowledge, the only other ARTA motor rig flip happened at Badger Rapid (Mile 8 of 280 miles – first day out). Dick Overgard's motor quit on him, causing his boat to hang up on the rocks on the right side of the rapid at low water and as the river rose due to electric power demands at Glen Canyon Dam (which creates Lake Powell), it flipped. The flip took a hour or more, so people had a lot of time to freak out before going for a rocky swim. After that we jokingly called him Dick Overdrive.

Jerry Jordan was such a talented fiddle player by the time he finished sixth grade in a small Georgia town that he quit school, joined a band and never went back to school. He was also a talented mechanic. When he joined the ARTA oar crew in 1971, he was a really rasty character, and it was hard for both clients and the other guides to relate to him. He was a “roll your own” smoker and hated it when people threw their synthetic cigarette filters in the sand. On the very first day at lunch, he would secretly throw a butt on the beach, find it and accuse one of the smokers on the trip of trashing the beach. After that, no one threw butts on the beach. On one of ARTA's first oarpowered Grand Canyon trips in the early 1970s, two of the passengers were gay men. It was a small trip, only two rafts, and Jerry couldn't get along with them so they rode on my raft. They were world travelers, had made many films of their travels and owned a restaurant in San Francisco. I went to visit their restaurant that fall, only to find a huge line of people waiting at a door without a sign. One of the owners let me in the back door. Jerry would have been impressed – lots of southern food on the menu, a first class secret. At the take-out on one of our trips, I was leaning over to get something in our van and Jerry reached up and grabbed my balls, causing me to stand up and bang my head on the van roof, breaking the ceiling light cover. I was so pissed off that I chased him and kicked his ass so hard I almost got my foot stuck in it. He turned around and said, “it's about time you did that.” We ended up becoming best friends. His fiddle music was mesmerizing, so everyone eventually learned to like him. He's the main reason I decided to learn to play a flute. He was quite a character and encouraged me to be a little crazier than I already was. At his suggestion, on one trip, I decided to hide in the bushes while the trip leader (whom I was training) gave the safety talk at Lees Ferry. After he introduced the guides and told them to go ahead and get on the rafts, I walked down the beach wearing a Top Hat and a loin cloth with a belt carrying a two foot long pair of channel locks (an angled pair of pliers used by plumbers that guides used for grabbing hot pots and repairing rafts). The guides of one of ARTA's major competitors, Hatch, used regular pliers, and we used to have competitions to see who could carry the largest pot of water with them, so carrying a huge set of channel locks was definitely a macho thing to do. Guides on the Hatch trip that was rigging next to us cracked up. I also carried a three inch pair of channel locks for laughs - I called them “dwarf nippers.” I got on my raft, but instead of sitting in the rowing seat, I sat up front with my passengers, who had no idea I was their guide. The shuttle driver (knowing about this prank), pushed the boat into the river, and after a few minutes of just drifting

towards the first rapid (the Paria, really just a riffle), I asked which one of them was supposed to row. After a few more minutes of blank stares, I got in the rowing seat and pretended to splash around as if I didn't know anything. Just as we entered the riffle, I grinned and introduced myself. It was a really good trip. Jerry is also famous for his “half-assed” raft. While rowing a WWII era thirty foot bridge pontoon, he put a long rip across the back two chambers on a sharp piece of chert as he pulled into Matkatamiba Canyon (Mile 148). It should have been repairable, but the rubber was so old the glue wouldn't hold the patch, so we just cut the chambers off, hence the name. We trashed all four of our rafts after that trip. Jerry also taught us all an important lesson, though not on purpose – always shake your river shorts out before putting them on. Jerry got stung by a scorpion on his testicles, which doubled in size and were so painful his passengers had to pour cold river water on them several times an hour. None of our pain killers were as effective. His sister Suzanne also became a guide, but long after I'd quit. She also worked on the Bio Bio in Chile in the off season. I only met her once and wish I'd gotten to know her – besides being a talented river guide, she has red hair.



Photo from USPS files.

Bruce Simballa was treat to work with, always cheerful and willing to do almost anything. He, Don Briggs and my brother David and I drove from California at the end of one of our river trip seasons to Akron, OH, where Bruce's parents lived, then David I went to New England to meet David's friends at Yale and Michael at Dartmouth. In Akron, I talked David into eating a fresh jalapeno at a farm market, then into drinking a Coke to cool his mouth, which only aggravated the pain. He learned the hard way that ice cream is the best solution. My bad. Bruce had long blond hair and a bushy red-blond beard - he really looked like someone who lived a century ago. He left ARTA to row for Grand Canyon Dories and was eventually selected to be one of the guides on a Walt Disney centennial re-enactment of John Wesley's Powell's first descent of the Colorado in the Grand Canyon in 1869 (“Ten Who Dared”). He eventually became a set manager for a Hollywood movie producer. We still keep in touch.



Don Briggs, hanging from a cliff on the hike to upper Deer Creek Narrows. Photographer unknown, mid 1970's.

Don Briggs was a passenger on an ARTA motor trip led by Rob Elliott in 1967. At the time he was a highway engineer for the State of Colorado in their Denver office. During the river trip, he started growing a beard, which was a no-no at the time, so they fired him. He took them to court, won, got rehired, then quit and asked Rob for a job as a river guide. Over time, a lot of ARTA guides had once been passengers that got hooked on the river, leaving lucrative jobs in big cities for a low paying but really fun job as a river guide. One of them, Patrica McCairen, was on one of my trips and eventually wrote "Canyon Solitude: A Woman's Solo River Journey Through the Grand Canyon." Don worked as a swamper (assistant) on motor trips starting in 1968, then became a guide and by 1972 trained as an oar guide. Although I knew many of the motor guides and many of those that switched to oars became good friends, there was not much interaction between the two groups at first. In 1972, I decided to run a private trip and invited Don to join it. On our trips together, Don taught me his style of photography and I eventually put together a couple of slide shows - "A Butterfly View of the Grand Canyon" ([www.shangri-la-river-expeditions.com/grandcanyon/ButterflyView.html](http://www.shangri-la-river-expeditions.com/grandcanyon/ButterflyView.html)) and "Danger in the Grand Canyon" ([www.shangri-la-river-expeditions.com/grandcanyon/danger/danger.html](http://www.shangri-la-river-expeditions.com/grandcanyon/danger/danger.html)). I followed him around, taking the same pictures, but didn't have the talent he had. He married Susan Barbour at her parent's house in Sausalito, CA in a really fun wedding. Susan, a cancer nurse at USF Medical Center, later helped Marilyn Sayre, one of ARTA's first women Grand Canyon river guides, cope with a fatal type of cancer. Don and I have been good friends ever since, though in the past few years his health problems have made it difficult to communicate with him. Don's knack for photography eventually convinced Grand Canyon National Park to display about a hundred of his best photos of the river environment in the visitor center. These photos were later displayed in a museum in Japan. Don taught himself to shoot sixteen millimeter film, and among his claims to fame are a number of films that were later converted to VHS and DVD. He produced River Song,

an award winning natural history of the Grand Canyon and best seller at the GC Visitors Center for many years (it now has a lot of competition), then River Runners of the Grand Canyon, a classic in which he managed to get copies of many of the films of early river runners and interview on film many of the people who started the river industry in the Grand Canyon, plus a film based on Grofe's Grand Canyon Suite, and a really funny film, Mule Ride (see [www.donbriggsfilms.com](http://www.donbriggsfilms.com)). Don had an uncanny knack of videoing a plant and having a humming bird fly into the frame to feed on a flower. However, he wasn't the only one – he wasn't in New York when the hijacked jets crashed into the World Trade Towers or in Wyoming when a tourist filmed the failure of the Yellowstone Dam. An interview with Don is in the Boatmans Quarterly Review (Fall issue of Vol. 17 – not yet digital - published by the Grand Canyon Guides Association, [www.gcr.org](http://www.gcr.org)). A few years ago I convinced Roy Webb at the Special Collections Library at the University of Utah to buy all of Don's Grand Canyon film archives to insure their survival in case he passed away. Don was also a major player in the attempt to save a popular whitewater stretch of the Stanislaus River in California in the mid 1970s, along with Mark Dubois. Don lived in the Bay Area for most of his whitewater boating career and now lives in a retirement home in Sacramento, CA. One of Don's most famous quotes is “river running is a wet, cold, thankless job but someone has to do it.”



ARTA “Snout Boat” in Lava Falls, early 1970s. Bob helped build the frames. Photo by Bob Melville.

Bob Melville was another well known ARTA guide, known as the “King of Flips.” He had met Rob Elliott while working at one of the Sierra ski areas in 1971 (and had grown up with Bill and Bob Center in northern California, small world). His first job with ARTA was making raft frames with Jimmy Elliott and me, including the one in the photo above. I was so impressed by Bob that I invited him on the 1971 private trip with my family and Jimmy Elliott, who taught him to row. In 1972, Bob got a job as a river guide on California rivers and I helped him get a position on the first paddle raft trip ARTA ran on the Tuolumne River, just south of the Stanislaus. In 1973, I asked him to be one of the instructors on ARTA's whitewater school. He illustrated the whitewater rafting manual I wrote for the program. Lou rejected his first attempt at a cover illustration – a couple making love on raft in a rapid. Our last trip that summer was an all paddle raft trip through the Grand Canyon, partly to see if it was possible to run paddle rafts as an option on ARTA's commercial oar trips. I was captain of the lead raft and when we ran the riffles beneath the Silver Bridge at Bright Angel Creek, Bob flipped. I did a double take. A small wave along an eddy fence had surfed him into a whirlpool, a total fluke. By 1975, he was working for ARTA in the Grand Canyon, which by then had a paddle raft option on some of their oar trips. Bob loved being the paddle raft captain, but paddle rafts flip more often than oar rafts (most of the weight is on the tubes, not in the center of the raft), hence his nick name. He worked in the Grand Canyon for

ARTA, then AzRA, for about twenty-five years, until he was in a near fatal car accident. He became known as one of the best river story tellers, which I'm sure began with his ability to "gobble like a turkey." One of his jobs before meeting Rob was feeding turkeys at the Branigan turkey farm in Woodland, CA (now famous), where he literally learned to "talk turkey" (and I graduated from Woodland High School and ate a lot of turkey, both literally and figuratively). He could also recite many of Robert Service's epic poems from memory, such as "The Cremation of Sam McGee," and the poems of some famous river guides, such as those of Vaughn Short (my favorite is "The One Armed Boatman"). We ran a lot of private trips together, but one of the most memorable was a five day Fall trip on the Rogue River in southern Oregon. Don Briggs was also on the trip. It rained constantly until the last night, when the moon came out and we could finally see our shadows. Bob, Don and another GC guide, Kent Erskine, were rowing, and the second night out the heavy rain caused the river to rise so much that it floated Kent's bow line off the rock it was tied to, so when we got up in the morning up his boat was gone (we were also illegally "camping" in a Zane Grey cabin high above the river to get out of the rain). I was kayaking with another guy, and we took off as fast as we could go, hoping to catch the boat before Blossom Bar rapids, where I was sure the boat would get wrapped on a rock. It wasn't there, so I began to think someone had stolen it during the night. However, a few miles downstream we found it tied to shore near one of the river lodges, right side up, with all its gear intact. I realized then that our highly toned skills as oarsmen were just a necessary illusion. The Rogue was later made famous in a movie starring Meryl Streep, "The River Wild." Another memorable one was a low water Tuolomne trip. Rob Elliott and Bob paddled a two person Japanese raft into a small hole and got stuck in it. I landed and walked up to throw them a rope at the same time Dan Marshall did this on the other side of the river. Bob caught my rope and Rob caught Dan's, then Dan and I played tug-of-war with Bob and Rob. It wasn't a hazardous situation, just really funny. I don't remember who won. It was on this trip that Dan lit of a firebomb with the bacon grease from breakfast. It was like a small A-bomb explosion. I lit them off every New Year's Eve and July Fourth until the kids left home.

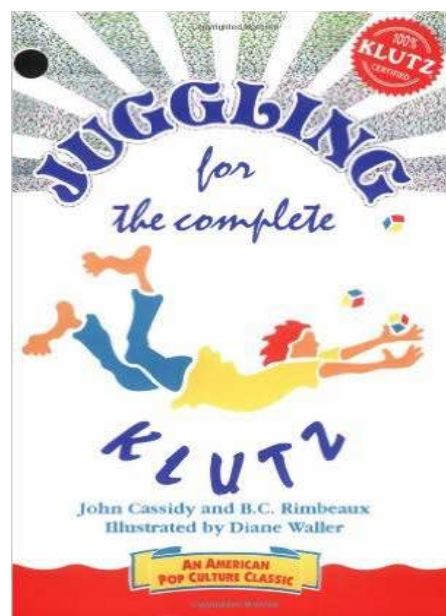


Mark Dubois rowing on the Stanislaus, 1990s. Photo by Larry Orman.

Mark Dubois, Gary's older brother, is really tall – 6'8". We had to build a special rowing frame for him, and when he decided to learn to kayak, his feet were so big they wouldn't fit in (we called him "Ski Foot" behind his back, and he often walked barefoot because the river invited him to use less – he knew he could save a few cow hides if his feet were less shod. The early 70's were pre-Tupperware – all of our kayaks were made of fiberglass, and mostly homemade. We cut holes in the deck of his kayak for his toes and covered Miracle Whip containers with fiberglass so he could fit into it. He planned on painting alligator eyes & teeth along the front edge on them but never got to it. They had an unintended effect: when he ran a big wave or tried to surf, the water would hit the "eyes" and spray him in the face, blinding him. Mark once dived into shallow water on a river trip and broke his neck. His friends rescued him, and after surgery, he wore a special 'halo cast' to hold his head up, making him look like a Martian with antennas (like the TV serial, "My Favorite Martian"). Mark is most famous for leading the effort to stop the New Melones Dam on the



Stanislaus, his favorite river. The reservoir behind the old dam stopped three miles below Parrot's Ferry, the take-out for years, but the new reservoir would flood the whole nine mile long canyon. Mark became executive director of Friends of the River (FOR, [www.friendsoftheriver.org/](http://www.friendsoftheriver.org/)) and motivated hundreds of river guides and passengers, including some famous actors, to campaign against the dam and for the river, even getting it on a California state ballot. Unfortunately, FOR failed, but that didn't stop him from protesting. He found rock near the rising reservoir and chained himself to it. An anonymous friend nicknamed 'Deep Paddle' would row a boat down to him at night to bring him food and bring journalists that Don Briggs knew, including some from the LA Times & Walter Cronkite's team. The Army Corps of Engineers, which had built the dam, was forced by public opinion to stop filling the reservoir. When spring melt was over, Mark agreed to come out. In 1982, one of the volunteers, Tim Palmer, published a great book called "Stanislaus – the Struggle for a River." Mark went on to help form International Rivers Network ([www.irn.org](http://www.irn.org)). Mark and a couple of other friends formed a non-profit called ETC in 1972 which continues to take inner-city and disabled kids on river trips. I didn't start doing this until forty years later. He's a remarkable guy. We still keep in touch.



John Cassidy's first book, 1978.  
Website image.

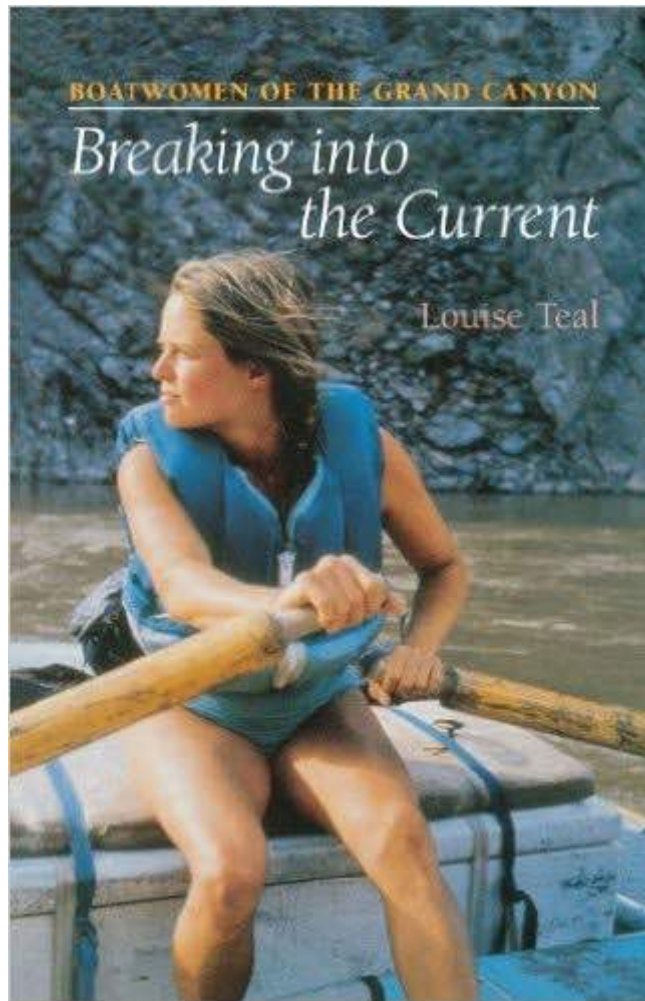
John Cassidy worked as a river guide in California for ARTA for many years. I didn't get to know him until 1975, when we co-managed ARTA's California division, which by then included the Stanislaus, South Fork of the American and Tuolumne rivers. The office was located in Vallecito, CA, a small town near the Stanislaus. After he left ARTA, he worked for ECHO as a river guide in Idaho before publishing "Juggling for the Complete Klutz," which was the first of dozens of Klutz books he has published, with now over two million books sold (see Amazon). Over the years I bought several of them for my kids, who learned to tie knots from one of them. John's a good friend of Bob Melville's and created a coffee table book for Bob after his accident, which includes a series of stories Bob wrote over the years, illustrated with Bob's pictures, to help out Bob financially and as a memento for Bob's many friends. Available from [www.blurb.com/b/3645101-the-grand-canyon](http://www.blurb.com/b/3645101-the-grand-canyon). John also donated funds to help Mike Connelly and I bring three Chinese guys to the US as part of our plan to get permits to run exploratory geological river trips in western China.



Wesley Smith, photo from an interview in the Boatmen's Quarterly Review, GC  
[www.gcr.org/bqr/9-3/9-3bqr.html](http://www.gcr.org/bqr/9-3/9-3bqr.html)

Wesley Smith became an institution among Grand Canyon river guides. He's from Williams, Arizona and was strongly influenced by his Navajo friends, who have a more holistic view of the world than most non-Native Americans do. Wesley started out as a motorboat guide (one of the first Vietnam veterans ARTA hired), which is when I first got to know him. Grand Canyon National Park had decided to outlaw campfires in the summer, requiring all river trips to use propane or white gas stoves for cooking, and asked all of the commercial outfitters to run fire pit cleanup trips at the end of the 1973 season. Asking oar guides to ride on a motor boat wasn't going to work, so we decided to bring along an eighteen foot paddle raft and invite guides from all of ARTA's divisions. Wesley was the lead guide, I was the paddle captain and Spacey Dave (he smoked too much marijuana) ran the second motorboat. It was Dave's first time running his own boat, and within three miles he had run into a sharp rock on the bank in a riffle. There were plenty of guides who could run the paddle raft, so I took over Dave's boat, my first time running a motor raft. Wesley gave me a lot of guidance, the main one being that since the boat was much heavier than an oar-powered raft and had a lot more power, I had to be very careful not to generate too much downstream momentum when running a rapid. If you did, even after you turned to maneuver, the boat would continue downstream sideways, and you might end up running sideways into the rock or hole you're trying to avoid (Spacey Dave's mistake). I made the opposite mistake in Hance (Mile 76) – after entering the rapid at an idle speed, I turned the boat to the left to avoid the “Land of Giants” on the lower right side and ended up pinballing down the left bank. After cleaning up the fire pits Bass Camp at Mile 108, we decided to run another six miles to one of the Mile 114 camps - in the dark. We had guides with big flashlights in the front of the boat, and I followed Wesley through some sharp bends with pretty tight spots and a couple of medium sized rapids. It was definitely a bonding experience. I ended up spending the winter in Williams, sharing a trailer with Jerry Jordan, and hiking and climbing with him and Wesley in the Verde Valley just south of town (plus Wesley was my partner in our peyote/mescaline business). Back in those days, we didn't have

satellite phones for emergencies, just signal mirrors and flags. Wesley decided to raise pigeons and teach them to fly to his home in Williams, where, if one carried a message about an emergency, his parents would call the Park Service. It was an entertaining idea, but didn't work.



Cover of Louise Teal's book – well worth reading.

Louise Teal was originally married to Roger Hougland, a stockbroker turned motorboat guide, and she was his swamper (assistant). By 1973, ARTA was beginning to hire women guides on mountain streams, but they used much smaller boats and often the women were captaining paddle rafts, which had a team of four people for power. Louise was the first woman ARTA hired to row in the Grand Canyon. She's probably most famous for a book she wrote about how the first dozen GC women guides got their jobs, called "Breaking into the Current." It's worth reading, especially if you're a woman. One of the stories in it is about finding herself sleeping on two rafts tied together, headed towards Lava Falls. She had a lot of motivation to get them to shore! She and one of the other women profiled in her book, Lorna Carson, joined a bunch of old ARTA guides on a 1984 trip on the Middle Fork of the Salmon with me when Cindy was pregnant with Travis.

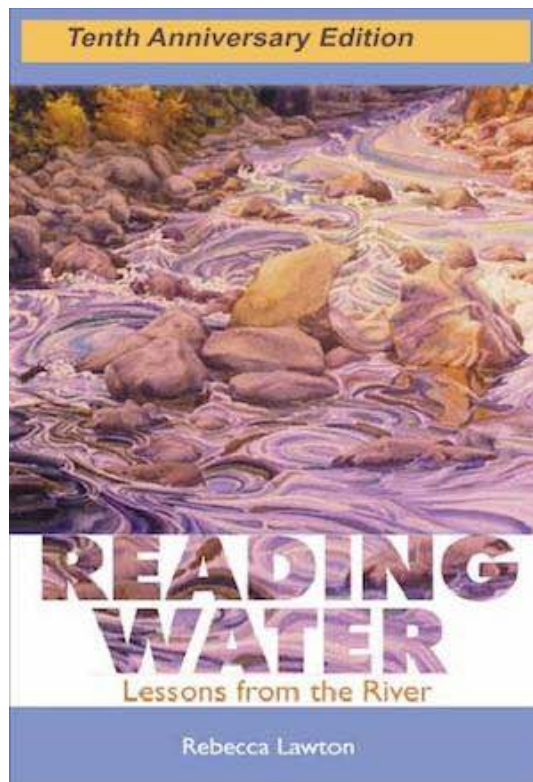


Marilyn Sayer, mid 1970s.  
Photo by Louise Teal.

Marilyn Sayer was taller and stronger than many of the male river guides, including me. I first met her at a swimming pool kayak session near Stanford in 1970, when I was looking for local kayakers to boat with. She eventually became Allen Wilson's girlfriend, and he and I and other guides persuaded Lou that she could learn to row as well as any guy (by wearing dresses to embarrass him). She was one of the first women to become part of the core crew, but I didn't run a trip with her until 1976 (the Randy's Rock trip, [www.shangri-la-river-expeditions.com/riverstories/1976%20\\_randysrock.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1976%20_randysrock.pdf)), which ended up being my last ARTA GC trip until 2004, when I chartered an AzRA trip for a group of Chinese friends. The other guide on the 1976 trip was Randy Breckenridge, who'd only done a few GC trips. After lunch about half way through the twelve day trip, he let a passenger row on an easy stretch - we often did this. However, the guide wasn't supposed to fall asleep, but Randy took a post lunch nap and woke up in the river

when his passenger wrapped the raft on a huge rock near the left bank at Mile 127, now called “Randy's Rock” – a very rude awakening. Marilyn and I had stopped to gather firewood (it was a spring trip, so fires were allowed), and were shocked to see Randy's raft stuck on a rock that was pretty hard to hit. Jim, the guy rowing, had climbed on the rock, but everyone else went for a swim and made it to shore OK. Jim refused to jump in, so I got on the back of Marilyn's raft and she rowed me over to the eddy behind the rock, I climbed onto it and cut the top tube of Randy's raft loose, hoping the reduced flotation would cause the rest of the boat to come loose. While Jim and I watched the top tube float away, I pushed him into the river and jumped after him, then we swam to the other shore where everyone was waiting for us. We started the trip with twenty-two people, including guides, on three rafts, and we finished the trip with eleven people on each raft. Marilyn had no problems with the extra heavy load. Of course, at the time it never occurred to me that the rock would be named after Randy on river guidebooks or described in Nancy Brian's history of Grand Canyon place names in “River to Rim.” One of my favorite memories of Marilyn happened in the back alley of a bar in Flagstaff. We both had to pee, so she suggested a contest to see who could pee highest on a wall (needless to say, we'd both had too much beer). Even though she was three inches taller than me, I figured no contest. She did her thing, then when it was my turn, she said “uh uh, no hands.” It's a good thing I didn't offer to bet her. She could've made a lot of money with that trick. Maybe I was her first victim, a trial run, but I'll bet you could never find another guy who'd admit he lost (or wrote about it his autobiography), even if tortured. That would be far worse than admitting he'd ever gotten lost and had to ask a woman for directions. It's probably genetic.

Bill Alexander was in the US Navy during the Vietnam War. ARTA hired him as an oar boat guide for the 1972 season, along with several other Vietnam veterans. ARTA was expanding so fast it was having trouble finding suitable young men to train. Lou Elliott came up with the idea of hiring war veterans – they were willing to take risks (even though whitewater rafting was less dangerous than driving a car, it was perceived as dangerous), they were very trainable, and they were in good physical good shape. Once we hired Bill, we asked him to recommend other veterans, and within a few years, there were quite a few veterans on the ARTA staff. These included guides who eventually became icons, such as John Otterbein, Big Dave Halliday and Phil Town. These were all big guys – much bigger and stronger than me, and I always lost in brute strength competitions, but could read water better than almost anyone else, out of necessity – like most of the women guides. ARTA also started a whitewater school to train more guides. Bill later started his own whitewater rafting business, then went back to college to earn an MS in geology and worked as a hydrologist for the rest of his career. Forty years after he started working in the Grand Canyon, I asked him to organize and lead a river through the Grand Canyon for disabled Iran/Afgan war veterans in kayaks for Team River Runner in 2012 and in 2015 he and Ryan Keyes organized and ran a trip for TRR kayakers on the upper Colorado. Kudos to Bill, Big Dave and the war veterans for being such great river guides.



Well worth reading!

Tim Lawton and both of his sisters, Rebecca (Becca) and Jennifer (Jen), worked as guides for ARTA starting in the 1970s. I worked a couple of trips Grand Canyon trips with Tim in 1972. In 1973-75, Tim managed ARTA's Utah operation, mostly the Colorado through Westwater and Cataract canyons near Moab, then went on to get a PhD in geology and teach geology at New Mexico State College in Las Cruces. Becca managed ARTA's northern Utah operation on the Green and Yampa rivers in Dinosaur National Monument and the Green in the Green River Wilderness between Vernal and Green River in 1976, also studied geology and worked as a fluvial geologist before becoming an accomplished author. I highly recommend her books, "Reading Water: Lessons from the River," "Steelies and Other Endangered Epecies" and "Junction, Utah." Junction, Utah is a novel based on her experiences living in "Felliniville," where ARTA's northern Utah office and warehouse were located (near Jensen, Utah). Jen managed ARTA's southern Utah operation in the early 1980s and was one of the first women to row high water in Cataract Canyon. Becca and Jen worked as river rangers for Grand Canyon National Park a few years after I did and Becca is profiled in Louise Teal's book, "Breaking into the Current," about the first women to work as river guides in the Grand Canyon. Jen contributed accounts of her work in the Canyon to Louise's book. Becca also ran a few kayak patrols while working for GCNP, after Ranger Kimberly Johnson and others convinced NPS to do so, something I wasn't allowed to do. When Cindy and I lived in Salt Lake City, UT, Becca worked and skied at Snowbird, where she had friends who groomed the slopes with snow cats. On one full moon night, one of them gave us rides to the top of the mountain so we could ski artificial powder on the newly groomed slopes, a real treat. Becca made Travis' first baby blanket, something he took on river trips for many years, and has a daughter, Rose, who worked as a river guide in Utah and Oregon. Jen married John Thomas, who was the GCNP river ranger stationed at Crystal Rapids when Kenton Grua and a couple of other GC Dory boatmen ran an illegal solo dory trip though the GC in 1983 at over 60,000 cfs (read the short story "Speed" in Christa Sadler's book, "There's This River" and the book "The Emerald Mile" - the name of the dory - by Kevin Fedarko). John was one of the oarsmen on a trip I organized through Cataract Canyon over Christmas 1975 and New Years 1976 which ended with a five day climb and

hike out from the canyon at the head of Lake Powell because it was frozen over (see the slideshow and story, "Icebergs in Cataract," [www.shangri-la-river-expeditions.com/riverstories/1976\\_icebergs.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1976_icebergs.pdf) and [www.shangri-la-river-expeditions.com/cataract/IcebergsInCat.html](http://www.shangri-la-river-expeditions.com/cataract/IcebergsInCat.html)). Jen and John have a son, Austin, who guides on the Animas River in Durango, Colorado.



Boyce McClung. Photo by Louise Teal, mid 1970s.

I only did one Grand Canyon trip with Boyce McClung, though we also boated the Tuolomne together. We spent quite a bit of time working together in ARTA's warehouse, mostly painting boats. The old army surplus rafts were made of black neoprene, which got burning hot by noon in the Grand Canyon, causing our passengers to get sunburns on their butts, right through their shorts. To avoid this problem, ARTA (and most companies) used a silver colored neoprene based paint, GACO, which also helped prevent the air in the tubes from getting so hot the expansion could cause a tube to literally blow up. GACO contained toluene, a toxic solvent. It's the stuff kids get high on when they sniff glue (the acetone in the polyester resin used to make fiberglass kayaks also causes a toxic high). We painted the rafts outdoors to avoid getting too high, but one day I stopped by the warehouse and found Boyce painting the shower with GACO. He was happily out of his mind, singing at the top of his lungs. I'm sure he killed a billion brain cells, but he was (is) a smart guy and probably didn't need all of them. He later became a psychologist, only to find that his clients were unhappily out of their minds. I've always wondered if he tried teaching them to sing, or better yet, gave them some GACO to sniff. He recently visited me in Bluff, on his way to explore southeastern Utah with a dog he met at Four Corners. Cool guy.

I met lots of other guides, too many to list, but I do have fond memories of Chuck Nacos, who went on to become one of the contractors which did the brick work for the Coors Stadium in Denver, Felix Issacs, the only black boatman I ever worked with and who helped keep ARTA's old trucks running, then left to start up his own vehicle repair business, and Dick Pfeiffer, who went on to get a PhD in math and became a professor. On the river, Dick sometimes wore a Superman Costume, a spoof.



Don Briggs, Louise Teal and Big Dave Halliday

In the fall of 2016, Big Dave Halliday, his brother Alvin, Louise and my brother David met at David's house near Gunnison, CO, a mini-reunion, and decided to plan a full scale reunion of ARTA/AzRA 1970s guides for 2017. We held it at David's place in September. It took months to track down all of the guides (about 80), and about 20 joined us, along with their significant others. Several had passed away and a few weren't healthy enough to travel (Don Briggs, Bob Melville and Jessica Youle). The rest brought stories, pictures and films. Most of us hadn't seen each other in over 40 years. I visited Bob and Don and borrowed their 35 mm slides of 1970s Grand Canyon river guides for the reunion, then had them scanned for uploading to an online site set up by Dan Marshall ([photos.google.com/share/AF1QipPQduTxE80Bfj610gg6rZOoAvFVmOjzQiMAaYuKRsXdpYv5Ltk29lvnLcbN1\\_JrxA?pli=1&key=d2NjZ2k4UXRiZFNEWl9NZDhUTlo4UFNNT0dhVHJ3](https://photos.google.com/share/AF1QipPQduTxE80Bfj610gg6rZOoAvFVmOjzQiMAaYuKRsXdpYv5Ltk29lvnLcbN1_JrxA?pli=1&key=d2NjZ2k4UXRiZFNEWl9NZDhUTlo4UFNNT0dhVHJ3)). Most of the guides had moved on to very interesting lives after they left the GC. One of them was Mike Bronson, who later visited me in Bluff with his wife Jan. He now lives in Alaska and works as a consulting ecologist.

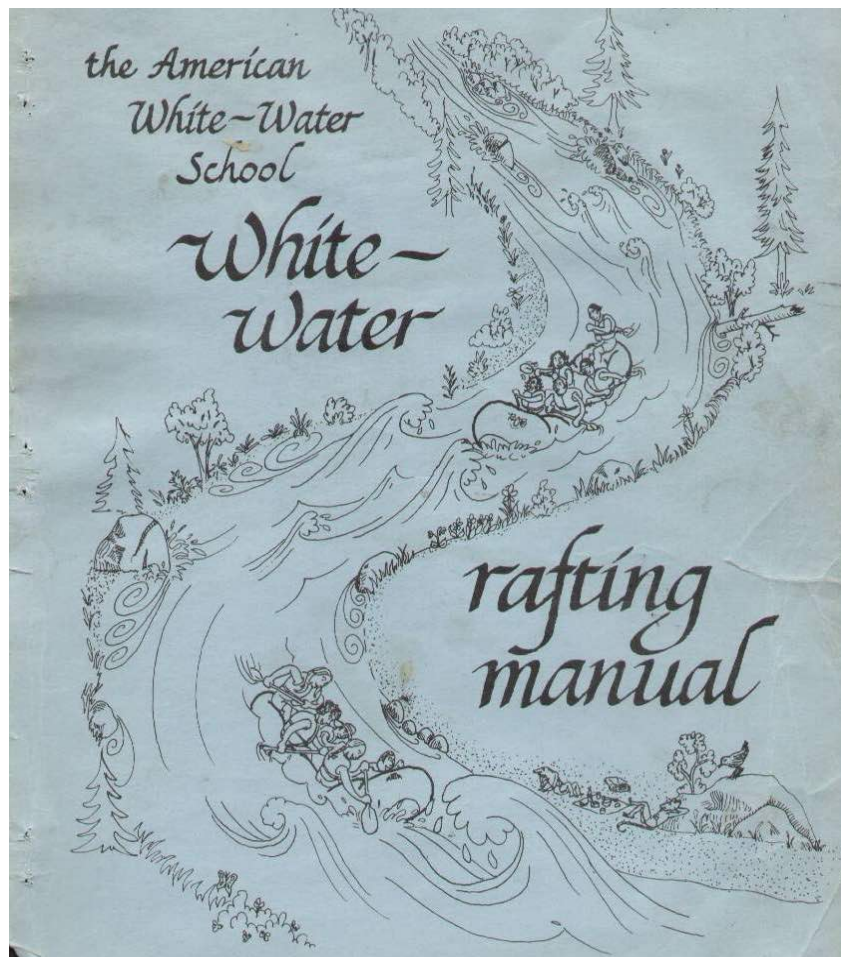




Mike Bronson and the author. Photo by Jan Bronson.

ARTA encouraged guides to bring along a trip library. Books included river maps, mile by mile geology guides, plant and animal identification books, archeology, anthropology and recent human history books, fiction about the river, such as “The Wind in the Willows,” poetry by river guides such as Vaughn Short and thought provoking books like “Jonathan Livingston Seagull” and “Siddhartha.”

Floating the Grand Canyon, no matter how you do it, is as close to a religious experience as many people will ever get. The rest of the world just disappears. People have often told me they were so lost in time and space that World War III could have happened and they'd never know it. However, a few guides who had been on the river on September 11, 2001, noticed the lack of overflights and worried.



Cover artwork by Bob Melville.

## **The American White Water School (AWWS)**

By 1970, Lou realized that training guides on the job wasn't going to work fast enough to satisfy ARTA's needs. The industry was expanding rapidly – dozens of companies had sprouted up on both coasts, on the rivers of the Rockies and in the Colorado River basin, largely due to the post WWII economic boom (higher salaries, more free time and expanding media), so he asked Rob and his son-in-law, Duncan Storely, to organize a whitewater school. The idea was to at least break even on training costs, and to train guides on several rivers in one month, including rowing, cooking, sanitation, river safety and rescue, raft repair and wilderness first aid. It was the first of its kind. They trained about ten guides in 1971 and about twenty guides in 1972. By then it was gaining publicity, and when I was asked to run it in 1973, Lou and Rob suggested two one month programs to double the number of new guides. Rob, who had been an Outward Bound Instructor, thought it would be a good idea for me to be an assistant instructor on one of their courses. He knew I was a former ski racer and instructor and arranged for me to join a three week winter course in the San Juan Mountains of southwest Colorado. First we learned to telemark, a form of skiing that had been developed in Norway, then adapted by the Swiss Army for defense in the Alps during the world wars. Back then, the boots were leather and flexible, with free heels for walking uphill and for making teleturns, which are basically one ski turns that require a lot of thigh strength – it's like doing alternating single leg deep knee bends, wearing a heavy pack full of food and gear for camping in the snow. It was so much fun that I telemarked for the next twenty years, until my knees began to complain too much. In return, I invited my COBS instructor on a Grand Canyon trip. Eventually many COBS instructors became ARTA guides.

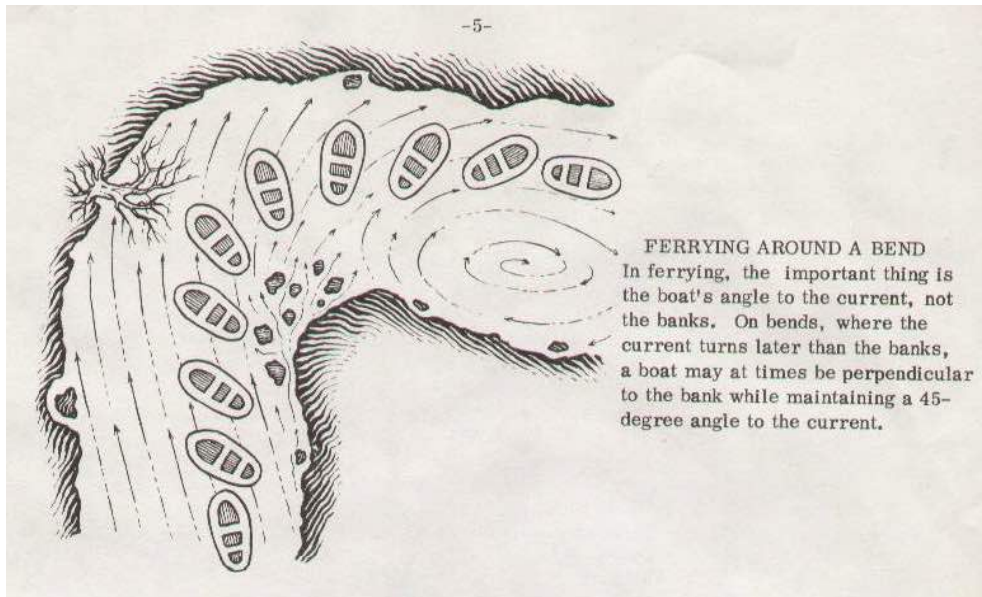


Image from AWWWS guide, 1976, probably taken from the 1972 edition.

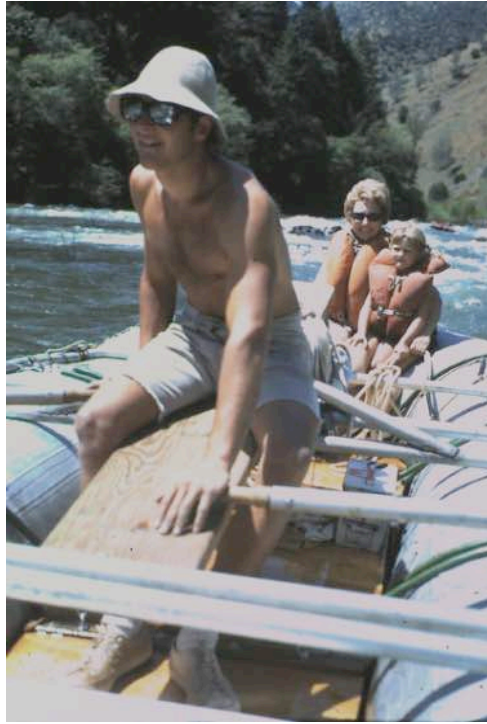
Rob Elliott had written a basic guide for learning to run rapids for the 1972 whitewater school. I decided to expand it to cover all of the subjects we taught – equipment lists, safety equipment, first aid kit contents, knots, repair kit contents and raft patching technique, menus and dutch oven cooking, etc. Bob Melville illustrated the section on knots, and a few years later John Cassiday published his first Klutz book on knots. After I had the new manual printed, Bill McGinnis, who had just started his own rafting company on the Kern and King in the southern Sierras, visited me and asked if he could use it as reference for a book he was writing on whitewater. It's a classic and worth owning: "Whitewater Rafting." Later, Bill wrote a novel about a drug cartel and the Kern River, a fun read ("Whitewater: A Thriller"). His daughter is a Harvard student and works as a river guide in Cataract Canyon of the Colorado in Canyonlands National Park.

On one of our instructor training trips, we paddled Split Mountain canyon of the Green in Dinosaur National Monument in northeastern Utah, a one day trip. Bob Melville and Bill Center were on the trip. The day before, Don Briggs had driven six hours round trip to Fruita, Colorado to buy a case of their famous peaches. We decided to have lunch on a huge mid-stream boulder in one of the rapids (Englesby), catching the eddy behind it, then sitting on the bowline while we ate peaches. When we saw another river party coming down, we grabbed our paddles and pretended to paddle the boulder upstream, much to the amusement of the other party. We called it "Peach Pit Rock."

The 1973 AWWWS program started on one-day easy river segments in California, then moved to five to six day trips on the Rogue in Oregon, the Main Salmon and Middle Salmon in Idaho and the Green in Dinosaur National Monument in Utah. I chose Bob Melville, Bill Center, Dan Marshall and Roxanne Young (one of ARTA's first woman guides) as instructors. Jimmy Elliott was our equipment manager, shuttle driver and vehicle mechanic. Near the end of one of schools, the students decided to play the raft version of "how many people can fit into a telephone booth." Unfortunately, when the seriously overloaded Avon Redshank (twelve feet long, four feet wide) floated through a riffle with at least fifteen people in a huge pile, one of guys on the bottom broke his leg on a rock and had to be evacuated. It was our only serious injury that summer, though I had a bad scare in one camp. A couple had joined the second school and the woman told me never to wake her husband up. He was a Vietnam vet who still slept with a knife. At our last camp on the Middle Fork of the Salmon (at Redsides Rapid), I forgot and within seconds was facing a Bowie

knife. Fortunately, his wife was able to calm him down. This was nine years before PTSD was recognized by the American Psychiatric Association. Near the end of another school, after we had been teaching first aid for a month or so, we decided to test our student's river rescue and CPR skills. Bob Melville dove into the river and floated up, not moving. One of the students immediately jumped in to hold his head up while others derigged the lunch table, floated it under him and gave him CPR while steadying his neck to avoid damage to his spinal cord. Bob couldn't handle the mouth-to-mouth part (it was a guy and Bob wasn't gay), so it became quickly obvious that this was a test. Everyone passed.

On one nasty mountain pass in Idaho, the bus engine threw a rod while I was driving. Jimmy drove off in the equipment truck to buy a new rod, and Jill (one of our students who had learned to rebuild engines from her father) and I drained the oil pan, removed it and the broken rod, which Jimmy then replaced with a new one, causing us only a day's delay. Bob and Bill took over the whitewater school in 1974, when I went to work for the Museum of Northern Arizona and Grand Canyon National Park. Many of our students became professional river guides for decades, or after five to ten years went back to college (as did I) and some went on to become leaders in their communities, such as Sue Bassett. After a ten year career as a guide, Sue B got a PhD and worked as a counselor for children with hearing problems in Flagstaff until she retired a few years ago. We kept in touch, and when Bill Breed, an old friend and former curator of geology at the Museum of Northern Arizona suggested that I contact the Flagstaff Symphony to see if they would perform Ferde Grofe's "Grand Canyon Suite" to Don Briggs film illustrating it, Sue B took over the project since she still lived in Flagstaff. She is one of the first eleven professional women guides in the Grand Canyon that were profiled by Louise Teal in "Breaking into the Current." Another whitewater school participant was Dave Edwards, who was on our first all-paddleboat trip through the Grand Canyon in 1973. This was an experiment to see if ARTA should add a paddle raft to its oar trips. It was successful and forty years later there is still a paddle raft option on AzRA's oar trips. Dave later became a very successful photographer and co-founded Flagstaff International Relief Effort (FIRE, see [www.fireprojects.org/](http://www.fireprojects.org/)). This organization focuses primarily on helping Mongolian children. Dave has had pictures published in National Geographic Magazine. An interview with him was published in the Boatmen's Quarterly Review (BRQ, Winter issue of Vol 14) – he was one of the directors of Grand Canyon River Guides ([www.gcr.org](http://www.gcr.org)), which publishes BQR. We still keep in touch. The American Whitewater School thrived for many years, until the need for new guides diminished due to limits on river use.



The author, rowing the Middle Fork of the Salmon River in Idaho with Mom and Heidi, 1969. In those days, oarsmen didn't wear life jackets. Photo by Dean Winn.

## **American Guides Association (AGA)**

When I worked for ARTA in 1967-'68, Loren Smith was often the lead guide. We made twelve dollars a day, free room and board on our river trips plus free camping and meals between trips and free transportation from and to home and between trips. At the end of the 1968 season, Lou announced that he had guides who would work for free, so we wouldn't be paid if we wanted to work for ARTA in 1969. That was intolerable to Loren, who approached me and my brother David, who had just worked his first year as a guide for ARTA, with idea of forming our own company and competing with ARTA. Loren had kept all of the passengers' addresses, plus he taught a business class at Woodland High School and had always wanted to start a business. David and I talked to Dad, who agreed to loan us enough money to buy and outfit several rafts on the condition that we hire Michael and eventually Steve, Chris, Robin and Heidi when they graduated from high school.

Loren found out that Lou had been marketing trips as if ARTA were a non-profit organization, but he had never registered it with the state of California and was making a profit by having ARTA contract with a for-profit company, Elliott River Tours, that he owned – a marginally legal subterfuge. Loren registered a non-profit called The American River Touring Association (ARTA) and filed a lawsuit against Lou for using Loren's organization's name, needless to say causing a lot of grief for Lou. Ultimately the suit was settled after Lou paid Loren off. I didn't know any of this until a couple of years later, when I went back to work for Lou.

AGA, with seven guides (Loren, his son Mickey, David, Michael and I, and two other ARTA guides, Duncan and Ron Coldwell, ran trips with former ARTA passengers and their friends on river of CA, OR, ID, UT and through the Grand Canyon for two years before the Winns and Coldwells quit. Eventually AGA made enough to pay Dad back, our share of profits was more than we'd made working for ARTA, plus I learned a lot about how to run a business, at the same time going to a

challenging college (plus David was at Yale and Michael was at Dartmouth). Loren replaced us with Steve and eventually Chris and my sisters Robin and Heidi as part of the funding agreement.

We were ticketed by the sheriff of Lemhi County, Idaho, for running the Main Salmon without Idaho guides licenses. Since we were from California, the license fee was \$100, plus a \$500 fine – each, which we couldn't afford. Loren contacted an attorney in Sacramento, who found out that California and Idaho had a reciprocal guides license agreement – if we had California guides licenses, we didn't need Idaho licenses. When the sheriff heard about this, he was forced to tear up our tickets.

One of the passengers on a Middle Fork trip had radio that occasionally worked at night. On July 20, 1969, he came running into camp with the news that Apollo 11 had landed on the Moon. The US had beat the Soviets to the first manned landing. This was the first of six manned landings over the next three years. There haven't been any since 1972. At the time, I had no idea that ten years later I'd become good friends with the chief geologist at the Flagstaff, AZ, US Geological Survey, Gordon Swann, who had a sample of pristine basalt in an air tight jar collected during that first visit on display in his office.

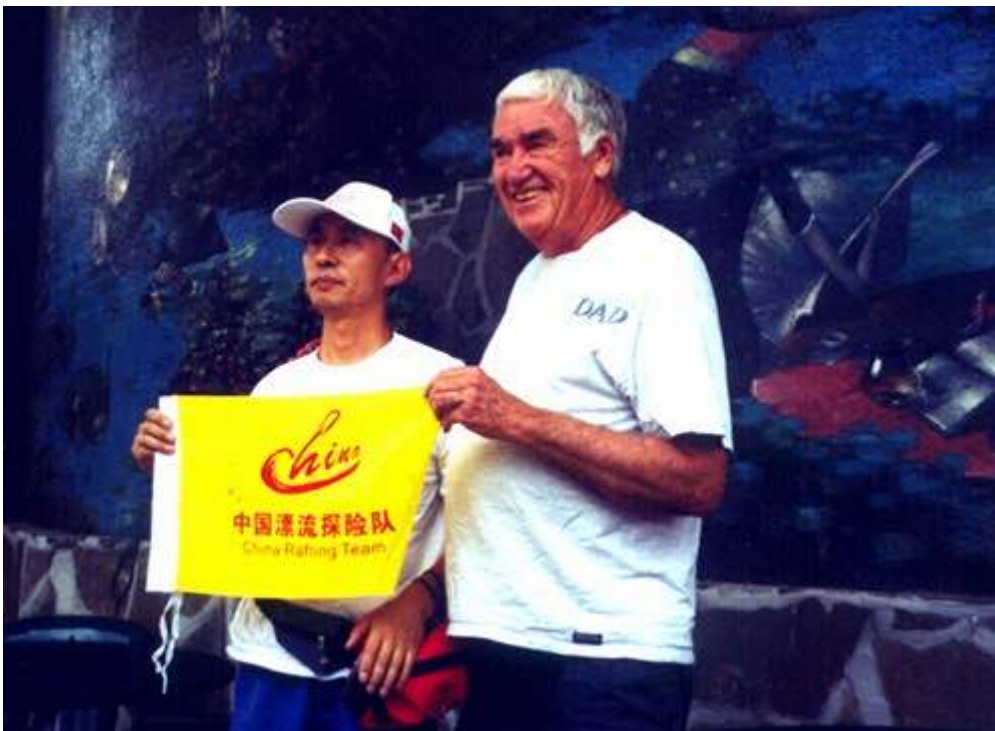
On one our trips on the Middle Fork of the Salmon in Idaho we stopped to scout “First Slide,” a really rocky rapid, only to find a Hatch River Expeditions raft wrapped on a rock with a rope to shore, blocking the only chute through the rapid. Rather than cut the rope, we decided to free the raft (the flow must have been higher when it wrapped) and carry it out. Don Hatch was waiting for us at the take-out a few days later. Loren wanted to keep the raft – river salvage, but what if had been our raft, or what if we needed help? We gave it to Don. Wraps were common on the Middle Fork, especially at low water. Like the Main Fork, it's an undammed river, so late summer flows can get so low that we'd row empty rafts from the put-in at Daggar Falls to the airstrip at Indian Creek (about thirty miles), where we'd meet our passengers, until the number of new rapids (we called them “Hangup City One, Two, ...”) made it impossible to float this stretch, then we'd fly the rafts and all the gear to Indian Creek.

Walt Blackadar, a famous kayaker we'd met in Salmon, Idaho (if you're kayaker, read his biography, “Never Turn Back,” by Ron Walters), chartered our first AGA Grand Canyon trip in 1970. He invited sixteen other kayakers, many from the eastern US who had never boated big whitewater. At House Rock (Mile 17, our first camp), several kayakers carried their boats up to run the rapid again and again while we cooked dinner. One of them, Jack, broke his kayak in half in a big hole that we try to avoid in the rafts. The next day he caught a ride on a motor trip, hiked out at Phantom Ranch, caught a ride to Flagstaff, bought another kayak and carried it down the Phantom to meet us. On the big rapid days, I told the kayakers to stay behind the rafts so we could rescue them, but by the time we got to Upset Rapids (Mile 150), they just ignored me. When the rafts reached Upset, we saw five or six kayaks recirculating in the big hole in river center and kayakers stranded all along the right bank below the rapid. It took a while for their boats to wash out, a little bruised but otherwise intact, and after that they listened to me. This was my first trip where the great majority of participants were kayakers, and I didn't realize how much more food they ate than raft passengers. By the time we reached Phantom, it was evident we didn't have enough food, so several us hiked to the grocery store on the South Rim and back in one day (seven miles and a vertical mile each way), meeting Jack with his kayak on the way down. By the time we reached Havasu, kayakers were again so hungry they were stealing food from the rafts in the middle of the night, so we hiked to Supai to buy more food (a twenty mile round trip hike). Fortunately, the river was high so we had time to do both these day long hikes and make it to the take-out in time. In recent years I've been running trips with disabled kayakers and we make sure we have plenty of

food.

The original AGA partnership began to break up on our third Grand Canyon trip. We'd run a training trip in August, 1969 – the Powell Centennial, led by Duncan Coldwell, who had recently run a trip with George Wendt and his newly founded company, O.A.R.S., without Loren and Mickey. On our second trip in 1970, Michael brought along couple cases of beer, and one of our clients was only 16, so she wasn't of “drinking age.” Loren was a converted Mormon and had been pushing his beliefs on all of us, but we had no interest and were getting tired of this. The shit finally hit the fan at Mile 119 camp. Michael and the young woman were drinking beer on his raft after dinner when Loren lost it. He climbed on Mike's raft and threw his case of beer into the river. Back in those days, beer was sold in steel cans, and the case promptly sank. Loren was paranoid about rattlesnakes (which were a problem in Idaho but not the Grand Canyon) and had brought a pistol on the trip, which was against Park regulations. Michael promptly jumped on Loren's boat, found his pistol and threw it into the middle of the river. Loren was about to punch Michael when David and I tackled him, then a passenger who had seen the confrontation came down to the rafts and told Loren he was going to tell the Park about the pistol. Loren backed down. Unfortunately for Loren, the river dropped that night, Mike found his case of beer and offered one to Loren, knowing Mormons don't drink it. Loren's gun was long gone, and Loren nearly came unglued again. We were only half way through the trip and the rest of it was pretty intense. I could tell you several more crazy Loren stories, but in retrospect he did me a couple of big favors – convincing Lou to hire me, then teaching me how to run a river touring business.

I called Lou that fall and told him I'd quit working for Loren, that we'd run three commercial oar trips in the Grand Canyon and I wanted to help ARTA do the same. Lou hated motors and was planning to start up an oar powered operation, so he jumped at the offer, making me the area manager and hiring me to buy rafts, build frames and train guides. He also hired both David and Michael. Being a guide was much more than a job – it was a way of life that helped develop leadership skills.



Bill Breed with Xiao Jiaze, a Chinese rafter and famous Kung Fu teacher,

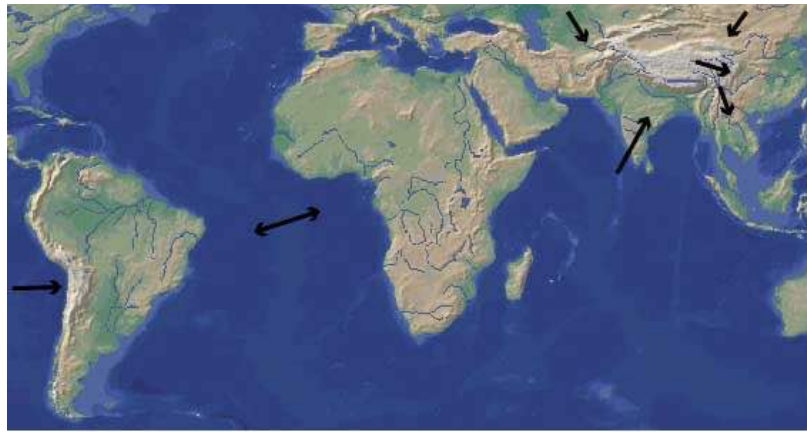
after our 2004 rafting trip through the Grand Canyon with AzRA.

Photo by Scott Sanderson.

## **The Museum of Northern Arizona**

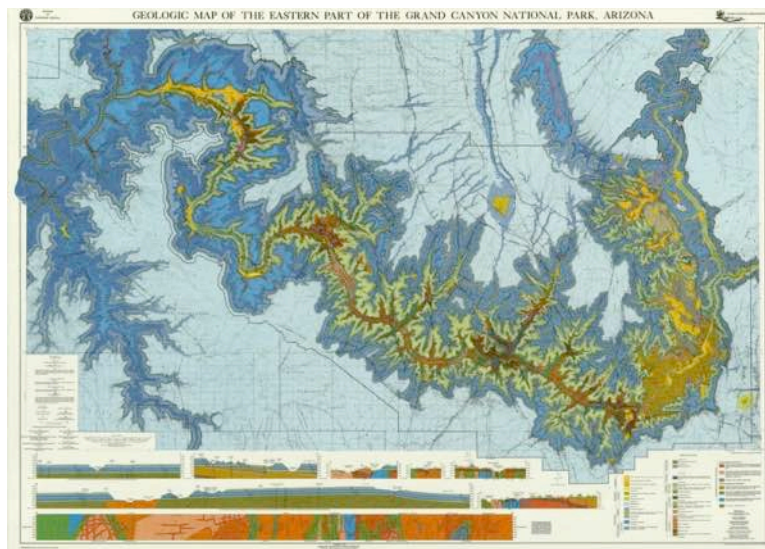
Bill Breed, Curator of Geology of the Museum of Northern Arizona (MNA), came on the last Grand Canyon trip of the 1972 river season. He was riding on an oar raft run by a guide in training, Eric Karlstrom, whose family and mine have intersected for three generations, when Eric flipped in Grapevine, a big rapid and respectable place to flip. I was downstream and rescued Bill, who had been wearing a straw hat that was now a necklace. Bill had a knack for finding fossils and discovered the now famous chambered Nautilus fossils at Nautiloid Canyon (Mile 34 – remember Jules Verne's tale, “Twenty Thousand Leagues Under the Sea”). On a hike up Granite Creek at Mile 209 early one morning, Bill and I saw a Gila Monster, then a pair of rattlesnakes doing a mating dance. By the end of the trip, we had become best friends, and stayed that way until he passed away at age eighty-four in 2012 – forty years. We were both into pranks, such as convincing people to eat strange things, like live insects and minnows. On a Spring cross county ski trip in the San Francisco Peaks near Flagstaff AZ, Bill caught several moths in a freak snow storm and put them in an ivy plant in his living room. They multiplied and soon his wife, Carol, asked him to get rid of them. Bill invited half a dozen friends over for lunch, then after few beers, caught a moth and ate it. Soon all of us were catching and eating the moths (they're like church confirmation wafers – totally textureless, flavorless and non-denominational). Bill's youngest daughter, Amy (at the time about six years old, he had five of them) came in and asked if she could have sip of beer. Bill told her yes, but she had to catch and eat a moth. Just then Carl came in and freaked out, even though it was the last moth. Another time, Carol had asked her daughters to pee in apple juice jars prior to a physical exam. Bill found an unopened jar and proceeded to drink it in front of Carol, who again freaked out. Another time, on a Grand Canyon trip, Bill and I caught live minnows and swallowed them, head first. Bill talked Scotty Imsland into swallowing one tail first, and of course it tried to swim up his throat, causing him to choke (which of course made Bill and I laugh). In retaliation, Scotty talked Bill into joining an exclusive club called “Black Beards Death,” where you had to stand on your head and eat an hard boiled egg, shell and all. Scotty gave Bill a raw egg, and Bill fell over when the yolk started flowing out of his nose. A year later, Bill, Scott and Beth, the secretary for the Biology department at MNA, and I went camping in Saguaro National Park east of Tuscon, AZ. We ran out of beer, so I volunteered to drive down the mountain to buy some more. As I was leaving, Scotty grabbed onto the window sill to tell me what kind he wanted, then fell into a cactus. When I returned, Beth was still pulling spines out of his back, while Bill just sat and grinned. Bill hated President George Bush Jr. so much that he found waterproof sticker of his face with an open mouth and stuck it to the bottom of his toilet bowl. Bill once gave me two books, one titled “Nose Picking for Pleasure” by Roland Flicket (if you've never had nasal orgasm, you should read this book), the other was “Rusty Bedsprings” by I. P. Nightly. Bill gave me some medicine for hemorrhoids for my 30<sup>th</sup> birthday. He is memorialized by a brick in the Flagstaff city square as the “Town Prankster.”





Late 1990s Rand McNalley digital relief map modified by the author to show plate movements.

Bill was the Curator of Geology at MNA for at least twenty years. He had started working there when Eddy McKee, a former Grand Canyon National Park chief geologist, was the Curator. Eddy is best known for his extensive studies of the Supai Group, a complex of four sandstone formations that form a thousand feet thick series of impressive dark red cliffs, representing deltas and flood plains about three hundred million years old. Bill once invited me to have dinner with Eddie at his home on the MNA grounds, and when I walked in the door, the first thing I saw were three very similar lizard fossils, each about a foot long, with claws, and labeled: Antarctica, South America, and Africa. At the time, I hadn't begun to study geology, and asked about the significance. Over dinner, Eddy and Bill proceeded to tell me about the history of Plate Tectonics and the discoveries of a German paleontologist, Alfred Wegener, in the early 1900s and his students. The fossils were the first evidence – none of the lizards had webbed feet, so couldn't swim, and they were the same species and of the same geologic age, so Wegener concluded that the three continents were once part of a large continent and had drifted apart, but the reasons for this were unknown at the time. They weren't discovered until the 1960s, and are still being studied. Peter Molnar, who was on our first geological reconnaissance river trip in China, and his first wife, Tanya Atwater, were involved in these studies. Small world.



The famous “Dragon Map” of the geology of Grand Canyon, now out of print and hard to find. The replacement map is more accurate but not as beautiful. Mid 1970s?

Bill was an author of many geological maps and cross sections (a vertical view of the geology) of

the Grand Canyon and Colorado Plateau, usually with George Billingsly and Peter Huntoon, both also river guides. Their most famous map is the first one of the Grand Canyon, called the “Dragon Map” because the colors used to distinguish rock units made the canyon look like a dragon.

Bill introduced me to quite a few very interesting people, including three that joined me as guides or kayakers on my river expeditions in China (Will Downs, Ben Foster and Ralf Buckley) and several geologists such as Wayne Ranney, who later authored “Carving Grand Canyon,” one of the best books for lay people on the subject, and, in conjunction with one of my geology professors at Northern Arizona, Ron Blakey, authored “Ancient Landscapes of the Colorado Plateau,” which contains amazing full page geographic reconstructions of the Colorado Plateau through time. Wayne has really cool website, [www.wayneranney.com](http://www.wayneranney.com). I met Wayne decades later at a Moab River Rendezvous run by Mike Smith and Tamsin McCormic (Plateau Restoration, [www.plateaurestoration.org](http://www.plateaurestoration.org)), and Wayne now runs international geology tours. At the same Rendezvous, Tom Martin, a Grand Canyon historian and author, and I traded dories – he had built one based on plans of dories used in the 1950s – small, tippy and wet, but fun to row. Tom is one of the authors of a popular Grand Canyon river guide map and the author of “Day Hikes from the River.”

The Museum was originally founded as a repository for Native American prehistoric art, then expanded to include modern Navajo and Hopi art, geology and biology. Bill knew quite few Navajos and Hopis from his field trips to their reservations, mostly looking for fossils, of which the Museum had an impressive collection. His Hopi friends often invited him to their ceremonial dances, performed in kivas (underground chambers) where only males could go (yes, sexism is everywhere). Bill invited me to join him, which started out as a real treat. We sat on a roof top with dozens of Hopis and watched the dancers with their unique masks and colorful costumes, representing different types of kachinas (representing various gods) who chased children around the village. However, when Bill and I, the only two non-Hopis, climbed down into the kiva for the last dance, I was regularly kicked in the shins as the dancers passed me as I sat on the bench around the edge of the kiva. Clearly I wasn't welcome. I later went to the Zuni Reservation with Wesley Smith and a few others for to watch their winter celebration, Shalako. It was held in large lodge and dominated by “Mudheads,” a type of kachina whose masks represent their evolution from and respect for the earth. Unknown to me, a woman in our group had taken peyote and tried to join the dancers (who are all male). Wesley and I had to forcibly drag her out to my car, then we pushed it between two pickups so she couldn't get out. She was pretty cold by the time the dance ended (we weren't invited into the kiva).

While I was studying geology at Northern Arizona University, I learned to use a petrographic microscope to identify minerals. The Archeology Department at MNA had a large collection of pots from the Hopi Mesas in northern Arizona that contained grog (sand) that wasn't from the Mesas, and Bill convinced them to give me samples to examine in a petrographic microscope to see if I could identify the location of the the grog used in the pots. The grog was definitely not local and probably came from central Arizona, supporting their thesis that tribes from central Arizona traded with tribes in northern Arizona. Unfortunately, the report I wrote was reviewed by woman with PMS and was so full of red ink that I refused to rewrite it. I must have pissed her off in a previous life. Don Keller, who played guitar at my wedding, rewrote it for me.

I knew that Grand Canyon National Park Service was worried that the dramatic rise in raft trips through the Canyon was causing damage to the beaches and were planning to limit use to 1972 levels – the use had skyrocketed from less than five thousand people per year in 1969, the year of my first trip, to over twenty thousand per year by 1972. Bill Breed knew the superintendent and

had heard the park was going to request proposals that fall for an ecological survey to determine a reasonable carrying capacity, and he and Steve Carothers, the Curator of Biology at MNA, wanted MNA to win the contract. I met with Steve and Bill to discuss ways to make a winning bid, and we concluded the best way was for MNA to run its own trips. They knew their likely competition was going to be university biology departments which would most likely contract the support trips to outfitters, adding a lot of cost. I agreed to find or build two rafts suitable for carrying about eight biologists and to find another guide to run the other raft. MNA got the bid, and I found great deals on the raft tubes and to further save on costs managed to get Lou Elliott to donate two raft frames that I'd built for him in return for a tax write-off, then bought all of the other gear at an outfitter discount (raft tubes, life jackets, oars, food boxes, first aid kits, rope, etc.). MNA ran their first ecological survey trip in January 1973, with Scotty Imsland as the second guide. He and I taught several of the biologists to row, including Steve Carothers, so that when we went back to work for ARTA they could run their own trips. I also put together a river manual for them, with detailed lists of equipment, how to assemble and repair the rafts, menus and food buying and packing lists, maps of how to run the rapids at various river levels and locations of all of the camps and where to park the rafts at each camp to avoid having them be high and dry or washed away as the river fluctuated due to power demands at Glen Canyon Dam (about thirteen miles above Lees Ferry, where the trips all started).



Steve Carother's brother in Hance at very low water, 1978.

On one trip running the MNA eighteen day ecological research expeditions, the Bureau of Reclamation shut down Glen Canyon Dam for repairs, and the flow dropped from about fifteen

thousand cfs to about a thousand cfs (dam leakage and side creeks), just before we reached Hance Rapids (Mile 76), one of the largest. It was a rock jam, with only one potential channel, a pinball run. Scotty made it, but Steve got hung up. Fortunately, we'd been warned about the drop in flow and had brought along equipment to deal with hangups. Very few people have run the Canyon at flows this low.

Scotty and I pulled an unexpected prank on our third trip. We were camped at Ross Wheeler (Mile 108 on the left), and the biologists were partying around the campfire after dark. We climbed about a hundred feet up a steep talus slope for a break, and were sitting next to a boulder about the size of a VW Bug. It looked balanced, but also much too heavy for us to move. We were about one hundred fifty feet downstream from the campfire and not above anyone's tent, so we said what the hell, got behind the rock and pushed it with our legs. Well, it took off down the slope, making a huge noise in the dark that caused the biologists to start running for the river. At first, Scotty and I just sat there, stunned. Then we started laughing, which really pissed off the biologists, who didn't know where we were. Steve had brought along a flare gun and shot one off to see where we were, then started shooting flares at us. He was really pissed. Fortunately he ran out of flares before he could hit us. The boulder was visible on the beach for years after that. A few days later, Steve and I were sitting in the shade of a big boulder, eating lunch. I kept looking up at the boulder and Steve finally asked me what I was looking at. I told him I thought the boulder was moving. He decided to move to another patch of shade.

On a later trip that I wasn't on, Scotty saw what he thought might be an Anasazi pot just sitting on a ledge of Tapeats Sandstone, large enough to see from the middle of the river, way above the historic high water line, about a mile upstream and across the river from the confluence with the Little Colorado. He told Steve, who told the chief anthropologist at MNA, and they collected the pot on the next trip. It was dated about eight hundred years old, and unfortunately wasn't unique enough to display, though its location there is still a puzzle. Either they could occasionally cross the river, or must have hiked there from the nearest village at Unkar (ten miles downstream). The pot is probably still sitting in a storage area at MNA. Scotty should have stolen it.

Allen Wilson and I also pulled a prank on Steve. The rafts were high and dry in the morning at our camp just above Havasu. While pushing Steve's raft into the river, Allen started hissing, like a tube had a small leak. While he was taking a breath I started hissing, but by the time we reached Havasu Steve decided the leak was so small he wasn't going to worry about it. After Steve left to hike up Havasu, Allen and I let enough air out of the tube to make Steve think when he returned that he might have to patch it before going on to camp. Fortunately for Steve, and unfortunately for Allen and I, a passenger had seen Allen and I let the air out and told Steve, who really doesn't have a very good sense of humor. However, he had a significant impact on mitigating overuse of the Colorado River in the Grand Canyon.



George Ruffner and Gwen Waring on a winter trip through Cataract Canyon of the Colorado, 1975-76.

George Ruffner was one of the biologists on the MNA ecological surveys and specialized in small mammals studies (mostly mice). He became a good friend and eventually one of the best men at my wedding to Cindy (Scotty Imsland was the other). George would set out live traps every night to catch mice so he could tag them for population studies. Early one morning, I set off all of the traps, and George later came into camp with an armful of traps and a huge grin, which turned into a scowl when he only found the usual number of mice. Fortunately, he got over the prank. He and I planned the December 1976 Icebergs in Cataract trip and he was one of the guides, along with John Thomas, a Westwater Canyon river ranger who later became a Grand Canyon river ranger. It was the kind of trip where if you went for a swim you'd literally choke on your balls (or ovaries). George was dating Gwen Waring, another biologist who eventually wrote a book, "The Natural History of the Intermountain West." George now lives in Phoenix, AZ and has two children, one of them blind from birth.

Larry Stevens was another one of the biologists on the MNA ecological surveys. He'd gone to Prescott College, where he participated in one of the first all paddle raft trips through the Grand Canyon, and was working on a PhD at Northern Arizona University (NAU) in Flagstaff when we met. Like Steve Carothers and George Ruffner, he learned to row the GC. He eventually married Gwen Waring, adopted a Chinese girl, then got divorced. He published one of the best river guides to the Grand Canyon. I last met him on a private trip in the Grand Canyon in June, 2015.

I met Howie Usher on that same trip, another MNA biologist that I had helped teach to row. He was the trip leader on an AzRA trip that we encountered at Deer Creek Falls (Mile 136) in 2015. He had worked for AzRA for nearly thirty summers and taught high school biology in Cottonwood AZ in the summer. He loaned a raft to Will Downs for a private trip we ran in 1990.

Another biologist, Stewart Aitchison, also learned to row whitewater. His wife at the time, Beth, was the MNA Biology office manager who helped me compile the river guide for MNA. After Stewart and Beth divorced, he mentioned that I should take her out on a date. We hit it off and ended up living together for half a year (we broke up after I took her on the Iceberg trip). She eventually became to a river guide for ARTA in Utah, then married an Alaska bush pilot. She has a

daughter and now lives in Oregon. While I was a grad student at the University of Utah, Stewart decided to publish a river guide to the San Juan River in southern Utah and asked me to write and illustrate the geology section. It's now out of print, but was a fun project. Stewart remarried and he and Ann have a daughter in college. Cindy, Travis and I met them hiking to upper Calf Canyon Falls near Escalante UT years ago, and I recently met them in Bluff UT, where they own a house and still raft the San Juan River. Stewart gave me a copy of his most recent book, "A Guide to Southern Utah's Hole-in-the-Rock Trail," which gives details for following the route a group of Mormon families took from Cedar City to Bluff in the 1880s. It took them six months (a drive you can now do in a day) – they had to make a road for their wagons over long distances of slick rock and across the Colorado River (at a place now flooded by Lake Powell). It's an amazing story. If you visit Bluff, go to the Fort (the local museum) for an engrossing visual history of this adventure.



The left spillway at Glen Canyon Dam, 1983. The right spill way was closed due to fear of damage from harmonic vibrations.

Joe Sharber was one of biologists a who learned to row and eventually learned to kayak. He was one of the few people who kayaked the Grand Canyon during the 1983 flood at 90,000 cfs (see picture above – Glen Canyon Dam came close to failing while Joe was on the river). I took this picture on our way to Paul Begovac's wedding near Flagstaff. Paul and Joe both worked for Gore in Flagstaff (the inventor Goretex) and had learned to kayak on the San Juan River together. Joe was a rock climber, which rarely requires the quick reflexes required by kayakers. When he was first learning, Rob Elliott and I took him and several other friends on a kayak trip on the Verde River south of Flagstaff (maybe a first descent). It was pretty high water and trees and fences were more hazardous than the rapids. Joe went for a swim in one rapid and managed to catch and climb a tree in the river, with his paddle. Unfortunately, he left his paddle in the tree when he fell back into the river. I've always wondered what the next river party thought when they saw it. Fortunately, we had a spare and dragged both him and his kayak to shore. Joe once climbed into the cave at Vasey's Paradise in the Grand Canyon (Mile 32). I tried once – if you fell, you landed in half an acre of poison ivy, so I gave up. Joe was in the cave when it flooded – there was a cloud burst on the rim, and there must have been a series of caves leading up to a sinkhole on the rim. He had to wait hours before he could climb out. We were both pranksters, and often played pranks on each other and our friends. On a hiking to trip to study Blue Springs Dace in the Little Colorado (an

endangered fish species), Joe put several pounds of rocks in George Ruffner's pack for the hike out. In response, George convinced me to help him pee on Joe's firewood pile for a few weeks, which caused his home to smell really bad. Joe figured it was me, and put water in both my pickup truck and lawn mower gas tanks. It took me a while to figure out why they wouldn't start. When Dan Marshall and I did an illegal kayak trip through the Grand Canyon in January, 1975, we passed a group of hikers camped at Bass (Mile 108). One of them yelled at us to stop and claimed he was a GCNPS back country ranger and unless we had a permit, we were busted. I'd just quit working as the GCNPS river ranger and knew all of the other rangers, so I told him I was a river ranger and asked to see his permit. Of course, he didn't have one, and we had a good laugh. A few years later, Joe was climbing a volcano in Mexico and met the guy, who told Joe about this incident, and they also had a good laugh. The story of this trip is in "There's This River," edited by Christa Sadler ([www.shangri-la-river-expeditions.com/riverstories/1975\\_ebextranger.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1975_ebextranger.pdf)). Christa and I agreed that I shouldn't use my name, so it's written by Ebb Exranger. Her book was first published in 1996 with an update published in 2006, and I still get compliments about my stories. Joe's father, Norm, owned the Texaco gasoline franchise in Northern Arizona and was a talented electrician. Steve Carothers hired him to design and build a device that would shock but not kill fish so they could catch and tag them for population studies. I went on one of these trips in the late 1970s (by then Tom Olsen was the lead guide for MNA), which later led to similar programs on other rivers. Norm and I and his wife (Rama, one of first women to get a medical degree from Harvard and Bruce Babbitt's cousin) became good friends. Norm and I both loved to drink Cognac. Several friends and I later bought a raft for him so he could join us on private trips. Norm left it out to dry on one of his Texaco docks after a Verde River trip and it was stolen. Mark Thatcher, a geology student at NAU and GC river guide, bought the raft from the thief, not knowing it was stolen, but when he found out it belonged to Norm he returned it. Mark went on to design Teva sandals and become a millionaire.



Cindy rowing in Hermit Rapids, late 1970s. Photo by Geoge Bain.

Joe introduced me to George Bain, an engineering student at NAU, and we started running private river trips together. George ended up working for Gore in Flagstaff and helped invent artificial arteries. He took the above picture of Cindy rowing a twenty-two foot "snout boat" in Hermit Rapids in the Grand Canyon, which has some of the biggest waves on the river. For years his family and mine were pretty close. His son Wesley (named after Wesley Smith) and daughter, Lena, and Travis, Carmen and I ran the Yampa in Dinosaur National Monument when girls were toddlers. The two girls, about three years old, were riding on my dory one day and both decided

they had to pee (for some reason this need to pee together persists though out women's lives). George and I had brought toddler toilets for them, so I set them up on the deck. Unfortunately, while they were doing their thing, I hit a submerged rock, which caused both them and their toilets to fall in the footwell. My next chore was getting them cleaned up and into dry clothes. They were the only ones who didn't laugh when I told the story to George and Jane. George was also an accomplished mountain climber, and later published a story about climbing one of the Temples in Grand Canyon in "There's This River." Lena rowed her own boat one of our Westwater private trips a few years ago, and someday I'll join George and Stewart on another San Juan trip. George once told me a joke about three surgeons who were talking about their favorite patients. One preferred engineers because when he cut them open, they were color coded. Another preferred lawyers because their assholes and mouths were interchangeable. The third liked geologists because it didn't matter how you put them back together.

Also about this time, Steve convinced GCNP to remove all of the donkeys left by the old asbestos miners because they were trashing the big horn sheep environment at a time when other parks were reintroducing them. Stan Stockton, an old friend of mine, one of the mule skinnners at GCNP (who had once been a radio disk jockey and sharp shooter and had been on an MNA trip), was hired to shoot the donkeys with a tranquilizer gun from a helicopter, which would then land and sling the donkey to the South Rim for transport to a donkey farm, where little old ladies in tennis shoes with fenced ranches would buy them as "pets." Stan, who loved mules (not in the carnal sense), once shot a young donkey, which couldn't handle the dose for an adult, and wasn't breathing when they landed to pick it up. There's a famous picture in National Geographic Magazine of Stan giving mouth to nose resuscitation to the donkey.



The author in river ranger uniform. Photo by Jim Hannah, 1974.

## **Grand Canyon National Park River Ranger**

The MNA ecological survey river program was such a great success that Steve got over our boulder rolling prank, and by March 1974, he informed me that the Park was looking for a river guide to run their oar-powered river ranger program starting in April. I went up to the River Unit office on the South Rim and their motor guide ranger, Tom Doerr, and I interviewed each other. I'd met him on



the river a few times over the last couple of years and we hit it off, so he offered me the job and I took it. He became a good friend and drinking buddy, and fifteen years later arranged for free rooms for some Chinese rafting friends of mine.

At the time, the Park was planning to outlaw motorized river traffic, so they needed to set an example by expanding their river ranger program to oar-powered boats. Tom had pretty good rapport with many of the guides, but he had never rowed a boat or been a professional guide. I'd helped the first motor company to start up a successful oar-powered division and had a good rapport with lots of guides in the Canyon, both oar and motor, so I was a good choice. However, I didn't know that I was going to be one of the first National Park Service rangers with a beard – the NPS had just changed the regulations and I was one of their guinea pigs. Fortunately, they didn't have a regulation about NPS male employees wearing a necklace (a girlfriend had given me one made from coral), and fortunately I was accustomed to getting a lot of grief, beginning with my brothers in early childhood. One of the other Inner Canyon rangers called me “Rat Face,” and I reciprocated by calling him “Horse Face” (he was the chief wrangler, in charge of trail maintenance and hauling TP to Phantom Ranch). We eventually became friends after I convinced him to join one of our river patrol trips. One day in the lower canyon, when it was his turn to cook breakfast, I covered a dozen egg shaped burro turds with flour and put them in an egg carton, much to his amusement – he crunched one up and put it my eggs). On the other hand, wearing a uniform was a challenge for me, even if it was shorts, an NPS short sleeve shirt, surplus army swamp boots and an NPS ball cap. Plus, I thought the motor boatmen would happily switch to rowing. I didn't know that many of them couldn't swim and were terrified of flipping - the big motor rigs rarely flipped, but it wasn't uncommon for smaller oar boats to flip. Even worse, I had been a kayaker and liked to swim rapids, so we didn't relate on this issue at all.

Commercial river trips and many private trips are really floating restaurants. They're called “Float and Bloat” trips for good reason – the food servings are generous and the quality is five star. Many of the guides are top notch cooks and it's amazing what's possible to bring on a boat. I've even had baked Alaska for dessert cooked in a Dutch Oven with charcoal, and many of the stories in river trip anthologies are about the great food. In the early days, the guides wrote the menus and bought and packed the food based on how well it would keep, especially on long trips. At first, food garbage was just thrown into the river, but eventually regulations were created to force river trips to “leave only footprints,” which meant carrying out all garbage. Then, after a series of food borne illnesses where diarrhea laid out whole trips for a day or more, including the guides, sanitation regulations were created, and eventually guides had to study for and take the same test that restaurant workers take, called the “hairnet test” (because many guides had long hair). Frequent washing of hands and keeping fresh or frozen foods below certain temperatures became just another part of the guides' job. No one wanted puke and shit until they couldn't.

I lasted as river ranger from April to Thanksgiving and they were among the most intense months of my life. I got to run the Inner Gorge of the Grand Canyon – literally and figuratively. I knew more about the river than any other NPS employee, had an abundance of self confidence, and they listened to me. NPS hired another oar-powered river ranger from Dinosaur National Monument, Jim Hannah, who was a good oarsman but had limited big water and motor experience. The flow in the Colorado River through Grand Canyon was typically five times greater than he'd ever rowed – some of the waves were fifteen feet high, compared to maybe five feet high in Dinosaur. Tom was worried about having the ranger oar boats flip (bad PR), so we agreed to buy twenty-foot Salmon River rafts, then he and I built the frames and coolers, etc. Tom insisted on building huge dome shaped aluminum boxes that occupied the entire center of the boat – we called the boats the Monitor and Merrimac (see picture above).



Will Downs and the author (in back) on 1974 river trip through the Grand Canyon. Photo by Ben Foster.

I took Will Downs and Ben Foster, geologists at MNA, on one of my ranger trips. They had hiked the Nankoweap trail from the North Rim to gather fossils from the younger Precambrian rock layers along the Butte Fault. These were unique – they predated the hard shelled marine fossils that first appeared about six hundred million years ago (such as trilobites), and were either worm tracks in mud or “bioherms” - bulges in rock layers that were probably made by algae, or maybe cracks from gas bubbles produced by decaying organic matter. The fossils were too heavy to carry out on foot, so Bill Breed arranged for me to take Will and Ben on a ranger trip to pick them up. After dinner at 60 Mile camp, we began to smell smoke, and soon the whole canyon was filled with smoke. We jumped on Big Bertha and tried to motor upstream, but the current was too strong. On the next trip, Jim and I stopped at Nankoweap to check out acres of burned Tamarisk trees. Of course, now they're back, even more dense than they used to be.

Besides enforcing Park regulations, we were asked to explore every side canyon to identify potential escape routes for winter trips, plus we blocked off unnecessary multiple trails to popular side attractions, cleaned up old fire pits that the outfitters hadn't cleaned up in the fall of 1972, and took high level NPS and politicians (VIPs) on some trips, including Meryl Stitt, the superintendent and several of Nixon's cronies (including John Dean and John Haldeman). On our hiking and cleanup trips, we took run-of-mill GCNP employees to help out – garbage truck drivers, secretaries, interpretive rangers, North and South Rim law enforcement rangers, etc, so they'd learn about what was down in “The Big Ditch.” On one of our cleanup trips, I was running Big Bertha, a thirty-seven foot by fifteen foot motor rig where all my passengers sat on a deck in front. When we got to

Crystal Rapids (Mile 98), which had changed from a riffle to a huge rapid due to a flash flood in December, 1966, I asked all ten if they wanted me to cheat it (avoid the big hole) or run it. The response was unanimous - for some reason they trusted me. I told them to hang on with both hands, both feet and their tails, but forgot to tell them to stuff their hats and sunglasses in their day bags. To make sure we didn't flip, I hit the hole at full speed, about ten miles an hour plus the current speed of at least ten miles an hour. The huge wave washed all of their hats and sunglasses into the river, including mine. Fortunately we didn't flip, everyone held on tight, and we all had spare sunglasses and hats. Someday, the river will erode all of the big dams on the Colorado and wash all of the junk left by reservoir and river parties into the ocean, including a fully loaded ARTA truck that was just leaving the Diamond Creek take-out when it was blasted into the river by a huge flash flood (somehow the driver survived). I sometimes wonder what kind of story a paleontologist in the far future will make up. Perhaps he or she (or it?) will describe the various types of sunglasses as being unique species of some kind of bug eyed animal. In between trips, we made recommendations for new regs – mostly environmental, safety and sanitation, often based on suggestions by guides, passengers and MNA biologists.

One of the secretaries I worked with was a major prick tease, and after taking her on a patrol trip, my partner, Jim and my boss, Tom (who were both married) suggested that I invite her on a picnic to the only lawn on the South Rim, next to the pond at the sewage treatment plant. Jim hid behind a tree, and when I left her to get some fictitious item he took a picture which he arranged to have included in the Park's newspaper. After my experience with Candy in high school, it was perfect. She moved to another park after that.

Jim and I also had the opportunity to visit the 1956 airplane site up Crash Canyon (Mile 62) to take pictures for helicopter removal of plane parts that were still visible from the river. If you're not familiar with this incident and like murder mysteries, read Tony Hillerman's "Skeleton Man." We also visited the Hopi Salt mines at Mile 63 with a Hopi shaman, who left a feather fetish (and allowed me to take a picture of it).



Feather fetish hanging from a salt stalagmite, Hopi salt mines, 1974.

I had the authority to give tickets for misdemeanors, such as not wearing a life jacket, nudity, carrying a firearm (though I didn't carry a gun) or having a dog. I never gave a ticket but did call in a helicopter to haul out a hiker with a dog at Tanner (Mile 69). I figured the \$250 cost of the ride out was enough punishment. Another time, I came across a commercial trip where one of the guides wasn't wearing a life jacket. He argued that it was just flat water, so I jumped on his raft,

pushed him in and wouldn't let him out of the fifty degree water until he starting crying. I'm sure he continued to break the rule, but he was always wearing a life jacket whenever he saw me again. I never told him that I rode on his raft from Phantom Ranch through all of the big rapids without a life jacket on a winter MNA trip about five years later. I lied and told him it was under my rain jacket. Fortunately, he didn't flip. My funniest "bust" happened at the upstream end of the beach at Stone Creek. This beach is really long, and Dave was several hundred yards upstream from his camp. He was an old friend, totally naked, but I had no choice but ask him for his ID. He turned to show me a birthmark on his butt. Even Jim had to laugh. I gave him a towel and told him we'd wait until he got to camp so he could tell everyone else to get dressed.

On one of the trips with politicians from Washington DC, after a few days I realized we were going to run out of beer – they were unusually heavy drinkers. Just in case, I'd arranged for our secretary to send more beer to Phantom Ranch. Our code word was "whole blood" and I ordered about five cases of them via radio. She was out of the office, and her replacement freaked out and called the hospital, which didn't have that much whole blood. The doctor realized no one would need that much and eventually discovered it was a code word for beer. After that, I was told to change the code word.

One of the new regs had to do with human waste. Until they were implemented in 1975, everyone used the toilet paper roll on the handle of an army surplus fold-up shovel method. As a result, a small party would leave TP flowers at the margin of a big camp, and when a big party used it, there were a lot of complaints. Add in the fact that in the desert, crap and TP above the high water line don't degrade very fast, so the margins of camps were getting to look like used kitty litter. Carrying it out was the only solution, but not a very popular one. It took a few years to solve the problem and there's some pretty funny stories about this process. There's a story in Outside Magazine about the history of toilets in the Grand Canyon, written by Kevin Fedarko (author of "The Emerald Mile," about a dory speed trip through the Grand Canyon). He didn't mention the fact that I was involved in the beginning, along with Allen Wilson, Tom Doerr and Steve Carothers, but it's still a fun read ([www.oars.com/blog/grand-canyon-dories-they-call-me-groover-boy/](http://www.oars.com/blog/grand-canyon-dories-they-call-me-groover-boy/)). Steve had taken soil samples to analyze for fecal coliform and found their spores were abundant on the most popular camps, which meant the spores of shigella and salmonella (which cause diarrhea), would end up in your stomach when the wind blew sand into your food. That summer, while working for GCNPS, Tom and I brought along a portapotti, the unitized kind used in camp trailers and RV's with the blue disinfectant/deodorant/dicolorant. We set it up at our first camp, Shimumo (Mile 29, this was a motor trip), and woke up the next morning to find it floating in the eddy, due to a surprising high release from Glen Canyon Dam. Pretty embarrassing, but we dragged it back to camp before any other river party passed us (whew!). The next summer, I had gone back to work for ARTA, had just started dating Cindy, and Allen and I, who both ran fairly large trips (typically about thirty, including guides), had experienced the TP flowers left by small trips, and had heard the park was going to require us to carry out all human waste. We thought there must be an alternative and decided to test the idea that putting up a toilet seat on a fold-up frame over a hole in the sand, with a suspended tube shaped screen to hold the solids and a bucket for TP. We put blue goo crystals into the hole and the full bag into a rocket box with more blue goo crystals to kill the odor. Cindy made the screens and the system worked, except that sometimes the sand on the rim of the hole would collapse, causing someone to fall into it and everyone knew because when the embarrassed person returned to camp because he or she had a blue leg. Not a recipe for happy campers. GCNPS finally settled on the system used today – pee in the river or a bucket next to the shit box, which we would carry out. We tried to name it "Smiley," but it came to be called "The Groover" because without a toilet seat the edges of the box would leave grooves on your butt and the back of your thighs. Travis later benefited from this requirement – Grand Canyon Dories, which hated rubber rafts,

would bring one along to carry the groover and garbage boxes, and on Travis' first trips as a river guide in the Grand Canyon he rowed the shit boat (as did Federako). The problem was that in the summer heat, sometimes the boxes would leak, and I've even heard a story about one exploding. Poor guide. Today, the beaches are much cleaner than they were in the 1970s, in spite of the fact that use has expanded to twenty-nine thousand people a year.

ARTA was the only large company running both oar and motor trips. While working for GCNPS, I convinced Lou Elliott to try an experiment – ARTA would plan two trips for the 1975 season where an eight day motor trip would leave Lees Ferry two days after a twelve day oar trip, and the passengers would switch trips half way down the river, so each group would have a ten day trip – four days on a motor trip and six on an oar trip. Bo Shelby, a PhD student at the University of Colorado, would accompany each trip (oar then motor, or motor then oar) and interview people at Lees Ferry (the put-in), just before the exchange near Elves Chasm, and at the take-out (Diamond Creek). The results were as expected – people preferred oar trips. NPS also did another experiment that September – no motor trips at all, just the max capacity of six oar trips per day, including private trips. I went on one of the ARTA trips with Bo during a September trip while he interviewed as many people on other trips as he could. By the end of the trip, it was obvious to everyone that eliminating motors was not a good idea – the feeling of crowding was overwhelming. Motor trips pass oar trips in about twenty minutes, perhaps several a day, but oar trips are stuck to the same schedule. Campsite and side canyon attraction competition was intense, and there was no sense of the privacy that occurs with mixed oar and motor use. The issue wasn't settled by this research, however. One of the largest motor companies, Hatch, was owned by a cousin of Utah's Senator Hatch, who put a rider on the federal budget forbidding NPS to use any funds to apply for Wild and Scenic status for the river or to implement a motor trip phaseout, effectively maintaining the status quo. Research since then indicates that people really enjoy either type of trip. Those that go on an oar trip may go back on an oar trip, but never on a motor trip, and those that never try an oar trip are happy to go back on motor trips. Many people think the shorter and less expensive motor trips are safer (though safety statistics show this is not true).

The main trails from the Rims to the River are well maintained, but some of the others are almost never patrolled – such as the Nankoweap Trail to the camp at Mile 53. Jim Hannah and I arranged to hike this trail down to the Butte Fault, a major feature that forms the east side of the Kaibab Upwarp to the west of the Marble Platform. We followed the fault to Chuar Canyon (Mile 65), then met Tom Doer, who was running a motor raft patrol trip. The geology of this area is fascinating – one of my favorite hikes from the river is up Carbon Creek (Mile 64), along the Butte Fault and down Chuar to the river. To make this hike, two of the guides would row boats with the passengers that didn't want to do the hike down to the Chuar camp, then do the hike in reverse and row the other two boats down. “There's This River” has a story “Gone!” about an ARTA trip with Scotty Imsland and Allen Wilson where one of the two boats at Carbon floated away, and as it passed Chuar, an old couple took one of the two boats there to catch it, leaving the entire trip with only two rafts. Fortunately both of the missing boats got caught in eddies before Tanner, the next major rapid just a few miles downstream.

At the end of the river season, Tom asked me to be the Phantom Ranch ranger until the fall campground use dropped off, and once asked me to search for a couple of lost hikers while I was on a break on the Rim. The chopper was piloted by a Vietnam vet, who decided to scare the shit out of us. He dropped off the Rim so fast it gave new meaning to the feeling of having your stomach in your throat (usually reserved for hangovers). Then, when we got to the river, he flew under the USGS water gauging cable just upstream from Phantom Ranch (Mile 89), above the Black Bridge and below the Silver Bridge. It's a good thing Tom had warned me not to eat breakfast. The pilot

must have had a job running a roller coaster as a teenager. We found the hikers, who were hanging out at Granite Rapids, trying to hitch a ride on a trip before hiking out at Hermit. When I returned to the South Rim after hiking to Lava Falls for a quick swim of the rapid in early November, they didn't know what to do with me. GCNPS was encouraging private boaters to go in the winter to alleviate increasing demand, but at that time there were very few winter trips. Unfortunately, the Rim law enforcement division needed someone who could be trained to drive a patrol car and shoot Hell's Angels, which was not something I wanted to do, so I quit. I'd kayaked the river in 1971 and 1972 and had asked Tom to let me do a kayak patrol trips but he said no (a few years later other rangers were able to do this). So, I did one without a permit after I quit, see "Smoked Buggers, Eggs and Sudden Discomfort" ([www.shangri-la-river-expeditions.com/riverstories/1975\\_ebextranger.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1975_ebextranger.pdf)).

Steve Martin, the guide who replaced me as the GCNPS ranger, had run trips for OARS, one of ARTA's competitors. He stuck with NPS and about thirty-five years later became the superintendent of GCNP and played a significant role in granting Special Administration permits to Team River Runner to take disabled war veterans on kayak trips through the Canyon. The ranger who replaced him, David Uberagua, ended up having to deal with a huge mess in the ranger program that had been going on for over fifteen years. About a dozen women rangers and scientists sued GCNPS for sexual harassment. I doubt Steve and his predecessors knew about this, but it will definitely shake up the river ranger program. Times have definitely changed – in the 1970s – 1980s, male guides actively supported hiring women, women often chased men (especially in the 1960's – 1970s, the decade of free love), and I still prefer river trips with women guides. "All male" trips suck (not literally). The National Park Service recently appointed the first woman as Superintendent of GCNP to help solve this problem. Steve is now helping Travis and Tibetan government officials create a national park to protect the headwaters of the Mekong on the Tibetan Plateau.

## **Bad Swims and Other Interesting Experiences**

Anyone who spends a lot of time in remote areas has lots of stories, and it's fun to play one-upmanship with them. Here's a few that might remind you of some good ones of your own. Bear in mind the old saying "How do you know when a boatman is lying? He opens his mouth." I once told a story about Bob Melville and Allen Wilson so often I came to believe I'd been part of it until Bob published the story, "Truth or Tomatoes" in "There's This River" and didn't mention me. I called Allen to complain, who agreed with Bob. So beware.

When you're first learning to kayak, swims are common and rarely a bad experience (if they are, you'll never become a good kayaker). Successfully swimming your first rapid use be "a rite of passage," though now I believe it's more a case of the river letting you pass. If you're on a big ego trip about "beating the river," you'll eventually have a bad swim. Trust me. In the late 1960s, kayakers were just beginning to wear life jackets and helmets. You were a weenie if you needed them. These weren't made specifically for kayaking, so we just bought whatever we could find – mostly water ski jackets and construction helmets. I tipped over in "S Turn" rapid on the South Fork of the American in the California Sierras and hit my helmet on a rock, hard enough to crack it. For decades after that I used a baseball batter's helmet, designed to withstand a sixty mile per hour hardball. Other kayakers kidded me about it by the time helmets designed for kayakers became available, but by then it was too much apart of my identity to give up. I had the same feeling about the Huck Finn hats I wore when working as a guide ("My Favorite Hat," [www.shangri-la-river-expeditions.com/riverstories/1972\\_riverhat.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1972_riverhat.pdf)). For a swimmer's perspective of the Class I to VI whitewater rating scale, go to [www.shangri-la-river-expeditions.com/riverstories/rapidswim](http://www.shangri-la-river-expeditions.com/riverstories/rapidswim). It's pretty funny.

After three death defying swims over thirty years, I stopped kayaking anything above easy Class III and eventually switched to inflatable kayaks. A death defying swim is when your life flashes before your eyes in seconds (this is not a mystical experience). My first bad swim was in Crystal Rapids in the Grand Canyon on the 1972 Blue Eye trip. I'd kayaked it the year before, and this time I decided to catch the Slate Creek eddy just above and to the left of the big hole. At high water, everyone runs right, so I must have been on an ego trip. I couldn't get across the boiling eddy fence and got swept into the hole backwards. My helmet got ripped off and came out first, freaking out the spectators and photographers, then my kayak, and I finally surfaced a hundred yards downstream. Miraculously, I had kept hold of my paddle and used it to catch my kayak, which I entered upside down and rolled up (a self rescue technique I'd practiced and taught many times), then spotted my helmet, caught it and put it on and paddled into the eddy at the end of the rapid to empty the water out of my kayak, thankful to be alive. My second bad swim was also an ego trip. I had a goal of swimming all of the major rapids in Grand Canyon and decided Horn Creek was next on my list. I was running patrol trip for GCNP with Jim Hannah on one of motorboat cleanup trips and told him to run the rapid at full speed then jumped off the back of the boat, much to his surprise. To make sure I didn't float into the prop, he gunned the motor and waited for me in the eddy at the end of the rapid. I hit the cliff at the end of the rapid and went down, down, down, far enough to cause a nosebleed. I let out some air to determine the up direction, but the bubbles just circled my nose. I was wearing a Type III kayak jacket and should have been wearing a Type V rafting jacket. Scary lesson. However, I'm sure all of the rapids in the Grand Canyon have been swum, many of them hundreds of times. The Beers' brothers had swum the entire canyon before Glen Canyon Dam, when the water was warm, and survived to make some money on their video and story.

Obviously, I survived to try another bad swim. This one was on the Royal Gorge of the Arkansas when I was about fifty years old – not an egotistic or overconfident young man anymore, just unaware that I wasn't a young man anymore. It was a one day trip and I went with Travis and some of his friends. The river was in flood – there was a big warning sign at the put-in that advised against boating. That didn't phase Travis or his friends, and as an old man of the river, I went along with the flow. I portaged one long rapid with a big hole at the end, then did fine until the last big rapid – Boat Eater. The right side looked nasty, there was a big hole at left center, and what looked like an easy cheat far left, so I started paddling for it, but too late. I went into the big hole, got sucked out of my kayak, and went for a half mile swim. An old ore mine train track had been converted to a tourist train on river left, so there were no eddies there – the bank was a long, straight, steep concrete slope. Unfortunately, the current carried me along the cement wall and didn't let me go for a long time. By the time I made it to the center of the river, a train came by. In desperation, I waved to them and tried to yell help (though of course they couldn't help). At first they just waved back, but finally someone yelled to swim to the other bank. By the time I got there I was so cold and wasted all I could do was lie on a hot rock near shore. Travis had caught my kayak and paddle and hiked up to find me, hoping I hadn't drowned. After getting warmed up, we hiked down to my kayak and paddled out. I portaged the last rapid while Travis and friends surfed the waves. I suspect that kayakers are like helicopter pilots – they either retire or die doing what they like most.

Two of my friends had drowned kayaking – Walt Blackadar, who taught me to roll in the eddy at Redwall Cavern in the Grand Canyon in 1970, and Dugald Bremner, whom I had taught to roll in the NAU pool in Flagstaff. Walt died in a strainer on the South Fork of the Payette north of Boise, a run he'd done many times, but on his last run a tree had fallen into the river during spring runoff and he got caught in it. Dugal and I had done several kayak trips together, including a first descent of

the Verde river in northern AZ. He died in a waterfall on the upper Sacramento where part of the the river flowed through a crack in the granite at the top of the fall. His friends couldn't pull him out. Charley Walbridge, a famous Eastern kayaker and writer for the American Canoe Association, kept records of boaters who died and found that most of them were either beginners or crazy experts. I lucked out and must like living more than kayaking. Charley also determined that death or injury while driving a car was more dangerous than whitewater kayaking, except for overconfident beginners and egotistic experts.



Rainey Falls, image from Google, photographer and date unknown.

The only really bad swim that I watched was Don Brigg's swim at Rainey Falls on the Rogue River in southern Oregon. It was a private trip and Don was rowing one of my old army ten man rafts. I had kayaked the middle fish ladder, a boat-width series of three 4' drops in the middle of the rock pile that formed the falls, but Don decided to run the main falls, which descended at a forty-five degree angle into a huge backwashing wave (like a deep hole) which filled the river with billions of air bubbles for about a hundred feet. Don did a cartwheel out the back when his raft hit the wave and then disappeared – there was too much air in the water to float him, even with a life jacket. We caught him when he finally surfaced, complaining that there wasn't enough air in the water to breathe.





Scott and Craig Imsland, swimming Lava Falls, in January, 1978.

I didn't talk Don into swimming Rainey Falls, but I did talk Scott and his brother Craig into taking a ducky through Lava Falls on a winter Museum of Northern Arizona Ecological Survey trip. I told them they had 99% percent chance of swimming, and a 99.999% chance of surviving. It was a small risk on my part – I'd swum it several times and usually survived.

ARTA was looking for new rivers to run in the Sierras and Rob Elliott had been told by a couple of kayaking friends that the Tuolumne might be raftable (by Sunderland and Chamberlain, who have rapids on this stretch named after them). They told him that in one of the rapids the only way through was a seven foot wide slot, so Rob decided we should take a paddle raft, thinking an oar raft would have problems. Rob was the captain and we only flipped in Clavey Falls. ARTA added the run to its schedule after figuring out that we could run the slot with oar boats. A year later, Rob's father Lou decided we should test our new “Cadillac” snoutsboats on a high water Tuolumne trip before using them in the Grand Canyon. Boyce McClung was on this trip. We didn't flip, but we also couldn't stop until the take-out. The river was so high we fit the nine-foot wide raft though the slot. At the end of the trip, Lou told me had nearly drowned on the Columbia River and was really impressed with my skill as an oarsman. My Chinese nickname is “Old Oil Stick.”

On the other hand, I had lots of good swims, both intentional and unintentional. After unintentionally swimming the entire length of Grapevine Rapid on my first kayak trip in 1971, I decided to swim most of the big rapids in the Grand Canyon, and managed to do this for all of them except Hance and Upset (the entire river had first been swum by the Beers brothers in the 1950s, read the story in “Hell's Half Mile,” edited by Engelhard and Nichols, also see an interview with Bill Beer in Don Brigg's DVD “River Runners of the Grand Canyon). On one ARTA trip with Dan Marshall, who also liked to swim rapids, we were camped below Deubendorf Rapid and the two of us decided to hike up to the top of the rapid and swim it. We had a great swim and even managed to reach the beach at camp without help. Another great swim is Hermit Rapid, which has the largest waves of any rapid I've ever swum – up to twenty feet on the slope from trough to crest at about twenty thousand cfs. Before ARTA's insurance company put the kabash on swimming it, we used to talk as many as half of our passengers into jumping off the rafts. It's only a half minute swim, and most people can even catch a breath after the biggest wave (Number 5). Probably the wildest swims were on purpose through Lava Falls, which is very steep and also very short (about twenty seconds). Dan Marshall and I once swam it while on a commercial trip, jumping off the huge boulder at the top of the right channel – the one that goes through the famous “V Wave.” On another trip, all five guides paddled an Avon Redshank (a twelve foot raft with one foot diameter

tubes) down the right side, with some of them wearing two life jackets. We made it to the V Wave before flipping, getting a big applause from our passengers. I swam the falls solo while I was working for GCNPS in 1974. Over Thanksgiving, I drove to the Toroweap Campground, hiked down with three young Mormon girls who were camped there (it's more of a climb than a trail – two miles long and two thousand feet down), jumped in and swam it with my kayak life jacket. I'm sure the girls have some pretty crazy pics. Unfortunately, all of them wanted to be virgins when they married (or maybe none of them wanted a crazy illegitimate baby by a non-Mormon).

On the way back to the South Rim, my VW bus engine threw a rod. I had it towed to my apartment at the GCNP South Rim Village, then pulled the engine and rebuilt it on my living room floor, using a “Complete Idiot” manual. From this experience and from working on the whitewater school bus engine, I learned enough to rebuild the engine in my 1969 Ford pickup truck a couple of years later (which ran for another hundred thousand miles) and the engine in Bill Breed's Suburban, experiences which really helped me when I started managing drilling programs as a geologist - drill rigs are always breaking down. Funny how things connect. I didn't learn until many years later that Henry Ford's invention had a sad side effect – thousands of horseshit shovelers lost their jobs, worldwide.

My most famous swim was in Smeltzer's Hole on the Animas River in downtown Durango, Colorado, next to the town's sewer treatment plant. It was part of a whitewater park and had benches and bleachers for spectators. Marty (one of Cindy's nephews) and I paddled a two person inflatable kayak (commonly called a “ducky” because the early models looked like little yellow ducks next to the rafts) and flipped in the hole. I came up next to the ducky, grabbed it and then my feet hit a boulder, which I stood on to right the ducky and jump back into it. Unfortunately, the fast flow caught my swim trunks and dragged them down to my ankles just as I jumped in. I got a thundering applause.

One of the skills we learned as guides was to be innovative. I decided to run the hole in Crystal on a trip with a Cadillac. The heavy metal frame was held to the two tubes (snouts) by six two inch straps on each side (taken from parachutes that could hold an elephant – there's a famous movie about this), and four of the straps on one side snapped in the hole, plus I'd lost one of my oar stands – it had been ripped out of its plywood base. I barely made it to shore above Tuna Creek rapids. We had extra straps and an extra oar stand, but couldn't repair the plywood. I ended up strapping an ammo box over the hole and tying my oar to it as a replacement oar stand. When we got to Lava Falls a few days later, the only people on the trip who would ride with me were the ones who'd been on my boat in Crystal. Fortunately, I had a good run.

One of the hazards of running rivers is wrapping your boat on a mid river rock. The Randy's Rock trip in 1976 was the most challenging of several other trips where we either lost a boat or it took hours or even a day to get it off the rock. In the 1960s – 1970s, there was a famous cartoon character, Joe Btfsplk in Li'l Abner, who always had a black cloud over his head. One of ARTA's early guides was like Joe – several rivers had rocks named “Fowler's Rock.”

The late 1960's to mid 1970s have been called the decade of free speech and free love and the decade when beer, wine and liquor producers were worried about loosing business to marijuana growers. There's an old saying – “if you remember this decade, you weren't there”. During this time, I was so wrapped up in college classes and organizing and leading river trips that I usually didn't notice when a woman was making a pass at me. Several of them just undressed in front of me to get my attention! On one ARTA trip we had a charter group of thirty-somethings, ten women and six guys from Milwaulkee, all bisexual. I was the trip leader, and at the first lunch one of the

women asked me about nudity. It was common back then, as long as you covered up when another trip passed, so I said no problem. Fortunately, the group sex only happened after dark, a real eyeopener for me. That November, I drove out to Milwaukee to visit them and got lost in Chicago on my way. I ended up in a black neighborhood and was stopped by a huge black guy, who fortunately just told me to turn around and get out of there. I stayed with three of the women from the GC trip for a month. They owned a shop that sold coffee, tea and nuts from around the world. They bought coffee beans in bulk and repackaged them, and even had their own coffee roaster. When the roasted coffee bin was full (it was about five by five by three feet deep), they would strip down and climb into it. They called their shop “Made with Love.” It was a thriving business. I finally left when it became necessary to carry my car battery inside to keep it from freezing – even three women couldn't keep me warm.

One of the most bizarre ARTA trips I led in the Grand Canyon was with a group of ten Los Angeles psychologists and their wives. Fortunately it was only four days long. It was a trip that Rob Elliott had arranged, then left it to me to run. They flew into the airstrip on the North Rim above Whitmore Wash (Mile 189, below Lava Falls). We had driven there and arranged for mules to carry our river gear to the river down a steep two mile trail, then they hiked down to join us. It was supposed to be a “bonding” experience for them, but after two days of listening to them bicker, we separated the men from women and the trip ended on a good note. The trip reminded me of Shakespeare's “The Taming of the Shrew.” My parents had never bickered around me when I was growing up, but our kids had to yell “shut up” at Cindy and I more than a few times. Of course, it's genetic – at sometime or another, all women are bitches and all men are bastards. We don't have nearly as much control as we think we do.

The trip leader (TL, or head boatman) on any river trip is ultimately responsible for the safety and health of the group, especially on commercial trips where the passengers are almost always newbies, and even more so on long trips like those in the Grand Canyon. Plus, the company owners really want satisfied clients – word of mouth advertising is their best security. Of course, the other guides are critical to the trip's success as well, but most defer to the decisions of the TL. One of the things I learned early on was to watch for passengers who were either very quiet or very obnoxious – they could ruin a great trip and possibly damage the company's positive image. On one trip, I had a small, weak looking middle aged man who never talked and avoided everyone camp. After a few days, I started asking him to come on my boat, and slowly convinced him to try rowing. He eventually became a happy camper. At the end of the trip, he told me he was the current author and artist of Superman Comics. Who would have guessed Superman was a ninety-eight pound weakling? On another trip, on the fourth morning, everyone stood on the bank just before we took off, waited for a guy named Hal to get on my boat, then crowded onto the other three boats. I quickly learned why – Hal never shut up, constantly bragging about himself and putting others down, including me. After about an hour I asked Hal to stop talking for five minutes. He couldn't do it, so I dumped a five gallon bucket of fifty degree river water on him every time he started talking. After while he was too cold to talk. He later sued ARTA, but that's part of a much longer story. I told Lou Elliott, the company owner, to refund his payment and never to let him go on another ARTA trip (see the “Randy's Rock” story, [www.shangri-la-river-expeditions.com/riverstories/1976%20\\_randysrock.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1976%20_randysrock.pdf)).

One of the few things that really bugged me on river trips, especially long ones like through the Grand Canyon, was women who insisted on wearing makeup. It always runs after a rapid or two, and who cares anyway. On one trip, a city girl just had to “do her face,” sometimes several times a day. So, at lunch one day when we had crackers and smoked oysters, I palmed an oyster, sat next to Miss Clown, proceeded to make a big show of picking my nose (of course attracting a large

audience), then showed her oyster and promptly swallowed it. She ran down to the river to puke and fix her face. When she returned, I told her the history of lipstick – it was originally used by Chinese pleasure girls, Japanese Giesha girls and French prostitutes as a form of advertisement. Of course, I also had to tell her the history of men's ties – they were first used as giant arrows pointing at their crotches as a signal to prostitutes. These efforts were a total waste of my time, but the other passengers enjoyed it. Nowadays, when women don't want men to look them in the eye, they wear short shorts or mini skirts and push-up bras with low cut blouses.

Lou Elliott once had this great idea to run commercial canoe trips on the Green through Desolation and Grey canyons in east central Utah. The river has a lot of flat water interspersed with Class II and a few Class III rapids. It's a great place to teach people to raft and kayak, except for the mosquitoes. The mosquitoes aren't big enough to carry your kids away (like the ones in Texas and Alaska), but they're so numerous they can suck you dry. Although I'm not much of a football fan, one day I saw an ad for Tabasco while watching the Superbowl. A guy sat on a couch watching a football game, drinking straight Tabasco, when a mosquito landed on his arm and bit him, then flew away and exploded. I drank straight Tabasco for many years. It also helps keep dogs from eating your shoes. Back to Lou, who filled a five day Deso-Gray trip with twenty canoeists and shipped 10 two person canoes to Vernal. The canoeists carried their personal gear, I rowed a raft with all of the food and group camping gear and Dan Marshall was the safety kayaker. Other than the mosquitoes (which thrive on DEET), the trip went well until the day we were supposed to camp at Rock Creek Ranch (third night out). We had a few swimmers, but that was to be expected. What we didn't expect was a wind storm that blew over every canoe. Fortunately, the river was low and the water was warm, because it took us a long time to regroup and tie canoes together so we could get to camp. No one wanted to go on, so Dan kayaked out and arranged for our shuttle company to fly into Rock Creek Ranch after the wind died down a couple of days later. Lou later arranged for off-season guides to raft down and carry the canoes out. I later heard that the canoes sat on a trailer until they rotted. So much for great ideas.

I've boated too many rivers in flood and strongly recommend against doing this. It's not fun and somewhat suicidal. I first learned this in the late 1960's on the Camp Nine stretch of the Stanislaus River in the central Sierras, about ten years before the New Melones Dam buried it. The river was running about thirteen thousand cfs, ten times more than usual. Two boats flipped, but fortunately no one drowned. The four boats ended up camping in two parties of two boats, with neither one knowing where the other was, and a couple of people had hiked out after their boat flipped, so we also didn't know they hadn't drowned until the next day. It was a bad night. During the 1983 flood year, Mike Connelly (another river guide turned geologist and my partner on a couple of river trips in China) and Tim Lawton and I ran the Dolores in southwestern Colorado at about ten thousand cfs, also more than ten times its average flow. We put-in in the late afternoon and ran ten miles in an hour (I was the only kayaker, and Mike and Tim each rowed a raft). The river was out of its banks, so we had trouble finding a campsite. The next day we floated all the way to the take-out, though it's usually a five day run. We cheated Snaggle Tooth Rapids, where a boater had recently drowned, while other groups portaged. I later went back at more reasonable level so I could enjoy the canyon. Since we had kids with us and didn't want to portage, we put-in below Snaggle Tooth. Unfortunately, subsequent to completion of the McPhee Dam, the river rarely has enough water to float.

In addition to working as a professional river guide and as organizer and leader of many river trips in western China, I organized or joined a lot of private trips all over the western US, both as a rafter and kayaker. I've run more than ten private Grand Canyon trips, many of which were with Cindy and once we included her family. On her first trip with me, Cindy flipped her thirteen foot Avon

Adventurer in Twenty-four and Half Mile rapid but handled it well. On her second trip, I got sucked out of my kayak in Lava Falls and got stuck underwater in a turbulent eddy above the big Black Rock on the right about half way through the rapid, but managed to push off it, back into the wave train. Cindy was pretty nervous, so I hiked back up and got into her Avon Adventurer. She got a little too far left of the imaginary bubble line run and nearly flipped on the right side of the huge hole in at the top center of the rapid, a real boat-eater. She cartwheeled out and swam the rapid, but none of her passengers, including me, knew she wasn't in the boat until we turned around at the end of the rapid to congratulate her.

I've only run five solo trips. My first was an accident – I signed up to kayak the North Fork of the Eel in northern California with the Bay Area Sierra Club while I was at Stanford. After waiting an hour at the put-in, I decided they weren't coming and since the road followed the river, at worst I'd have to hike five miles back to get my car. It was a solid Class IV, but the water level was quite reasonable and I had no trouble, even with a five foot river-wide fall. I'd met a woman on one of my AWWWS trips in 1973, Jill, and invited her on an all paddle raft trip through the Grand Canyon after the last program. We hit it off, so I went to visit her in Portland, OR that fall, where we didn't hit it off. When I returned to Flagstaff, Ben Foster told me he needed a ride to the Rio Grande on the Texas-Mexico border to run a Texas Outward Bound trip. I decided to give him a ride in my VW bus and run a solo trip. I put-in ahead of his group of middle school kids. The river only has one major rapid, the Slide, and it can be portaged. I paddled down to the entrance to Santa Elena Canyon, hid my boat and climbed about five hundred feet up to the rim, where I could watch Ben's trip portage the Slide. They had four small paddle rafts and a couple of instructors in a canoe. The canoe tipped over while landing to portage the rapid. The instructors managed to catch it, but lost their paddles. From my perch on the rim, I could see the eddies where the paddles got stuck, and while they were portaging I hiked down, paddled into the rapid, found the paddles and when I met Ben's trip at the end of the rapid, I tossed the paddles to him and snarled - "I'm the Abominable Canyon Man – don't pollute my river!" and took off. At the time I had long hair, a bushy beard and wore a coral necklace, so it was easy for Ben to keep up the illusion for the rest of his trip. My third solo trip was on the Salt River above Roosevelt Reservoir in eastern Arizona while studying geology at NAU (before I met Cindy). In the spring, the Salt is a Class IV mountain stream flowing through a Saguaro Cactus desert, with spectacular scenery and geology. I borrowed Norm Sharber's pickup and planned to hitch hike back to the put-in to get it. I was going to take five days to run the fifty mile stretch but ended only taking three, even with some really cool hikes. My next solo trip wasn't planned. I joined a private trip on the Green and Colorado through Cataract Canyon led by a guy named Lloyd, who was a friend of a friend. He was running an illegal commercial trip but I didn't find out until the put-in, when he wanted to charge me three times the cost of a private trip. I gave him enough money to cover the cost of my food and my share of shuttle costs, stuffed my river bag into my kayak and told him I'd meet him at camp. It was a May trip and the river was really high – about fifty thousand cfs through Cataract, below the confluence with the Colorado, so I had a lot time to hike. It's the only trip when I've been able to hike up to Upheaval Dome and walk around it (about ten miles round trip). As a geology student, it was fascinating. It's now considered to be caused by an asteroid impact, dispelling the previous idea that it was an alien space ship crash site:). By the time we reached Spanish Bottom, just above the first rapid in Cataract, I'd made friends with the "non-commercial" passengers and they asked me to run the canyon with them. Lloyd, who was kayaking with another guy, was still upset with me and canned it. I waited until they took off, planning to follow them, but Lloyd pulled his group into an eddy and hid in the tamarisks in the eddy below the first rapid, Brown Betty, while I paddled by, so I ended up running solo for about ten miles, until I recognized Big Drop Two and stopped to scout. I wasn't sure if they were above or below me by this time. While scouting, the rest of the group came along but didn't stop to scout – a foolish plan. They had two rafts - one was a "triple rig" (three sixteen foot rafts

tied side by side with an oarsman on the outside rafts, a rig invented by Georgie White) and other a was single sixteen foot oar raft with one passenger. Big Drop One was like Hermit in the Grand Canyon – huge rolling waves but a straight forward run. Big Drop Two was like the right side of Lava Falls – huge V waves with a few really deep, foamy troughs, and Big Drop Three was like Crystal – a huge hole at the top center of the rapid, very hard to avoid. The other two kayakers ran Big Drop One and caught the eddy where I was, and we watched the single sixteen foot raft flip in Big Drop Two, then watched the boatman and his passenger swim Big Drop Three. The triple rig swamped and was uncontrollable, so Lloyd and his buddy tried to kayak out of the eddy to assist in the rescue. After they failed to get across the boiling eddy fence, I went for it, ran both Big Drop Two and Three (but got a serious nasal enema doing this), found the oarsman in an eddy and towed him to shore and told him to start walking downstream. I found his passenger floating in mid river, who by then was in the early stages of hypothermia and nearly unconscious, tied him to my kayak and towed him to the triple rig, which by then had been bailed to point of becoming somewhat maneuverable. We all went to shore, where the other kayakers had dragged the upside down sixteen foot raft, built a big fire, made some soup and warmed up the passenger. To this day I can't believe Lloyd and his friend passed the swimming passenger to rescue the raft first. They could easily have had a death on the trip. My fifth (and probably last) solo trip was on the San Juan, four days from Bluff to Mexican Hat, UT, a Class II stretch with spectacular geology, and one of the reasons I moved to Bluff. Carmen has also run a solo trip on the San Juan. Travis can easily one-up me with some of his solo kayak trips in western China.

I ran so many private trips on the rivers of California, Oregon, Idaho, Utah, Colorado, Arizona and New Mexico that I gave up keeping track of them. One of the most memorable was a twenty-four day private trip through the Grand Canyon in 1972, so we had time to do lots of hikes, including two three day ones - Thunder Falls to Deer Creek, and up Havasu Creek to the Supai Village and back. Don Briggs made his first video on this trip – the Incredible Blue Eye Journey - all thirteen of us had blue eyes. Four of us kayaked and Don, Kent Erskine and my youngest brother Chris rowed my Army ten many surplus rafts, complete with pink sponsons, named the Mock Turtle, the White Rabbit and the Mad Hatter – it really was an Alice in Wonderland trip. Also all of us (eight guys and five gals) were into nudism, but back then we all used Coppertone, which acts like a magnifying glass, resulting in sunburns that limited sexual activities for the first week of the trip. On the Thunder to Deer Creek hike, we camped at Deer Patio and climbed down into Deer Narrows, above the creek's famous hundred fifty foot waterfall – one of my favorite places to hang out and play my flute. On the hike to Beaver, Mooney, Havasu Falls and Supai, Don, who was a very talented rock climber, convinced me to climb about hundred feet up vertical wall with an iron ladder to an old vanadium mine, a terrifying experience and probably no longer possible. When we were at Supai there was a small flash flood and when we finally made it back to the rafts, they were full of mud, parked on the sand at the bottom of the eddy. It took us hours to clean them out so they'd float. At least the flood was too small to wash them away, which has happened to other trips (see a scary story about this in “There's This River”). We ran out of booze near the end of this trip, and when a Western River Expeditions motor boat passed us, two of the women hailed them. The Western guides were deadheading out (no passengers) and were happy to have two naked women raid their stash. Men will never change – it's genetic.

Another trip that sticks in my memory was a family trip on the Tuolumne, a Class V river on the west slope of the Sierra Nevadas just west of Yosemite National Park. It was a spring trip and the river was really high. I'd rafted and kayaked it at high water, so I was sure we'd be OK with our three fifteen foot army surplus rafts and with my brothers Steve and Chris rowing the others. There's one really big rapid on the stretch – Clavey Falls, which drops a dozen feet and then the current splits around a huge midstream boulder, which made a huge hole at high water. I ran first,

fell out of the raft at the base of the falls, and managed to swim into a cliff-bound eddy on the left, in time to see Dad take the oars and row into an eddy on the right. Steve and Chris had perfect runs, but I had to jump back into the river and swim across it to the eddy where they had stopped. Shortly after we arrived at the takeout, a paddle raft with two guys landed. Neither had any pants on and it was obvious they were in shock. They had flipped so many times they had lost all of their gear and of course, their pants. We gave them some extras we'd brought and a ride back to the put-in to their car.

One trip I don't recommend repeating is the Tuolumne below Hetch Hetchy dam near Yosemite. Four of us took Japanese "duckies" on what was supposed to be a three day run over about twenty miles, with a gradient of over two hundred feet per mile. Bill and Bob Center and a New Zealander friend of theirs (Rollie) and I ended up taking four days and lost one of the boats in a ten foot wide and twenty foot deep pothole into which the entire river flowed. We decided to make the run at low Fall flows (maybe 200 cfs), a good decision or we'd be fish food. The river often ran under boulders the size of buses (probably left by the last period of glacial advance), so we first climbed the boulders, then down climbed to the pool below to make sure we could climb out if necessary, then tossed the rafts over the boulder into the pool. We ran out of food and starved the last night, and since the ducky we lost had my sleeping bag in it, I slept in my wetsuit under a space blanket, nearly freezing to death after the fire went out. We'd tried to get the boat out of the bottom of the pothole, first by failing to divert the river with rocks, then by tying an open pocket knife to all of the rope and string we had - our bow lines and shoelaces, trying to puncture the raft, so it would sink and wash out. We succeeded in loosing our shoelaces and the knife. Bill later completed an illegal first descent of the Chili Bar Dam spillway on the South Fork of the American River, a story mentioned in "Halfway to Halfway" edited by an old friend and owner of Echo River Trips, Dick Linford. In a story he wrote for this book, he says "I have never been shy about giving advice to guides, even on subjects I know nothing about."

Running the Selway in Idaho is always a memorable trip. It's a forty mile wilderness stretch with abundant large mammal wildlife and several Class V rapids, the most notable being Ladle Creek. It's formed by a landslide, and when you scout it from above, there appear to be three long chutes. Unfortunately, the river flows diagonally across the chutes, not down them, so it's very tricky. On my first trip, one of the rafts flipped at very high water, and we chased it through several more major rapids (one of which almost righted it) before finding an eddy big enough to drag it to shore. My brother David and I were on the rescue raft and my brother Michael, a passenger on the flipped raft, managed to climb on the bottom, but was barely able to hang on in the rapids below. On another trip, Rob Elliott and I took turns kayaking and captaining a paddle raft at an ideal flow. We both had good runs, except in one rapid I wrapped Bob Melville's raft on a huge rock. Fortunately, the river let it go, but all five of us paddlers went for a swim.

Another crazy river is the North Fork of the American, upstream from Sacramento. A couple of us kayaked while the others paddled Japanese two man rafts (maybe two Japanese could paddle one, but they were too small for two of us big nosed Americans). Nearly everyone flipped going over a ten foot waterfall, but we expected that. What we didn't expect was a five foot river wide waterfall with a keeper hole at the bottom. I managed to paddle my kayak through it, then watched one raft after another get stuck, only to be knocked out by the next one. After the last one finally washed out, we paddled to the take-out, drove to Sacramento and went to watch "Deliverance." If you haven't seen it, I'm not sure you want to. It's about murder and getting butt-fucked by a hillbilly on a river trip. We just got boat bumped.

I've done some nighttime boating, but usually with flashlights for safety. On our January 1975

kayak trip through the Grand Canyon, Dan Marshall and I kayaked from Lee's Ferry to Six Mile rapid on a new moon and from just above Phantom Ranch to the first camp above Horn Creek Rapids before the quarter moon rose – very spooky runs without flashlights. My scariest nighttime boating experience was on Lake Mead in 1972, when we used to cook dinner at Separation Camp (Mile 240, after the last rapid), then tie the rafts together and float the “flowing” lake and party until we fell asleep. After passing the big bend at Spencer Canyon (Mile 247), the huge craft (forty-four feet long by eighteen feet wide) usually stayed in the middle of the current in the flowing lake. Gary Kelly, a former parole officer and river guide on the Snake in Idaho and quite a ladies man (at first we called him Horn Creek Kelly, after a nasty swim in Horn Creek Rapids (Mile 98), then we switched to Horny Kelly) and one of the female passengers had been drinking wine from a gallon glass jar hanging over the side of the raft, then retired to make love in a sleeping bag (of course everyone could hear them, but no one cared). Sometime in the middle of the night the massive craft crashed into a cliff, just where the bottle of wine was hanging, and broke the bottle which punctured the tube, causing Gary and his friend to fall into the water, trapped in the sleeping bag. The crash woke us up and we managed to save them before they drowned. Gary switched to plastic jugs after that. When I was managing ARTA's California river trips in 1975, Bob Melville and I decided to run the Stanislaus on full moon (this famous Class III stretch is now flooded by the New Melones Dam). For some reason he couldn't make it and sent his girlfriend. She and I decided to do the nine mile run naked, just the two of us in a tiny Japanese raft (a precursor to today's “ducky,” or inflatable kayak). We had late summer low flows, warm water and we both knew the river. What a treat!

Besides the trip where Kent lost his raft on the Rogue, I've only been on one other trip where we lost rafts (though several of my friends, including Louise Teal, Scotty Imsland and Allen Wilson have been on trips where boats floated away – the stories are in Christa Sadler's book, “There's This River” or in Louise's book, “Breaking into the Current”). Travis, Carmen and I had finished lining a Class VI rapid on the Mekong headwaters in Qinghai on the Tibetan Plateau, in the middle of nowhere, had lunch, then everyone on the trip hiked up a beautiful side creek. When we returned, the boats were gone – the rock they'd been tied to had fallen over. Travis jumped into his kayak to find them, and the rest of us followed wild game trails for a couple of miles before we saw Travis and the boats. He'd nearly drowned trying to get them to shore. Now we double tie the rafts whenever we hike.

One of the most fun things to do as a kayaker is to surf a wave. River waves are different than ocean waves – the water moves through them, so they're usually stationary. It's not a difficult skill to learn, and one of the best places to learn is whitewater parks, either man made or natural. One of the best natural ones is “Big Sur” on the Colorado between Debeque and Fruita, CO. I taught Travis to surf there. It's a series of river-wide waves four or five feet high that are formed by the foundation of an old irrigation dam at flows above twenty thousand cfs, which only happens every few years. Pete Atkinson at Whitewater West in Grand Junction has a picture of at least ten kayakers on it at once, and I know kayakers who have stayed on the upper wave for half an hour. It's a little hazardous if you swim – the replacement dam is only about a quarter mile below and for sure you'd drown if you didn't make it shore before then. However, it's so friendly that swims are rare, and we used to surf it during the full moon. The big hazard then was you needed a spotter on shore to flash a light when he or she saw a large piece of driftwood coming down the river. The only bad experience I had surfing was at Bowling Alley rapid in Westwater Canyon of the Colorado. The first wave had strong eddies on both sides, so you could surf for a while and catch either one, rest, then go back for another surf. One day in the mid 1970s, while surfing in a Hollowform, one of the first plastic kayaks (we called them Tupperware kayaks), a raft came down on me. I didn't hear them yell until it was too late to avoid running into them. Unfortunately,



Hollowforms had very sharp points on the bow, and I punctured the raft. Needless to say, the oarsman was pretty pissed. I helped him patch his raft, then after that I taped half a tennis ball on the bow to avoid this problem. This must have been a common problem because later Tupperware kayaks were made with blunt ends.

Besides competing on skis, on tennis courts and high school track, I tried kayak racing, on the Truckee River near Lake Tahoe. It was like ski racing – you stand around all day and get to boat for a few minutes, maybe three or four times, but at least you didn't freeze. On the other hand, competition of any kind builds character and stamina, or so my coaches used to tell me. Is O.J. Simpson one of your idols?

I've experienced a few side canyon flash floods in the Grand Canyon and so have many of my friends. The results can cause dramatic changes in rapids and campsites, not to mention deaths and loss of equipment. However, the only time I've been hit by one was pulling into Matkatimiba Canyon at Mile 148 in the Grand Canyon. I was rowing the lead boat with both my parents on it on our 1971 family private trip, and just as I pulled into the canyon-walled eddy where we beached our boats, a four foot wall of muddy water hit me in the back, full of cactus and small stones, and blew my swamped boat about fifty feet out in the river. Other than scratches and bruises, I was OK. Jimmy Elliott, in the next boat, had never seen a boat move so fast, even in a big rapid. Fortunately, the cactus didn't puncture the boat, which was totally swamped and should have sunk. My brother Mike later told me he'd been camped at National Canyon (Mile 166) and was hiking up the canyon when he heard the roar of a flash flood. He scrambled up a twenty-five foot boulder and watched in fear as the wall of water reached within a few feet of where he was standing. The flood cut the camp in half, with some loss of gear but no lives lost. It's still a crappy camp.

I've had enough experiences with unusual fluctuations in river level that I always either sleep on boat at night or near the shore (though I once lost a lunch table while on a hike). I've already mentioned a couple of funny stories (in retrospect) written by old friends, but this one's pretty bizarre. Carmen and I were guides on one of Travis' trips on the Salween in southwest Yunnan and sleeping near the river, just out of habit. The only dams on this river are in the headwaters, hundreds of miles upstream and pretty small, so we weren't really worried about the river level. I woke up when I started getting wet, got Carmen up, and as the river continued to rise at a very rapid rate, we woke up everyone else and moved them and the entire kitchen about ten feet above the river. By morning it peaked just below the kitchen. We later learned that this happened every Spring – rain on snow. Fortunately, the remaining rapids were runnable at flood water levels.

I've never had a death on any of my trips, but have been asked to look for bodies a few times. Fortunately, someone else found them. There's a book about death in the Grand Canyon (by Tom Meyers, who worked as a doctor in the GCNP clinic), and the great majority occur on land, not the river. Only about one person in one hundred and twenty-five thousand drown, and it's usually due to not wearing a life jacket, a heart attack or hypothermia. However, a few of my friends have had passengers drown, and two have drowned kayaking.

Dad and Mom took us to Carlsbad Caverns in New Mexico on one of the family national park camping trips (Nevada Barr, a former NPS ranger, later wrote a great murder mystery about this cave, "Blind Descent"). Since then, I've explored a few caves, mostly those along rivers. The most memorable are Thunder and Tapeats caves in the Grand Canyon. On our 1973 all paddle raft trip, we made the very spooky climb into the cave from which Thunder Falls drops (it's a seven mile round trip hike to the Falls and a hundred foot climb up a cliff from the trail to the cave), only to find that after a few hundred yards that the underground creek was dammed by a rock fall, and the

water was so cold we decided not to swim across the lake. One of the women on the climb was so cold she nearly fell down the falls on the way out of the cave. Her breasts saved her. The next year, Jim Hannah and I, while on one of our river ranger trips, carried wetsuits and air mattresses to the lake and paddled across it to the siphon, beyond which we'd need scuba gear. That summer we also hiked to Tapeats Cave, a ten mile round trip hike from the river, and climbed and paddled air mattresses a half mile in the cave to the Tapeats Creek siphon. There are a couple of other large caves in the Grand Canyon. Stanton's Cave (Mile 32) has been closed to the public for decades, but I was able to visit it as a river ranger for GCNP in 1974. Split twig figurines up to four thousand years old are evidence for pre-historic human habitation, plus ten thousand year old giant ground sloth dung was found in Rampart's Cave (about mile 270), along with pack rat middens containing evidence that pine trees grew in the Grand Canyon at the time – clearly evidence of a much wetter and colder climate than the current one (at the end of the last major north pole ice cap advance). This cave was also inhabited by so many bats that their guano was once mined for fertilizer. The guano carries valley fever, a disease than can lead to loss of a lung, so it's not a good idea to visit it.

About a mile above Lava Falls, Vulcan's Anvil, the neck of a several hundred thousand year old volcano, sticks vertically about fifty feet above the river. I'd always wanted to climb it, so Jim Hannah and I tied our rafts together about thirty feet apart and rowed around each side. I managed to find a way to the top, finding at least a hundred dollars in quarters that had been tossed there by river parties as gifts to the river gods. By now there are probably several thousand quarters up there. Who knows, someday there may be so many that they're visible on Google Earth. I highly recommend leaving them there. I'm OK with black cats and walking under ladders, but I have a high respect for river gods. You should too.

I've never been bitten by a rattlesnake, but have encountered many, mostly on river trips. They're rarely aggressive, though one of my passengers was bitten on the ankle while taking a mid-night piss on the Middle Fork of the Salmon. He was a big guy, recovered quickly and refused to leave the trip. On another Middle Fork trip, I found a rattlesnake with a tail on each end and a head in the middle – one was eating the other. Another couple of friends have been bitten while climbing in the Grand Canyon, loosing some finger or thumb mobility but otherwise OK. On a geology field trip in the Verde River valley in Arizona, after lunch I walked into a field of high “weeds” to take a dump. While squatting, I heard dozens of rattles, all around me. I jumped up and ran, without wiping, before realizing it was a field of rattlesnake grass, whose dry seeds imitated rattlers when the wind blew. While doing field work for my MS, I encountered a blacktail rattlesnake, one of the most aggressive species. Wearing a pack heavy with rock samples, I bent down to get a pic of it, only to realize it was rapidly moving towards me. I fell over backward, wiggled out of my pack and ran. Never got the picture. The worst injury I sustained as result of a rattlesnake was hiking Carbon Creek in the Grand Canyon with a woman passenger. I had no idea that snakes terrified her, pointed out a sleeping Grand Canyon Pink rattlesnake and promptly got slapped. Some things are worth remembering. About fifteen years later, Travis, who was probably in elementary school, found a four foot bull snake in our yard. I figured he was old enough to learn how to catch a snake using a forked stick to pin its neck to ground. I found a dead branch, made the fork, pinned the snake and the stick broke. I fell on the snake and it bit me! Fortunately they're not poisonous. Travis just laughed. When he was a bit older, he caught a yard long snake at a take-out and put it in our van. It crawled behind the dash, which I then had to take apart to catch the snake. On one of my GCNPS ranger trips, we decided to explore a swamp created by a spring on the left just below Lava Falls. It's filled with giant cattails, but only about a foot deep, twenty yards across and thirty yards long. Tom Doerr went first, with me a few feet behind him. About ten yards into the swamp, I saw Tom, who's a big guy with a big beer gut, jump about three feet up. He'd stepped on a huge Grand Canyon Pink rattler – maybe six inches in diameter. I never saw the head, but the tail passed by

before Tom landed, with many huge rattlers. It must have been six or seven feet long. We turned and left the swamp, never to return.

One of the most miserable experiences I've had with animals on river trips is being bitten by fire ants (they're bright red). Their bite is much worse than a bee sting (it must have a higher concentration of formic acid) and if you're allergic it can cause anaphalatic shock, a life threatening event. It causes your trachea to close and you suffocate. On my ARTA Grand Canyon trips at the Mile 222 camp (a very popular one) so many of our passengers had been bitten, including me, that I poured some charcoal lighter fluid into several ant holes and lit them on fire. Serves them right. However, I learned the hard way that fire ants can communicate with each other and they can be very vindictive. I'm sure my smell is posted on the most wanted list of every fire ant police station bulletin board in our galaxy. The ants thrive on food particles left by river parties, so now regulations recommend large tarps under the cook tables and eating area. Fire ants can also communicate with scorpions. I rolled over on one in my sleep on a Grand Canyon trip and got stung on my neck, nearly paralyzing me for a day, and on a trip to Mexico, I got stung by one on a beach. My foot and leg swelled up and turned green, so I went to see a doctor, who told me that if I wasn't dead yet, I wasn't going to die. Yikes! I no longer try to kill ants or scorp – I just avoid them. Good thing their bites don't send me into anaphalatic shock.

Every once in a while there's a salmon fly hatch that floods the river canyon with billions of big bugs. I don't mind eating a few of them with dinner, but dozens are too much. On one of my private trips, one of them climbed into the ear of a one of our participants and wouldn't leave. Needless to say, it drove her nuts. It finally backed out when we put a few drops of cooking oil in her ear. I offered it to her as a snack and got slapped. She'd never been to China, where foods such as deep fried crickets, grasshoppers, scorpions, blood soup, and pig brains and penises were delicacies.

I've seen lots of bears but have only had one scary experience. Richard Schwartz, Bill Center and I were camping at a remote lake in Tuolumne National Park. We knew there were bears in the area, but I figured if I used my backpack as a pillow they wouldn't bother me. Well, I woke up to a bear eating a hole in my pack. I started yelling, and Bill turned on his flashlight, scaring the bear away. After that experience, I hung my pack on a rope strung between two trees and ate a lot garlic before going to sleep.



I've seen some incredible lightning storms and had a few lightning scares. I took a great pic of a lightning strike from the South Rim of the Grand Canyon. It was the last pic on a roll of film, so I put in a new roll, only to feel my hair stand on end. I ran for the forest, only to see lightning strike so near to my tripod that the camera and film were destroyed. Another time, while driving to Toroweap on the northwest rim of the Grand Canyon, lightning struck and killed a cow about a hundred feet from me. Good thing cars have rubber tires that don't conduct electricity or I might have become road kill. One day, Gordon Swann and some friends and I were water skiing on Lake Mary, not far from Flagstaff AZ. A thunderstorm started building, so we got out of the water to wait it out. I was resting my arm on a metal pipe railing on the boat when lightning struck near us. I got burns on my arm and all of us got bad headaches and toothaches.

I've been in quite a few windstorms, but they usually only last a few hours. They can be really nasty on river trips, whether you're lining up for a rapid or just trying to get to camp. A couple of times boats that were lining up to run the right side of Lava Falls were blown to the left side by a freak gust. Fortunately, neither flipped. On one of my MNA GC trips, the wind blew us into the bank and kept us there for a couple of days. We couldn't move the boats or even light our stoves. We got really tired of having lunch for three meals a day by the time the wind quit. On a San Juan trip with Cindy and Carmen, just after we'd tied our rafts up in camp, a freak gust of wind blew over a fully loaded Outward Bound paddle raft with five college kids, then blew the raft twenty feet up into a large cactus plant, deflating it. They had a miserable place to camp. On another San Juan trip with just Cindy and I, after taking out and while waiting for our Avon Adventurer to dry on the Clay Hills beach before deflating and rolling it up, a dust devil sucked it up about fifty feet in the air and deposited it about a hundred yards away. On a Dolores river trip with my brother Chris and his family, while we were setting up camp a strong gust blew his tent with their daughter Jessica almost into the river. Chris rescued her and the tent just before the river bank. On an upper Yangtze river

trip, we were hit by a freezing windstorm with hail at lunch one day, and ended up huddling in a makeshift tarp tent for hours. We had chocolate bars for lunch and Carmen and a Tibetan woman sang songs for a couple of hours. Fortunately the boats didn't blow away. It can be really painful if you happen to get caught on the river during a hailstorm, especially if the hail is the size of marbles. After a working as a river guide in the Grand Canyon, when Scotty Imsland went to have his teeth cleaned, the dentist asked him if he'd been eating gravel. We refer to it as the "W," hoping it won't hear us and start to blow.

I've been on three Grand Canyon trips that required helicopter evacuations. The first, in 1971, happened on an ARTA trip when an albino woman, Sheila (with its intense sun, the GC is a strange place for an albino to choose for a vacation) pulled a large boulder onto her ankle while scouting Lava Falls, resulting in a compound fracture. Fortunately we had a doctor on the trip and an excellent first aid kit, courtesy of Dad. Back then we didn't have radios and it was a long three day float to help, so we got out our signal mirrors and flashed the first plane we saw, and also sent one of the guides up the trail to the Toroweap Campground and ranger station. Less than an hour later, a helicopter arrived to pick up our injured passenger. The pilot told us our flashes had been seen by a Frontier Airlines flight that was off course, showing Lava Falls to its passengers. Incredible luck. Several of us visited Sheila at the end of the season, and she was doing well. On a 1972 ARTA trip, an older male passenger had a stroke. At first we thought it was just from the heat, but on closer inspection his pupils were different. Fortunately, we were only a day from Diamond Creek and the rapids below our camp were runnable at night, so one of the guides took the passenger there with his wife, who stayed with him while the guide hiked twenty miles to a phone at Peach Springs to call for a helicopter. Unfortunately, the guy never fully recovered and was partially paralyzed. Within a few years, most river trips began carrying radios to speed up evacuations, which happen several times a year. On a private trip in 1997 with Lowell Braxton, Andy, a friend of his, had a spontaneous pneumothorax (collapsed lung). We thought it was a minor heart attack (he could walk, but barely) and tried to call for help with our satellite phone. Unfortunately, the river community was attempting to limit commercial helicopter sight seeing flights to certain corridors, so none of the chopper pilots answered our calls, and for some reason the ranger at Desert View Watch Tower wasn't answering the call either. A couple of days later, we arrived at Phantom Ranch and convinced the ranger to fly Andy to the hospital at the South Rim. He's OK, but decided to stop smoking cigars. We used a satellite radio to call for a helicopter on a 2004 ARTA trip though the Grand Canyon with a group of Chinese friends when Travis' girlfriend was bitten by a fire ant and found out she was severely allergic to them when she went into anaphalactic shock. Fortunately, one of the guides, Kristen Husinga, had three epi-pens (epinephrine), which kept her throat open, and fortunately, the helicopter arrived just as the third epi shot was wearing out. On this same trip, the Chinese were really into daily publicity updates, but at many camps satellite access was limited by the narrow canyons. At the President Harding Camp (Mile 44), they hiked up the Eminence Trail to get a signal and got lost in the dark. Rob Elliott, the trip leader, had to hike up to lead them down (slide show at [www.shangri-la-river-expeditions.com/grandcanyon2004/2-ChineseGC2004.html](http://www.shangri-la-river-expeditions.com/grandcanyon2004/2-ChineseGC2004.html), Chinese newspaper story at [www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html), plus the Chinese made a really cool video that played on their national TV.



There's a bottle placed in a hole in a raft to drain the water out after a spinning piece sharp ice cut the hole, nearly sinking the two chambered raft on a winter trip through Cataract Canyon in 1976. We had to use a double boiler to thaw our glue to patch the hole, after which we drank the bottle of Southern Comfort.

I've been on several trips where rafts flipped or got punctured – mostly just a time consuming nuisance, and mostly valuable for story telling. On my first trip rowing the Middle Fork of the Salmon (a high water trip), I pulled into an eddy at the end of rapid and ran into a submerged log with a sharp branch. Patching it in the rain was a real challenge. On one of my many trips down the Stanislaus, one of the rafts got a six foot rip in the floor in a rapid called Razor Rock. The limestone there contained chert, a type of silica, which was harder than the limestone and at this rapid a small nodule had been fashioned into the equivalent of a knife blade on the top of a large rock in the rapid. At certain flows this was just below the surface, and had caused so many rips that one of the outfitters went down the river at low flows, waded out to the rock and chipped the chert blade off. No one complained. However, a boulder on the Salt River at Quartzite falls was causing so many flips that river trips were portaging it, a time consuming hassle. One of the outfitters went down the river at low water and used dynamite to blow up the boulder. Unfortunately, someone complained and he was sent to prison for two years. I'd rather die in a rapid than be locked up for that long.



Raft surrounded by ice where the Colorado River flows into

Lake Powell, 1976.

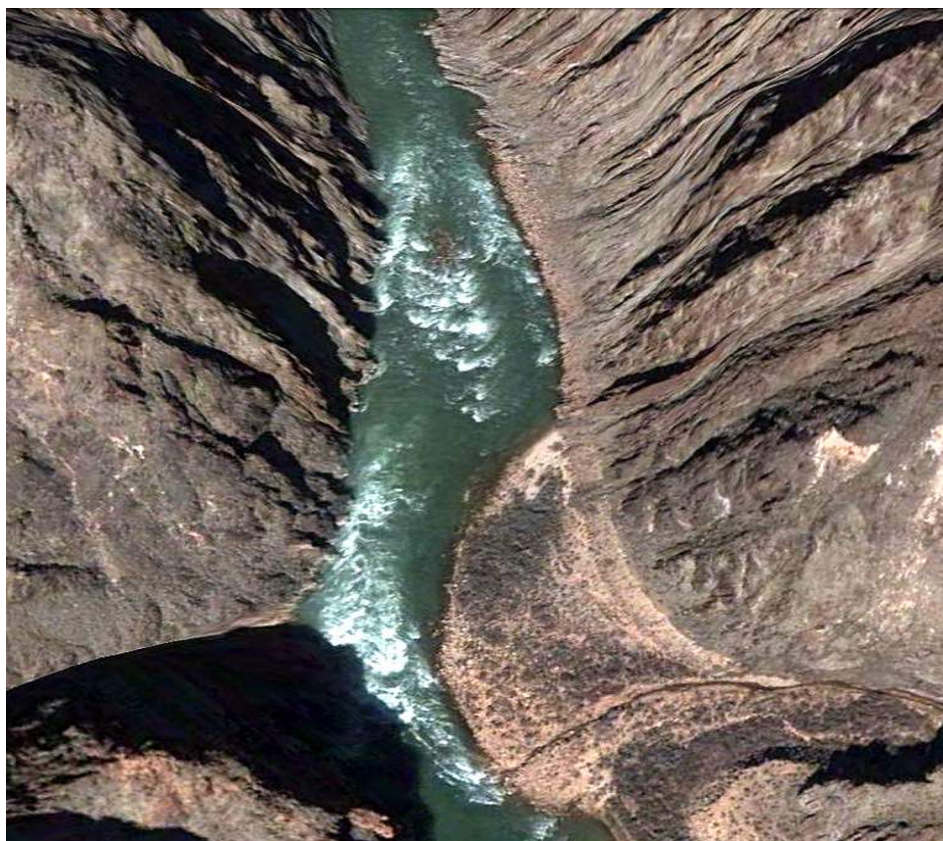
I've only been on three trips where we had to give up and hike out. The first was on our 1976 winter trip through Cataract Canyon. I'd floated the same stretch in winter 1975 and had no problems, but I lost some friends on this one. It took us five days to climb out of the canyon and hike to the take-out ([www.shangri-la-river-expeditions.com/cataract/IcebergsInCat.html](http://www.shangri-la-river-expeditions.com/cataract/IcebergsInCat.html)). The second was on a first descent of the Mekong in Tibet in 2004, when we encountered our third nasty portage. It took us two days to hike to a village with a truck and two days on snow covered or muddy mountainous roads to reach the highway ([www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html)). The third was on the Ji Qu, a major headwaters tributary to the Mekong on the Tibetan Plateau ([www.shangri-la-river-expeditions.com/1stdes/mekong/jiqu2011.html](http://www.shangri-la-river-expeditions.com/1stdes/mekong/jiqu2011.html)).

Phil Shoemaker and I once hiked up Bass Canyon from the river camp (Mile 108) on an MNA trip to Bass' camp. It's a really cool hike along Shinumu Creek (Mile 109 in the Grand Canyon), so it's not even that hot in the summer. A couple of years later, before I met Cindy at NAU, I decided to ski from Hermit's Rest along the South Rim to the Bass Trail, then leave my skis and hike to the river, cross it on an air mattress and hike up Shinumu Creek again. It took me a day to ski the twenty miles to the Bass trailhead, another day to hike ten miles down to the river, and just a few minutes to realize crossing it on an air mattress with a heavy pack was suicidal, after falling off only a few feet from shore. So I decided to hike the Tonto Trail (on the top of the Tapeats Sandstone, a thousand to fifteen hundred feet above the river and three to four thousand feet below the South Rim) back to Hermit Creek, then to the rim to my car. This turned out to be a great three day hike, but was really cold. I don't know how the myriad Big Horn sheep and wild donkeys I met survived. The sun almost never reaches the trail (it reminded me of my frozen beard during my winter kayak trip with Dan Marshall). All the springs I needed for water were frozen and there was no wood for a fire, but fortunately I had enough propane for my stove, or I'd have lost my tongue to frostbite. Unfortunately, when I returned to get my skis after the snow on the rim melted, they were gone.

Before Dan Marshall and I ran our illegal kayak trip through the Grand Canyon in January, 1975, each of us stashed food for the ten day trip to avoid overloading our kayaks (we also had to carry winter camping gear). Dan stashed his food while somewhat drunk on a commercial trip, but I hadn't planned that far ahead. First I hiked down the Tanner Trail (Mile 69) and back to the rim at Desert View Watch Tower (a really spectacular view) in one day – eighteen miles, and got a bad case of tendonitis. I had to wait a week before hiking down Beaver Canyon to Havasu, but this time I took two days. I'd hiked this trail once with Greg Harmon, a friend from Stanford and one of Richard Schwartz' best friends (and also an ARTA UT guide). This trail is one of those described by Edward Abbey in the book that made him famous - "Desert Solitaire." The Grand Canyon is one of the best places in the world to hike (and to float). In addition to the main trails to Phantom Ranch and those mentioned above, I've also hiked several trails from the rim in Marble Canyon (Badger, Soap, Tanner, South Canyon and Nankoweap), the Grandview trail to Horseshoe Mesa, trails to Hermit and Bass Rapids, from Toroweap to Lava Falls, and the trail from the rim of the Little Colorado to Blue Springs and the Salt trail to the Hopi Sipapu and salt mines (these are now only open to Native Americans).

One of my favorite hikes is the Paria River Canyon in northern AZ from highway 89A to Lees Ferry. It takes about five days and goes through some incredible slot canyons. There are many photos of the Paria on Google images – they're worth checking out. There's a lot of quicksand in the slot canyons, so you have to run across it to avoid becoming a fossil. I had eye contact with a lizard while playing my flute at one camp. Wow. I'd had this experience with cats and dogs and

once with a water ousel, but never a reptile (and so far, never with a fire ant or scorpion).



Crystal Rapids (Mile 98), with creek on right, big hole in upper left and rock island (partially buried by high water) in lower center. Image from Google Earth.

In the mid 70's, I had the opportunity to trade my raft for a few hours with a dory boatman, Brian Dirker, who later managed the Grand Canyon endangered fish studies at the mouth of the Little Colorado. Several ARTA guides had left to become GC Dory guides and I'd often wanted to row one. I finally bought a wooden dory about twenty years later, after borrowing one from Dave Edwards to run the Canyon in 1990. His was made of aluminum, sounded like a kettle drum in the rapids and stuck to sandy beaches like glue. At the time, Dave was working for Grand Canyon Dorries, owned by Martin Litton. This was a crazy trip – pretty high water (about 30,000 cfs) and spooky running the dory. I only flipped in Granite Rapids, with Lowell Braxton as a passenger, who got a nasal enema. We decided to stop at Schist Camp (Mile 96) to wait for low water at Crystal Rapids (Mile 98) the next morning. Shortly after setting up camp, helicopters started flying low over us, obviously on their way to Crystal. The noise was pretty irritating, so I found a large piece of driftwood that looked like a bazooka and started shooting at them, without success. The next morning, while scouting Crystal just as it was getting light enough to see, we saw a motor raft upside down on the Rock Island – the reason for all of the helicopters. We had a choice of running left or right of the pile of rubber (see “Coffee at Crystal,” [www.shangri-la-river-expeditions.com/riverstories/1990\\_coffee](http://www.shangri-la-river-expeditions.com/riverstories/1990_coffee)). A few years later, I bought a wooden dory, which finally died of dry rot that was discovered on a Cataract Canyon trip where Will Downs and his girlfriend, a psychiatrist for death row inmates in AZ, had bailed more water out on the trip across Lake Powell than they had in the rapids. In 2007, I bought a Lavro fiberglass whitewater dory, shell only, and built and installed the interior gear hatches, which was pretty tricky, considering all of the curves. I found an oar manufacturer which wrapped my oars with Tibetan prayer flags, which were real eye catchers. Dorries are much more fun to row and more challenging than rafts – they don't bounce and when they hit a rock it makes you want to cry, but it's like riding a cork. They're more



like a kayak than a raft, except scarier than either. After taking it on many river trips, including the Grand Canyon, I finally sold it to a friend of Jeffe Aronson, a GC dory boatman. Jeffe, Cindy and I had met when he started up the first organic food store in Flagstaff in the mid 1970s, on a high traffic corner downtown. I'm not sure how he ended up rowing dories in the GC, but we still keep in touch. He's the first cancer survivor I've ever met. He told me that a positive attitude is essential. When Cindy and I lived in SLC, we took a ski class on avalanche safety, and much to our surprise, Jeffe was our instructor. He lives in Australia in the off season.

You've probably heard many river trip shuttle stories, but this one takes the cake. One of my favorite river canyons is Westwater, on the Colorado in Utah just west of Grand Junction. Cindy and I used to drive down from Salt Lake City in our old Ford pickup to run weekend trips through this mini Grand Canyon. On one trip, we found our pickup had been broken into, along with every other vehicle in the Cisco take-out parking lot. So, the next time we ran Westwater, I left the door unlocked and a six pack of beer on the seat with a note that said "enjoy." We later learned that the thieves were the sons of the Grand Canyon sheriff, who knew the schedules of the local deputies.



Climbing Mt. Agassiz (12,356'), 1976.

Although I've been on many cross county ski trips, mostly in the Rockies in Colorado and the Wasatch Mountains near Salt Lake City, UT, one of most memorable was skiing down an avalanche chute above Alta, a famous ski area in the Wasatch. Harold and I were deep powder hounds, and set off an avalanche in waist deep snow. Fortunately, we were able to ski out of it. When we got down to the ski area, the area's ski patrol guys were pretty pissed at us. Another was a climb to the top of the San Francisco Peaks near Flagstaff, AZ. Four of us, Rob Elliott, Joe Sharber, Michael Collier and I drove into the Inner Basin, where a glacier had eroded the volcanic cone, then skied a few miles up the valley to our first camp. Joe had forgotten his ski poles, so we made some from branches that were marginally useful. The next day we were climbing up a steep slope when a white-out blizzard hit us. We retreated to the tree line and camped again, then climbed Mt. Agassiz.

The storm had broken and the scenery was incredible. We glissaded down the other side to the Arizona Snowbowl Ski Area, then skied to our shuttle vehicle. Although I've seen videos of huge avalanches, the most spectacular one I've seen in person was near Red Mountain Pass south of Ouray, CO. The highway had been closed due to a nasty winter storm and I was the first car behind a truck with a flatbed trailer carrying a howitzer to shoot avalanches. There were several huge snow eating machines ahead of it, clearing the road. One of the avalanches they shot flew down the mountain on the other side of the canyon, then covered the road with at least ten feet of snow.

About a year after I'd quit working as a GCNPS river ranger, I decided to climb Sunset Crater and ski down it after a big snow storm. It was closed to climbing to avoid damage to the fragile volcanic cinder slopes, but I figured they weren't going to be affected by my skiing on three feet of snow. I got caught by the ranger and decided, since I knew the judge, to fight it. His office was just down the hall from mine when I worked at GC, so I drove my old pickup the hundred eighty miles round trip to meet with him. The first thing he asked me was how much I'd spent on gas, which turned out to be more than the cost of the ticket. He gave me a big smile and tore it up.

When I was living in Oakland CA at ARTA's main office, a girlfriend and I decided to go on a cross country ski trip to Mammoth Hot Springs, near the California – Nevada border to go skinny dipping. When we arrived, there were half a dozen other skinny dippers, all with frosty hair and badly wrinkled fingers. They'd been there all night.

I finally quit working as a professional river guide after the 1976 season. It wasn't easy – floating the Colorado River through the Grand Canyon is addictive – I still do it every few years. One problem was how to make a living. I'd returned to college for a geology degree, but needed income to continue. I got a job driving semis, based on driving ARTA's gear truck, and did this for a few summers until I crushed a disc in my back on a bad stretch of highway when the air bladder under my seat blew out. I hauled veggies in a reefer (a refrigerated trailer) from Phoenix to Los Angeles, coal from Shiprock to Page AZ, gasoline from refineries to retail stations in LA, diesel from Farmington NM and Fredonia AZ to Phoenix, water from Flag to a new hotel in Tusayan near the South Rim of the Grand Canyon and logs from the forests around Flagstaff to a lumber mill in Flag. It's one of those jobs that's 99% boredom and 1% terror. Most of these jobs were night or very early morning shifts. While hauling coal across the Navajo Reservation, some of the trucks would hit a herd of sheep, lose their brakes and crash (this was about the time Ed Abbey's "Monkey Wrench Gang" was published). While hauling diesel from Fredonia, I lost brakes going down the steep seventeen mile hill from Flag to Clarkdale, fortunately in the middle of the night – no traffic. The truck speedometer maxed out at eighty miles per hour, and my brakes caught on fire. I wasn't able to stop until I was several miles up the hill past Clarkdale. Fortunately, neither my tires nor the diesel tank caught on fire. After a trip to Farmington for a load of gasoline, I had my drive tires changed, but the mechanic in Flagstaff forgot to tighten the interior dual tire lugs on the rear drive axle. I made it back to Farmington, then about twenty miles from Tuba City, on the Navajo Reservation, I heard a funny vibration and was slowing down to check it out when in the right side mirror I saw a set of duals come loose and slowly crash into the undercarriage of the tank. Sparks were flying everywhere before I was able to stop. The duals took out the tank's safety valve, so I was sure the leak from the ten thousand gallon gasoline tank would cause it to explode. I immediately knew why insurance companies wouldn't give me life insurance. After calling for help on my radio, I watched a few gallons a minute leak onto the highway, from a safe distance, until the company brought another tractor, plugged the leak, then I had a police escort to Flagstaff to dump my load. On a trip from Phoenix to San Francisco, I ran into tule fog just east of Bakersfield, CA and pulled over to wait for it to lift. I wasn't able to go anywhere for hours after it lifted due to a huge pileup of trucks and cars a few miles past where I'd stopped. It's worth paying attention to gut

feelings. While hauling logs, I rolled my truck on a dirt road in the forest when a bee flew in the window and stung me on the neck. The logs came loose and took out the top of the cab, but fortunately I'd fallen into the passenger seat foot well and wasn't injured. Another driver had busted his tailbone getting out of his truck the day before, so the boss gave me his truck. When you drive into the mill, a huge fork lift takes all of the logs off, and then you drive under an A-frame with an electric wench that lifts the log dolly (a special trailer) up high enough so you can back under it and load it on the truck for the next trip to the forest. At the end of my first shift after rolling my truck, I forgot to load the dolly on my truck and drove off, leaving the dolly hanging twenty feet up. Fortunately, the next driver honked at me and I backed up to get my dolly, very embarrassed. I told the boss the next day that he needed to hire someone else. Besides making a lot of money to pay for school, the main advantage was the settlement I got from the water hauling job, where I had crushed a disc, resulting in my first round of back surgery. It was enough money to buy an Avon Adventurer, which Cindy still has. The raft, made in 1972, still holds air, but should be bronzed.

## **Introduction to Geology and Northern Arizona University**

On my first trip though the Grand Canyon I met a couple of US Geological Survey geologists who had recently written a mile by mile geology guide to the Canyon (Simmons and Gaskill). They gave me a copy of their guidebook, but I couldn't read it – I was a pre-med student majoring in psychology. They suggested I take a geology class, which I did as my last class at Stanford. Read the story “The Powell Centennial,” [www.shangri-la-river-expeditions.com/riverstories/1969\\_powellcentennial.pdf](http://www.shangri-la-river-expeditions.com/riverstories/1969_powellcentennial.pdf).

On my first Grand Canyon trip with Bill Breed (1972), he made geology come alive for me. He and Eddy McKee had edited a book on the geology of the Grand Canyon which had been published just before the trip, which I again couldn't read. He also told me to take a geology class, and my term paper on the evolution of the Grand Canyon was based on his book (with some help from my brother Michael). However, I didn't decide to go back to college to study geology until I'd quit working for GCNP as a river ranger. It was one of the best decisions I've ever made. Not only did I meet Cindy, the woman who was my wife for thirty-five years and the mother of my fantastic children, but I enjoyed learning geology so much it became my career for thirty-five years and eventually led to exploring over a thousand miles of the rivers of western China. I got to know some of the most intelligent and stimulating people I've ever met, including USGS geologists, professors, and students who went on to become USGS geologists and university professors (my daughter, Carmen is now working on a PhD in geology). I had to retake some math, chemistry and physics classes as prerequisites, but they were easy after Stanford. My advisor, Stan Beus, was amazingly supportive and my natural math and three dimensional visualization abilities, especially geometry and trigonometry, resulted in the development of a strong interest in structural geology (faults and folds), geomorphology, plate tectonics and seismology. I was even allowed to take a graduate class in structure and tectonics from the seismology professor, Dave Brumbaugh. Cindy and I later took Dave and his family on a San Juan River trip, and when Carmen studied geology at NAU three decades later, Dave sometimes called her Cindy. In the fall of my last year, Stan convinced me to apply for a Master's Degree, which resulted in my going to the University of Utah, another serendipitous decision.

Our mineralogy professor, Ray, was young, friendly (but too friendly with one girl who insisted on dressing like a prostitute, even in the winter, which got him fired). He liked to hang out in a bar near campus on Friday evenings and one night we soaped his windshield with the kind of soap that won't wash off except in hot water. He had to hang his head out the window in a snow storm on the way

to a car wash. The next Monday, he told the class we were all going to get F's unless someone admitted to the prank. Everyone looked at me, so I nervously raised my hand. He told me to stop by his office after class, where he smiled and said I could either pay for the car wash or buy him a beer. He's the one who assigned Cindy as my lab partner, so I bought him a beer. Much better than having to shine his shoes. Cool guy.

One of the required geology classes was paleontology, the study of fossils. The prof, Dale Nations, was running for mayor of Flagstaff at the time and was the classic "absent minded professor." He frequently came to class and announced he'd made a mistake in his last lecture. About the only positive thing I remember about him is that he made us draw fossils and regarded our thousand page textbook as a reference – no need to memorize it. It's really amazing that I ended making best friends with Will Downs, who became a famous paleontologist many years later.

Our NAU profs took us on a lot of field trips and passing a five week field camp was a requirement for graduating with a geology degree. The Colorado Plateau, including most northern Arizona, is a desert, so exposures of bedrock are ubiquitous and the main reason there are so many national and state parks in this region. Our field camp took us to Mingus Mountain near Jerome Arizona (which has many rock of the types like those where I ended up doing field work for my master's thesis at the University of Utah), Phantom Creek near Phantom Ranch in the Grand Canyon (where six hundred million year old sea cliffs are exposed) and the Paria River north of Lees Ferry (where there is a thick sequence of brightly colored flood plain sediment composed of volcanic ash, the Chinle Formation, which is the source of much of the uranium mined in the 1950s). We camped the entire time, and the Paria camp was so beautiful we didn't want to leave it. I disabled one of the vans by pulling the neutral switch wire from the transmission so the engine would run but the van wouldn't move. I replaced the wire when our profs offered to buy anyone who could fix it a beer (I claimed it must have been dislodged while parking it on a sage brush plant). On another field trip I pushed a potato into the exhaust pipe, which was eventually shot out like cannon ball, much to amusement of my classmates. Near the end of the field season I left a raw egg in the springs behind the driver's seat, which eventually rotted and the smell drove everyone crazy until it was discovered.

Not only were the field trips and field camp a lot of fun, but the professors required seniors to do a couple of their own field studies. As a former Grand Canyon river guide, of course I picked rock formations that represented ancient rivers for my studies. I did one on the sedimentology of the Shinarump Conglomerate, a two hundred million year old river gravel exposed at Lees Ferry, AZ, southern Utah (where it's both famous and infamous for its uranium content) and throughout the Navajo Reservation, including the upper Little Colorado. The other study was on the Hermit Shale, a three hundred million year old river flood plain deposit containing plant fossils exposed in the upper layers of Grand Canyon. This required hiking two side canyons I'd never hiked before, Tanner Wash at Mile 24.5 and upper Red Canyon (which forms Hance Rapids at Mile 76 when it floods).

While at NAU, I bought a VW van, just like the one my parents had bought (named Matilda), which had the engine over the rear drive wheels and a high clearance so it could go most places that a four-wheel drive vehicle could, including muddy and snowy roads. I drove it all over the Colorado Plateau, such as to Navajo Mountain to hike to Rainbow Bridge and the Little Colorado on the Navajo Reservation to hike the Salt trail to the Hopi Sipapu (I'd also hiked up from the river to it), where the Hopi believe they entered this world, and the trail to Blue Springs, which provides the water for the Little Colorado when it's not in flood. My van had a huge sun window on top, so my friends could stand up to see the scenery, and I brought along several cans of "spare tire," which were a necessity on the Navajo Reservation. Lin Ottinger, who ran ARTA's car shuttles for our

Cataract Canyon river trips in Canyonlands National Park, also used these in place of jeeps for his back country tours. Years later my favorite radio program was “Car Talk” on NPR. They gave free advice to anyone who called in. One day, a woman called in to complain about why, when she was stopped at a red light, the guys on the other side of the intersection always picked their nose while waiting. The Car Talk guys finally changed the subject when the wife of one of the guys ripped the phone out of his hand and told all of us guys our noses wouldn't be as long as Pinocchio's if we stopped picking them.

During the years I lived in Flag, Will Downs and I became good friends, then he became friends with Cindy, then over the years, an “uncle” to Travis and Carmen. He worked as a paleontological preparator for Bill Breed - one of his biggest projects was removing all of the rock from dinosaur skull about five feet long! He eventually quit and went to Taiwan to learn Mandarin, then years later sent me the first geological map of China (published in the early 1980s). I recently gave it to Carmen, along with an English-Chinese geological dictionary. Will had a big influence on me and my family.

About twenty years after I graduated, I read “Grand Canyon: Solving Earth's Grandest Puzzle” by James Lawrence Powell. Much of the book is about the contributions John Wesley Powell (JWP, a geologist who ran the first descent of the Green and Colorado rivers in 1869) made to the science of geology. JWP helped convince other geologists that the earth was much older than prevailing theories and proposed several ways that rivers could cut deep canyons through mountains and high plateaus. In many ways, I followed in footsteps, often being the first geologist to explore the deep river canyons of western China, though he's a lot more famous than I'll ever be.

### **Cindy and Marriage**



Getting married on the North Rim of the Grand Canyon, 1977,  
looking over at Unkar Rapids near Angels Window.  
Photographer unknown.

Cindy's mother grew up in Winnfield, Winn Parish, Louisiana. Small world.

When I met Cindy at Northern Arizona University in 1975, I was a professional river guide and former ski instructor and racer. Over the ten years since I'd graduated from high school, I'd had a lot of girlfriends. Without exception they picked me – as a river guide, I was strong, well tanned, could tell great stories, led them on amazing hikes, guided them through big rapids, cooked great

meals for them, played my flute and was generally a very attractive guy (OK, I was also on an ego trip). However, to me they were mostly river romances that only lasted a few days or at most a few months. I did visit a few of them after the river season and even lived with a couple of them for a few months, but it didn't work out. I only fell in love once after Kathy (though it was a close call with Beth), and that was with Cindy.

I met her in a geology class – we were arbitrarily assigned to be lab partners. She was really smart, adventurous, slender with a very pretty face, wore long skirts and loose blouses, didn't wear makeup (she was clearly trying to attract guys with her intelligence and skills, not with her body - like many other women), highly motivated (a requirement for a geology degree, which requires more credit hours than any other major), a talented cook, a great dancer, made beautiful pottery, had a green thumb and a knack for both exterior and interior decorating, played the flute and loved to sing and liked a clean house, plus she was a fantastic lover and had just broken up with a boyfriend. What more could a guy ask for?

One of the most fun things we did together at NAU was to go to Little America for their Sunday champagne brunch, then go to the petrology lab and look at thin sections. A petrographic scope is used to look at thin sections of rocks to identify the minerals (like doctors use to look at tissues for cancer, etc). The sections are so thin you can see through the rock. Under cross polarized light, some of the minerals are incredibly beautiful, especially if you're half drunk. After dating for about six months, we decided to live together in an apartment not far from NAU, much to the consternation of her conservative parents, who were also upset that she decided to keep her maiden name after we got married in 1977. Our ceremony, hosted by many friends, was on the North Rim of the Grand Canyon, near Angel's Window, overlooking Unkar Rapids. About fifty people made the long drive, and my mother flew my father and my four youngest siblings out from California. Scotty Imsland, one of my best men, shot an 8 mm movie of the ceremony, and at the end of it her Saluki, Khada, a big running dog, jumped all over her, almost ruining her dress. Our marriage lasted nearly thirty-five years. Getting married in a spectacular place helps couples overcome their differences.

I was still working as a Grand Canyon guide for ARTA when I met Cindy, and decided to invite her on part of one of my trips. She hiked the Tanner Trail (Mile 69) with a pack full of date nut bread she'd baked so the paying passengers would be happy to have her join the trip. She hiked out a few days later at Hermit (Mile 96). She had taken calculus from Harvey Butchart, a famous Grand Canyon hiker and crappy teacher who described his myriad hiking routes by referring to geologic formations, which resulted in a lot of lost hikers who didn't know Grand Canyon geology. If you're into Grand Canyon hiking, his very long biography is worth reading (“Grand Obsession” by Butler and Meyers), but you may prefer to use hiking guidebooks written by other people (and if hiking from the river, buy Tom Martin's “Day Hikes from the River”).

Cindy completed the NAU field camp in June of 1976, while I was managing ARTA's Westwater and Canyonlands river program out of Moab, UT. I invited her up to do a Canyonlands trip, but to keep the main office happy I hired her as a shuttle driver. We had an old school bus and a six-pack pickup with a twenty foot trailer that was eight feet wide, longer and nearly two feet wider than the pickup. She didn't have a license to drive the passenger bus, so I did. The road to the put-in on the Green at Mineral Bottom has several very steep narrow switchbacks, which I had the bus passengers walk down. The trailer, carrying all of the rafts, etc., had wheels that would drop off the road at the inside of each switchback. Drifter Smith, the TL, drove down, but I told Cindy to gun the engine on each switchback on the way up so the wheels would bounce back onto the road. At the top of the switchbacks there's a narrow cattle guard, made of old train rails. On the way up, she

didn't hit it dead center, so the right side wheels dropped over the edge and she gunned the motor, partially ripping the axle off the trailer. By the time we'd driven back to Moab to rent a cutting torch, returned to the pickup, cut off the axle and tied it back on with rope (this was long before straps with buckles were available) and gotten back to Moab, it was midnight. The main office wasn't too happy about the repair cost, and since neither the guides nor I liked the trailer, we parked it and rented one for the rest of the season. I took Cindy out for a steak dinner to celebrate.



Cindy, with her “horn of plenty,” early 1980s (we were remodeling). I decided not to show a picture of her, eight months pregnant, wearing only a T-shirt that said “hard men are good to find.”

From previous relationships, I'd learned it was a mistake to teach my girlfriends to raft, kayak or ski, so I asked friends of mine to teach Cindy these skills, hoping that she'd come back to me (lots of my friends were also attracted to her so this was risky). She came back to me, and we rafted, kayaked, skied, hiked and camped together for our entire relationship. She was really a great partner, except when she was in a bad mood (of course, I was never in a bad mood:). At first, neither of us wanted children – she'd gotten a job as a hydrologist for USGS in Flagstaff – one of their first female hydrologists - and it required a lot of travel. She graduated from NAU three years ahead of me, turning down her acceptance to a Masters program in volcanology at Western Washington State in Bellingham to stay with me and work for USGS. Who knows – she might have been studying Mount St. Helens when it blew its top in 1980. She eventually became one of the few female authors of the Ground Water Atlas of the United States, before retiring and becoming a nurse so she didn't have to travel and could stay at home with our children.



Cindy, working as a guide for ARTA, late 1970s.

Cindy was (is) a competent oarsperson, but, like all of us, had her share of scary experiences. Probably the worst was in Skull Rapids in Westwater Canyon of the Colorado in eastern Utah. Lots of guides have trouble in it. It was really low water and she got surfed into a very narrow chute along the right cliff, then stuck in a boiling eddy behind Skull Rock, which is normally submerged. One of her passengers fell out and disappeared under the raft. Fortunately she was able to reach under and grab him before he drowned.





The author viewing what's left of the brand new I-17 bridge over the Aqua Fria after a hundred year flood in 1979. Photo by Cindy Appel.

Cindy loved her job at the USGS (most of the time). She traveled all over northern AZ, UT, CO and parts of the Midwest, measuring stream flows and water well discharges, making sure automated stream gauges and their satellite transmitters were working and doing field research for special projects. Sometimes I was jealous of her – I was the river person. Fortunately, she got permission to take me with her to measure some amazing floods. I don't remember the exact dates, but in either 1978 or 1979 the Little Colorado (LC) flooded big time – about 20,000 cfs. It's usually dry and only flows about two hundred cfs at its confluence with the mainstream in Grand Canyon. We drove out to the rim of the LC canyon about twenty-five miles west of Cameron on the Navajo Reservation and hiked about five hundred feet down into the canyon to the gauge. Surface water hydrologists use a fish shaped piece of lead hanging on the end of a cable to measure flows (the technical term is discharge). It has a hole from mouth to tail with a little propeller in the middle that is connected to an electrical wire. As water flows through the hole the propeller spins and makes clicks that can be heard and counted in battery operated headphones. The number of counts per minute is used in the discharge calculation. Cindy and I got on the cable car and every ten feet she would lower the lead fish to the river surface, then to the bottom to get the water depth, then about one third of the distance from the surface she'd measure the flow rate. The data could then be used to calculate the discharge and calibrate the gauge. We were about halfway across the river when a huge cottonwood tree hit the cable holding the fish and snapped it. Needless to say our cable car went flying down, then up at a nauseating rate before stabilizing a few minutes later. It's a good thing the cable holding up our cable car was strong enough to handle the stress, or we would have become driftwood. Needless to say, Cindy had no interest in completing the measurement. Cindy later carried another fifty pound lead fish from the rim to the gauge. Another time she was measuring a flood on the Verde River south of Flagstaff from bridge over the river, using a winch mounted on a pickup truck to raise and lower the lead fish. A huge tree hit the bridge, which fortunately didn't cause it to collapse. They had to bring in a big crane to remove the tree. During the same flood event two brand new freeway bridges in Arizona washed away. She has a lot of other crazy flood stories, but you'll have to get her tell them to you.

We were part of four overlapping social groups in Flagstaff – the river running community, MNA scientists, USGS geologists and hydrologists, and NAU students and professors, so we had lots of friends. After Cindy learned to row and run multi-day trips, she started running all women's trips on the San Juan. After running their shuttle one Spring, I kayaked down to their camp, wearing a dress, and crashed their party. I heard more nasty jokes about men than I'd ever heard (which Cindy taught to Carmen), and when I visited the groover (a portable toilet) the next morning, there was a book titled “One Hundred and One Reasons Why Cucumbers Are Better Than Men” - much more fun to read than the one pager I used to leave at the groover, “Ten Reasons Why A Beer Is Better Than A Woman” (but her book also created a long line).

I ran the car shuttle for Cindy on another one of her all women San Juan trips. She'd left Old Blue (our pickup truck) at Mexican Hat. I drove down with Travis, who was about two, dropped off our Plymouth Champ and drove to Clay Hills, the take-out, the evening before. It was dark when we arrived, but it looked like Lake Powell had dropped several feet, leaving a wide beach. I drove out on it and got about fifty feet before sinking into a foot of mud. Travis and I slept in the bed of the truck, then the next morning I found a jeep with a winch, broke into and hot-wired it, pulled Old Blue out the mud and parked the jeep with a ten dollar thank you note. The poor women had to wade through all that mud with all the gear for a multi-river trip while I baby sitted.

When we finally decided to leave Flag in 1979, we decided to throw a big going away potluck party at a ranch on Hart Prairie, on the flank of the San Francisco Peaks north of town, with another couple who were part of our social circle (MNA) and also leaving town - George Ruffner and Gwen Waring. We cooked a whole lamb, three large turkeys and several beef roasts, a friend at a Flagstaff liquor wholesaler donated kegs of beer, others brought ice cream makers and other friends brought their guitars, fiddles and mandolins. An ARTA truck full of gear for a Grand Canyon river trip showed up for a while. There must have been nearly a hundred people. It was a great sendoff, though cleaning up the mess took all of the next day. For Cindy and I, it was the end of one era and beginning of a new one.

When I was accepted to the University of Utah for an MS, Cindy got a transfer to the USGS office there and more or less supported me until I finished my degree and got a real geology job. After six years of marriage and doing lots of fun things together, we decided to start a family. Travis was born in Salt Lake City in 1984. After finishing my MS I got a job with Kennecott Minerals, but by the time Travis was a few years old, I was becoming unhappy with my job and quit. We traveled to Grand Junction, Colorado where there was an opening for a hydrologist with USGS that Cindy was able to get. It was a great location, mostly because it was close to Westwater Canyon of the Colorado and the San Juan River. One of the first things she did in GJ was to put up a refrigerator magnet that said “When God Made Man, She Made a Mistake.” Hopefully that only referred to her former bosses:).

Cindy completed some pretty interesting studies during her career as a hydrologist for USGS, thirteen of which were published, and several of which were the equivalent of a Masters Degree thesis. She was one of the first female professional hydrologists for USGS, and one of three female authors (there were sixteen males) of the Ground Water Atlas of the United States ([pubs.usgs.gov/ha/ha730/ch\\_d/ A](http://pubs.usgs.gov/ha/ha730/ch_d/A)).

We bought an old house with a great view of Colorado National Monument (she named it Paradise Farm). She had (has) a large organic garden, abundant flowers, several fruit trees and raises chickens for organic eggs. People often slow down in the summer as they pass the house to look at the landscaping. We remodeled the house so she could have her own place to throw pots, which she

often gives to charities to sell at fundraisers. For many years I did all of the house, yard and auto maintenance and repair – electrical, plumbing, roofing, tiling, painting, dry wall, carpentry, welding, etc.

Cindy was dog person when I met her. I'm not, mostly because too many of them bark and none of them bury their shit like cats do. She had a Saluki, Khada, who knew I wasn't a fan of his, even though he didn't bark. Salukis were bred by Egyptian pharaohs and have the ego to go with it. On the other hand, he was a garbage hound and it was impossible to keep him out of the kitchen trash. He would even open the cabinet doors under the sink to get to it. I once put a latch on the doors, only to find he could open it. I was afraid to see if he open a lock. He used to run away, I'm sure just to make me spend hours looking for him. It hurts to be outsmarted by a dog, though I must admit he had a regal appearance. I suspect he really was a reincarnated pharaoh. Cindy bought him a female, Tiesha, who would lie around the house, cross her front legs and smile at me while she chewed holes in the wall. Needless to say, I don't like Salukis. Just before Khada died of old age, Tiesha ran away and Cindy replaced her with an Afgan, which looks like a long haired Saluki, also a big running dog (which also doesn't bury her shit). She called her Brandy, who was actually a really nice dog. She didn't bark or run away and didn't eat walls or chairs but liked to lay on the rug and smile with crossed front legs. and I was sad when she died of old age. Cindy had agreed to get cats, and they loved Brandy. One of my favorite memories is watching one of our cats give birth to four bright white kittens in our bed, while we ate popcorn. When another one of our cats had kittens, Brandy would baby sit for their mother. Eventually Cindy gave up on dogs and still has a cat. I've also got some good stories about our other pets (lizards and chickens) that I'll tell you when I write about Travis and Carmen.



Crossing Sheep Creek on backpack trip in Bloody Basin, Arizona, 1970s, with Heidi and Gretel. This is only photo I ever published (in a cat calendar, of course).

We had several cats over the course of our relationship. Most dog people think cats are aloof and you can't take them hiking with you. I'll agree that they're too snooty to play fetch or frisbee, but we took ours hiking and camping with us. We took them up a tributary to the Verde in Bloody

Basin once and they did just fine until guy with a dog came by. It took us hours to get them out of a tree. Another time, we took them camping at the put-in for the Salt River on the Apache Reservation, a geological paradise. When we let them out of the tent to pee, they took off. While we were searching for them, an Apache ranger stopped by, put up a no-camping sign and gave us a ten dollar ticket. I was furious, and after we found the cats, drove back to Flagstaff and went to talk to a lawyer friend (yes, some of them do have friends), only to find out it would cost me at least a hundred dollars to fight the ticket, with no guarantee of success. Our cats could sense that when I needed a little extra love one or both would jump in my lap and purr, just what I needed. It just depends on how you raise them. We named the first pair Hansel and Gretel, but Hansel turned into Heidi after a few months (without sex change surgery). We had a cat door so we never saw their shit. One day we came back from work to find Gretel next to the cat door with a two foot arrow between her shoulder blade and ribs, a victim of some kid using her for target practice with his Christmas present. Fortunately, she survived - they really do have nine lives. After they died of old age, we got Gato and Mittens, named by Travis and Carmen when they were very young. Of course, Gato is Spanish for a cat that didn't even bother to learn English (we had to meow to him), and Mittens didn't have mitten colored paws. Even though we'd had Gato neutered, he was a ferocious fighter, defending all of us from any stray cat or dog that wandered into the yard. His medical bills were also ferocious. Mittens was an incredibly tolerant kitty – she regularly let Carmen dress her up in doll clothes. Gato slept with Travis and Mittens slept with Carmen until the kids went off to college. Interestingly, when it came time to move onto the flip side, each of the cats just disappeared.

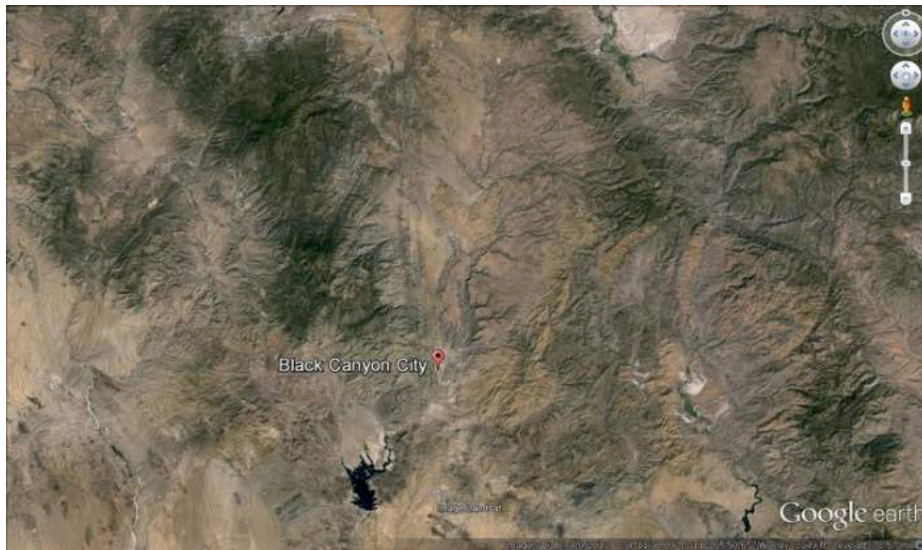
Cindy is a natural nurturer. She has a green thumb, can sense when an animal or child isn't healthy, and is a fantastic mother. I'm convinced there are really three sexes – men, women and mothers. We have two wonderful children and I'm sure her nurturing while they so young that it was hard for me to relate to them is the main reason that everyone who meets Travis and Carmen are so impressed. She was really supportive about taking them on all our vacations and letting them do some things on their own or with me, like first descents of rivers on the Tibetan Plateau when each of them was only sixteen, or letting them travel alone in Central or South America when they were only eighteen, that few other mothers would have allowed. I'll discuss each of them later, but first it makes sense to me to relate some stories about some of my experiences that led to what they're up to now.

## **Geology and The University of Utah**

My choice of universities was based on Cindy's ability to get a transfer to a USGS office in that city. We knew we wanted to stay in the intermountain west and the choices were Carson City NV, not far from the U NV at Reno, Eugene OR and the UO there, and U UT in Salt Lake City. We loved living on the Colorado Plateau in Flagstaff, so before applying I visited the U UT, which was closest to it. I'm not a big fan of cities and wasn't sure I wanted to live in SLC. The great skiing was a big draw, both the major ski areas and the high back country above and between them. Due to my interest in structural geology, I set up an appointment with Ron Bruhn, the structural geology prof there, and was really impressed. His PhD students were doing research in Chile and Alaska, he was an expert on the tectonics of the Colorado Plateau and was involved in setting up a seismic network in western China. Plus, he wasn't Mormon, but the only reason this mattered was that I wanted to know how he felt about living in SLC, which was about fifty percent Mormon. His response blew me away. The great majority of staff and students at U UT were not Mormon – the Mormons were all at Brigham Young University in Provo and the U UT was regarded by them as “Sin City.”

Ron asked me if I had a field study area in mind, and fortunately I did. While at NAU, Cindy and I

had taken NAU students and profs and USGS and MNA geologists on raft trips on the San Juan River in southern Utah, about a five hour drive north of Flagstaff. It's only Class II so pretty much anyone can boat it, plus the geology is stunning, literally. One of the USGS geologists whom Cindy had invited was Gordon Swann, the Chief at the Flagstaff office, and his wife Jody, the librarian there (and a really amazing person - she knew more about the topography of the Moon than almost anyone I've ever met). Gordon had been an alternate astronaut for the first Moon landing in 1969 and had trained the guy they selected to drive the Moon rover, using the San Francisco Peaks volcanic field near Flagstaff to learn how to pick rock samples to be analyzed when they returned (miraculously). Gordon even had a Moon rock mounted in a sealed glass jar in his office, and thin sections of Moon basalt (black lava) that I could look at in a petrographic microscope. Gordon and Jody and Cindy and I became fast friends for many years.



The Shylock Shear Zone (the north-south lineament in the center), with Lake Pleasant and the Agua Fria at the southern end and Jerome, AZ at the northern end. Google Earth image.

When Stan Beus at NAU convinced me to go for an MS, Gordon arranged for funding for my field and lab work if I could talk my advisor into letting me study the Shylock Shear Zone north of Phoenix, AZ, which is a fault zone that is eighty miles long, a mile wide and very distinct on Landsat photos. There was some controversy about its age and movement direction, but it was clearly in very old metamorphic rocks. When I explained this to Ron, he suggested that I add Mike Bowman, a metamorphic petrologist (we called him Professor “Castles in the Sky”), and Dave Chapman, an expert on global heat flow, to my committee, and get permission to pay their costs to visit the area. Gordon agreed, and after spending a day looking at the fault zone and some nearby copper deposits and hot springs, they agreed to accept me into their MS program. On the drive back, I convinced them to stop at Lee's Ferry, where Grand Canyon river trips put-in, where much to my surprise Georgie White was rigging for a Grand Canyon trip. When I reminded her that I'd met her below Crystal Rapids on my first trip in 1969 (the Powell Centennial trip), she remembered me. As usual, she was wearing a leopard skin swim suit and drinking Coors. She was one of pioneers of commercial river running in the Grand Canyon (starting in the 1950s) and many of her passengers were instrumental in stopping the US Bureau of Reclamation from building dams there. Don Brigg's famous film “River Runners of the Grand Canyon” ends with a clip of her 80<sup>th</sup> birthday at the Hatch warehouse in Marble Canyon, near Lees Ferry. Cindy managed to get a transfer to the USGS office in SLC, so we moved there in 1979.

In another odd coincidence, Ron mentioned that he'd contracted with a bush pilot while doing field work in Alaska. It was Phil Shoemaker, with whom I'd worked with at MNA and hiked Bass Canyon to Bass' campsite in the Grand Canyon (a few miles up Shinumu Creek at Mile 109). Bass was an asbestos miner in the early 1900s, shipping asbestos fibers to Paris for use in fire-proof theater curtains. My brother David lives there – it's small world in many ways.

Of course, in the winter when temperatures for doing field work in the AZ desert are comfortable, I had to take (and teach) classes. After sunburning the bottom of my feet right through my boots the first day of field work, I learned to do my field work from dawn to about 10 am, then from about 5 pm to dusk, spending the day in an air conditioned motel room reading geological studies of other shear zones. After my first year of classwork, Ron arranged for me to be a teaching assistant (TA) for his structural geology lab classes, which eventually expanded to mineralogy, groundwater hydrology, the geology of Utah and economic geology lab classes. Teaching is an excellent way to consolidate knowledge, though it can be frustrating as well. In one of my structural geology labs, I noticed two final exams with exactly the same drawings and answers, and they matched my key. I showed them to Ron, who agreed that they had somehow copied the key and we suggested to the dean of the department that we should fail them. A few days later Ron told me our request had been denied – the fathers of the two students (both Iranians) were large donors to the University, and that took precedent. Hard lesson. If you want get a passing grade in a structural geology lab and don't feel like studying, just ask your rich parents to make a big donation to the university. Otherwise, I had a great time at the U of UT and met some incredible people. For instance, I took three classes from Lee Stokes, the grandfather of Utah geology and a walking encyclopedia. He became one of my mentors – always stressing the importance of considering the big picture when focused on details.

Another one of my profs had been instrumental in the use of mass spectrometry to isolate isotopes of sulfur in sulfide minerals samples. Sulfur has two isotopes (32 and 34) - same number of protons but one has two more neutrons so it weighs more. The lighter one is more prevalent in meteoric (surface) water, the heavier one comes from the mantle (tens of miles below the surface). He used mercury to help separate them and eventually became known as the “Mad Hatter,” from Alice in Wonderland (mercury used to cure beaver skin top hats worn by the London upper class caused dementia). He agreed to let me be his lab TA, but I often ended up giving his lectures because he'd forget to come to class. Reminds of the movie “The Absent Minded Professor.” The class was called “economic geology” but was really about learning to identify minerals that were mined for their value, their genesis and their association with other minerals. I didn't learn about the economics of minerals like copper, gold, silver, molybdenum, lead, zinc, uranium and many others until I went to work for Kennecott, one of the largest, oldest and most successful mining companies at the time. “Ore” is a rock that contains economically valuable elements or molecules that can be extracted from the ground at a cost that is less than the price someone will pay for it. So, you need to know mining, milling and all other costs associated with extraction, and to be able to compete with other producers as price varies. Consequently, a rock may be called ore depending on the size of the deposit (economy of scale), demand (a function of the economy), and the production cost of other producers. It's not something taught in an economic geology course, though I'm sure it is at mining colleges. I knew about the stock market, but had no idea that huge producers and buyers use the futures market to hedge, a real eyeopener. If your production costs are above the industry average and prices drop, you're out of business. This was an easy concept to grasp – the same is true of any business, including whitewater rafting. Just as a hobby, I still go online to check charts of metal prices.

I had many opportunities to attend lectures sponsored the geology department at U UT. One that sticks out in my memory was given by Charles Hunt, a USGS geologist who had written the definitive paper on the evolution of the Colorado River (included in the Powell Centennial Professional Paper 669). He's also a bit of a prankster – one April Fools Day, he convinced the Salt Lake Tribune to publish a story about a sighting of a Russian submarine in the Great Lake. Apparently there was a very long and large underground river between the California coast of the Pacific Ocean and the Great Salt Lake. Needless to say, the article generated more letters to the editor than the newspaper could publish.

One of Gordon's requirements for funding my MS was for me to give a presentation at the USGS office in Flag. He'd also requested that I get a permit and be a guide on a USGS research trip in the Grand Canyon in the summer of 1981. It was a really fun trip. Although I'd learned the geology of the Canyon over the years, it was mostly from books and articles I'd read. Hanging out with the guys who wrote the articles, like Ivo Lucchitta and his wife Barbelle (who'd recommended Cindy for her first job as a hydrologist for USGS) and George Ulrich, a volcanologist who later fell into a molten lava pool at Hawaii Volcanoes National Park while taking a sample and survived, was a real education. George bought a raft and learned to row whitewater, as did his son Miles. On the USGS trip, Gordon, Ivo and others showed me shear zones like the Shylock and we pondered the relationship. After we rowed the Canyon, we motored across Lake Mead, which is pretty boring after all the rapids, so I hung one of the wooden kitchen tables from a fifty foot stern line and let myself out on the rope to stand on the table and surf the motor wake. After a while I had to take a pee, and unbeknownst to me, Gordon snapped a pic. When I went to Flag to make my presentation, Gordon took out my first pic (a Landsat photo of the Shylock Shear Zone) and put in the pic of me peeing while surfing. I'd pulled lots of pranks in my time, but this was one the best anyone had pulled on me. I was speechless - literally, while everyone laughed. Gordon finally switched to the Landsat photo, but it took me a couple of minutes to get back on track with my presentation. But Gordon wasn't done with me yet. On a hot summer day at the Cisco take-out after a Westwater Canyon river trip, while Gordon and I were sitting in the shade of a Tamarisk tree waiting for the shuttle drivers to return, he passed me his water bottle. Of course, thinking it was water, I took a big swallow. It was Ever Clear, 90% alcohol. Apparently, everyone was in on the joke because they laughed and clapped while I puked. Good thing I wasn't the designated driver!

While finishing up lab work for my thesis, a binocular microscope I had been using was stolen and I was accused of the theft by Bill Nash, the department chairman – with virtually no proof. Cindy and I had taken him and his wife on a San Juan River trip and we had a good relationship. I was flabbergasted. If I were going to steal a microscope, it would have been a petrographic scope, which was much more useful and valuable. Bill was going to hold up my degree until I returned the scope, which I couldn't do since I didn't have it. Fortunately, the university had an ombudsman to resolve issues like this. The police eventually determined that a maintenance worker had stolen it. Bill eventually divorced his wife, had a sex change operation and changed his name to Barbara (not my fault).

Being the TA (teaching assistant) for an economic geology lab (studying minerals of economic importance, such as how to find gold, copper, etc.) opened the door to my career in the mining industry. Geoff Ballantyne, the TA when I took this class, recommended me to be the TA the next year. He went to work for Kennecott Minerals, the international mining company that owns the Bingham Copper Mine near SLC, in their international exploration group. Even before I defended my MS thesis the following May, Geoff arranged a job interview for me with the company. I got the job and within a week after graduation I was on my way to the Columbian Andes to explore for gold and copper.

## **My Experiences as a Geologist in the Mining Industry**

“There's gold, and it's haunting and haunting, it's luring me on as of old; yet it isn't the gold that I'm wanting so much as just finding it.” Robert Service

### **Gulf Mineral Resources**

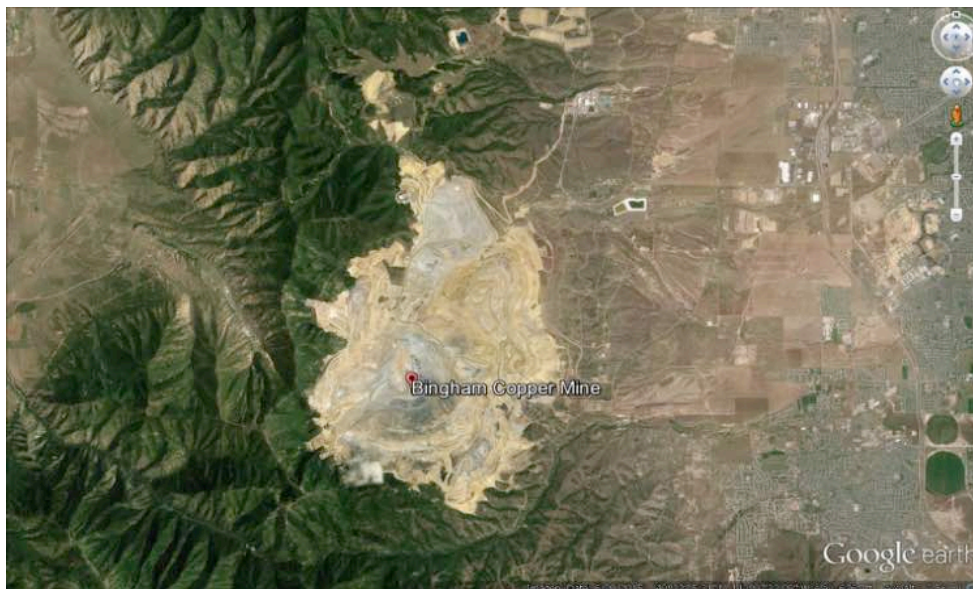
I finished the fieldwork for my MS in the summer of 1980 and could finish the lab work and writing during the school year, so I decided to get a job in the mining industry for summer of 1981. I was hired by Lowell Braxton, chief geologist for the SLC office of Gulf Minerals, a division of Gulf Oil. He sent me up to the Spokane Indian Reservation in Washington State to look for uranium. There was an operating uranium mine there - the Midnight Mine. It was located in a skarn (limestone that had been cooked by a large granitic intrusive), and my job was to find another one just like it. I was working under a more experienced geologist, Joe, who had already found an area worth drilling. Joe was lazy, and just sat in his pickup and read junk novels while the drillers worked. I spent the first month driving around the margins of the Idaho batholith (the large granite intrusive), taking sand samples from creeks that drained it, living in a cabin on a beautiful lake and fishing in the evenings. What a life! However, I made the mistake of collecting a very high grade sample of uranium ore at the Midnight Mine, then eventually realized that keeping it my cabin was hazardous to my health. About halfway through the summer, Lowell called and told me Joe had quit over a problem with the drillers, and asked me to take over the drilling program. I'd driven semis and knew something about motors and nothing about drilling, but agreed. It was another eye opener.

There are two main types of drills – core and reverse circulation rotary (RCR). The oil industry uses RCR, which uses compressed air, because it's faster and cheaper, but all you get at the surface is mud and ground up rock. Core, which uses a diamond bit, provides solid cylinders of rock, which have the most detailed info about subsurface geology, and that's what Gulf Minerals was using. Being a geologist requires a fascination with 4D puzzles – the three dimensions of space, plus time, up to billions of years (sort of like 3D Tic Tac Toe, which used to be one of my favorite games). Unlike the kind of puzzle you buy in a box with a picture of the finished puzzle on it, a geological puzzle starts off with a picture of the surface, and you have to guess what's below. We can make some good guesses based on topography and the relations between different rock types on the surface, but we need to drill to confirm the guesses and take samples for chemical analysis. It's a continual guessing process, however. We know from drill results where certain types of rocks are located, so it's like knowing where a few pieces of the puzzle are located without knowing what the rest of the picture looks like. The more we drill, the better the guesses get to be, but drilling is expensive so at some point we either give up and move on, or take a big gamble, start a mine and hope we're right.

I got along with the drillers just fine and learned a lot from them. Sometimes the drill bit would get stuck and they'd have to try all sorts of tricks to get it free (later, on one of my drilling projects in Montana, the bit got stuck, we lost it plus a thousand feet of drill steel, and had to drill a new hole – very expensive). Joe had left a map of proposed drill sites, but hadn't finished building roads to them, so I learned how to do this also (and to reclaim the roads and drill sites), plus I'd never logged core, which was really interesting. Gulf had also hired a geophysical logging company, which dropped a probe containing radioactive Cesium on a wire into the finished hole to measure all sorts of parameters after the drill pipe had been pulled. We could match up their logs with the core logs for a detailed understanding of rocks the drill had cut through – things like radiation, permeability and porosity. These holes were typically five hundred feet deep. The deepest core hole I've ever



drilled was fifteen hundred feet. The last drill hole was a doozy. The bit got stuck a lot, and when the geophysicist dropped a radioactive Cesium probe in the hole after we'd removed the drill steel, it also got stuck. After a day of failing to get it out, the geophysicist notified his boss and I notified Lowell. The probe was below the water table, and everyone was worried about contamination of the groundwater with radioactive Cesium, which is highly toxic. Within two days there were six honchos on site to give advice, including Lowell, the geophysicist's boss, a guy from the Spokane Indian Council, a guy from the EPA and two other alphabet agencies. Nothing was working. Finally the driller suggested cutting the cable to the probe, feeding it to the top of the drill rig and then feeding it up through each ten foot length of drill steel, using the steel pipe to free the probe, and using the winch on the drill rig to pull the probe out because it was much more powerful than the one on the geophysics rig. It was a last resort. His helper had called in sick that day (probably a hangover), so I volunteered to hold the cable while he fed it through each piece of steel, then threaded it into the next one, about fifty times. Took all day, but it worked. We had a big celebration that night. Over the years, Cindy and I took Lowell, his wife Jean and his kids on several river trips. His son, David (now a honcho in a big international mining company, based in London), proposed to his wife, Alicia, also a geologist, on one of our Grand Canyon trips, and, like Cindy and I, they decided to have their wedding ceremony on the North Rim of the Grand Canyon. They now have a son, Tobias, who of course is interested in geology. Lowell and some other friends (including Frank DeCourtin, the curator of the geology museum at the University of Utah) and I used to brew our own beer in Salt Lake, then have beer tasting parties. Lowell and his family have been good friends of mine for decades.



Kennecott's Bingham Copper Mine, now over one hundred fifty years old, was once the largest in the world. Several cubic miles of rock have been mined.

Google Earth image.

## **Kennecott Minerals**

My three years working for Kennecott were a whirlwind. I visited the exploration offices on the seventeenth floor of the Kennecott building in downtown Salt Lake City a week before I started working for the international exploration division, and the place was a beehive. However, when I returned after my first trip to Columbia a month later, it was dead – lots of empty offices. My supervisor, Geoff, explained that the company had just laid off more than half of the exploration geologists – most of them near retirement. I later learned Kennecott often did this to avoid paying

retirement – the state (i.e. taxpayers) pickup up unemployment costs. Not a good sign for a career move, but I was committed.

A lot of my friends were shocked that I would go to work for such a “dirty” industry, but I'd learned that the industry was really trying to clean up its image, not to mention that the EPA was creating new regulations almost monthly that were forcing it to clean up its messes. The industry was hiring young geologists with an environmental perspective to help guide them, and I was one of them. On the other hand, my superiors emphasized that the US would not be the great country it was and would not have been able to support Britain and France in both WWI and WWII without a thriving mining industry. Think about all the ships, tanks, guns and bullets made of steel and bombers made of aluminum. Basically, we all rely on the products of mines to maintain our standard of living – the industry wouldn't exist without you, and you'd be living in the Stone age without it. They also pointed out that urban and agricultural runoff contained thousands of times the amount of pollutants derived from mines (though many of these pollutants originally came from mines and other extractive industries such as oil and gas). I had the opportunity to convince my superiors to drop several environmentally sensitive projects and avoided initiating environmentally controversial projects. One of these projects was a copper-silver sandstone hosted deposit underneath the Frank Church Wilderness Area in Idaho. Another was an iron deposit underneath a river in Michigan. There was major environmental opposition to both of them, which was causing unknown costs (time and money are the same to mining companies, a lesson I learned running river companies, an advantage I had over my co-workers) and these projects were causing serious damage to Kennecott's image as a responsible company. One of the really cool things about working for Kennecott was the opportunity to take short courses. I took several of them – one on legal forms of industrial espionage, one on discounted cash flows for estimating the profitability of mineral resources, one on geostatics, one on how to write a feasibility study and one on using certain kinds of satellite images for mineral exploration (using local variations in rock, soil and plant reflectance of various wavelengths of light). Plus, working as a field geologist gave me a chance to travel to remote regions.

For the first eighteen months, I spent every other month in Columbia (this was hard on Cindy), then two weeks in SLC writing reports, with two weeks off before going back to Columbia. I'd learned Spanish in elementary school, German in middle school and French in high school, all romance languages, so re-learning Spanish turned out to be easy. I was pretty fluent within six months, mostly because I liked to go to a local bar in the evening for a beer and spicy Columbian food, where I met Maria, the teenage daughter of the bar's owner, who was his waitress and a high school senior who was learning English. So, after dinner I'd teach her English, she'd teach me Spanish, and on weekends she'd teach me Salsa and Cumbia dances. Maria, some of her younger brothers and sisters and her parents and I became good friends. Her mother made chicken stew by chopping up the whole bird, head, bones, feet and all (and adding the blood) – just like rural Chinese cooks, as I learned a few years later. Maria had an uncle in Medellin and got permission from her father to ride with me there on one of my trips to buy dynamite and some other things we needed for building drill pads. While there, she talked me into taking her bowling with some of her cousins who were also learning English. We had a blast. If I hadn't been happily married and had been fifteen years younger, I could have fallen in love with her, but instead of two kids I'd have ten - she was a good Catholic.



El Carmen de Atrata (the name of the river), from a helicopter, 1983.  
Our apartment was across the square from the church.

I worked with a couple of Colombian geologists who spoke some English and a Colombian mining engineer who didn't speak any English at all. None of Colombian miners did either, so I brought a pocket dictionary with me everywhere I went. Columbians had first discovered a copper deposit near El Carmen after finding a gold gossan on the surface. A gossan is where all of the sulfide minerals (including copper) had been oxidized and carried away by acid ground water (from decaying vegetation), leaving insoluble metals like gold. I was exploring their tunnels in the gossan one day when I noticed dirt falling, everywhere. The miners and I got out just before the mine collapsed. Scary, but I continued to explore and work in underground mines for the rest of my career. Our exploration target was familiar to me from books and lectures, but I'd never had field experience looking for massive “black smokers,” technically called Cypress type copper-gold deposits, named after their discovery on the island of Cypress in the Mediterranean Sea. They form along sea floor spreading centers, and the theory was that the small copper-gold mine near El Carmen in the central Colombian Andes where we were based had been scraped off the sea floor during subduction and pushed up to six thousand feet over tens of millions of years, then exposed by erosion. Our job was to find a string of these deposits big enough for Kennecott. They're pretty high grade, but each one is relatively small, so the hope was that there were several more nearby in the mountain range.

First we had to make topographical maps – the Colombian government hadn't done this as of the early 1980s. I knew from classes how to do this, but had no idea how hard it was to make them in a rain forest. It took three month long trips to finish the job, using aerial photos and mountain top survey points. Climbing to the mountain tops and clearing huge trees to make the survey points was really hard work. The next step was making a geologic map, which, since this area was a sub-tropical rainforest, required climbing up creeks, where the ten feet or so of soil had been eroded to bedrock, simultaneously taking sand samples from the streams and every little tributary – another

three months. I panned the sand samples to concentrate them, put them in little white sacks, and was routinely searched for cocaine every time I returned to the US with a thousand of them. US Customs hated me. I quickly learned to schedule about six hours between my arrival in Miami and my departure to SLC. Scott Imsland's brother Craig, who had a job repairing sails, made me three heavy duty waterproof bags to carry the sample sacks. Cindy still uses one of them as a pump bag for river trips. Once we had identified potential zones of mineralization, we used a geophysical technique based on the fact that copper sulfide is more electrically conductive than non-mineralized rock. We drove electrodes into the soil every 100 meters for a kilometer along ten lines to make a grid, attached voltmeters to each and pumped a high voltage charge into the ground (called induced polarization, or IP) from the electrodes at the end of each line, then made a conductivity map. Where we found high conductivity, we took soil samples to test for the presence of mercury sulfide, which commonly occurs with copper deposits (to confirm that the high conductivity zones contained sulfides and not just salty water, which is also conductive), and made a geochemical map. Using these maps, we identified drill sites, which had to be constructed by hand. Rather than build roads which would wash away in the daily rainstorms, we climbed into the mountains, chopped down huge trees and built a drill pad big enough to land a helicopter with a portable drill rig. Finally we started drilling. Unfortunately, the wife of our Colombian partner was kidnapped and held for ransom half way through the drilling program. Kennecott paid the ransom and canceled the program. Fortunately, I'd fallen in love with the mine manager's two year old daughter, whom I would occasionally babysit, and told Cindy I was ready start a family. Of course, our first child was a boy so we decided not to name him Carmen, but that's how our daughter got her name.

El Roble ("The King"), the copper mine, was later purchased by a small Japanese company, Atico, and reopened in 1990. It is the only operating copper mine in Columbia and also produces gold and silver, though at about ten percent of Kennecott's minimum rate.

This is pretty gross, so if you're squeamish skip this paragraph. Geoff arranged for me to sample a copper exposure he'd heard about on a small river in the Andes somewhere south of El Carmen. There was no road to it, so we rode horses for four days each way. Along the way we crossed areas where the locals were clear cutting and burning the rain forest for agriculture, much as you see in movies today, and stayed in homes on stilts with pigs and chickens below us (also common in rural China) and ants everywhere (in China they've eaten all of them). While riding the horses, I was bitten by horseflies hundreds of times – it was a miserable ride. By the time I returned to the US, all of the bites except one had healed and it was beginning to itch like crazy and leak a clear fluid. The bump on my wrist kept growing, so I finally went to a doctor at the U UT medical school, which had become world renowned for its knowledge of rare diseases due to the Mormon Church's practice of sending missionaries all over the world. After telling him about my experience with the horse flies, he left me for a few minutes and came back with a medical text about tropical diseases and showed me pictures of what I had in my wrist – a bot fly larva, though it turned out to be past the larvae stage. They typically bite horses and lay their eggs in the wound, and the fly must have thought I was a horse. He suggested cutting it out, as they can carry tropical diseases such as typhoid, and asked me if it was OK if a resident practiced on me. I was a little nervous because the cyst was right on top of the two tendons that operate your wrist plus the arteries that suicidal people often cut, but agreed. It was a mistake, but for a different reason. When the resident stuck a needle with an analgesic into my wrist, he punctured the cyst and the analgesic squirted out of the hole in it, spraying his glasses with bot fly parts. The fluid also got into my wrist tissue, and I had a severe allergic reaction that lasted a week – my arm was a big as my leg. The doc had to wait to cut out the cyst, but while waiting, fly parts were slowly ejected by my body through the hole in the cyst. Reminded me of the movie "Alien." Fortunately, the fly didn't carry any tropical diseases and Geoff gave up on the project.

When I was living in El Carmen, the government of Argentina decided to take the Falkland Islands back from the British. The Columbians supported Argentina, the US supported the British, and for a while I was persona non grata, until I agreed the islands really should belong to Argentina. British ownership was a relic of their old days as an imperialist nation.

My next project was also in Columbia, a gold placer (gold particles eroded from deposits in the mountains are concentrated by streams and rivers due to their high density) along the Cauca River near where it flowed into the Caribbean Sea. Geologically, this was easy – all nearly flat ground with roads or no need for them, so it was easy to make maps. Politically it was a nightmare. The Columbians had had a civil war for twenty years which ended with US intervention in 1960. The compromise was that every four years the government would alternate between liberal and conservative until 1984, when I was drilling for placer gold along the Cauca River. At that time there would free elections. I could get drilling permits from the liberal government at the time, but conservative landowners wouldn't honor them without a bribe. Kennecott wouldn't pay the bribes, but would pay for barbed wire and build fences if the landowners agreed. Geologists hate fences, but that's what I did. One of the local ranchers, Jorge, in addition to making me build a fence for him, decided I needed an education, so I also had to agree to go the local fish market every Friday afternoon (as Catholics, their traditional meal on Fridays) and have dinner with his family, plus I had to go to Sunday Mass with them. He introduced me to some really interesting people, such as their priest and the police chief (a good thing) and gave me a book, "One Hundred Years of Solitude" (written in Spanish by Gabriel Garcia Marquez, the first Columbian to receive the Nobel Prize for Literature) and told me he'd help me read it. I thought I could read and write Spanish pretty well until I tried to read it. After I left Columbia I bought an English translation. Jorge was far more intelligent than I expected for a rancher. Kennecott was a century year old company with hundreds of file cabinets covering thousand of old projects in dead storage. Jorge told me his father had told him that a big American company had mined the Cauca River gravels for gold in the 1920's or '30s, and asked if had been Kennecott. On my next trip back to the US, after buying a cup of Coca Cola for the Customs agent in Miami (a joke between us – Coke used to contain cocaine, hence its name) and dropping off all of my little white sacks at the assay lab, after I arrived in SLC, I went searching for old files. Sure enough, after a couple of weeks of scanning through thousands of old files, I learned that I was drilling areas that had already been mined by Kennecott, but floods had erased the evidence. On my next trip back to the Cauca, I was waiting by the drill rig for Geoff to arrive by helicopter give him the file when he, Frank Joklik (Kennecott's president), and Gerry Vanderhusen (the vice president of exploration) got out with Geoff. Geoff hadn't told me they were coming. After a brief introduction (I knew who Joklik was but had never met him), Gerry and Geoff got in my jeep and took off to look at previous drill sites (and fences). I was hanging out by the drill rig when Joklik came over and asked me to follow him. He'd heard I'd asked to access the old records and only asked me one question: has Kennecott already mined this? I said yes and gave him the file I was going to give Geoff. He said thanks and went back to the helicopter to wait for Gerry. Needless to say, Geoff and Gerry hated me after that. The Cauca program was canceled, I got transferred to the domestic exploration division and Geoff got transferred to the Bingham Mine. Gerry retired, and I got promoted. Within six months I had a six million dollar exploration budget and was working for the vice president of mine development, not the new exploration VP. I wasn't very popular with the other exploration geologists, but it didn't matter. About a year later Kennecott was bought by SOHIO and the exploration division was taken over by Sohio's oil exploration division, at which time nearly all of the exploration geologists quit, including me. I had been called a brown-nosed intrapreneur too many times, and finally realized I wasn't cut out to be an employee. That's when Cindy and decided to move to Grand Junction.

My first domestic project was to explore for gold in the Oregon Basin and Range, just north of Nevada, where a lot of old gold mines had operated. I was told to hire a student at one of the Oregon colleges who was working on a MS thesis in this area to help with field work. I only found one, a young woman at the University of Oregon in Eugene, and hired her for the summer. When the new VP of exploration found out I'd hired a woman he came unglued – Kennecott didn't hire female geologists. Fortunately, the VP of Human Resources agreed to keep her on – Kennecott didn't need a sexual harassment suit. I don't remember her name, but I do remember that she did a good job (I made sure she could change a flat and figure out how to get her pickup unstuck), but at the end of the season all gold exploration in Oregon was terminated by a new state law later that year. We hadn't found any gold anyway.

Kennecott also sent me to the Salton Sea in southern California to help with a geothermal drilling program. It was a joint venture with the USGS and DOE. There was an existing geothermal operation in the area but it was privately owned and the owner wouldn't share any information. We drilled a ten thousand foot hole and found lots of hot water, but it was saturated with various types of salt, including lithium salts. Separating the lithium salt was expensive and there was so much of it that it would crash the price if we tried to sell it. Mostly I remember that even two miles below the surface we were drilling in red silt and sand, just like that carried by the nearby Colorado River.

My next project was trying to figure out the structure of a large coal seam in southeastern Washington State. Kennecott had acquired the deposit and was drilling some shallow (less than two hundred feet) caisson holes (ten feet in diameter, such as for bridge supports) for bulk samples, based on earlier core drilling. The geologist in charge didn't have a background in structural geology, so I spent several months plotting drill intercepts of the seam on cross sections (a vertical view) in various orientations. Before I could finish, SOHIO bought Kennecott and their geologists took over the project. I don't know what happened after that.

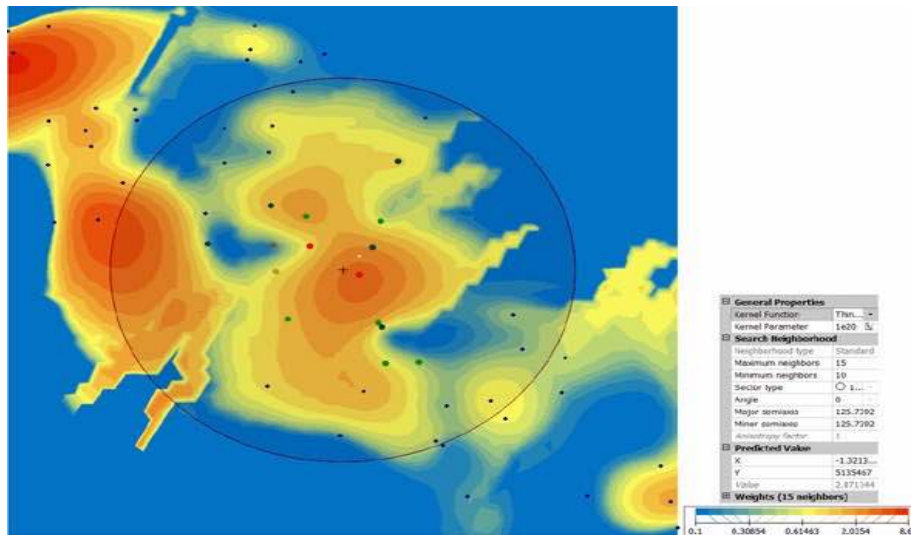
One of my last domestic projects for Kennecott was to look for silver on the north side of the Bingham Copper Mine, just west of Provo, UT (one of the first in the US, also one of the largest – a half mile deep open pit). There were very high grade historic silver mines east, west and south of the copper mine, but none on the north. The chief geologist at Bingham was friend of mine, and he convinced me to use some of my budget do some drilling in Bingham Canyon to see if the silver zone had been faulted down. I hired Ron Bruhn to help me review all of the structural data in that part of the Oquirrh Mountains, and he concurred that there must be a buried fault, and that it had a down to the north throw of about three thousand feet. We drilled three 3,000' RCR holes and found sniffs of silver but none of the large veins that characterized the historic mines. We decided that the veins had might have been rotated by faulting and could be oriented at high angles (sixty degrees or more from horizontal) and vertical surface drilling might miss them. Kennecott had just completed a twenty-four foot diameter by three thousand foot deep shaft in Bingham Canyon on the north side of the pit to develop a high grade copper zone beneath the main mine pit, and I got permission to drill a near horizontal core hole from the bottom of it. We cut a drill station off to the east side of the shaft and lowered a small portable drill rig to the shaft bottom that could drill a thousand feet. After about ten days of drilling, we hit a fault zone that was filled with water, which had so much pressure that it pushed the drill steel back and knocked over the drill rig. The drill hole became a water spout which would have flooded the shaft if the water pumps had been swamped out, but fortunately they had been mounted about ten feet above the bottom. No one was hurt but the drill rig was history. After the water subsided and was pumped out, we brought in another rig and started drilling again. On the other side of the fault we hit a fifteen foot wide quartz vein containing hundreds of veinlets of massive silver bearing minerals. The core was so impressive that geologists came from all over the US came to look at it. Unfortunately, SOHIO decided not to mine it at the

time. As far as I know, the silver deposit is still there. This project forced me to learn a lot about the 1872 mining law, which was largely based on mineralized surface exposures. Claiming ownership of a vein that wasn't exposed wasn't covered by the law, so we had to justify our discovery using a geological theory that the same mineralizing event that produced the copper deposit and surrounding silver deposits had also produced the silver vein we'd found from underground drilling - a new precedent.

One of the most important things that I learned working for Kennecott was the importance of good communication between geologists, mining engineers, metallurgists, lawyers, accountants and company executives. Without this, even really great projects can fail, and equally important was that other employees with lots of experience but without a college degree were worth listening to.

### **Win-Eldrich Mines Limited**

While Cindy was settling into her new job at the Grand Junction USGS office, Ron Perttu, my former supervisor at Kennecott, and I began a partnership that lasted a few years before blowing up (not quite literally). While working for Kennecott, we had found or heard of quite a few potential mineral deposits that were too small for Kennecott but perfect for a small company, and we knew of many small companies listed on the Vancouver Stock Exchange that were looking for new deposits. We contacted several of them and finally made an agreement with Don Busby, a South African gold miner who had become a well known promoter in Canada. He fronted us some funds and we began to acquire the deposits (we called them Properties), then would sell them into Don's Canadian companies for stock and consulting contracts. The best one, the Ashdown Mine in northwest Nevada, was owned by two large mining companies, American Copper and Nickel (ACNC), a subsidiary of International Nickel and Copper, and Outokumpu, a Finnish steel producer, but it was too small for either one of them, much less two of them. Ashdown was an historic underground gold mine, but had shows of high grade molybdenum, which is used to make stainless and tool steel (and most of your "silverware"). ACNC and Outokumpu had drilled about two hundred holes and a ten foot square by three thousand foot long decline and taken a twenty-five hundred ton bulk sample of the ten foot wide high grade moly vein they had discovered from drilling before deciding to sell out when moly prices collapsed due to Chinese dumping. After a few years of drilling they estimated there were only about 45,000 oz of gold and 2.9 million pounds of molybdenum, less than ten percent of what they were looking for. Big companies need big mines, so they sold it to Rauno and I. His parents were Finns, so he negotiated with Outokumpu while I negotiated with ACNC. Don Busby wasn't interested in such a small gold mine or in moly, so, we shopped around and finally found Win-Eldrich Mines Ltd - WEX), a Toronto based company listed on the Vancouver exchange, which agreed to take on the project.



Moly grade times vein thickness map from drill hole data Ashdown using ARC GIS statistics for mine design, 2011.

WEX was controlled by Reuben Brant, a Canadian who owned a famous stock brokerage in Toronto with some pretty impressive clients. One of them, an American, Ed Gaylord, was a billionaire who owned the Texas Rangers, the Grand Old Opry and several publishing companies world wide. On Reuben's advice, Ed had invested in the Hunt brother's silver mining company in Nevada in the late 70's and made tens of millions when silver went from a few dollars per ounce to \$50/oz a few years later (due to the Hunt's attempt to corner the market). We sold our interest in Ashdown to WEX for stock, a small royalty and consulting jobs. Reuben convinced Ed to visit the mine. He arrived in his own jet with his wife. The only place to have lunch in the nearest town, Denio Junction, was a bar with one slot machine. Reuben discretely mentioned to me that Ed's wife liked to play the "one armed bandits" and suggested that I talk the owner into rigging the machine so she'd win a hundred dollars (for which he was secretly reimbursed). If course, she supported Ed's decision to fund a drilling program to see if we could increase the gold reserve to over one hundred thousand ounces. It's really amazing how much influence wives have. Gold was trading at \$500/oz and projected to go higher. After two years of drilling, we doubled the gold reserve, but gold prices went down, so we had to put the project on hold. Moly prices finally went up about ten years later (during which time Rauno and I split up and I had hung out my own shingle), and Rauno convinced WEX to enter into an agreement with a Nevada mining company, GPM, to develop the moly resource. At the time, their president was Steve Craig, who had worked for Kennecott when I was there. He's also a kayaker, and his family and mine had become good friends. Rauno was working with Steve, but one of GPM's directors, DC, ousted him and negotiated the deal. It was a bad one for WEX so I resigned. Reuben eventually convinced me to return to deal with DC, who by then was attempting to take over WEX. I quickly learned that DC was the most vindictive, unscrupulous, devious and backstabbing person I'd ever met. The result was that both companies spent all of their profits on lawyers. I graduated from being a geologist to being an expert witness in court, a very depressing experience (it's called the Peter Principle). Oddly, there was a murder at Ashdown in the mid 1900s, in the old mine building. Plus, an ACNC mine supervisor died at Ashdown from an underground rockfall, but this is unfortunately not an uncommon in the underground mining business. However, I didn't have to remind DC of this risk – I'm sure others did. On the other hand, very few geologists get to take a project from near scratch to production - an incredible learning experience. ACNC hadn't finished the metallurgical test on its twenty-five hundred ton high grade molybdenum ore sample due to a collapse in moly prices, so I arranged for the ore to be hauled to the Antonioli mill in Philipsburg, Montana, before the deal with GPM was finally signed (which really pissed off DC). Years before, I had hired Ted Antonioli to help me drill



the historic Southern Cross Mine about sixty miles to the southeast of Pberg (where we lost 1000' of drill steel) and knew they could do the job. I'm sure you've seen pictures of chimney sweeps – that's what I looked like – moly sulfide is a black mineral. WEX eventually gave GPM part of the profits from the sale of moly concentrate and all of the metallurgical data we'd obtained. WEX finally prevailed in the lawsuits and GPM agreed to sell its share of the mine to WEX after the stock market crashed in 2008. Unfortunately, moly prices also collapsed then, and WEX was just barely able to break even. It went bankrupt shortly after I retired from its board of directors in 2012, knowing all my stock options were worthless. Golden Phoenix now sells for a penny a share, but I don't recommend buying it. Eventually the GPM board of directors got smart and fired DC. I could write a horror story about my experiences with him. If someone reading this has experience writing murder mysteries, please contact me. DC pissed off so many people that he escaped to somewhere in South America to avoid bodily harm. The shareholders of both companies lost a lot of money because of his megalomania. I'm sure he's going to hell, as do many others who have had the unfortunate experience of working with him, and I'll bet he and the Devil will be business partners. The moly reserve has been mined out, but the gold reserve remains undeveloped. I don't know or care who owns it now, but with gold prices over \$1000/oz, it's almost certainly worth mining. Sometimes you're the bug, sometimes you're the windshield.

### **Clearwater Resources – My “Shingle”**

I was a self employed geological consultant from 1985 until 2012, when I retired (including my years with Win-Eldrich). Rauno was my first and only partner and once my best friend, but after he ripped me off for about \$50,000 in 1987, we parted ways. He was the bullshitter, I was the due diligence guy. After I quit working with him, several other geologists learned the same lesson and he finally decided to become a realtor in southern Oregon. Going off on my own was like riding a roller coaster. I had good credentials and never had to advertise my services, but when the economy started falling so did my income. Fortunately, Cindy had a steady income, first as a hydrologist for USGS, then as a nurse for St. Mary's Hospital in Grand Junction. When the economy was booming, I was really busy and made a lot more money than Cindy, but found out the hard way that the mining industry is really susceptible to economic downturns, and that it has more than its share of unscrupulous people. Over the years, we had similar incomes. Fortunately, I had one client for about twenty years that consistently paid me (usually on time) – Hedley Technologies.

There are a lot of advantages to being a self employed consultant. For the most part, your time is your own, which allowed me to take off a month or so a year to run rivers in China. Plus, I had the opportunity to work on a wide variety of projects. These included most metallic minerals, several industrial minerals and a geothermal project, mostly in western North America and western China.

When I worked for Kennecott, one of my projects was a non-metallic mineral, kaolin clay, which is used to make bricks for kilns for smelting copper, aluminum and other metals and to make paper. Wood pulp is not white, even when bleached, so pure kaolin, which is very white, is applied as a coating. It's a platy mineral and prevents ink from bleeding. Acquiring a kaolin property in the western US was one of my projects. In the 1980s, paper grade kaolin cost \$70/ton and it cost \$70/ton to ship it by train from the big mines in Georgia and South Carolina to the Pacific Northwest, where there are many large paper mills – a \$140 per ton cost to them, and they bought it by the unit trainload (70,000 tons). If we could cut shipping costs by finding a deposit in the western US, we could capture market share and make extra profit on the reduced delivered price. The first deposit I found was in southern Idaho, owned by the J. R. Simplot company. I managed to get an interview with the Potato King himself, who, though he had retired, was still active. I failed to answer his first question correctly – I was interested in kaolin for paper, he was thinking about

ceramic car engines. I found another deposit near Ione, CA that was suitable, but it was owned by a company that used the clay for firebricks. Unfortunately, in the process of negotiating to buy the company, they figured out why and instead began to do just what we were going to do. So it goes. However, I made a lot of contacts in the non-metallic minerals industry.

One of them was Herman Tripp, a retired pig farmer from Iowa. He had been using diatomaceous earth (DE), which consisted of the siliceous shells of dead green algae. It's not really a mineral, which by definition is crystalline – it's largely made of non-crystalline fossils. Herman was adding it to his pig food to control diarrhea in piglets, reducing the death rate, when he discovered it was also being used as an insecticide and started adding it to his stored grain. He contacted me to find a DE deposit with insecticidal qualities, thinking it would be cheaper to operate his own mine than to buy DE from another company, plus he could sell it to other pig farmers and maybe to the beef industry. I found a suitable deposit near Harper in southeast Oregon, located mining claims, got an exploration permit, did some drilling and testing, then took a forty ton bulk sample, which I shipped to a gypsum mill in Utah for drying, grinding and bagging so Herman could package it for a market test. I also wrote a prospectus for Herman to use in raising the money needed to develop the mine, which included average industry production costs and used sales figures given to me by him. One of the companies he approached for funding also owned DE mining claims in the area, White Mountain, a pink sheet company on NASDAQ. They were scumbags, but I didn't learn this until many years later. They took my prospectus, put their name on it and tried to raise funds for their own project.

Herman found a promoter, Kathy Starnes, to help him raise money. She was also a scumbag, but neither Herman nor I knew it. She and her brother ran a ponzi scheme, promising investors high rate rapid returns, giving Herman just enough money to keep the project going by use of bulk samples, the mill in UT and a packaging plant in Iowa, near where Herman lived. After a couple of years, the scheme blew up, as do all ponzi schemes (including the stock market). I found out the hard way, when an FBI agent knocked on my door with a search warrant for my computer and files – pretty scary. I volunteered to help him find what he was looking for (I had two file cabinets and thousands of both digital and paper files), accompanied him to his office and after a week or so he realized I was completely unaware of the scam and asked me to turn state's witness. Kathy went to jail for two years as a result and Herman, who was also unaware of her activities, declared bankruptcy. Years later, I was “invited” to meet with an SEC investigator in their SLC office, at my convenience. They were looking into fraud by a company named White Mountain and knew I had had some contact with them. When I walked into the conference room, there were six investigators and they weren't friendly. The first document they showed me was the fund raising prospectus I'd written for Herman, but the cover had White Mountain's name on it, so it looked like I'd written it for them. They grilled me for hours until I finally asked them if they were going to arrest me and if I needed to call a lawyer. The answer was no, but don't leave the country (somehow they knew I'd been going to China for a month a year). Of course I ignored them, and of course I returned. A few months later White Mountain was de-listed, and they informed me the investigation was over. Whew!

As Mom used to tell me, there's a silver lining in every cloud (well, most of them). The lab I'd used to test the efficacy of the DE drill cuttings for Herman was in Winnipeg, Canada, and the entomologist, Zlatko Koronic (a Croatian who had published a lot of studies about DE as an insecticide), called me up one day and introduced me to another one of his clients, Peter Ormisher, the CEO of Hedley Technologies Ltd, a Canadian public company (HED, now RX) that had just purchased rights to produce a patented DE based insecticide. Rene Goehrum later took over as CEO, and he and I worked closely together for nearly twenty years. Cool guy.

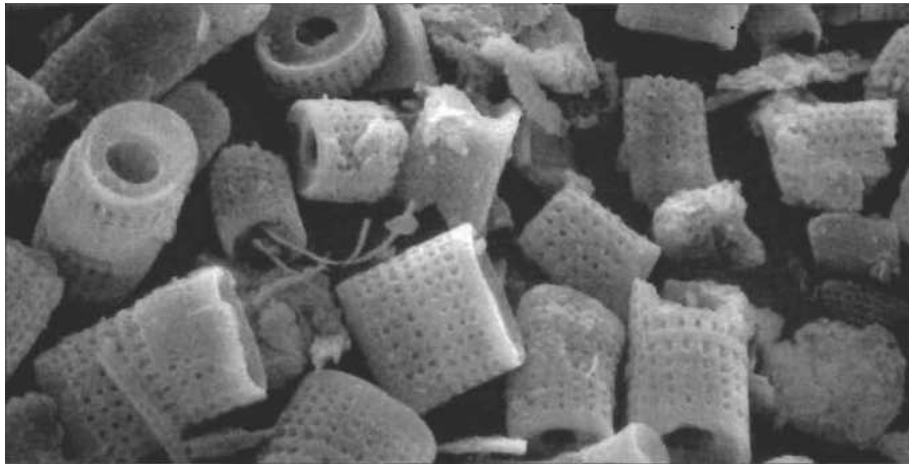


Photo courtesy of CR Minerals

**Freshwater diatomaceous earth is composed of fossilized *Melosira* sp. diatoms. These microscopic particles of amorphous silica, shown here, absorb an insect's protective oily coating, causing it to lose water and die of dehydration.**

HED's product, Insecolo, contained two baits – honey and yeast – to get insects to eat the DE. At the time, the theory was that DE destroyed the insects digestive system, and their intent was to market it for residential and commercial cockroach control. They wanted to get it registered in the US, which had a potential market more than ten times larger than that in Canada. Herman's interest had been in using DE to protect animal food (grains), and Zlatko's interest was in using DE to protect stored wheat and barley for human consumption (such as in the big silos you see in the Midwest). I made one of my trips to visit Zlatko at his lab in Winnipeg in January and stayed a local high rise hotel. Temperatures that night were well below zero (Fahrenheit), and while taking a shower that morning, the fire alarm went off. I quickly dressed, grabbed my briefcase and hurried down six flights of stairs. Outside there were dozens of others, many, like me, with frozen hair. One of them immediately warned me not to touch it – it would break off and make me look like a freak. The fire was quickly controlled so I went back inside to thaw my hair.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Use adequate ventilation and avoid breathing dust. Wear an N-95 dust mask when using this product during prolonged exposure.

**BINS & SILOS** - Three steps for optimum stored product protection:  
For optimum effectiveness, good quality stored grain or seed should be below 14.5% moisture content with relative humidity at 70% or less. Protect-It® is most effective when given several days to work.

**Step 1) Structural Treatment:** Clean equipment, structures and empty storage containers before applying Protect-It®. Apply Protect-It® at a rate of 0.6 lb. per 1000 sq. ft. about two weeks before filling storage containers. Treat cracks, crevices and void spaces with a bulb duster or similar applicator. For empty bins and silos, apply Protect-It® through the running suction fan or use a portable blower to blow it in through an upper hatchway (silos) or lower hatchway (steel bins). For wet application, mix 1 lb. of Protect-It® with 1 gallon of water and spray as a fine mist at the rate of 1.5 gallons per 1000 sq. ft.

**Step 2) Grain Treatment:** For optimum protection, both the product to be stored or transported and the storage or transportation container or package must be free from insect infestation. If grain is infested prior to use of Protect-It®, no assurance of control is afforded.

**Option I -** Apply Protect-It® at a uniform rate to the entire grain mass (indicated in the chart to right) as it is transferred by auger or conveyor feeder system, OR

**Option II -** Using the same application method as in Option I above, treat the bottom 3 feet and the top 3 feet of the grain mass (layer treatment rates indicated in table). Where layer treatment accounts for more than 20% of the total grain mass, treat only the top layer to minimize effects on grain flowability and test weight, OR

**Option III -** If it is not possible to use layer treatment (e.g., flat storage) or the top 3 foot layer accounts for more than 20% of the grain mass (grain in bins less than 15 feet deep), refer to the FLAT STORAGE directions.

**Step 3) Top Dressing Treatment:** After filling granary and applying Protect-It® to the grain mass or top layer as indicated in the table, apply 3 lbs. of Protect-It® per 1000 sq. ft. of the grain surface area. To help prevent the entry of insects through the surface of the grain mass in cases where the bin has been filled but the grain has not been treated with Protect-It®, apply Protect-It® to the surface of the grain mass at 40 lbs. per 1000 sq. ft. Contact Hedley Technologies for information on application equipment.

**FLAT STORAGE** - Two steps to help prevent the entry of insects through the surface of the grain mass:  
**Step 1) Structural Treatment:** Clean equipment, structures and storage containers before applying Protect-It®. Use a compressed air or electric blower to apply Protect-It® at a rate of 0.6 lb. per 1000 sq. ft. about two weeks before filling storage containers.  
**Step 2) Grain Treatment:** Load insect free grain. Apply Protect-It® to the surface of the grain mass at 40 lbs. per 1000 sq. ft. Aerate to cool grain.

**Warranty Statement:** As its sole express warranty, Hedley Technologies (USA) Inc. warrants that this product conforms to the ingredient statement on this label. This product is reasonably fit for the purposes stated on this label only when used in strict accordance with the Directions for Use set forth on this label. Only as permitted by applicable law, Hedley Technologies (USA) Inc. (i) in the event of a breach of this limited warranty, shall not be liable for consequential damages and (ii) does not make nor authorize anyone to make any warranty of fitness or merchantability, express or implied, concerning Protect-It®.

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**Protect-It®**  
Protects Stored Products  
from Insects and Insect Damage

Manufactured in Canada for  
Hedley Technologies (USA) Inc.

1-888-476-4473 202 North Avenue #102, Grand Junction CO 81501 www.hedleytech.com

**CONTENTS**

<b>ACTIVE INGREDIENTS:</b>		
Diatomaceous Earth		90%
Silica Gel		10%
<b>TOTAL</b>		<b>100%</b>

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND ANIMALS**

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

**FIRST AID:** If in eyes: hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**STORAGE AND DISPOSAL:** Do not contaminate water, food or feed by storage or disposal. **Storage:** Store in original container in a dry place. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste facility. **Container Disposal:** Nonrefillable container. Clean container promptly after emptying. Offer for recycling if available.

Net Weight 15 lbs / 6.8 kg (contents may settle)

**How Protect-It® Works:** Enhanced Protect-It® contains diatomaceous earth and silica gel. Diatomaceous earth consists of siliceous fossil shells of diatoms, a type of green algae. Protect-It® absorbs the outer waxy layer from the insect, causing dehydration – a physical rather than chemical method of protection against insect infestation. Application rates differ because the rate of dehydration varies depending on the insect species and the type of stored product.

**Use Sites:** Protect-It® can be used in the stored products listed below and in and around containers, equipment and buildings (structures) where any products are stored, transported or processed, such as, harvesting equipment, augers, bins, silos and elevators, truck trailers, rail cars and ships, bags, cans, drums and other packages, warehouses, food processing plants (including flour mills, bakeries, and egg, meat and poultry plants), pet food plants, feed mills, maintenance buildings, etc.

**Protect-It® is approved for use on the following stored products:** barley, beans, birdseed mix, corn, oats, peas, peanuts in shell, popcorn, rough rice, rye, sunflower seed, sorghum (milo) and wheat. In addition, Protect-It® can be used in and around equipment, manufacturing facilities and empty storage and transportation containers that may be used for other stored products not specifically listed. Stored products can be used as intended (food, feed, seed and oil) immediately after treatment, without removal of Protect-It®.

**Protect-It® is effective against the following stored product insects:**

pea weevil	maize weevil	rusty grain beetle	sawtoothed grain beetle
rice weevil	granary weevil	lesser grain borer	Indianmeal moth larvae
grain mites	red flour beetle	confined flour beetle	
bean weevil	flat grain beetle	merchant grain beetle	

**Notice:** Depending on the type of commodity and the amount of Protect-It® used, test weight and grain handling properties may be affected. To minimize these effects, layer treatment is recommended for affected commodities. Protect-It® is not considered to be a foreign material in treated product and will not cause treated product to be reduced to sample grade as set out in GIPSA/FGIS Program Directive 9180-49, September 1996.

**Application Rate Chart:** Follow Directions for Use (left column). For grain or seed with moisture content of 12% or lower, reduce rates listed below by 15%.

Commodity	Pest	Application Rate	
		Option I - Rate for grain mass	Option II - Rate for layer treatment
Wheat	weevils & lesser grain borer	18.0 lbs/1000 bu	24.0 lbs/1000 bu
	all others	18.0 lbs/1000 bu	18.0 lbs/1000 bu
Barley	weevils & lesser grain borer	14.4 lbs/1000 bu	19.2 lbs/1000 bu
	all others	14.4 lbs/1000 bu	14.4 lbs/1000 bu
Oats	weevils & lesser grain borer	9.6 lbs/1000 bu	12.8 lbs/1000 bu
	all others	9.6 lbs/1000 bu	9.6 lbs/1000 bu
Rye	weevils & lesser grain borer	16.8 lbs/1000 bu	22.4 lbs/1000 bu
	all others	16.8 lbs/1000 bu	16.8 lbs/1000 bu
Rough rice	weevils & lesser grain borer	13.5 lbs/1000 bu	22.5 lbs/1000 bu
	all others	13.5 lbs/1000 bu	13.5 lbs/1000 bu
corn	all listed species	NA	56.0 lbs/1000 bu
Popcorn	weevils & lesser grain borer	NA	54.1 lbs/1000 bu
	all others	NA	42.0 lbs/1000 bu
Sorghum (milo)	all listed species	NA	56.0 lbs/1000 bu
Beans, Peas	all listed species	18.0 lbs/1000 bu	18.0 lbs/1000 bu
Peanuts in shell	all listed species	NA	0.75 lbs/cwt
Birdseed mix	all listed species	1.0 lb/1000 lbs	NA
Sunflower seed	Indianmeal moth	NA	0.1 lbs/cwt

It took a couple of years for Zlatko and I to complete all the required studies, get EPA and FDA registrations in the US and with Health Canada, and to convince Ormischer that it was cheaper for HED to buy DE from an existing mining company (CR Minerals, which mined their DE from another deposit near Harper) than to build and operate its own mine. Also, the market for DE as a natural insecticide to protect stored grain was much larger than the market for DE as a cockroach killer, but in this case the grain was the bait, so honey and yeast weren't needed. Zlatko's research had shown that adding 10% synthetic silica gel (SG) to 90% DE produced a superior product, and that eating DE wasn't the main reason for its insecticidal purposes – it's a desiccant and kills insects by drying them out (like you or I bleeding to death from thousands of pin pricks). Commercial companies don't usually encourage published articles about their technical expertise, but Ormischer wanted me to write one about diatomaceous earth and the new product, Protect-It (PI) which HED was in the process of patenting. The article was published in the *Integrated Pesticide Management Practitioner*, which focused on non-chemical methods, in the mid 1990s and updated in 2006. I found DE and SG suppliers and couple of companies, one in Indiana, the other in Toronto, that could mix the DE and SG and package it to produce PI, and Ormischer found highly credible insecticide salesmen in the US and Canada. By the late 1990s, Hedley was doing a booming business and Zlatko and I had expanded the PI label to include two dozen insects and a dozen stored dry raw foods, including such products as peanuts. Over the years, Zlatko retired and I slowly trained people to replace me so I could retire. Working with Zlatko was really rewarding, and Hedley is one of my few long term success stories.

Besides having to learned how to make friends with EPA employees (entirely by phone, fax and email), I learned work with MSHA (Mine Safety and Health Administration), OSHA (Occupational Safety and Health Administration), USFS and FDA employees. DE contains a small amount of crystalline silica (mostly cristobalite, a microcrystalline mineral). The IARC (International Agency for Research on Cancer, a division of the World Health Organization), had determined crystalline silica could cause cancer, and OSHA required Hedley to note this on its MSDS (material data safety sheet, which I composed for them). One of Hedley's major markets is in Canada, and the Canadian grain storage labor union refused to use PI when they saw the MSDS. It took me a while to find out that DE wasn't considered cancerous if the crystalline silica content was less than 1%. We had to switch to another DE source (from marine to freshwater), redo many performance studies to satisfy Health Canada and the EPA (in particular the California EPA), and find a lab whose analytical technique and results could be certified. Fortunately, I was able to find Health Canada, EPA and OSHA employees that I could communicate with. On the other hand, I was never able to convince the FDA that Protect-It qualified as an organic insecticide. It was a classic Catch 22 situation – Congress had created the Organic Food Act, and both DE and silica gel qualified, but not for stored grains. On the other hand, DE qualified as organic for use on grains under Health Canada regulations, but silica gel did not. We spent years trying to resolve this, to no avail. PI eventually replaced malathion and other chemicals in Canada, dramatically increasing its international market share, while we in the US still eat chemically treated grain. So, Canada can export wheat to Japan, but the US can't. Stupid, stupid, stupid.

A big advantage to working for Canadian publicly traded junior companies (often called penny stocks) is that because they are chronically short on money, Canadian laws allow them to pay part of fees and salaries in stock or stock options. By 1993, I had enough Hedley stock that when the price tripled that year, largely as the result of my and Zlatko's efforts, I sold enough stock to pay for two whitewater rafts, two kayaks and all the gear and food for a ten day trip in western China and the shipping costs, which was critical to the success of Earth Science Expeditions. Travis still uses some of this gear, now over twenty years old. Of course, the big disadvantage is that when the stock market crashes, the stock becomes almost worthless. Timing is everything.

I had many clients with a variety of projects, few of which ended up being successful (only about one in a thousand are). Most were in the US or Canada but I did have the opportunity to evaluate projects in Kenya, Fiji, China and Japan. The placer gold project in Kenya was canceled when the AIDS epidemic became a huge issue there. The underground gold project in Fiji was acquired by the government (and I think it's still operating), and a large high grade copper-silver project in Sichuan in central China was stolen from my client, Lloyd Ingber, by the Chinese military (also still operating). So it goes. Lloyd, a friend of my brother Michael, had married a woman from Hong Kong, so I met with them there several times. I visited them just after Great Britain had returned Hong Kong to China, after which her entire family moved to the US. It's still a politically turbulent place, though many large cities in China have emulated its business model. I also had the opportunity to evaluate gold and rare earth mineral projects in Sichuan. China is the largest producer of rare earth minerals, primarily used in TV, computer and cell phone screens, due to lax environmental laws (rare earth minerals are highly toxic). The US also has large rare earth mineral reserves, but until a co-mineral containing the radioactive element thorium becomes an accepted replacement for uranium, these deposits won't be developed. The gold project was near Muli, a small Tibetan and Han Chinese town in the mountains on the southeastern edge of the Tibetan Plateau, a two day drive southwest of Chengdu, the capital city. I traveled with a Chinese geologist, Tang Jingzi, who had learned English by watching Shakespeare plays on TV, so his translations were quite "flowery," but I really liked him. We took the bus from Xichang, where China has its equivalent of Cape Canaveral. When I arrived at the bus station, the bus was empty but the station was full. Tang had rented the whole bus for me. I'd ridden on Chinese buses many times, and knew an empty bus was going to be a backbreaker, so I told Tang to load it up, chickens and all. After a twelve hour ride over two fifteen thousand foot high passes, we were met by both the Tibetan and Han mayors, who were drinking buddies. They drank me under the table, a hazard when doing business in China. Their national drink, Mao Tai, is like rocket fuel – after a few "Ganbei" (bottom's up) toasts, I started throwing them over my shoulder, much to their amusement. Surprisingly, I didn't have a hangover the next day, a good thing because we drove several hours on bad roads and at least a century and a half back in time to a placer gold mining area. You've probably seen old Western movies with run down bars, whore houses and gunmen, except this wasn't a movie. The whores had knives strapped to their legs, the cowboys wore "coolie hats" and the only guns were machine guns held by guards in military uniforms. They mined twenty-four seven for six months, between serious deep freeze winters, using water pumps and jigs powered by gasoline generators. Tang Jingzi told me one of whores would be happy to take my US dollars, but not Chinese yuan, then she showed him a handful of nuggets the guards had paid her with. The last thing I wanted to do was take some syphilis home to Cindy. I'd had some experience with the economic problems of remote high elevation mines in the US and Canada, and this was a no-brainer – it was a bad investment. Lloyd agreed. He was a Buddhist and took me to the Great Temple of Compassion southwest of Chengdu, which had fortunately been left alone by the Red Guards during the Cultural Revolution (as was the Potala in Lhasa, under orders from Mao Tsetung). It was one of the most serene places I've ever visited. We stayed there for a couple of days, a wonderful place to meditate.

Years later, I met a Chinese entrepreneur who was interested in developing a diatomaceous mine in northeastern China. I had results of insecticidal efficacy of DE deposits in China from Zlatko and got him involved in the project. We spent a couple of weeks meeting Chinese men who managed potential sources of DE, grain storage facilities, and local leaders who were hoping we could fund the research need to get permits and fund development for a non-chemical insecticide product. After a while I realized they were only interested in stealing our knowledge – I'd wasted my time and Zlatko's. The only positive memory I have is our visit to a Mao Tai production facility. Mao

Tai is China's equivalent of high class corn whisky, the purpose of which is to destroy your liver (it may also be used for jet fuel). At 53% alcohol, it's a guaranteed drunk. It was a bizarre facility – after the corn, stalk and all, is retrieved from huge fermentation vats, it's fed to cows, who gain so much weight and get so drunk they can't stand up. Their meat is a delicacy in China. The company eventually used DE to keep flies away from the ubiquitous cow shit. Every time I return to the US from China, I'm shocked by how fat Americans have become (including me, unfortunately). On the other hand, if the Chinese keep drinking Mao Tai and eating fatty beef, they'll eventually become as fat as most Americans.

One of my most embarrassing projects was a gold drilling program near a beautiful lake in western Montana. My client, a Canadian company, had acquired mineral rights to the old Southern Cross Gold Mine, a vein deposit that had been operated by Anaconda (a huge international company like Kennecott) and shut down by the 1942 War Order that sent gold miners to fight against the Germans. The idea was that since the mine was still profitable when it was shut down, there must be more gold, which in general was true (as I had found at Ashdown). However, the Southern Cross was now the site of a tourist (second home) community with its own church, which was about a thousand feet above our target. We decided to drill in the winter, when the population was very low, but it's also so cold that to keep the drill motor and water truck from freezing, we drilled around the clock. Nights were very cold and an especially nasty time to work. I built one drill site about a hundred yards down the hill from the church to avoid antagonizing the few townies who wintered over, and drilled a sixty degree angle hole (from horizontal), based on old Anaconda maps. The target was a zone just past the end of the last high grade underground working and was about fifteen hundred feet away. Either my measurements were off a bit or the drill hole wasn't straight (or both), and the drill core came up with a piece of forty year old mine timber. I should have quit when I was ahead, but told the driller to drill past the flooded workings to see if another vein was further down. Well, the drill steel got stuck, probably in the timber, and we lost a thousand feet of drill steel, at a cost to my client of about \$15,000, not to mention community ill will for drilling under a church. Sometimes not respecting local religious beliefs doesn't pay.

The Cable Mine was an extension of the Southern Cross and erosion of the vein had resulted in a gold placer in a valley just down the hill from the mine. Pits I dug in the winter with a large track hoe, when the ground was frozen, suggested an economic deposit. Right about time that I had recommended using a drag line rig to expand operations to year-round, my partner at the time, Rauno, and I had a big blowup and I quit. Draglines are commonly used in the coal mining business and mounted on barges to dredge canals and rivers because they have a very long reach compared to backhoes, so they can operate from the solid ground next to the unstable placer sands. Rauno, who wasn't very savvy about equipment, decided to try using the track hoe to start mining that summer because a drag line rig was about five times more expensive than a track hoe (though drag line rigs are much more productive and in the long term extraction costs are much lower). A few months later a friend from the area, Ted Antonioli, the geologist I'd hired to help drill at the Southern Cross, emailed me a picture of the \$100,000 track hoe half buried in the pit it had been digging. They had to wait for the winter freeze to recover it, at a substantial loss. That was the end of that project for Rauno.

One of the advantages of looking for minerals in desert areas is the general lack of soil, so you can map and sample rocks. This is also a disadvantage when it comes to reclamation – it's hard to get anything to grow. One of my clients was a private California company that had learned to cultivate a soil fungus called Mycorrhizae, which colonizes and connects plant roots over large areas and a variety of plants. Mycorrhiza are essential for plant growth, especially in deserts, because they extend the ability of roots to gather and hold moisture. My client had determined that one particular

species (there are hundreds) was most suitable for the barren soils of the Great Basin in NV, CA and UT, where much of the US mining industry is based. They'd done the basic research and learned to grow and package Mycorrhizae spores, and retained me to market it to major mining companies. Unfortunately, the company financiers and the lead scientist had a serious conflict (about money, of course – greed is prevalent in this industry), and the scientist left, forcing the company into bankruptcy and causing the end of my consulting contract. Other companies are currently fulfilling this reclamation need, probably with the help of the disgruntled scientist.

Another investor asked me to evaluate an underground gold project operated by Atlas Mines. Atlas was well known for its uranium operations in Moab, UT and Grand Junction, CO, which had become superfund sites. The gold project was underneath Yellowstone National Park and under severe pressure from environmental groups. This was a no-brainer – Atlas was going to be forced out, so I told the investor to sell his Atlas stock asap. A year later, the Clinton administration brokered a deal where Atlas got forest land worth their exploration cost, near a ski area in Colorado, so they could recoup their loss. A few years later it reinvested the money in the Sleeper Gold Project north of Winnemucca, NV (about sixty miles south of Ashdown), which was discovered by a female geologist who had been a classmate of mine at the U of UT. It turned out to be the highest grade open pit gold mine in history. Good thing Atlas wasn't as sexist as Kennecott.

All of my clients were men, who dominate the mining industry. Frequently on “show and tell” visits to Nevada or Canadian “properties,” which always included potential investors, I was asked to take them to one of the famous show girl resorts, such as the Palamino Club in Las Vegas, the famous Mustang Ranch near Reno or similar venues in Vancouver, BC or Toronto, ON, most of which had been in business for decades, all legal. The shows were pretty graphic, yet still quite entertaining – the girls knew how to perform. Most of my clients weren't shy about paying for sex (I didn't need to - I had a good thing going with Cindy), and I was more interested in learning about how the girls ended up there and what they wanted to do when they were too old for the job (I was once worried that my own daughter would become an exotic dancer). I was amazed at how many of them wanted to become nurses. In both Nevada and Canada, where prostitution is legal (reducing many of the problems of street level prostitution), a new industry was developing, along with an increasing demand for Viagra and Cialis. Doctors who treated men for erectile dysfunction were getting licenses for houses of prostitution, paying ex-prostitutes to go to nursing school, then hiring them to help treat their patients, a new kind of business model, perfect for women who knew how to turn men on.

Over the years I had the opportunity to visit dozens of mines, both underground and open pit and historic and operating, and to run many drilling programs. This gave me a good understanding of how rocks become deformed and mineralized on a small scale, an education only a small percentage of geologists get. I also learned the value of understanding how to apply statistics – it's easy to make a poor projection from too little data or using the wrong statistical method. Most people, including many scientists, are not familiar with the “nugget” effect, which is best minimized with abundant data. Imagine a container filled with ten marbles – one black and the others white. If you sampled this enough times, you'd say ten percent of the marbles were black. Then imagine the same can filled with one thousand smaller marbles, one hundred black and nine hundred white. You wouldn't have to sample this nearly as many times to get the right answer. Too many studies are based on small datasets which are only sampled once. Using the right statistical method is equally important. Many scientists think a low probability that their hypothesis is wrong conclude their hypothesis is right, but they don't consider that a different hypothesis might be right. Plus, there are two types of “zero” - the one between -1 and +1, and one representing an interval with no data, and not recognizing this difference results in different conclusions. Unfortunately, these statistical

problems are common in science, affecting as many as 60% of all studies.

For most of this time, I worked out of a home office in Grand Junction, Colorado. Cindy raised chickens, including roosters, which, contrary to common belief, don't just crow when the sun rises – they crow all day and sometimes during full moons. When the weather was good, I'd open my office window. You'd be surprised how many of my big city clients, while talking to me on the phone, asked me why I was listening to a rooster tape.

## **Mining Scams**

You may have heard the old saying that a gold mine is a hole in the ground with a liar standing in it. Nowadays, you could say the same thing about a platinum mine. Most of these scams are perpetuated by promoters who claim to be geologists, and most of them involve “black box” assays. These are non-patented techniques that you're expected to buy into (in my experience it would always be at your loss). Fortunately, my training at Kennecott, and I'm sure at any major mining company, taught me take my own samples and use a lab I trust. The only lab I trust for platinum assays is the lab at the only operating (and profitable) platinum mine in the US near Stillwater, Montana. The lab manager was happy to charge me for platinum assays – and if a sample actually has platinum in it, he'd also be happy to put me in contact with their chief exploration geologist. So far this hasn't happened.

I was asked by an investor to do due diligence on a gold placer project he was interested in, located near Butte, Montana, downstream from the famous Berkeley Copper Mine. This famous mine was once one of the largest copper and silver producers in the world, operated by Anaconda for decades, then later by Denny Washington, and waste from the mine had been carried by Butte Creek into a large valley near the Fairmont Resort. Surface assays indicated a potentially profitable gold placer and now it was time to drill, which was at least a hundred thousand dollar high risk investment. While exploring the area, I noticed a gravel mine and asked the owner if he had ever tried to recover gold. He was happy to show me a few ounces of placer gold, but not happy to tell me separating it cost me more than it was worth. I told him about the surface assays, and he just laughed – gold had plated out on cobbles on the creek bottom, so it couldn't be concentrated using typical gravity techniques, and wasn't found at depth. The guy who owned the placer mining claims wasn't happy with me.

Stock scams are the most difficult to discover. They were the primary reasons the San Francisco, Denver, Spokane and Vancouver BC stock (VSE) exchanges collapsed. The most famous in recent decades was BriX, a Vancouver based company with a huge gold placer in the Philippines. The stock had skyrocketed from less than a dollar a share to over a hundred dollars a share, gaining the interest of major, very respectable mining companies with lots of money to invest. Unfortunately, the chief geologist had been salting samples, and when this was discovered, he just disappeared. The stock price collapsed, the Canadian government closed the VSE and legitimate VSE companies are now listed on the Toronto Stock Exchange, which has much more stringent rules to avoid scams. Fortunately, I was just a spectator in this event. The worst experience I had with stock scam was Fire Clay Minerals (FCM), a VSE listed company that had entered into a joint venture (partnership) with a Japanese mining company (this was before the BriX scandal). I was hired by the US subsidiary of the Japanese company, which was a copper producer and just getting started in the US, to evaluate the project, unfortunately after the deal had been signed and the Japanese company had invested a million dollars in FCM stock. The project was a kaolin clay deposit near Cedar City, UT. It was a sulfateric deposit – produced by volcanogenic sulfuric acid which had leached the rock, producing bright white kaolin with stringers of red iron oxide. My job was to drill the deposit,



assay the samples and confirm that it could be used to make paper grade kaolin. They had the same business model I used for the Ione, CA kaolin deposit, only both Ione and the primary source of kaolin in Georgia and South Carolina are sedimentary (surface soil acid processes had produced them, not volcanogenic processes).

Assays of surface samples taken by the Canadian company indicated that the FCM deposit was comparable in quality to that being used by the paper industry. The lab they used was owned by a former lab manager from one of the larger mines in Georgia and supposedly highly credible. I decided to use another lab, also run by a former lab manager from a large kaolin mine in Georgia, Haydn Murray, who had analyzed the Ione kaolin samples for me. I'd learned from him that there were five contaminating minerals in the sedimentary kaolins – magnetite, hematite (both iron bearing and magnetic), ilmenite and rutile (titanium minerals that were much denser than kaolin) and quartz, a crystalline form of silicon dioxide. All five of these caused problems in the paper mills due to their high abrasiveness. The big mines could remove the magnetic minerals and most of the titanium minerals but not quartz. This last required selective mining. The limit for these contaminants was 2%.

The analyses of my drill cuttings indicated no titanium or magnetite and 50% silica in a microcrystalline form that was inseparable from the kaolin. Clearly there was a problem, so I went to Georgia, took my own samples of their deposits, and sent them along with a new set of samples from the FCM deposit to both labs, without telling either of them which were from which deposit. Haydn's lab identified them correctly, but the other lab showed that they were all the same as those from Georgia. Clearly the lab being used by FCM was cheating on the analyses. I reported this to the Japanese company, which notified FCM, and the shit hit the fan (and me). Within days I was threatened with a lawsuit by FCM, forced to undergo a nasty deposition by an attorney who did his best to get me to admit I was lying about the source of the samples I'd sent to Haydn (fortunately I had a witness). Haydn told me one way to salvage the project was to test the samples for use in highway paint. For this use, the high silica content was desirable because of its high durability. I did this and sent the results to one of larger FCM shareholders, who managed to have the law suit dropped and salvaged the project after firing the CEO and the lab manager who had faked the assays. Their only interest had been in promoting the stock and selling theirs for a high price. I wasn't interested in dealing with any of them anymore, and have no idea if they ever succeeded.

The last scam I uncovered may still be going on, but at least my client didn't lose a lot of money. Lonnie was an independent landman for the oil industry in Houston who knew quite a few very wealthy oil company owners and nothing about mining. His office manager was a Japanese woman whose family still lived in Japan. Her brother and some friends had acquired a lease to explore for gold in a geological setting that was similar to that of two very high grade gold mines on the island of Okinawa. One had been mined out and had become a museum, but the other was still operating. She convinced Lonnie to visit their gold lease, where he was given a very fancy prospectus and one high grade assay from the leased area, plus reports written by a respected Japanese geologist (though I could never confirm this). One of the oilmen was interested in the project, but insisted that an American geologist with experience with gold and Japan review the project. Lonnie couldn't find one, but hired me because of my experience in China. I flew over on the condition that his Japanese friends would find a Japanese geologist who spoke English to translate for me. I even found a couple of them online that were interested. However, when I showed up, my translator was a tour guide for the gold mine museum, and only knew the spiel she'd memorized for that job. I began by asking to see maps showing the geology and where they had taken their sample. My job was to take my own samples and have them assayed by a lab I trusted. The next day we traveled to the project, only to find out that the map was a fake – there were no outcrops of bedrock, only

gravel and sand in the creeks and road cuts. When they showed me where they had taken their high grade sample, it wasn't accessible – it was under several feet of water in a short tunnel which was un-mineralized and they didn't have access to a sump pump. All they could show me were quartz cobbles in the creeks, which were not visible until they dug them up. I dug around on my own and didn't find any, so I figured they were salted. After we got back to their office, I asked them why they were looking for a foreign investor and not trying to interest the operating mine, which was about sixty miles away. I wasn't happy with their evasive answer, and asked them if I could go on a tour of the mine and meet their chief geologist, which is quite possible in both the US and China. Not only could they not arrange this, but didn't even want me to visit the gold mine museum. Lonnie, who didn't believe it was any of my business, eventually told me they wanted eight million dollars up front, and they would manage the drilling program – only three holes to begin. I could drill hundreds of holes for this amount. The money wasn't going into the ground, it was going into their pockets. I felt really sorry for Lonnie.

## Exploring the Rivers of Western China



Sand and gravel painting from one of Carmen's coffee table books about Travis' Salween River trips in western China (2014) showing the location of the major rivers relative to the Himalayas. Drawing by Carmen, photo by Will-Stauffer Norris.

I had taken a class on the geology of Utah at the University of Utah, then been its lab TA. I already knew the geology of Arizona and the Grand Canyon from my studies at NAU, had run the Colorado and many of its tributaries in Utah and Colorado and had quite a collection of color slides that the professor wanted for future classes. He asked if I would consider taking him, my thesis committee and some of his students on a river trip, and we decided the most interesting and convenient was the Green River through Split Mountain Gorge in Dinosaur National Monument. It was only a one day trip (ten miles) where the river flowed across a large and stunning fold that was part of the Uinta Mountains uplift, and ended near a famous dinosaur quarry. I took them down in a paddle raft – everyone had a canoe paddle – no oars, and I sat in the back and steered through the rapids. The paddlers got soaked, while I stayed pretty dry. At lunch, unknown to me, the paddlers decided to turn the boat backwards and soak me in the last rapid, all in good fun. Ron Bruhn, my committee chairman, was the perpetrator.

In the fall of 1984, about two years after I'd graduated from the U UT, Ron was contacted by Rick Gore, a senior science writer for National Geographic Magazine (NGM). He was writing an article about mountain building processes, and noticed that the Unitas were one of the few major mountain ranges in the world that trended east-west, and wanted to know why. Basically, the predominance of north-south ranges has to do with plate tectonics and the fact that the earth rotates east-west, causing east-west compression and rifting. He wanted Ron to take them on a field trip so he could explain the formation of the Uintas and they could take pictures. The current theory was based on evidence that the young Precambrian Uinta sediments (about a billion years old) were deposited in the “failed” arm of a triple point rift when a part of North America broke away and drifted to China. The younger Precambrian sediments in the Grand Canyon and in the Salt River further the south are also thought to have been deposited in similar tectonic settings (geologists are famous for stories like this). Ron suggested that he might be able to arrange a river trip and contacted me about repeating the one day trip we'd done while I was an MS student at U UT. I told him I could do it but thought a four day trip from the north side of the Unitas to the south side (through Lodore,

Whirlpool and Split Mountain gorges) would be more interesting, and that I could get a permit to do this if they could afford the cost. NGM agreed.

I asked Mike Connelly, another student working on an MS in geology and a former ARTA river guide, Will Downs, an old friend and paleontologist at NAU, and Cindy to be the other guides. On the last night of the trip, we had a discussion about other major east-west trending mountain ranges on our planet and the Himalayas were mentioned. By the end of the evening, Rick started asking Mike, Will and I about running a river trip through the Himalayas, sponsored by NGM. Ron mentioned that Peter Molnar, a geophysicist at MIT, had been doing a lot of studies in the Himalayas and might have some contacts in China for getting permits and arranging logistics. Mike and I sent a letter to Peter (this was before email), whose response was “you just made my day!”

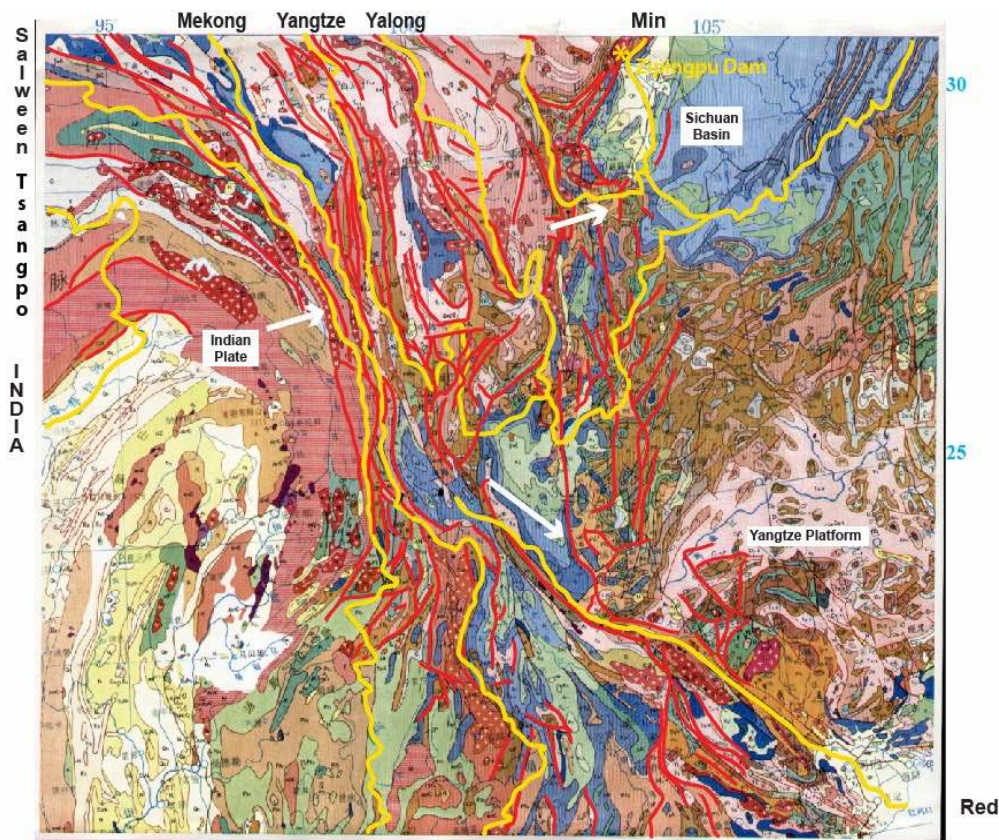
The details of how we eventually managed to get permits and start running geological reconnaissance first descents are described in my first expedition journal ([www.shangri-la-river-expeditions.com/journals/mekong1994/mekong1994.html](http://www.shangri-la-river-expeditions.com/journals/mekong1994/mekong1994.html)). Originally, Peter, Mike and I planned to run a major geological expedition with all kinds of geologists on the mainstream Mekong in Yunnan, but NGM decided not to fund it, even though we invited Arlene Burns, a famous international kayaker who was also photographer for NGM. About the time we were negotiating permits, she and a friend kayaked an unpermitted first descent of the Bramaputra headwaters in south central Tibet (west of Lhasa, the Yarlung Tsangpo, see the story in Dave Manby's “Many Rivers to Run”).

Mike and I knew that Everest climbing expeditions were at least as expensive as our trip was likely to be and eventually contacted Wendy Davis, who had raised about \$250,000 for one of them. We hired her to find funding for our trip, and she found out that Coca Cola was trying to enter the Chinese market and was looking for ways to advertise in China. The Coke marketing people were skeptical, but Rob Elliott, who knew Bruce Babbitt (a former governor of AZ and presidential candidate who became the Secretary of Interior under Clinton), who knew the Chairman of the Board of Coca Cola, helped her convince them to fund us. At the time, Bruce had just dropped out of the Presidential race, and Rob suggested that Mike and I invite Bruce and his wife Hattie on a river trip to convince him we were for real. Rob Elliott and I took turns paddling a two-person cataraft with Bruce through the Taos Box of the Rio Grande in New Mexico (a fun Class III stretch, described in a story in “Hell's Half Mile” by Richard McCallum), while Hattie rode on Mike's raft. It worked, and Coca Cola was in the process of arranging for a ten page combo picture, story and ad in the new Asian Business Week magazine when Chinese students decided to stage a demonstration for free speech in Tienanmen Square and the Chinese government decided to drive tanks over them, resulting an unknown number of deaths and jail sentences, and in a bad hangover for me. We had to wait until 1992 before getting another permit for our first river trip in China, then it took two more years to fund and run the trip.



Peter Molnar (left) on the Yangbi Jiang, 1994.  
Will Downs is the oarsman. Photo by Ben Foster.

Peter Molnar and I applied for National Science Foundation and National Geographic Research grants but failed. If you're a geologist, see [www.shangri-la-river-expeditions.com/willdowns/china/1988researchproposal.html](http://www.shangri-la-river-expeditions.com/willdowns/china/1988researchproposal.html) – it's pretty technical. I still have fond memories of Peter walking with Clark Burchfiel, both professors at MIT, along a sidewalk in Bluff, UT, while Travis, about five years old, walked between them and explained to these two famous geologists that dinosaurs used to live in Bluff. Mike and I later applied for a \$50,000 Rolex Spirit of Enterprise grant. Unfortunately, we only received “honorable mention” - no funding. Over a decade later Travis also applied for one. He was selected as a finalist, but didn't make the final cut for funding. I guess Swiss watchmakers aren't into adventure or time that involves clocks with multi-million year faces. Mike and I changed our strategy and started finding people who were experienced river guides or kayakers and had time and money and changed our plan to just field checking Chinese geologic maps prepared from aerial photos by the Institute of Geology of the Chinese Academy of Sciences, modified from Russian maps made during the Cultural Revolution. We started on the Yangbi in 1994, a large tributary to the Mekong in Yunnan (southeast of Tibet). We flew to China on Friday the Thirteenth, a day when I believed the airplane mechanics would be especially careful - “it's bad luck not to be superstitious.” Then we ran the main stream of the Mekong in western Yunnan in 1995, '96 and '97, before moving up to its headwaters in Qinghai on the Tibetan Plateau (Za Qu in 1999 and Lancang Jiang in 2004). Over the years, we also ran trips on the Salween headwaters in Tibet (Nag Qu) in 2000 and 2007, Brahmaputra headwaters in Tibet (Yarlung Tsangpo) in 2002 and Indus headwaters in Tibet (Senge He) in 2005, and Travis started running repeat trips on the stretches that were the most suitable (fun but not too dangerous, and relatively accessible), starting in 2006. He had learned that rivers were being dammed and hoped to bring Chinese to see sections that I had run before they disappeared. We had a lot of fun and interesting encounters with the Chinese and Tibetans who lived along these rivers. I was inspired by a quote by Ray Bradbury, a famous science fiction author: “Go to the edge, jump off and build your wings on the way down.”



Geologic map of southwestern China, with rivers (yellow) and faults (red) highlighted. The rivers follow major faults and rocks have been squeezed east-west as the Indian Plate “collides” with Asia. Colors represent rocks of different ages and types. Base map from the Chinese Institute of Geology, modified by the author.

In 1995, after our first descent of the mainstream Mekong in Yunnan (which we had originally planned for 1989), I decided to learn how to create a website and uploaded a geostory ([www.shangri-la-river-expeditions.com/wchinageo/wchinageo.html](http://www.shangri-la-river-expeditions.com/wchinageo/wchinageo.html)) and my journals about our trips on the Yangtze and mainstream Mekong to it, plus info about the next trip we planned – the Mekong south of the Man Wan Dam in Yunnan. I also added a request that anyone else who had run a first descent in China should contact me and I would put their trip info on my site. I was amazed at the response, and the site grew to include first descents of all of the major rivers of western China, no matter who had run them, including the Yangtze, Yellow, Mekong, Salween, Tsangpo (Bramaputra headwaters in Tibet), Indus and their major tributaries. I have continued to do this, though the last sections of the last major river to be explored were run (the Salween in southeast Tibet) in 2008. The site is still active, but mostly for reference. In recent years I've updated it with first descents of smaller rivers such as the Dulong (headwaters of the Irawaddy in far northwestern Yunnan, the Litang, a large tributary to the Yalong (a tributary to the Yangtze), and the lower Salween in southwestern Yunnan.



**Chinese run of Hukou Falls (+100')**  
**Photo by Ma Hui, 1987**

Yellow River – the guy in the rubber ball survived.

In 1999, after running the headwaters of the Mekong in southeast Qinghai, David Hettig and I decided to make a video of our expeditions on the Mekong. He hired a friend to do this, but the costs skyrocketed to the extent that I decided I could learn to do it at a much lower cost. I took a night class on how to use Adobe Premier, and in the process decided to expand the video to cover the exploration of all of the rivers of western China. Over the next five years I collected videos and still images from everyone who had asked me to include their expedition on my website, then made a DVD. Making an hour long documentary is really challenging and time consuming. Once the last section of the Salween had been run in 2008, I updated the DVD and eventually put it on You Tube (peterswinn). Most people, even many professional river guides, think that running first descents, especially in remote regions like western China, are really dangerous, even crazy, but in fact they're really a lot of fun and can get to be addictive. However, they do take a lot of planning and use of the right equipment. We found that a combination of kayaks and catarafts (they're easier to portage) was ideal, though many rivers can only be explored by kayak.

I've followed political events in China for over thirty years, mostly regarding rivers, dams and pollution. After our 2002 trip in Tibet with Liu Li, we visited the canal system in Chengdu, where the Chinese had diverted the Min River for irrigation a thousand years ago. Our plan was to identify a location for building a whitewater park on one of them, but they're too polluted by irrigation runoff. China's main source of surface water is the Yangtze, one of the four largest rivers in the world. However, its government and a significant part of its population are located in the Yellow River drainage (in northeastern China), which flows through huge deserts and is an insufficient water source. The Chinese were among the first to build large dams to provide water for irrigation and flood control, especially on the Yellow, eventually leading to one of the earliest hydraulic societies, along with those on Tigris and Euphrates in the Middle East and the Nile in Egypt. Like the Colorado River in the western US (which also flows through a large desert area), the Yellow no longer reaches the sea. To provide water for northern China, the Chinese built the first major canal from the Yangtze to the Yellow in eastern China many centuries ago and are building three more large canals from the Yangtze to the Yellow in central and western China, including plans to build one on the Tibetan Plateau, and in addition are building about one hundred and forty large dams on major rivers draining the Tibetan Plateau in areas of very high seismic hazard, now mostly to provide hydropower to replace coal fired power plants, due to international pressure ([probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf](http://probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf)). Due to international agreements, German coal fired plants can fund a dam in China

and receive carbon credits that trash a Chinese river so they can continue to trash German skies. So it goes.

Over the years many people have asked me why I chose to explore rivers in Communist China and help their government. My parents taught me that people everywhere are just like us, and once you make friends with them their attitudes toward Americans changes for the better. When I first went to China in 1987, the people were clearly repressed, but over the years they've gained a lot of freedom and wealth and although they're still dominated by the Communist Party, they're much happier – largely due to their exposure to Western tourists and businessmen. The same thing is happening to other countries such as Vietnam, and I believe it will eventually happen to countries which still have governments that hate Americans. Some of this is justifiable – Americans can be “ugly” (there's an old book titled “The Ugly American” by Lederer and Burdick) and egocentric, but most of us are pretty friendly.

I have a lot of Chinese friends and they continue to amaze me with their intelligence and work ethic. One of them gave me a copy of Needham and Temple's book “The Genius of China.” Many of the things we think were invented by Westerners were first invented in China, including the compass, the water wheel and the first seismometer. This makes sense – China has more large earthquakes than any other country, and far more deaths as a result. I've followed political and environmental events in China for decades and could write a lot more about this, but if you're interested in the future relationship of the US and China I suggest you read “China's Economy” by Arthur Kroger, “Why Nations Fail” by Acemglu and Robinson or “China Goes Global by David Shambaugh. Economic reform in China is like “walking a tightrope over bottomless pit – and the rope behind you is on fire.” Chinese leaders are “crossing the river barefoot by feeling the stones.” Although the US education system is rapidly falling behind that of other developed nations (we're now about thirty on the UN's list), we still produce the majority of Nobel Prize winners and China currently sends over three hundred thousand of its best students to study here. A large transfer of western technical knowledge occurs when these students return to China, but many of their inventions and products have benefited us. For instance, the G4 technology used in smart phones was invented by a Chinese PhD student at UC Berkeley, and we buy Chinese made smart phones, laptops and flat screen TVs.



Deep fried scorpions, a “spicy” Chinese delicacy.  
Photo from Chinese restaurant website.

On many rivers in the US and other countries, insects can be a real nuisance, or even a hazard where malaria is present. I always asked participants to make sure their vaccinations were up to date, but found that the most common cause of illness was due to poor sanitation in Chinese restaurants. The Chinese eat family style, where everyone picks up a bite of food from a large plate using chopsticks, then after eating it sticks the chopsticks into another plate, so everyone gets the same germs. It takes a few days to adjust to this. I always brought along T3s - Tylenol with codeine – because codeine causes constipation and counteracts the diarrhea, plus it doesn't stop your natural adjustment to foreign bacteria. Fortunately, we never had to worry about insects – the Chinese had eaten of most of them during the Great Famine during Chairman Mao's reign, and nowadays they are considered a delicacy, including fried scorpions. They look horrible, but taste



like potato chips with cayenne. Many of my Chinese hosts ordered them, just to see our reactions. They also often ordered pork penises, which taste like surgical tubing, also much to their entertainment. I'd much rather eat Rocky Mountain oysters, pig brains (sweet breads) or Ox blood stew.

Since I've had the opportunity to visit Tibetan areas of western China many times, people also ask me about Chinese government abuse of Tibetans. It's clearly happening today (if you're into murder mysteries, read Eliot Pattison's fascinating novels about Tibet) and has happened over the centuries, but Tibetans have also abused the Chinese – with the help of Mongolians, they once captured the capital of China at the time (Xian, the Terra Cotta Warrior city). Will Downs once gave me a copy of “The Snow Lion and the Leopard” by Mervin Goldstein, about the long term history of Chinese – Tibetan relationships, in which he predicted the Tibetans would loose this round of conflict. The Dalai Lama recently announced he would not be reincarnated. When the current Dalai Lama dies, all hell will break loose in Tibet.

### **Expedition Participants**



Mike Connelly rowing Ganbei (“bottoms up”) Rapid on the Mekong in western Yunnan, named after a raft had flipped there.  
Photo by Lori Golzi, 1996.

Mike Connelly and I formed Earth Science Expeditions (ESE), a Colorado non-profit organization, and the IRS approved our application for 501(c)(3) status in 1987. We used it to raise funds for our expeditions. Mike and I first traveled to China in 1987, while it was still largely a third world country. In 1987, our tour leader was Qu Yinhua, the second Chinese mountain climber to reach the top of Qomolangma (Mt. Everest), and had missing fingers and toes from frostbite to prove it. While wandering around Kunming, the capital city of Yunnan (on our way to scout for a put-in and take-out on the Mekong), Mike and I noticed two shoe stores next to each other, one full of people and the other empty. When we asked our interpreter why, he said the crowded one was privately owned and the empty one was owned by the government, then whispered “forty years of communism don't diminish two thousand years of capitalism by very much.” On the way to the Mekong, we stayed in Dali, now a famous resort town on Er Hai (Ear Lake). They took us on a three hour boat tour of the lake (it's sixty miles long and thirty miles wide with a beautiful shrine on an island), and during a rain squall we went inside the boat and learned that the Chinese can beat the

pants off Americans at the card game “Hearts.” On our way to the Mekong, we ended up driving in the dark. At the time, Chinese drivers drove with parking lights and would only flash their headlights when they saw an oncoming vehicle, blinding each other. This of course caused a lot of accidents, which we saw the results of on the way back. Mike and I learned the only to avoid total paranoia was to sip baiju, a foul tasting liquor, probably made from night soil. Our Chinese “minders” wouldn't let us drive all the way down to the river but we got close enough to see put-in and take-out beaches. On our way back to Kunming, we stayed in a motel in Chuxiong, where, by total coincidence, the Sobek rafting team that had just run the Yangtze in the Great Bend below Tiger Leaping Gorge had also spent the night. Many of them were friends or acquaintances, including Rich Bangs and Dave Edwards.

“Wild rivers are earth’s renegades, defying gravity, dancing  
to their own tunes, resisting the authority of humans,  
always chipping away, and eventually always winning.”  
~Richard Bangs & Christian Kallen

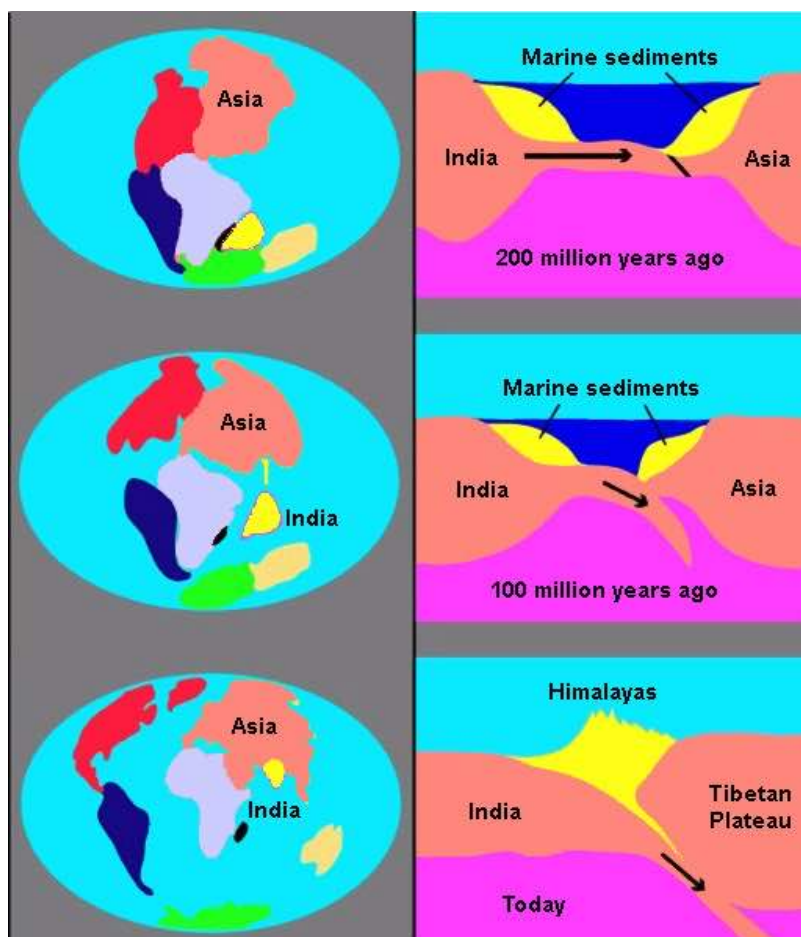


Hutiao Shoal, Tiger Leaping Gorge  
Photo by Dave Edwards

Mike and I knew it was nearly impossible to bring raft glue to China in our luggage (it's flammable), so we went looking for hardware stores in Kunming. We finally found a paint store that sold what might be glue, bought a can and opened it to make sure. I don't know if sniffing glue is illegal in China, but we definitely got a strange look from the salesman. Just before lunch that day we saw a bulletin board with a large crowd, so we stopped to check it out. There were sketches of what looked like a large dam under construction. While we were wondering aloud about where it was located, a Chinese guy, in very good English, told us it was on the Mekong. Of course, we were shocked. We invited him to lunch, hoping he knew where the dam was located. It was the Man Wan Dam, just below our take-out. The Chinese guy turned out to have been a railroad engineer in Chicago and insisted on giving me enough money to buy and mail him a calendar with historic trains showing pictures like the Durango-Silverton Railroad in southwestern Colorado. He later sent me a thank you note. Mike was a kayaker on the Yangbi in Yunnan 1994, the Mekong in Yunnan in 1996 and the Salween in Tibet in 2000. He worked as a hydrologist for a consulting firm at the Hanford Nuclear facility near Pasco, WA for most of his career, trying to stop radioactive contamination of the Columbia River. We've kept in touch and he's now semi-retired, living in Golden, CO, and still running rivers.

Travis kayaked on his first trip, the Salween headwaters in northeastern Tibet, in 2000 and my

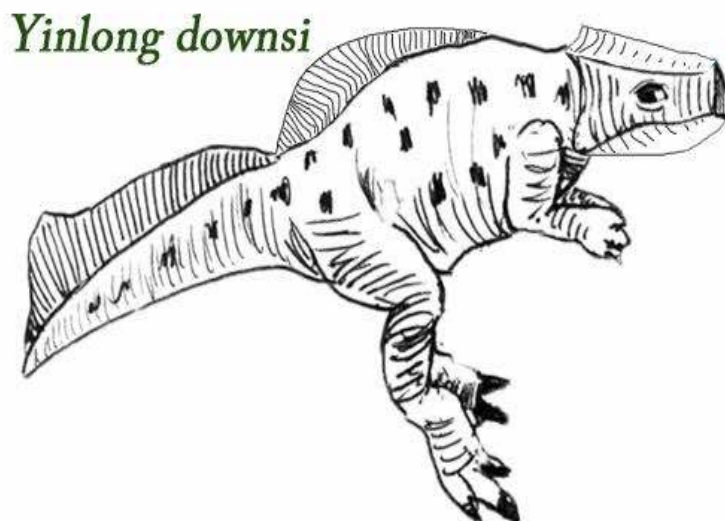
daughter Carmen kayaked on her first trip, the Indus headwaters in northwestern Tibet, in 2005, both at age sixteen. The put-ins for these trips were over 14,000' and involved traversing passes as high as 17,000'. They've both been on many other high elevation trips, which are described in the chapters about each of them. After doing some research on age, altitude mountain sickness (AMS) and cerebral and pulmonary edemas (which often result in death), Cindy insisted that I bring a Gamow Bag on our trips in case they had problems. Gamow Bags can be pressurized to an elevation of about 8,000 feet and are used when it could be days before a victim of one of these illnesses can be evacuated to lower elevations. Fortunately we never had to use ours.



Modified by the author from a 1986 article by Peter Molnar.

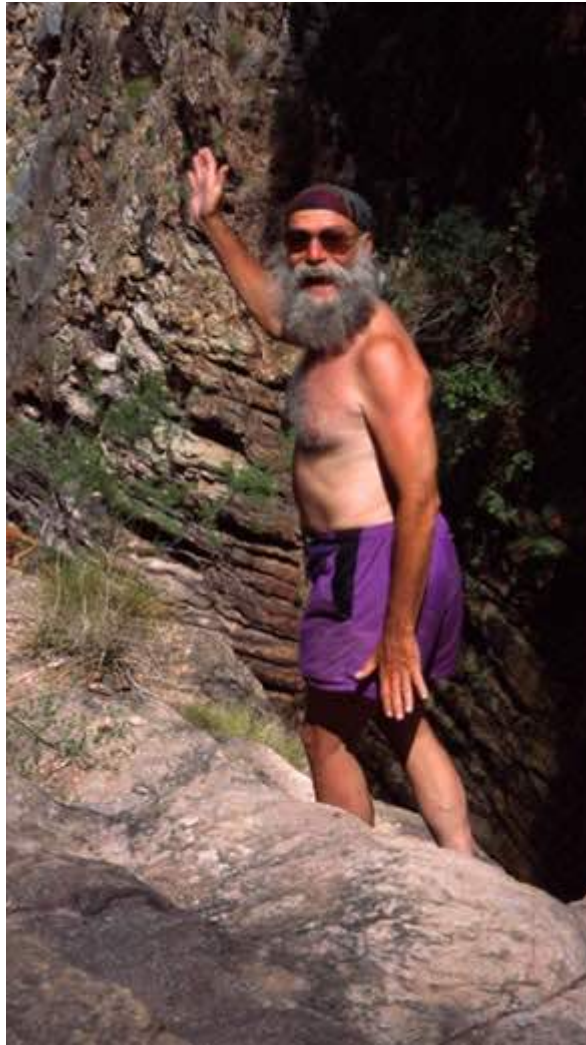
Peter Molnar moved from MIT to the University of Colorado and has continued to solve many geological and geophysical problems worldwide. He's a classic big picture thinker. His first wife, Tanya Atwater, was a PhD student at the Scripps Institute of Oceanography and was involved in early studies of sea floor spreading that were critical to understanding the developing theory of Plate Tectonics. Peter recently received a prestigious international award for his research, see [www.earthmagazine.org/article/down-earth-geophysicist-peter-molnar](http://www.earthmagazine.org/article/down-earth-geophysicist-peter-molnar). I have read many of his publications over the years - he's a real inspiration for me. As a result of meeting Will Downs on our 1994 Yangbi Jiang expedition in Yunnan, Peter and Will co-authored a study about the rapid growth of major river deltas during the past four million years, related to erosion from periodic glacial retreats (there have been about forty of them in the past two million years). Peter also told me that the US military had created topo maps of the area we planned to boat during WWII to help in building the Burma Road and that they had been declassified so I could order them. Unfortunately, they were useless on the river. One farmer told us "You're right here, where else could you be?" All we know was that we were going downstream. A year later, Peter told me the

Russians had sold their topo maps of China to major universities, including my alma mater, Stanford. For years I paid Stanford geology grad students to copy and mail me appropriate Russian topo maps until digital maps became available on the internet. See links at [www.shangri-la-river-expeditions.com/Salween-9-09-topos/](http://www.shangri-la-river-expeditions.com/Salween-9-09-topos/) for examples of these maps showing the Salween in northeast Tibet.



From Google Images. For details, see [www.shangri-la-river-expeditions.com/willdowns/yinlongdownsi.html](http://www.shangri-la-river-expeditions.com/willdowns/yinlongdownsi.html)

Will Downs, in addition to being a top notch river guide and internationally known paleontologist, spoke, read and wrote Mandarin. Chinese paleontologists were (and still are) well known internationally for their research, and Will translated about seventy of their publications into English for use by his colleagues ([www.shangri-la-river-expeditions.com/willdowns/publications.html](http://www.shangri-la-river-expeditions.com/willdowns/publications.html)). He never studied paleontology in college (he studied Mandarin), but was really smart and had a nose for finding fossils (which he learned from Bill Breed). He found the oldest mammal fossil at the time (Jurassic, about one hundred twenty million years old, in northern Arizona, but currently the oldest, also Jurassic, was recently found in China – about one hundred sixty million years old). Will and many of his colleagues believed that shrews, one the first mammals, had been the primary cause of the demise of dinosaurs by eating their eggs, combined with significant global cooling, though the evolution of diseases was also a factor. The large asteroid that hit earth near the Yucatan Peninsula about sixty-five million years ago that further accelerated cooling was just the last straw. A new dinosaur species that was discovered in Xinjiang, China was named after him posthumously (Yinlong downsi). A tribute to his career is on Paleontologia Electronica ([palaeo-electronica.org/2005\\_1/index.html](http://palaeo-electronica.org/2005_1/index.html)). Will and I ran five Grand Canyon trips and many other rivers in the western US together. He was one of Cindy and my best friends and a mentor to our children. When Carmen was a little girl, she asked him to marry her. Now she's getting a PhD in geology, and Travis speaks Mandarin. I put up a website in his honor after his death ([www.shangri-la-river-expeditions.com/willdowns/willdowns.html](http://www.shangri-la-river-expeditions.com/willdowns/willdowns.html)). He'd be a good candidate for a “My Favorite Character” story in Reader's Digest, but this might cause him to return life just to drown me.



Will, on his way to the “Flip Side.”  
Photo by Ben Foster 2001.

Will died of throat cancer in 2002. The story of how he dealt with this is entertaining: [www.shangri-la-river-expeditions.com/willdowns/goodbye.html](http://www.shangri-la-river-expeditions.com/willdowns/goodbye.html). Travis and I spread some of his ashes in the Mekong River in Tibet, and several of his Chinese friends did an ash spreading ceremony near the headwaters of the Sutlej River (a large tributary to the Indus) in southwestern Tibet. Amazing guy.



The author and Han Chunyu at the put-in for the first descent of the Mekong in western Yunnan, 1995. Photo by Steve Van Beek.

Mike Connelly and I originally planned our first trip for November, 1989, but the Tiananmen Square incident that June caused us to cancel our plans. In 1992, Han Chunyu of the Chinese Academy of Sciences sent me a fax, inviting us to reapply for a permit. It took two years to get enough people to join us who were experienced boaters and had the funds and time. Han Chunyu organized the logistics for getting our gear through customs, a truck and bus, hotels and the required permits for our first trip in China on the Yangbi, a major tributary to the Mekong in western Yunnan. He joined the trip and became such a good friend that I invited him to the US to run a trip on the Dolores River in Colorado with my family in 1995. He also organized and joined our 1995 and 1996 trips on the mainstream Mekong in Yunnan, then moved to the US, studied computer programming, helped develop the software that allows Chinese to type Mandarin on a QWERTY keyboard, and still lives in San Jose, CA. A potential military conflict between China and Taiwan in 1996 nearly caused us to cancel a second trip on the Mekong in western Yunnan when the US Navy moved an aircraft carrier into the Taiwan Strait to protect Taiwan. China has recently built its second aircraft carrier to protect the Spratley Islands in the South China Sea, a cause of much international concern.



Will Downs, Ben Foster and the author scouting a rapid on the first

descent of the Yangbi River in 1994, a major tributary to the Mekong in northwestern Yunnan. Photo by Peter Molnar.

Ben Foster, a geologist, rafter and climber, joined our 1994 Yangbi River expedition as an oarsman. I met him on the same GCNPS trip where I met Will – they were good friends. Ben later helped Karla Vanderzanden form Canyonlands Field Institute, a non-profit organization dedicated to educating people about the geology and ecology of the southwest Utah Canyonlands area ([cfimoab.org](http://cfimoab.org)). Ben and I and eventually our families ran a lot of river trips together, often with Will. Ben switched to careers and got a job as a computer programmer at the National Center for Atmospheric Research (NCAR) in Boulder, CO. Ben's photos illustrate Will's journal of their 1994 hike around Gongga Shan, at 25,000', the highest mountain outside of the Himalayas ([www.shangri-la-river-expeditions.com/willdowns/china/gonggashan.html](http://www.shangri-la-river-expeditions.com/willdowns/china/gonggashan.html)).



Ralf, helping plan one of our river trips in China.  
Photo by Li Hong, 2008.

Ralf Buckley was also introduced to me by Bill Breed and joined our expeditions as a kayaker on the Yangbi (1994), the Mekong below the Man Wan Dam (1997), the Mekong in southeast Tibet (2004), the Salween below Biru (2007) and one of Travis' trips on the Great Bend of the Yangtze (2008). He's a professor of Ecotourism at Griffith University on Australia's Gold Coast and a prolific researcher and writer. A couple of his books have articles about our expeditions in western China. See [www.griffith.edu.au/research/research-excellence/sustainable-tourism](http://www.griffith.edu.au/research/research-excellence/sustainable-tourism). He's been a family friend for over thirty years. We took him on his first trip through Westwater Canyon of the Colorado in the early 1980s and he asked me to help organize his private trip through the Grand Canyon in 2012. He was also a kayaker on our first Wounded Warrior trip in 2008. He convinced a BBC news producer, Karen Bowerman, to join the trip, and she produced a five minute video for her international audience about Travis' use of river trips in China to influence people to protect its rivers. It played on British Air's in-flight news service for a few months ([vimeo.com/12536956](http://vimeo.com/12536956)).



David Hettig, teaching a local farmer to row. The farmer had his own wooden boat, which was very narrow and so for extra leverage he rowed with crossed oars handles – he used his right arm to operate the left oar, etc. He rapidly learned to row David's raft. 1995.

Photo by Steve Van Beek.

David Hettig, an attorney from Palo Alto, CA, joined our 1995 and 1997 trips on the mainstream Mekong in Yunnan as an oarsman, our 1999 trip inflatable kayak trip on the Mekong headwaters in Qinghai and the Salween headwaters trip in Tibet in 2000. He responded to a junk email blast I'd sent out to AOL river runners, back when you could still search their membership for common interests. He had run his own Grand Canyon private trips and we ran several river trips together in CA. Besides influencing my decision to make a DVD of our trips in China, he helped me market the trips to other river folks in CA. Some of his clients were extremely wealthy including the founder of Cisco, an internet switch manufacturer, and another guy was one of the founders of Garmin, a major GPS manufacturer. He once told me that many “failed” lawyers became judges or politicians, and he sometimes made doctors wait an hour after they arrived for their appointment, just as payback. He fell in love with Ma Nan, who helped with the logistics for our 1997 trip, and later married her. One of my oddest experiences on my first trip to China was listening to Beethoven's Sixth Symphony on the flight from Beijing to Kunming. I told David about this, so he brought along a cassette tape of it, which he played on the drive down the switchbacks down to the put-in. Unfortunately, he passed away a few years ago.





Fred St. Goar and Bai farmer on the Mekong in western Yunnan, 1995.  
Photo by David Hettig.

Fred St. Goar, a cardiologist from Palo Alto and a friend of David Hettig's, joined our 1995 trip on the mainstream Mekong as a kayaker. He ended up rescuing several people when their boats flipped. He published his journal in the Phillips Academy newspaper ([www.shangri-la-river-expeditions.com/journals/mekong1995/stgoar.html](http://www.shangri-la-river-expeditions.com/journals/mekong1995/stgoar.html)). My favorite memories of him include watching him blow soap bubbles for Chinese kids, then giving them the soap and wand, and later buying a three gallon jar of snake wine in Kunming, filled with well preserved snakes and lizards. We still keep in touch and he still has the jar on a shelf in his office. I wonder what his patients think about it.



David Daboll and Ryon Swann paddling the Da in “Chinese Lunch” on our 1995 trip on the Mekong in western Yunnan. When they flipped, they'd just climb on the bottom and paddle to shore. We never had to rescue them. Photo captured from a video by Steve Van Beek.

Ryon is Gordon Swann's grandson and joined us on our 1995 Mekong mainstream trip. The trip was a high school graduation present from Gordon, whose confidence in me was inspiring. Ryon had been a high school baseball champ and was quite athletic. At the end of the trip, Ryon bought

Gordon a custom made wax chop that said “toilet” in Mandarin. His father Steve and mother Tawni joined our 2002 expedition on the Kyi Chu (the headwaters of the river that flows through Lhasa, Tibet) and the Renqing Gorge of the Yarlung Tsangpo (Brahmaputra headwaters on the north side of the Himalayas in Tibet). Steve rowed one of our catamarans. He was also the trip photographer and I used some of his photos on the ESE website and in the DVD “Exploring the Rivers of Western China.” He owns a medical software company in Meridian, ID.



Steve Van Beek on our hike out of the canyon of the Mekong in southeastern Tibet, 2004. Photo by Liu Li.

Steve Van Beek joined our 1995, 1997, 1999 and 2004 trips on the Mekong as a kayaker (an over-the-hill kayaker, as he didn't learn to kayak until his 40s). He responded to an ad I'd placed in a Sobek newsletter. His intent was to publish a coffee table book on the Mekong. He has lived in Bangkok, Thailand for decades and now lives in Portland, OR. He's married to a Thai woman, Piyawee, and is an accomplished photographer, videographer and author. See [www.stevevanbeek.com/](http://www.stevevanbeek.com/) and his stories of our trips at [www.shangri-la-river-expeditions.com/journals/mekong1995/dragon.html](http://www.shangri-la-river-expeditions.com/journals/mekong1995/dragon.html) and [www.shangri-la-river-expeditions.com/journals/mekong1997/vanbeek.html](http://www.shangri-la-river-expeditions.com/journals/mekong1997/vanbeek.html). He also made a video of our 1999 expedition to the Mekong headwaters in 1999, which featured about ten minutes of our vehicles getting stuck in the mud, pretty funny. Cool guy.

Bob Rabkin was one of the oarsmen on our 1995 Mekong expedition. I had first met him when he was a guide for Don Elston on one of Don's paleomagnetic research trips in the Grand Canyon in

the mid 1970s, along with Allen Wilson. In one of those bizarre coincidences of life, Bob met my brother Michael at a party in New York about the time I was planning our 1995 trip and Bob remembered Allen and me. By then he had a successful medical practice with a wife and kids in Sausalito, CA, and was ready for a big adventure. Our trip met his expectations, but I lost track of him after the trip. I later learned from Allen Wilson that a twenty-some year old woman had showed up at his house while he was gone, claiming to be his daughter from a fling he'd had in Denmark, which resulted in his wife taking all of his money, running up massive credit card bills, and splitting with the kids. Allen told me Bob had sold the house and moved to Baja, where his wife couldn't find him. The big adventure in China ended up being a big adventure in Mexico.

Lori Golze, a good friend of Mike Connelly, joined our 1996 Mekong mainstream trip. She was our first female kayaker and did just as well as the guys. I'm sure being the only woman on a trip of somewhat egotistic male boaters was a challenge but she handled us with no problem. She worked as a senior manager in an industrial mineral mining company, eventually rising to become general manager – not an easy feat in an industry dominated by men. She published her journal in a local newspaper, the Tri-City Herald (Pasco, WA, [www.shangri-la-river-expeditions.com/journals/mekong1996/mekong1996.html](http://www.shangri-la-river-expeditions.com/journals/mekong1996/mekong1996.html)). I recently re-connected with her via Linked In. She's married, retired and having a blast.

Phil Smith, a British kayaker who was working as a computer programmer in Paris, joined the 1996 mainstream Mekong trip, the 2000 Salween headwaters trip, and the 2004 Chinese charter through the Grand Canyon. He had experience as a competitive slalom kayaker and had guided on rivers in South Africa. He was very quiet and hard to get to know, but connected with Travis and taught him a few things about slalom racing. They traded boats one day and Travis taught him a bit about rodeo kayaking.



Ma Da, in traditional Tibetan dress, near the headwaters of the Mekong on the Tibetan Plateau, 1999. Photo by Mark Gamble.

Ma Da replaced Han Chunyu as our Chinese liaison for the 1997 mainstream Mekong in Yunnan trip ([www.shangri-la-river-expeditions.com/journals/mekong1997/mekong1997](http://www.shangri-la-river-expeditions.com/journals/mekong1997/mekong1997)) and also organized our 1999 Mekong headwaters trip in Qinghai ([www.shangri-la-river-expeditions.com/journals/mekong1999/zaqu99.html](http://www.shangri-la-river-expeditions.com/journals/mekong1999/zaqu99.html)). He's quite a character, with a great smile, and loved to joke around. He was such a good “high-sider” in big rapids that we called him HySide, which became his email name after the 1997 trip (plus our rafts were made by a company called HySide). We planned to use “duckies” (inflatable kayaks) on the 1999 trip, and Ma Da had never paddled one, so we brought him to the US to learn. After a few swims on the South Fork of the American, he got the hang of it, but we decided he wasn't ready for the Tuolomne, so we borrowed a cataraft from David Hettig, and Don Briggs and I tried teaching him to row Class III and IV rapids. The “T” was too technical for him, so Don and I decided to take turns rowing. In a very small rapid, too small for me to pay much attention to – just a Class II, I was listening to Don tell Ma Da a river story, not paying much attention, and got the raft stuck on a big flat rock. Don and I climbed onto the rock and as we lifted the tube to slide it off, Ma Da fell onto the upstream tube and the raft promptly flipped. Don and I jumped in, caught the raft and Ma Da, and righted the raft. Don and I were too embarrassed to tell the rest of the group we'd flipped (we were the last boat). The logistics for the 1999 trip were a nightmare for him. It took us five days to get to the end of road from the nearest airport in Xining, Qinghai, then four days riding Tibetan ponies with yaks carrying our inflatable kayaks, food and camping gear to get to the put-in. The night before we arrived there, our Tibetan guide blackmailed us by refusing to go further unless we paid double the negotiated fee. Then, at our first camp, a Tibetan we had met at the end of the road (the mayor of Zadoi) showed up on horseback with an extra horse and told Ma Da that our four drivers had been discussing leaving us to find our own way back to Xining from the take-out at Zadoi and suggested he should go with them to make sure they stayed in Zadoi. On the way to Zadoi, the Land Cruiser he was riding in rolled, but neither he nor the driver were hurt and the vehicle was still driveable, though it no longer had any windows. Ma Da eventually got a job with the Chinese delegation at the UN in New York, and my family and I visited him a couple of years after 9-11. We had a very sobering experience at the reclamation site of the former Twin Towers (we had all watched the videos of their destruction). Fun guy.



Michael Winn, flipping in No Exit, 1997. Photo by Steve Van Beek

All of my brothers and sisters are pretty interesting people, but I think they'll all agree Michael

takes the cake. He decided to row one of the catarafts on our 1997 trip on the Mekong in western Yunnan. Although he hadn't rowed a river in years, he did really well until we came to a rapid that he later named "No Exit" (we all agreed the choice to name it was his). We'd stopped to scout it and have a late lunch, but none of us felt like eating after looking at it. We decided to camp and run it in the morning. Michael meditated about running it, but the other oarsman, David Hettig, decided to line his raft using ropes around the upper part so he could cheat the lower part. He went first as a safety boat, and of course Michael flipped in the first huge wave. However, meditation must have some benefit, because his boat flipped right side up in the lower part of the rapid and was easy to catch, and both he and his passenger, Mark Halliday, survived the swim. Ralf Buckley had managed to kayak it safely and helped with the rescue.



Kymmie, holding a Bai woman's granddaughter, and talking to the Bai woman about rapids downstream. Photo captured from video by Steve Van Beek, 1997.

Kym Gentry was the only woman on our 1997 mainstream Mekong trip below the Man Wan Dam in southwestern Yunnan. She was a friend of David Hettig's, read and spoke Mandarin and had traveled to many countries in the Far East, often solo. The picture above is one of my favorite memories of her. The grandmother told Kym (in bad Mandarin – she'd never been to school) that there was a huge rapid about ten kilometers downstream called Horse & Pig, with a ten meter waterfall. Of course, we were pretty sure she didn't know what either a kilometer or meter was. In a way she was right, however – we did come to a huge rapid that could well have had a ten meter waterfall when the river was running 200,000 cfs, but based on the height of beaches above river level, we were floating on about 15% of flood flow, so the rapid was runnable. She now lives in a small town near Yosemite and has a family.



Tuckey Fone giving local children a ride on his kayak, 1997.  
Photo by Steve Van Beek.

Tuckey Fone was a safety kayaker and a great addition to our 1997 mainstream Mekong trip below the Man Wan Dam. He'd responded to an ad I'd posted for kayakers in a Bay Area kayaking club newsletter. His parents were from Hong Kong so he spoke Cantonese, which has the same written characters as Mandarin but different pronunciations. He was an excellent kayaker and knew Bob Center, whom I'd met at Stanford. I later went to visit him and his family in the Bay Area. My favorite memory of him is taking Chinese children for rides on the back of his kayak in the eddies at our camps.



Mark Halliday bought this case of beer in a remote village on the Mekong (called the Lancang by the Chinese). Photo by Steve Van Beek, 1997.

Mark Halliday was a huge guy and Michael's high-sider. He swam No Exit with Michael and didn't hesitate to get back on Michael's raft. He was a geophysicist who had some experience in China, and was also a big time beer drinker. He had tried a bottle of Mekong (Lancang) River beer on one of his trips to China, and came on the trip hoping to find the brewery. We found lots of beer, but not the brewery. He also snored like a lumber mill, so I quickly learned to pick large campsites.



Scott Sanderson, with ever present video camera, on the Yarlung Tsangpo in 2002.  
Photo by Steve Swann.

Scott Sanderson joined our Mekong headwaters trip in Qinghai in 1999 and the trips in Tibet in 2002 and 2005, a result of receiving AOL junk email from me. He was the videographer on these trips. He had canoed solo across southern Canada as a young man and enjoyed the trip on Tibetan ponies to the put-in on the Mekong source trip in 1999 so much he talked me into doing another trip that required ponies and yaks to get to the put-in (the 2005 Indus headwaters trip). On the 1999 trip, we stopped to visit a remote Tibetan monastery (one of the few that wasn't destroyed during the Cultural Revolution), where Scott asked the monks to write prayers on our inflatable kayaks. When I returned to the US, I sent a photo of the prayer on my boat to a Tibetan monastery in Boulder, CO for a translation: "May the Power of Pasmablamvada Be With You." Pasmablamvada was one of the Indian monks who first brought Buddhism to Tibet in the 9<sup>th</sup> Century. Scott also joined a Grand Canyon charter trip with a group of Chinese boaters that we ran in 2004. On the trip he wrote a song about the Colorado River, "The Fifth Wave," and played it on his guitar for us. I still have it in my music library. He's become a good friend, visiting Cindy and I in Grand Junction and taking me on a four day sailing trip in Chesapeake Bay near his home in New Jersey. He and a friend, Debby, joined us at Travis' wedding this summer (2016).



Mark Gambel and the author at the Xi Zi La Wu Monastery on the Mekong headwaters (Za Qu) on the Tibetan Plateau, 1999.  
Photo by Scott Sanderson.

Mark Gambel's daughter, Laura, was Carmen's best friend in elementary and middle school. Making friends with the parents of your children's friends is pretty common, and when I found out Mark was a river runner, I invited him to join our 1999 expedition to the Mekong headwaters. It was a good thing he agreed – he was usually the lead boater, and one of the most upbeat members of the group. I usually ran sweep, with the first aid and repair kits. On a long flat stretch, Scott fell asleep in his inflatable kayak, hit a cliff and flipped. Mark saved him from a long swim (that was the only flip on the trip).



Snow Leopard, Mekong headwaters.  
Photo by Jamie Ross, 1999.

Jamie Ross, an American who lives in Australia, is an ecologist who specializes in birds. He brought his son, Kerry, and his son's girlfriend, Stephanie, on the trip, who were also ecologists. They brought along several plant and animal identification books written in Chinese, which were unreadable after Ma Da left the trip to make sure the drivers didn't leave us. It's a good thing they could guess the names from the pictures. In one camp, a local shepherd and his son brought some warm goat milk to us for breakfast (it's actually pretty good in coffee) and the shepherd was able to tell Jamie many of the plant and animal names in Chinese. About half way through the trip, Jamie spotted some blue sheep and announced at lunch that they were the primary food source for snow leopards, which are an endangered species and very rarely seen. That afternoon he spotted one on the river bank, drinking water. Unfortunately, by the time he was able to get a picture, it was

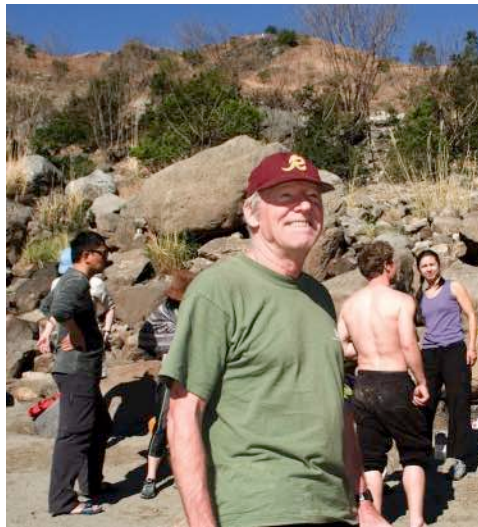


about one hundred feet above the river, and since he took it from his boat with a telephoto lens, the picture is a little fuzzy.



Liu Li on the Mekong in Tibet, 2004. Photo by Michael Connelly.

Liu Li joined our trip on the Salween headwaters in 2000 when Fan Ting, Ma Da's replacement, dropped out, which ended up being a good thing. Li and Travis became good friends, and Travis later moved to Chengdu, Sichuan, where Li lived. One of Li's employees, Chen Hao, helped Travis get into a Chinese language school for foreigners, and helped him translate and publish an article about exploring the rivers of Sichuan into Chinese. Li put his photo journal on the web, but unfortunately it's no longer there and I never made a copy of it. Li also joined our 2002 trip on the Kyi Qu and Tsangpo rivers in Tibet, bringing along Chong Dak, a Tibetan guide who spoke both Chinese and English, eliminating the need for two translators. Li helped Travis plan exploratory kayak trips on rivers in the mountains west of Chengdu in 2003 and 2004, which were the first trips Travis ran without me along. Li also organized a Chinese all women's raft trip on the Yangtze headwaters in Qinghai and several other river trips in China. Li and I jointly planned the 2004 Chinese charter trip in the Grand Canyon ([www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html)) and the 2004 first descent of the Mekong in Tibet, along with Masauki Kitamura, the Japanese team leader that beat us to the first descent of the Mekong headwaters in Tibet ([www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html)).



Gordon Bare on the Great Bend of the Yangtze in Yunnan Province in 2008. Photo by Li Hong.

Gordon Bare, a well known Eastern kayaker, joined our 2000 trip on the Salween headwaters in northeast Tibet. He was a retired army Lt. Col., and with me being both a kayaker and the son of an army Lt. Col., we had a lot in common. After retiring, Gordon became part of the US nuclear arms reduction negotiating team after the collapse of the Soviet Union and the end of the Cold War. He had been the coach for the US Olympic junior kayak team and knew a lot of kayakers that both Travis and I had heard of but never met. He published his journal ([www.shangri-la-river-expeditions.com/journals/salween2000/bare.html](http://www.shangri-la-river-expeditions.com/journals/salween2000/bare.html)) and helped arrange the first Team River Runner Grand Canyon trip in 2008.



The Salween River (Nagqu) in Tibet, 2000. This photo by Phil Kantor was published in “The World’s Greatest Whitewater Rivers” by Graeme Addison

Phil Kantor Wegener was a kayaker on the 1996 first descent of the Salween in northwest Yunnan, a stretch that Travis later kayaked many times. It has some of the biggest runnable rapids in western China, and Leaping Tiger Rapid was the site of a world whitewater kayaking competition. There is a road along the river, so Phil's team car camped and their light rafts flipped a lot. I'd found him when I read an article about their trip in a kayaking magazine and he was listed as the photographer. He'd also made a video of the trip, and later gave it to me to use in the DVD I made of first descents in China. He met Juanjuan, one of the Chinese participants, on that trip and later married her. They still live in Boulder, CO. He was also the photographer on the 2000 Salween headwaters trip. Phil's

journal is on the Shangri La website ([www.shangri-la-river-expeditions.com/journals/salween2000/kantor.html](http://www.shangri-la-river-expeditions.com/journals/salween2000/kantor.html)). Kudos to Phil.



Lisa with local farm girl on the Salween, 2000.  
Photograph by Phil Kantor.

Lisa Nelowet was a kayaking friend of Phil's that joined the 2000 trip. She insisted on kayaking with Travis and I before she signed on, so we ran a stretch of the Arkansas River in southwest CO together. It was so crowded that it would probably have been possible to jump from raft to raft the whole way down the river. We made the mistake of stopping in an eddy and had to wait quite a while before being able to break into the string of bumper boats. She was the only woman on the trip and the second woman to join our trips. Unfortunately, Tibetan young men were very curious about her and she often had to call for help to fend them off. While in Lhasa before the trip, the guys on the trip had learned to wear long pants to keep Tibetan boys from pulling out leg hairs, but none of us expected them to try and grab Lisa's breasts though her clothes. She also lived in Boulder and loved to climb 14,000' mountains, so had no trouble adjusting to the high elevation.



Chong Dak and the author, 2007

Chong Dak is the son of the current Dalai Lama's scribe before the Dalai Lama left Tibet for Dharamsala, India in 1959, and is a former monk. It was really fun to have him guide us through monasteries (especially the Potala in Lhasa) and tell us stories you'd never read in a guidebook. He had been a guide on tour buses full of fundamental Christian tourists and could tell so many jokes about their efforts to convert Tibetan Buddhists that I'm sure he could have gotten a job as a

comedian in a New York bar (frequented by Jews, of course). He was also a natural when it came to learning to kayak and row. We became good friends, and after a trip on the Reting Tsangpo in 2010, the headwaters of the Kyi Qu north of Lhasa, we took him and his family and cousins (who were also our drivers in Tibet) on a couple of one day river trips near Lhasa. His wife and Cindy became good friends in spite of the fact that neither could speak each other's language, and she and Chongdak took care of Carmen when, at eighteen years old, she decided to spend the rest of the summer in Lhasa after our June 2007 trip on the Salween. Chong Dak also organized logistics for the 2002 trips on the Kyi Qu and Tsangpo and the 2005 Indus headwaters trip, which included a three day trek around Mt. Kailash, a sacred mountain in southwest Tibet. On this latter trip we spent the night in Shigatze and toured the Panchen Lama's monastery, Tashilunpo. There are four Tibetan Buddhist sects and the Panchen Lama leads the second largest, the Gelug. The eleventh Panchen Lama was recognized by the Dalai Lama when he was six, then disappeared (kidnapped by the Chinese, who appointed their own Panchen Lama). While we were there, the Chinese Panchen Lama, then about sixteen years old, visited Tashilunpo (he lives in Beijing). The local people were forced to line the streets, but no one waved. It was a sad visit. That night, we ate dinner in a restaurant owned by a friend of Chong Dak's. It was decorated with weapons left by the British army in 1904, who used guns to battle their way to Lhasa against monks armed only with slings. The British army captain, Francis Younghusband, decided the Tibetans weren't a threat to the British colony of India and eventually left. His experience there led him to become a spiritual writer. In a strange about face, the current Dalai Lama allows his senior monks to have their brains studied while meditating, using various neurophysiologic techniques at the University of Wisconsin (such as fMRI), and has hosted several scientific conferences at his monastery in Dharamsala in the Indian Himalayas (and the location of the Tibetan Government in Exile). See my journal at [www.shangri-la-river-expeditions.com/journals/indus2005/indus2005.html](http://www.shangri-la-river-expeditions.com/journals/indus2005/indus2005.html) about our travails while planning and running this expedition. Scott's video of it is at [vimeo.com/18751064](http://vimeo.com/18751064), also check out parts 2 - 4.

Dan Munskey joined Travis on a 2003 kayaking expedition to explore the rivers of western Sichuan, Yunnan and our 2004 Grand Canyon expedition with our Chinese friends. By 2000, my website was becoming established enough that I didn't need to send out junk email anymore, which is how he read about the 2003 trip. Also, I'd taken an online graduate class in internet marketing, had learned how search engines work and how to make sure my website was on the first page, though this is no longer the case because you have to pay for this service. He was a budding videographer and later got a job making adventure videos for a TV station in Minnesota. I last saw him a few years ago at Diamond Creek, the take-out for Grand Canyon river trips.



Kristen Huisinga and Feng Chen, Grand Canyon, 2004.

Photo by Liu Hanli.

Feng Chun joined us on the Mekong in southeast Tibet trip in April, 2004. He had been on the 1986 first descent of the Yangtze all-Chinese expedition and was a competent paddle raft captain, but didn't know how to row or kayak, so he was a passenger on this trip, which had four Americans, four Chinese, four Japanese and one Australian. Each team bought, packed and cooked its own food. However, after a few days, only the American stoves were still working (they weren't made in China:), so we decided to cook the same meal for all of us, mixing and matching multi-national ingredients. Feng Chun was one of the best cooks and he really enjoyed it – so did the rest of us. He also joined us on the first Chinese charter trip through the Grand Canyon that summer, and the trip leader, Rob Elliott, let him captain the paddle raft. He did really well - no flips (see [www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/ChineseGrandCanyon2004.html) and Scott Sanderson's video of this trip: [www.youtube.com/watch?v=IQ\\_JnA007jg](http://www.youtube.com/watch?v=IQ_JnA007jg)). In 2003, Feng Chun led the first descent of the Han River, a large tributary in central China. Travis, who was a guide on the 2004 GC trip, began taking groups of Chinese rafters on Grand Canyon trips in 2013.



The author and Mu Zhengpeng at a shrine in Qamdo, Tibet, built to memorialize the confluence of the Za Qu and Zi Qu, the beginning of Lancang Jiang (Mekong in China), 2004. Photo by Liu Li.

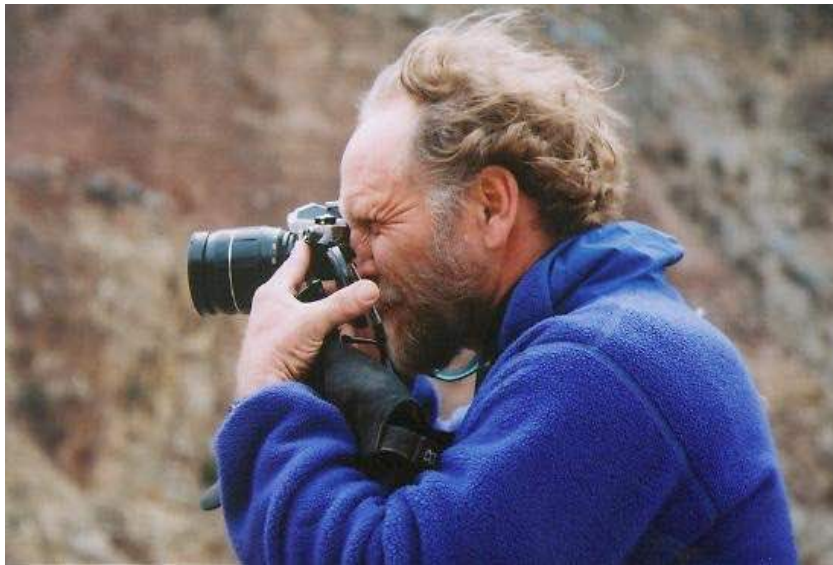
Mu Zhengpeng was the only woman on the 2004 Mekong in southeast Tibet trip. Originally, Chong Dak was going to join us as the interpreter, but at the last minute (or so I was told by Liu Li) he had to attend a training class for Tibetan guides or lose his license. It turned out OK – there were enough Tibetans who spoke Chinese, and Xiao Mu (Miss Mu) was a delight to have along. She was a former announcer on China Central Television and then an investor and board member of Dragon TV. She was really smart, spoke good English and was fun to talk with. In the late 1990s, there was some controversy about the first non-Tibetans to view Hidden Falls, a hundred foot waterfall on the mainstream of the Yarlung Tsangpo (Brahmaputra headwaters in Tibet). She had hiked the upper part of the fifteen thousand foot deep canyon with a Chinese team that had rafted the river from near its source to Pei at the entrance to the canyon in 1998 and had photographed the falls in

September 1998, a month before the foreign teams had reached it from downstream. She was supposed to video the 2004 river trip, but her video camera failed after a few days, so I loaned mine to her, and some of her footage is included in the DVD “Exploring the Rivers of Western China.” She was better at talking than videoing, however, so the footage is a bit jumpy. She and Travis and I became good friends, and she and Travis ended up spending a month looking for other runnable rivers in China. She eventually moved to Beijing, where she fell in love. She and her groom asked Travis if they could have their wedding ceremony on a river trip, and in 2009 on a trip through the Great Bend of the Yangtze in northwest Yunnan, they exchanged vows in an eddy where all the rafts were tied together while Travis played his flute. Pretty special. She calls her husband “Prince Edward,” and they now have a family. He started China’s first Internet bar and has pictures on his wall of him shaking hands with Bill Clinton and China’s top political leaders. Edward (his English name) gave me my Chinese name, Wen Bi (scholar) for the research I’d done on the history of first descents of rivers in western China. He was very pleased that I’d given the Chinese credit for first descents of the Yangtze and Yellow on an American website.



Masauki Kitamura and team at the source of the Mekong on the Tibetan Plateau. Photo from Tokyo University of Agriculture archives, 1994.

Masauki Kitamura, a Japanese rafter, was the team leader on a land expedition to find the source of the Mekong in 1994. At the same time, a French explorer, Michel Peissel, was in the same area. They identified two different sources, creating a controversy that continues to this day. Mostly likely, the glacier that is retreating fastest will end up being defined as the source – the longest distance to the sea. CAS has determined that the general region where the Japanese/Chinese Academy of Sciences source is located is farther from the sea than the one Peissel located. Kitamura planned to run the Mekong from near its source to the sea, which he eventually managed to do, except for a very challenging stretch in southeast Tibet that was too dangerous for rafts. In 1999, he boated the headwaters in Qinghai, the same year we did, only he beat us to the first descent by a day. At first we were bummed, but when I learned of his history with the area, I was happy for him. Plus, we ran a rapid he portaged, and we saw a snow leopard. Travis now runs educational trips on the section below Zadoi, which Kita had run in 1999. We became good friends and he was the leader of the Japanese team on the 2004 Mekong in southeast Tibet trip. He ran the outdoor program at the Tokyo University of Agriculture for many years and has recently published a book (in Japanese) on his trips on the Mekong.



John Mattson taking photos for his book. Photo by Lui Li, 2004.

John Mattson, an internationally known kayaker who had completed several first descents in South America, joined our 2004 Mekong in southeast Tibet trip. The rafts carried all the gear so the kayakers could have light boats for rescue. He was really bummed when we encountered rapids that were runnable in kayaks but not rafts, and after the third portage had to give up. The hike out took four days and was quite an adventure itself, so it made for a good story in a book he later wrote, “Dancing on the Edge of an Endangered Planet.” You can read an excerpt at [danceonedge.com/?page\\_id=34](http://danceonedge.com/?page_id=34), but you'll have to buy the book to read the full story. For mine, see [www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html).



Lao Tang on a Stand Up Paddleboard (SUP), taking a break from cooking dinner on a Salween trip in 2014.  
Photo by Will-Stauffer Norris.

Tang Jiang Zhong (TJZ) first encountered rafting while helping to run logistics and cook on the Japanese exploration of the Mekong in Yunnan in 2003. In 2005 he met Travis at a rafting competition in Panzhihua on the Yangtze and asked if Travis was me. Travis said that he wasn't, but that I was his father and they became fast friends. A few weeks later they jointly organized a trip on the Salween in northwest Yunnan with the support of a PhD student researching hydropower

development in the area (Kristen McDonald). He then joined trips as a guide trainee and cook that Travis organized with my rafts on the Upper Yangtze in Qinghai in 2006 and 2007, and our 2008, 2009, 2010, 2011, and 2012 Great Bend of the Yangtze trips in northwestern Yunnan, our 2010 Ritang Tsangpo trip (Lhasa River headwaters) in northeastern Tibet, and our 2012 trip through Grand Canyon with Ralf Buckley. TJZ is the first Chinese oarsman to row the entire Grand Canyon and was a guide on the Yangtze and Mekong headwaters trips in Qinghai in 2011 and 2012, the Salween in western Yunnan in 2013 and 2014 and Travis' educational trips on the Salween in Yunnan and the Mekong headwaters in Qinghai starting in 2015 and continuing on to today. He has probably run more rivers in China than any other Chinese person. He once owned a Chinese restaurant and is a fantastic cook – he plans the menus, buys, packs and cooks the meals on Travis' trips. He's also recently started a kayak club in Kunming, the capital city of Yunnan. Although he doesn't speak English and I don't speak Chinese, he's become a good friend. We trade ball caps every time we meet. Kudos to Lao Tang.



Na Ming Hui, rowing, with Chong Dak and the author on a first descent of the upper Salween in Tibet, 2007.

Photo by Scott Sanderson.

Na Minghui (NMH) and Lao Tang had helped Kitamura with logistics for a first descent of the Mekong in northwest Yunnan in 2002 and met Travis and I in a parking lot in Kunming in 2004 after our aborted attempt at the Mekong in Tibet. I had formed Shangri La River Expeditions in 1999, hoping to start a commercial rafting company in China for Travis to take over when he graduated from college. Travis was on his own path and not at all interested in commercial river running or in following my footsteps. However, after Travis and Na Minghui ran into permit problems on the Salween in northwest Yunnan in early 2006, Na Minghui suggested to Travis that registering a rafting company in China would be a good step in making it possible to legally access rivers, because the government would start to treat rafting as a real thing. Travis wanted nothing to do with it and suggested Na Minghui do this by himself, but Na Minghui didn't think he could do it by himself and eventually convinced Travis to join in. After a year of wading through red tape, they formed Last Descents Expeditions (LD) in 2007. They hoped that the name would inspire more people to come see rivers threatened by dams and as that more people came then eventually some of them would be protected. He, Travis, TJZ and Kristin McDonald jointly ran a trip on the Salween in northwest Yunnan in 2006, then he joined our 2007 Salween trips below Biru in northeast Tibet



and again starting in Sadeng in September, an Upper Yangtze trip in Qinghai between those two trips, and then Travis' 2008 and 2009 Yangtze Great Bend trips in northwest Yunnan and the third Chinese charter trip through the Grand Canyon in 2014. He brought his teenage daughter Nadiana on the Great Bend in 2008 and then on the Grand Canyon in 2014, who spoke great English after attending school in Singapore. See "The River's Last Breath" filmed by a friend of Travis' from the U OR, Trip Jennings, ([vimeo.com/12536956](https://vimeo.com/12536956)) for a 15 minute video about the 2008 trip (also a 4 minute version presented by NGS at [video.nationalgeographic.com/video/news/wild-chronicles/yangtze-ride-wcvin](https://video.nationalgeographic.com/video/news/wild-chronicles/yangtze-ride-wcvin)). NMH slowly let Travis' Chinese girlfriend, Weiyi (and now his wife), take over his part in the business. He owns a couple of foreign food shops in Kunming. He's a friend of TJZ and like him doesn't speak English, but that hasn't kept us from becoming good friends. Amazing guy.



Drew Kirk with Goldie and Anwei. About 2015.  
Photographed by a friend of Drew's.

Drew Kirk, a Class V kayaker, joined our 2007 first descent of the Salween headwaters in Tibet. He and his wife had adopted two Chinese girls and he wanted to go kayaking in China. He and his family later joined my family on a San Juan River trip. His daughters have become excellent kayakers and skiers for their ages and are good examples of the fact that it really doesn't matter where you were born. What matters is where you grow up. He took them back to their home towns in China a few years ago, and they recently kayaked with other Chinese kids on one of Travis' trips on the Salween in southwestern Yunnan and the Payette in Idaho. He convinced Cindy, who convinced Ralf Buckley, to provide all of the info needed to get me listed as a potential inductee to the International Whitewater Hall of Fame ([www.iwhof.org](http://www.iwhof.org)). Potential inductees are listed for five years. I was number five on the list, and over the years it appeared that the people who voted inducted them in the order in which they became inductees. I reviewed the past inductees, and didn't know any of them. This "international" club seemed to be mostly a bunch of kayakers who ran first descent of obscure creeks, which made me wonder why I was on their list. Plus, none of my friends (all Western boaters) had heard of the organization. In the fifth year, I was the only inductee left, and although I was a kayaker, I was also a rafter, so I suggested that Richard Bangs,

founder of Sobek, a famous international rafter and acquaintance of mine, be added to the list of inductees. Richard Bangs had run a first descent of a section of the lower Yangtze Great Bend and he and Christian Kallen had written one of the best river stories I've read - "Riding the Dragon's Back – the Race to Run the Yangtze." The IWH voters picked him, which was fine with me. I decided not to have my name added for another five years. Their website is two years out of date, so the organization may be defunct. I'm well known in the Chinese rafting community for helping them explore their rivers, which is far more important to me, and the same is true for Travis. Drew lives in Ketchum, Idaho, a great place for skiing, horseback riding and kayaking. I boated the Payette with him in the summer of 2015. He has been a good friend ever since his first trip with us. Cool guy.



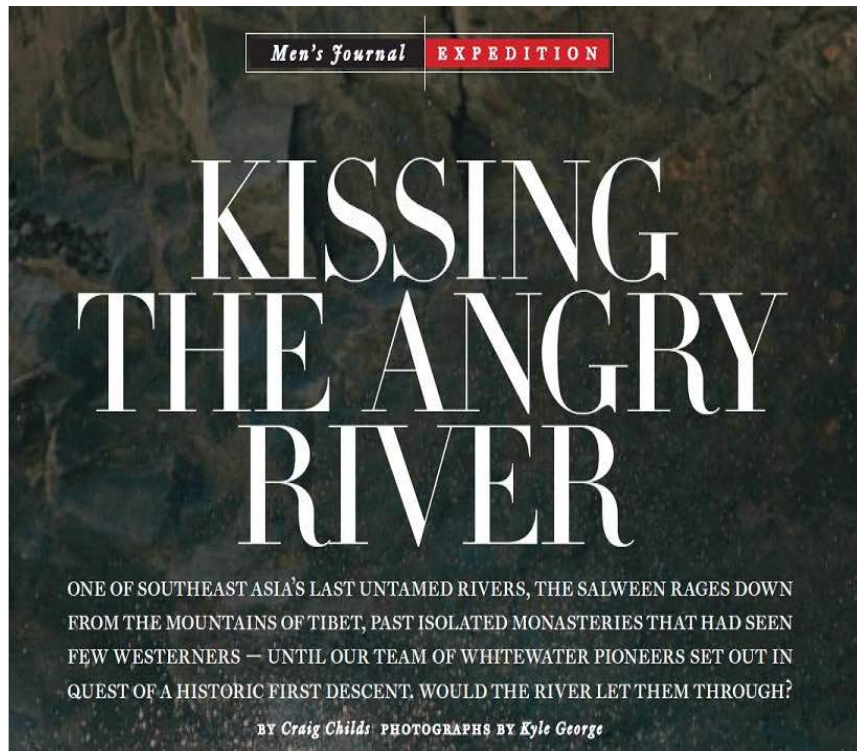
Cindy with Tibetan family 2007. Early in our program of exploring the rivers of western China, we decided not to give candy to children. Instead we them pencils and notepads (and balloons). Photo by Scott Sanderson.

Cindy and Carmen also joined our first descent of the Salween from Biru to Sadeng in Tibet. They shared rowing one of the rafts. Cindy had a knack for making friends with the locals, even though they didn't speak each other's language. We often brought along a Polaroid camera that produced instant prints to give to our new friends.



Eric Ladd giving Tibetan monks from the Sadeng Monastery a ride around the put-in eddy in 2007. Photo by Kyle George.

Eric Ladd, a Montana rafter, chartered the 2007 ESE/LD first descent of the Salween below Sadeng in northeast Tibet. This was Travis' first time leading a major first descent trip without me along. The river was in flood due to an extended monsoon season, so he delayed the trip for a week, waiting for the river to drop. Eric was a little leery of having a twenty-three year old trip leader, but he and Travis hit it off and the trip went well – only one flip in dozens of Grand Canyon size rapids. The river flows at an elevation of about 12,000' between two mountain ranges with 20,000' peaks and a few gorges with no banks – pretty spooky. See [www.shangri-la-river-expeditions.com/1stdes/salween/salween2007c.html](http://www.shangri-la-river-expeditions.com/1stdes/salween/salween2007c.html).



The cover of Men's Journal, January 2008

Craig Childs, an author of several books (my favorite is “The Secret Knowledge of Water”), joined

Travis and Eric's 2007 Salween trip and wrote a story that was published in the January, 2008 issue of Men's Journal (pictures by Kyle George). Travis has had much more success than I did in getting articles and videos published about his expeditions. The full article is at [www.shangri-la-river-expeditions.com/1stdes/salween/salween-mensjournal12-07](http://www.shangri-la-river-expeditions.com/1stdes/salween/salween-mensjournal12-07).



Kristen on the Great Bend of the Yangtze, 2009.  
Photo by Li Hong.

Kristen McDonald contacted Travis after reading an article about a presentation he had given at University of Oregon in Eugene, where she had grown up. They finally connected in December of 2005 at a conference about International Rivers in Asia, and worked together to organize their first river trip together on the Salween in Northwest Yunnan in January 2006 where she was doing research for her PhD dissertation at UC Berkeley, CA (“Damming China’s Grand Canyon: Pluralization without democratization in the Nu River Valley,” 2007). She also co-authored an article with Ralf Buckley about the river touring industry in eastern China in “Tourism Management” in 2014. In 2006 she and Travis formed a US non-profit organization, China Rivers Project (CRP, [www.chinariversproject.org/](http://www.chinariversproject.org/)), to help educate people about the problems caused by dams in western China. She helped organize and guide the last descent of the Yongbao Gorge Section in April 2006 with Travis, and she was also a guide on a Great Bend trip in 2008 that was the subject of an NGS video (“A River’s Last Breath,” see [vimeo.com/2986472](https://vimeo.com/2986472)). In 2009 she organized a research trip about dams on the Great Bend of the Yangtze run by Last Descents and CRP. Kristen speaks Mandarin and is currently managing the office of Pacific Environment in China ([www.pacificenvironment.org/](http://www.pacificenvironment.org/)).



Tony Griesbach on the Great Bend of the Yangtze, 2008.  
Photo by Li Hong.

Tony Griesbach is a German kayaker who joined Travis on a 2006 trip on the Mekong headwaters of the Yangtze in Qinghai to celebrate the 20<sup>th</sup> anniversary of the Chinese first descent. He made a video of this trip, also joined us as a kayaker on Travis' 2008 trip on the Great Bend of the Yangtze and came to Travis' wedding in Grand Junction, CO. He's a giant teddy bear – probably six and half feet tall and one of the most friendly people you'll ever meet.



The Naxi call the Yangtze (upper),  
the Mekong (middle) and the Salween  
(lower) the “Three Sisters.”  
Painting by Ge A Gan, 2008.

He Xiao Xun joined Travis' second 2008 Yangtze Great Bend trip. She's a co-owner (with a French friend) and the manager of a French restaurant in Kunming and a world traveler. She's also Naxi, one of China's fifty-six minority nationalities (including Tibetans, in some ways like our Native Americans). Her family is from Lijiang, just south of the Great Bend of the Yangtze in northwestern Yunnan. Her father is well known for his research on Naxi history and art (including authoring a book), and makes a living selling his books and paintings. After the river trip, we visited him and were so impressed with the stories told by his paintings that most of us bought some of them, which are large scrolls. He made the painting above to show us the different ways that people cross each of the rivers, illustrated on the upper right of each river (Yangtze by wooden boat, Mekong by air bladder, Salween by cable crossing). One of these paintings hangs in the living room of the house in Grand Junction where Cindy and I lived for twenty-five years. If I were twenty years younger, I could easily fall in love with He Xiao Xun. I go to her restaurant for quiche every time I visit Kunming.



Weiwei and Travis after their wedding. Cindy's house in the background  
Photo by Scott Sanderson, 2016.

After Travis' 2008 Great Bend of the Yangtze trip, one of the Chinese participants, Yang Yong, introduced him to a Chinese woman who's boss had just climbed Mount Everest and was quite famous in China. Yang Yong thought that with Weiwei's help they could get this influential guy to join a rafting trip and help them to promote river conservation. She came on a first descent of the Yalong River in August 2008 and then the Great Bend of the Yangtze in January 2009, at which point decided that she wanted to quit her job and join the cause in protecting China's rivers. Along the way they fell in love. Cindy hosted their US wedding at her house in Grand Junction in May, 2016 and Carmen created their invitation and website. About thirty of their friends traveled from Kunming, Beijing, Hong Kong and Guangzhou to attend the celebration. Their wedding rings were silver with a wave pattern, similar to mine and Cindy's. They have had a lot of success promoting their cause together and in 2012 were lucky enough to have Yixi, the Chinese equivalent of TED Talks, invite Travis to be one of their first speakers (2012, see [v.youku.com/v\\_show/id\\_XNDUwMDE5NDQ0.html](http://v.youku.com/v_show/id_XNDUwMDE5NDQ0.html), which as of mid 2015 had had over 130,000 viewers). She's learned to row and kayak, but is more interested in conducting cultural research on the rivers they run than guiding. She grew up in Guangzhou (formerly Canton) where her mother and brother and family still live. Her brother joined us on a Mekong headwaters trip in 2011, and her mother took Weiwei, Travis and I on a dinner cruise on the Pearl River later that year. Really cool family. Her online name in China is "River Girl." She and Travis had a baby girl, Gaia, May 30, 2017. I suspect she'll grow up to be another River Girl.



Weiye, Gaia and Travis. Photo by Louise Teal.



Adam on the Great Bend of the Yangtze in northwestern Yunnan. This section is twice as deep as the Grand Canyon.



Photo by Li Hong, 2009.

Adam Elliott, Rob's son, and Travis have known of each other since childhood, however they didn't really become friends until they ended up at the University of Oregon together in 2002. Adam was working on a degree in architecture after guiding on rivers all over the western US. He's been a guide on many of Travis' trips in China since 2008 and is usually the trip leader. Like his uncle Jim, he's very good with equipment, and like Travis, he's a world class kayaker – they've run some pretty crazy first descents together in China. He lived in Kunming with Travis for a while, has learned a fair bit of Chinese and can get around well enough to buy gear and food for their trips. His support has been very helpful to the success of Last Descents. When not rafting or kayaking with Travis, he lives with his wife Susan in Portland, where he makes a living as a photographer and videographer and product designer. He also owns a co-op space for artists and designers in Portland. Travis and Adam have taken several high school kayak group on rivers in western Yunnan, and Adam has been their photo and video instructor.



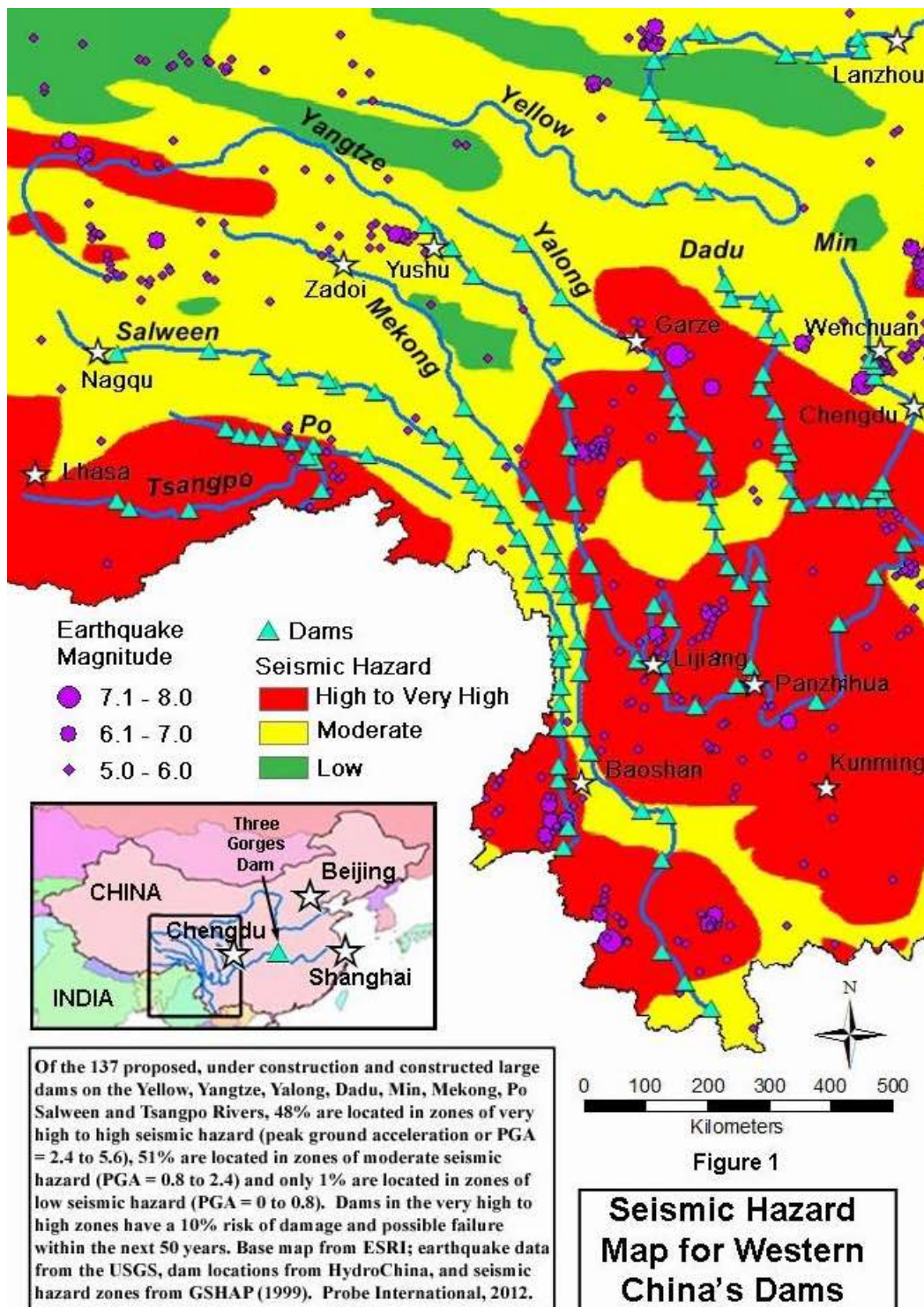
Leif Karlstrom, probably looking at the scars from work on the Liyuan Dam on the Great Bend of the Yangtze, 2009. Photo by Li Hong.

Leif Karlstrom is the son of Karl Karlstrom and grandson of Thor Karlstrom – definitely proud of their Nordic heritage. As with the Elliott family, mine is connected with all three generations of theirs. Cindy worked with Thor at USGS in Flagstaff on historical climate issues in the late 1970s – she collated wine production data in pre-industrial Europe as a proxy for precipitation. Karl and his brother Eric went to NAU at the same time Cindy and I were there, studying geology. Both were river guides for ARTA, but I never had a chance to run a trip with Karl. I only ran one river trip with Eric, where he introduced me to Bill Breed. Karl's wife played violin for the Flagstaff Symphony at the same time that I was dating one of their cello players (before I met Cindy), Travis and Leif rented a house together in Eugene, OR when they were both students at the University of Oregon, and Carmen is one of Karl's PhD students in the geology department at the University of New Mexico. Travis invited Leif to be one of the guides on a 2009 Great Bend of the Yangtze trip and Leif and I made a joint geology presentation on the evolution of the Yangtze River drainage to the participants on this trip, along with Yang Yong. Small world. Leif now has a PhD in geophysics and is a college professor at the University of Oregon in Eugene. He also plays fiddle in a San Francisco band.



Yang Yong and the author, 2009. Photo by Li Hong.

Yang Yong is a really interesting guy. He was a member of the 1986 source to sea first descent of the Yangtze (on which ten Chinese rafters drowned) and co-leader of the 1998 first descent of the Yarlung Tsangpo (Brahmaputra headwaters on the north side of the Himalayas in Tibet). He doesn't speak English, but had a friend, Wang Hong, who did, and who after their successful trip (no drownings) had done an internet search, found my website and emailed me to ask if I would add their trip to it. He provided a map and enough photos to convince me, plus he later mailed me a video of the expedition (see [vimeo.com/2986472](https://vimeo.com/2986472)). I lost touch with him after a few years, then Yang Yong met Travis in 2006 while they were both running raft trips in the Yangtze headwaters area. By then he had started up an environmental organization in Chengdu, Sichuan, which specialized in desertification and other water issues in western China, including diversions and dams. Travis invited him to join the 2008 Great Bend of the Yangtze expedition, and I taught him to row. We hit it off, with Travis struggling to translate somewhat technical geological discussions between Chinese and English. In 2011, he asked Travis to ask me to find a foreign geoscientist to write a report on earthquake risk and large dams in western China. He was afraid that if he wrote the report that he'd be put under house arrest (as had another Chinese geologist, Fan Xiao, who had written a report that was critical of China's rapid large dam building program on major western rivers). He also thought the report would be more influential if it was first published outside China. I couldn't find anyone to write the report, so I went back to college (Colorado Mesa University in Grand Junction) after I'd retired to take a two semester class to re-learn how to use a geographic information systems software program (ARC GIS) so I could make a map showing the seismic hazard zones of western China overlaid by the distribution and size of large earthquakes and rivers with the locations of large dams as the basis for the report. I also addressed reservoir-induced seismology (RIS) in this report (using some references provided by Carmen), which Yang Yong felt was important. Fan Xiao had done research that showed the 2008 Wenchuan earthquake, an 8.0 which killed 80,000 – including thousands of school children, had been caused by reservoir fluctuations due to electrical power generation at the Xipingpu Dam on the Min River upstream from Chengdu, and Yang Yong believed the same thing. See map below. I also included a discussion of world wide RIS events, including one caused by the Oroville Dam near Chico, CA, which became a major argument against building the Auburn Dam on the North Fork of the American above Sacramento, the capital city of California. My report was also published in China in Mandarin, but didn't seem to have an obvious effect right away. In 2013, I was asked to edit the English version of Fan Xiao's very convincing report documenting RIS at the Xipingpu dam ([probeinternational.org/library/wp-content/uploads/2012/12/Fan-Xiao12-12.pdf](http://probeinternational.org/library/wp-content/uploads/2012/12/Fan-Xiao12-12.pdf), though it's pretty technical). While running rivers in western China's high seismic zones, I've occasionally wondered what it would be like to be hit by a river tsunami.



Self explanatory, from [probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf](http://probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf) (I'm John Jackson).

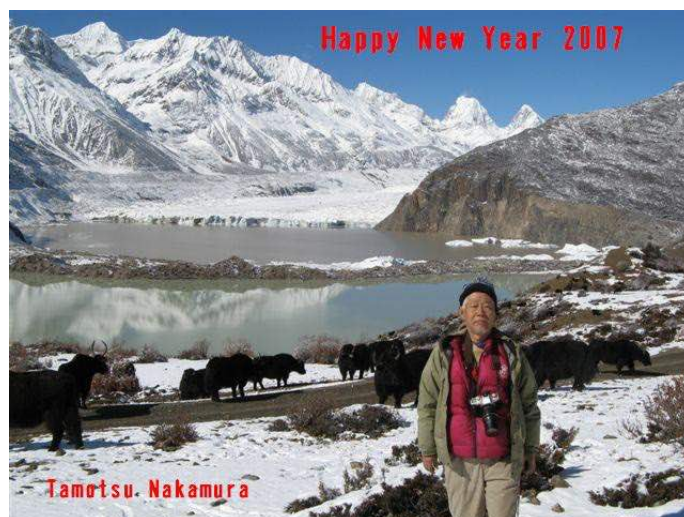
## Travis



Travis with Giant Panda at the Panda Reserve where Lu Zhi worked, 2003.

Lu Zhi joined our 2009 Great Bend of the Yangtze trip at Travis' invitation. She's the chairperson of the Center for Biodiversity at Beijing University, China's Harvard. She received her PhD from Beijing University (China's Harvard) and occasionally lectures at Harvard and Princeton. She's often referred to as the “Panda Lady” because of her efforts to save the Panda Bear in Sichuan from extinction. She figured out how to convince Pandas to breed in captivity at the Panda Research Center near the Min River northwest of Chengdu, based on the timing of female Panda's release of sex pheromones. I've visited her house and office a couple of times. Her office is filled with really cool pics of baby Pandas, both born in the wild and in the research facility in Chengdu. She's now working on how to save snow leopards from extinction. Travis once told me that “searching for world peace is the wrong approach: everyone should take a lesson from the Panda Bear and search for world play instead and world peace will follow.”

Sun Shan also joined us on the 2009 Great Bend trip. She was educated in the US and worked with Lu Zhi. Sun Shan and her husband, Li Bo, eventually formed their own environmental organization in China, only to find out how hard it was to raise funds. Oddly, most environmental funding for Chinese non-governmental organizations (NGOs) came from foreign organizations, because up until recently funding was not available domestically in China. Sun Shan and Li Bo recently moved to Canada, preferring to raise their son in a healthier environment.



Tomatsu sent me many issues of Japan Alpine News and a Happy New Year card every year until he retired.

Tomatsu Nakamura never joined any of our expeditions in China but became a good friend over the years. He has been the editor of Japan Alpine News for many years, speaks and reads English and Mandarin, and played a key role in publishing the research on the source of the Mekong generated by Kitamura's 1994 and 1999 expeditions and several others over the years (documented at [www.shangri-la-river-expeditions.com/1stdes/mekong/mekongsource/mekongsource.html](http://www.shangri-la-river-expeditions.com/1stdes/mekong/mekongsource/mekongsource.html)). He occasionally asked me to edit English language reports he had written. In his youth he had completed many first ascents of peaks above 20,000' in western China and has published two books and many articles about un-climbed peaks there, with spectacular pictures. I used some of them in the DVD Exploring the Rivers of Western China. Travis and I met him in Bend, OR at a presentation he made on glacial retreat based on his frequent travels to western China, the Himalayas and mountain ranges on and surrounding the Tibetan Plateau related to India's "collision" with Asia.

Of all of the river trips I've led in western China, I've only had to abort two of them. The first, in 2004, was a trip on the Mekong in southeastern Tibet (Lancang Jiang in China). We had three catarafts and four kayakers and people from the US, China, Japan and Australia. After two difficult portages, we arrived at another unrunnable rapid. At the rate we were going, we'd have run out of food before reaching our take-out (if we were even able to make it there), so we hired some villagers to help us carry all of our gear out, mostly on horses. It took two days hiking to get to a village with a road (using donkeys, yaks and porters to help carry gear) and another two days by truck over two 15,000' snow covered passes to get to a highway, quite an adventure (see my journal at [www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html](http://www.shangri-la-river-expeditions.com/journals/2004/mekong2004.html), Travis' thoughts at [www.shangri-la-river-expeditions.com/journals/2004/twinnjournal.html](http://www.shangri-la-river-expeditions.com/journals/2004/twinnjournal.html) and the Chinese perspective at [www.shangri-la-river-expeditions.com/journals/2004/chinese04article.html](http://www.shangri-la-river-expeditions.com/journals/2004/chinese04article.html)). The other trip was a first descent of the Ji Qu, a large tributary to the Lancang (Mekong) in southern Qinghai, just north of Tibet. On our third day we came to an unrunnable rapid that was impossible to portage. This time it only took us half a day to get all of our gear to a road with a truck, mostly because there was a trail suitable for motorcycles ([www.shangri-la-river-expeditions.com/1stdes/mekong/jiqu2011.html](http://www.shangri-la-river-expeditions.com/1stdes/mekong/jiqu2011.html)). The Tibetans had discovered that the Chinese would pay a lot of money for a fungus that grew on a certain caterpillar called "yartsa gunbu" (*Ophiocordyceps sinensis*), enough that young Tibetan men could retire and buy motorcycles to help out crazy foreigners.

Although I only learned enough Chinese to get around, it slowly became apparent to me that they thought differently than Westerners. In school, they learn primarily through memorization, a requirement due to their written language, whereas Westerners are more analytical. There's a really good book summarizing research about this difference, "The Geography of Thought" by Richard Nesbitt. An example describes this in a nutshell: When asked to describe an aquarium, Westerners describe the fish and Asians describe their environment, probably related to the differences between Western and Asian religious beliefs. In the West, religious art is mostly about people, in the East, it's mostly about landscapes.

Over time, in addition to having a strong desire to understand the geology and geography of China, I developed a strong interest in Chinese history and culture. I learned that the Chinese first developed the concepts of zero and infinity, which were then adapted by Indian and Middle East cultures and eventually by European mathematicians. China is also the home of Taoism, Confucianism and globally the largest number of Buddhists. Plus, the Chinese government was the first to recognize that unlimited population growth was unsustainable and adopted the one child policy. This worked in many ways, but backfired in several – one of them being that in a society where bloodline was determined paternally, male children were more valuable, so female children were aborted or abandoned to orphanages. I have several American friends who have adopted Chinese girls and raised them in the west, to the advantage of both the parents and the girls. China now has about ten percent too many men, resulting in a huge prostitution industry and an AIDS problem. It also has problem supporting its aging population, and now allows two children per city family and rural families can have more than two children until they have a boy. Another effect was a huge migration of young women to cities. If this subject interests you, read "Factory Girls" by Leslie Chang. These young women constituted a large portion of the three hundred million Chinese who migrated to cities during the past thirty years – almost as many as the entire population of the US.



Travis Winn, kayaking in Tibet with a prayer scarf (thankla) on his boat.  
Photo by John Mattson, 2004.

## Travis

Travis was born in Salt Lake City, UT on January 4, 1984, about six and a half years after Cindy and I got married. Cindy wanted to have a natural childbirth – no pain meds - so we went to Bradley classes for a few months. She learned to reduce the pain by focusing on breathing. She also went to see a seriously overweight nurse midwife, who recommended doubling her food intake to increase protein. By the time she was ready to deliver, she had gained fifty pounds – way too much. She was diagnosed with pre-eclampsia and put on bed rest for a month. Her obstetrician suggested walking and sex to avoid a C-section. This worked, but shortly after delivery her blood pressure dropped precipitously. Fortunately the nurse had put in an IV before delivery and they were able to get her back to normal within a few hours. By then hospitals allowed husbands in the delivery rooms. I'd seen videos of childbirth in our classes, but being there, holding her hand and telling her to breathe and relax through her contractions and watching Travis join our world as an individual was a real eye opener. Cindy changed dramatically after becoming a mother – I'm convinced there are three sexes: men, women and mothers.



Cindy, holding Travis when he's about six months old, with the author rowing on a San Juan river trip, 1984. Photo by Julie Sullivan, David's wife, whose baby daughter Lucy was also on the trip.

Travis had trouble falling asleep, so we used to put him in a baby car seat and drive for half an hour to put him to sleep, sometimes more than once a night. He was a really curious baby and somewhat precocious, but rarely wandered very far from us. We read to him and played games with him – we didn't use TV or movies as baby sitters, and we took him everywhere we went. This included rafting at six months old and cross country skiing in a child pack at a year. While Cindy was pregnant, Will Downs took us out to an Italian restaurant where we ate an escargot dinner. At a family reunion near Bend, Oregon when Travis was about ten years old, he surprised all of us (including the waitress) by ordering escargot at a local restaurant (it's still my one of my favorite foods, mostly because it a great garlic hit). We moved to Grand Junction when he was two and bought a house (Cindy calls it Paradise Farm) right across from Scenic Elementary School in the Redlands, not far from the Colorado River. We'd take Travis (and later Carmen) to the school playground, which had a hill that was fun to sled in winter. There was a small creek on the other side of the school that eventually became one their favorite places to play. I would also take him on our floats through town the back of my Hollowform (big long plastic kayak) as I paddled downstream.



Male Panther chameleon, *Furcifer Pardalis*. Photo from our supplier.

Travis developed a strong interest in amphibians, snakes and lizards, so our house was always full of terrariums. Over the years, we had giant White's frogs (which we always found in the toilet when they escaped) plus several different kinds of snakes and lizards. Travis did a project on chameleons in fifth grade, which resulted in my constructing a very large glass cage (two feet wide by four feet long by four feet high) with large plants growing in Cindy's pots, and two Panther chameleons (a male and female, which unfortunately never mated). They ate crickets (we'd buy hundreds at a time), which he and Carmen would hold in their fingers about a foot from the chameleons, which would zing them with their long and sticky tongue to the great amusement of their friends. If I ever decide to get another pet, it would be a male Panther (though I now have a collection of "pet" rocks that don't need to be fed or have their cages cleaned:). When Travis wanted to show his friends how fast *Furcifer* could change his colors, all he had to do was carry him to the bathroom mirror. We also bought an iguana. Travis called "him" Verde, Spanish for green. When Verde outgrew the old chameleon cage, we decided to let "him" have the run of the house and "he" eventually grew to about four feet long. I called him Garbogwana - "he" was always climbing onto the kitchen counter, where we had a compost bucket, knocking it over and feasting on the contents. Thankfully, Verde trained us to put an adult disposable diaper under the toilet tank. Iguanas are climbers and "he" trashed our picture window curtains, so I built a perch in the dining room picture window for "him" to climb and hang out in the morning sun. After a while "he" stopped eating but didn't lose weight, then one day "he" laid about fifty eggs. We quickly changed her name to Verdina. Another time, while Verdina was sunning on the perch, a woman stopped by to sell us life insurance. We were sitting at the dining room table while she showed me various options when Verdina decided to jump off the perch to the kitchen counter to eat. The woman freaked out, ran out of the house and drove away, leaving all of her literature. She later called and asked me to bring it to her car when she returned. She thought Verdina was a decoration but when she dropped off the perch the woman jumped to the conclusion that it was a baby alligator. We had once put a very realistic plastic rattlesnake coiled up in the living room picture window, near the front door, with a sign on the door saying "This home is protected by a pet rattlesnake." I seriously thought about putting up a sign saying "This home is protected by a pet alligator" after that. Verdina would occasionally escape through the cat door and a neighbor would call to tell us where she was. One day she just disappeared.

During elementary school and middle school, Cindy encouraged Travis to learn to make pottery and to play a flute, and I encouraged Travis to try a variety of sports. In one of his soccer games, we watched him holding hands with a girlfriend – neither of them had any interest in chasing the ball,



though he now enjoys running. Cindy and I convinced him to join a Little League baseball team and I volunteered to be an umpire. It was a thankless job – no one liked me, including Travis' coach. Travis didn't like baseball either, so we both quit, though when I was in elementary school, I'd collected baseball cards and one of my favorite quotes was Mickey Mantle's "Swing from the Soul." The only ball sport Travis plays nowadays is kayak polo, and that's only if there is no moving water around.

As I prepared for my first trip to China in 1987, I asked three year old Travis what kind of present he'd like me to bring home for him. He asked for a toy Chinese fire truck, which wasn't hard to find – I guess Chinese boys like to play with them too. A few weeks after returning to the US, I saw the exact same fire truck for sale in Walmart, with made in China stamped on it. When I was living in Dali, I was surprised by how many Chinese celebrated Christmas – very few of them are Christians. I asked a Chinese friend, a successful businessman and not a Christian, why he celebrated Christmas. I shouldn't have been surprised at his response: because he made so much money shipping products to Christian nations for Christmas gifts, probably including fire trucks.



Travis rowing the San Juan in southeastern Utah at age ten.  
He called his boat "Triceratops."

When Travis was six, Cindy, who had hiked out from a Grand Canyon trip at Phantom Ranch to be with Carmen (who was one year old at the time), brought Travis to Diamond Creek (Mile 226) where there was a road down to the river. He rode on my dory through the last ten miles of rapids, his first time in big water (of course, kids also love roller coasters and other amusement park rides that terrify many adults, including me). By the time Travis finished second grade, he had learned to ski and could row for a while on our thirteen-foot Avon Adventurer. We bought one of the first small plastic kayaks, a Dancer XS, from Rob Elliott (Adam had learned to kayak in it, and it was originally bought by Tim Cooper, who had kayaked the Little Colorado in flood with Brad Dimock, see the story in Christa Sadler's book "There's This River"), and I taught him how to roll in a pool when he was about ten. At the same time Cindy and I had an eight-foot Udisco raft that was just the right size for an eight year old, so I built a frame for it and bought some six foot oars. It was like rowing a peanut shell with toothpicks to me, but he loved it, and actually quit kayaking to row because of a bad experience. By the time he was twelve, he had rowed it down the Colorado River through town, through Ruby and Horsethief Canyons between Loma and Westwater (during a flood,

a spooky experience for all of us), the San Juan in southern Utah and the Main Salmon in Idaho. He flipped in a hole in Hancock Rapids on the Main and it didn't phase him, in fact it might have convinced him that swimming rapids was pretty fun, because he soon started kayaking again thereafter.

Travis' fifth grade teacher, Carey Atwood, was really cool. She had all of her students create an illustrated story book and make a presentation to the class. Travis chose to write a story about a group of animals (snakes, lizards, scorpions, mice, etc.) that sabotaged bulldozers and other construction equipment being used to build new houses at Delicate Arch in Arches National Park near Moab, Utah, after reading Ed Abbey's "The Monkey Wrench Gang." He wore my old "Smokey Bear" hat from my days as a river ranger when he made his presentation. At the end of the school year, Carey kayaked with us on a family river trip through Ruby and Horsethief Canyons of the Colorado near Grand Junction. In one of our camps, we watched baby kestrels learn to fly. Cindy still keeps in touch with her – Carey even came to Travis' wedding.

Travis picked up kayaking quickly when he started again and by the time he was thirteen he had a good roll. By then he had a Dagger Blast, which was the newest boat for young people, and we took him through Westwater Canyon of the Colorado. It's a step up from the Main Salmon, especially for a beginning kayaker. He did so well I decided to let him take his kayak on a Grand Canyon trip later that summer. He only had to roll once (Mile 24.5), though he decided not to run several of the biggest rapids (he did run Hance, which surprised me). I'd taught him to surf at "Big Sur" on the Colorado upstream from Palisade that summer (where we met Will Perry, who had been a kayaker on my first kayak trip through the Grand Canyon in 1972), and around Mile 210 he found a perfect surf wave and stayed on it for about ten minutes while we waited for him. Probably a Guinness World Record. Surfing is addictive, so I'm not surprised he ended up being a rodeo kayak champion. Many years later he tried to surf the big hole in Crystal – five times!



Travis Winn and my father at Deschutes whitewater rodeo, 1999. Photo by my mother.

When Travis started high school, Cindy and I volunteered to be the parent sponsors of the outdoor club. The club had become inactive, so Travis and a couple of friends convinced their geography teacher to be the teacher sponsor and we started doing all kinds of fun trips – hiking slot canyons, rafting, caving, hiking, cross country skiing, etc. I had run kayak pool sessions in Flagstaff, and with help from Pete and Monica Atkinson, who own Whitewater West, a kayak shop in Grand Junction, we got permission to use the Fruita Monument high school pool for kayak roll lessons for outdoor club members, using kayaks loaned to us by Pete. Their first trips were on the Colorado

through Grand Junction, and eventually we let Travis haul his kayak to the river using a bike trailer made with a dolly. We started taking Travis and some of his friends to whitewater festivals until he got his driver's license and could go on his own. Colorado, with the Rocky Mountains providing snow melt for many rivers, was the perfect setting for the early development of whitewater parks. The first ones were natural, but as time passed they and many others were enhanced by man-made features, becoming popular places for whitewater rodeos in addition to racing. They're sometimes called "Park & Play" because you don't need to run a shuttle. At a kayak rodeo, the boaters do tricks similar to those in a diving competition, such as aerial rolls, three hundred sixty degree flips with a twist and many others. Now they're popular all over the world, including China. We went to Yampa River Days in Steamboat Springs, Animas River Days in Durango, FIBARK on the Arkansas in Salida (the first whitewater race in the US started there in the 1950s), the Clear Creek Whitewater Park in Boulder and the Taylor River Races near Crested Butte, plus a few others. At the Taylor River Races, Travis met Eric Jackson (EJ), a kayak designer and Dan Brabec, another boat designer and kayak builder living in Steamboat Springs, along with Chan Zwanzig, the founder of Wavesport Kayaks. They opened up their shop to Travis and friend to design and build their own "squirt boats," which are very low volume kayaks that can go under waves and sink in turbulent eddies, kind of like a kayak submarine. Cindy and I had sent Travis to a two week summer camp in Washington DC to learn about the US government, and while there he arranged to visit a engineer who designed submarine hulls for the US Navy (and who of course was a kayaker). Travis returned with a computer generated design for a squirt boat, which he and his friend used to make the plugs (to make the molds) for their squirt boats. Unfortunately, they built them when they were fifteen, then outgrew them. All that training and competition at the whitewater rodeos paid off when Travis took third in the junior division of a national ranked whitewater event series in Oregon in 1999. He also won a new kayak in a raffle, what a lucky week!

Both Cindy and I played the flute, and encouraged Travis to take music lessons. He eventually competed with his high school girlfriend for first chair flutist in the band, and still plays on his river trips. He played a song for Mu Zhengpeng and "Prince Edward" at their wedding ceremony on the Great Bend of the Yangtze, and plays my alto flute much better than I ever have. Travis also joined the "Knowledge Bowl," basically a memory sport. His team competed with teams from other high schools on almost any subject taught in high school. His team usually did pretty well. I'd been on a similar team in high school and really enjoyed it.

Travis graduated from Fruita Monument high school a semester early. When we asked him what he wanted as a graduation present, he responded that he wanted to go kayaking in Chile. He had taken eight quarters of Spanish and figured he could get around on his own. I was pretty sure he was too young to rent a car, and hauling a kayak around on buses might be difficult (turns out it wasn't). I knew a young woman, Sara Jansen, who was planning to kayak there with her boyfriend, and they agreed to take Travis with them. Chile, like many countries, required tourists to leave after a month or two, so Travis took the bus over the Andes to Argentina. He called us from there, and while he was talking to us he yelled "a riot just started, talk to you later" and hung up. Needless to say, we were really concerned for his safety until he called us a week later from Chile. This was an aspect of parenthood we were having trouble getting used to. While in Chile, he found that the locals didn't speak the Castilian Spanish he'd learned and it was hard to talk to them, but he had a great time anyway.

I had inherited a high mechanical aptitude from Dad and by the time I was twenty-five or so I had rebuilt two car engines and made lots of other repairs to cars and outboard motors. I'd learned that I really enjoyed figuring out how to do everything I could with minimal help from others. Travis really wanted a Toyota 4Runner to access remote creeks for kayaking, so we found a used one that

was affordable. Naturally, it broke down on the way back from a Westwater Canyon trip, so we towed it back to Grand Junction and I convinced a friend who had an automobile repair shop to let Travis help him repair the engine. Once it was running again, Travis decided to sell it – he could carry more kayaks and other gear in one of our minivans, one of which he still drives when he visits the US.

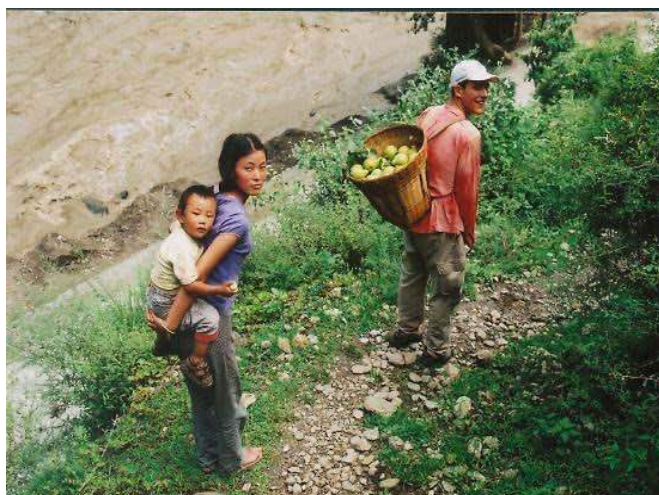
Travis decided he wanted to go to the University of Oregon in Eugene, where water is liquid in the winter and there's some great paddling. Cindy, Carmen and I drove with him to Eugene for college orientation week and he convinced us to let him practice whitewater rodeo tricks in a well known wave on the Willamette River, which separates Springfield from Eugene. Carmen decided to go camping with her cousins and Uncle Chris, and Cindy and I went for a cup of coffee, arranging to meet him at the river park. On our way across a footbridge to meet him, we saw an orange kayak that looked like his, recirculating in a pour-over caused by a six foot high old irrigation dam. We freaked out and called 911. Because the river was on a boundary, the dispatcher called both city rescue departments and the county rescue department. While they were on their way, I spotted a pickup with a kayak on top and took it, paddling with my hands and no spray skirt or helmet across the river to a dam abutment. By the time I got there, the kayak was gone, and the fire department's hook and ladder truck was just arriving. I explained to them the reason for the call while Cindy did the same to rescuers on the other side of the river. They told us they had rescue boats on the river both above and below the dam, looking for him. After forty-five minutes they hadn't found the kayak or Travis. I paddled back to the river park in tears, where the owner of the kayak berated me for stealing his kayak. He apologized when he found out Travis was missing, and we were blown away when he told us he was a friend of Travis'. Just as the county sheriff was about to leave, Travis rode up on a bicycle, looking for us and wondering why we hadn't met him at the river park downstream. He was just fine, hadn't gone for a swim or lost his kayak, and was sitting on shore when the county search and rescue boat had gone by. He found a bike hidden in the bushes and rode upstream to find out what was going on. After tearful hugs, the sheriff called the search off, then asked us "Do all people from Colorado steal kayaks and bicycles?" Travis promised to return the bike to where he found it, and, remarkably, we were never charged for cost of the search and rescue effort. It turned out that the two cities and the county were planning a joint training program anyway.

A few years later, Travis was the subject of another 911 call, this time on a very challenging stretch of the Middle Fork of the Feather River in northeast California above Oroville Reservoir. He and Adam Elliott and another friend from UO were dropped off at the put-in by Travis' girlfriend, who then drove to the take-out with instructions to call 911 if they didn't arrive by a specific time. While on the river, it had a record flood – rain on snow. About half way through the stretch, the third guy on the team, Mike, took a bad swim, and decided he wasn't up for continuing downstream. When they hit the Pacific Crest Trail they they stashed their kayaks up high and hiked out through the forest. They didn't have any maps and so hiked the wrong way. They spent the night in the snow under a tree, then the next day turned around, hid from the helicopter looking for them because they were worried the bill would be too expensive for them to afford, and walked up the other side of the canyon to eventually find a road and get picked up by a forest service ranger, cold and hungry but ok. That explained why their bodies or kayaks hadn't been found on the reservoir, and why the search helicopters hadn't seen them. It was a bad night for all of us, and again, we were fortunate that we weren't charged for the cost of the search. When I was a crazy kayaker in my twenty's and thirty's, I had done several solo trips on remote and challenging rivers, and after telling Dad about them, he bought a life insurance policy on me to cover the cost of any searches for my body (and my funeral). I considered doing the same.



Liu Hanli and Travis on top of Cathedral in the Sky on a Chinese charter trip in the Grand Canyon that we'd organized in 2004. Rob Elliott was the trip leader, Travis and I were guides and Hanli was our primary interpreter. Photographer unknown.

By the time Travis was eighteen and a high school graduate, ARTA had long been broken into pieces which had been sold by Lou Elliott's widow, Claire. The Grand Canyon operation had been bought by her son Rob and was called Arizona Raft Adventures (AzRA). Rob had increased the minimum age for guides to twenty-one, so Travis was faced with three years as a trainee – not having his own raft. Fortunately, Grand Canyon Dories had had to start running a baggage raft to comply with the regulations requiring that all solid human waste had to be carried out (no way were they going to carry shit in a dory), and Travis was able to get on with them, rowing the shit raft without passengers. Eventually, he started running trips for AzRA, but after a nasty experience with an insecure trip leader (Eric, who was later fired), and a growing love for China's disappearing rivers, he decided to quit and run exploratory and conservation trips on the Tibetan Plateau in the summer instead. By then he'd been on several of my river trips in China, spoke Mandarin, had met Na Minghui and had the use of my and Kitamura's rafts. He'd also met Jed Weingarten and Willy Kern and had run a couple of kayak and raft trips with them. Jed spoke Mandarin and Willy had been on a crazy first descent of the Yarlung Tsangpo in SE Tibet (the Bramaputra headwaters) a few years before. They had just started their own river conservation program in western China, FLOW (For Love Of Rivers, no longer active), and as part of that were operating trips for Sobek on the Great Bend of the Yangtze. In 2004 Travis was a guide on an AzRA charter trip through the Grand Canyon that Liu Li and I had organized, and in 2012 he brought Weiyi on a Grand Canyon trip. Weiyi thought it would be really inspiring to bring Chinese to the US to see how we managed and protected our rivers, so she organized an AzRA charter trips for 2013, 2014 and 2016, and Travis works as a guide for AzRA on these trips. Cindy helped organize all of the hotels and logistics and went on the trips as an assistant. AzRA is now owned by Alex, Rob's daughter and Lou's granddaughter, and Alex's older brother, Adam, works as a trip leader for Travis on his trips on the rivers of western China. In 2009 Adam, Rob, Travis and I were four of the six guides on a trip on the Great Bend of the Yangtze with famous entrepreneurs from around China, as well as Lu Zhi and some other very important conservationists and media. One of the participants was Carmen Yuan, a writer for the Chinese version of Outside Magazine, and she interviewed Rob and I after the trip. The story of our families' intertwined history over three generations, with some great pictures, was published (in Mandarin) in China Outside Magazine that September.



Travis Winn sent me this photo of him with my new grandson in 2003, as a joke. Photo by Liu Li.

Since 2003, Travis has run several all kayak trips on his own or with friends in western China. In 2003 and 2004 he ran first descent trips on numerous tributaries to the Dadu, a large tributary to the Yangtze in western Sichuan, unsuccessfully looking for stretches of rivers that could be commercialized. This was the year SARS was a global scare and few people wanted to travel to China, where it originated, so I didn't even try to run my own trip that year. Fortunately, incidents of SARS were largely limited to east coast cities, and there weren't any known incidents in western Sichuan. The second trip was filmed for Rush TV. In 2006 he did a solo kayak trip through the Yong Bao gorge of the Mekong in western Yunnan, a stretch that I'd run twice (1995 & 1996), in preparation for the first multi-day trip he had ever organized in China, with Chinese conservationists and local river guide trainees. It was financed by paying western guests via some people that I had found and another organization, Northwest River Guides, owned by Sam Drevo. In 1996, Eric Hertz of Earth River Adventures had lead a first descent of the Shuiluo, a tributary to the Yangtze which flows due south through western Sichuan, into the river at the apex of the Great Bend. After encountering numerous rapids that required portaging, Eric's team left the river. Their trip is described in a National Geographic Magazine article in the November 1996 issue. In 2005, Travis and five other kayakers completed a first descent of the eighty mile stretch of the Shuiluo from the footbridge where Eric ended his trip, all the way to the Yangtze, then kayaked the main stream for another fifty miles. In 2006 he led a group of nine kayakers down the Yalong, a large Yangtze tributary in western Sichuan and then repeated the Shuiluo. In February 2007, he and a team of kayakers completed a first descent of 180 miles of the Salween in southeastern Tibet, and in September 2007, he led a team that ran the first descent of the Salween in southeast Tibet, which included Craig Childs, a well known environmental writer who published a story about the trip in Men's Journal in 2008. In November 2010, he organized an expedition with British kayakers down the Litang, a steep tributary to the Yalong, then in December 2010 he led them on a second descent of the Yangtze below Batang (the first expedition was in 1986 at summer high water, resulting in over ten deaths), having to carry their kayaks over a snow covered pass to get to the put-in. In 2009 he did a solo kayak trip on the stretch of the Yellow River in northeast Qinghai just upstream from where seven Chinese had drowned. In 2012 he continued downstream through that section with a team of British kayakers, and then together they nearly completed a first descent of a tributary to the Yellow River in the Anyemachin Mountains in northeast Qinghai. However, just shy of the take-out the team came to a rapid that wasn't safely runnable or portageable, so they had to leave their kayaks and climb out (no way to call 911). It took them two days to find water and a ride to civilization. The scariest part of the video of the trip was their climb out of the canyon. In 2014 he and Will Stauffer Norris explored a section of the Dulong River in Yunnan, a combination first and

second descent, as the lower reach had been completed by Jed Weingarten a decade earlier. In 2015 he and Will and members of the British team who had completed the Yangtze, Litang and Yalong in 2010 and Yellow and tributary in 2012 snuck into a closed corner of Tibet to run a first descent of a major unrun tributary of the Salween, and then sneaked into the source of the Irrawaddy (Dulong) to complete a first descent of the headwaters of this section. Unfortunately these areas have been permanently closed off to foreigners, but he thought that since they didn't want to do anything critical of the Chinese government, that in the name of going and exploring the rivers they could justify sneaking in. Hard to say whether he's right or wrong, but at least they didn't end up in any trouble. So far he hasn't mellowed out and still has a long list of rivers to explore when the opportunity presents itself.



Guo Zheng on the Upper Yangtze, 2009, photo by Li Hong.

One of the most depressing experiences that Cindy, Travis, Carmen and I had was when Guo Zheng, China's first Class IV kayaker, drowned on a flooding river north of Kunming, Yunnan. Guo, a Chinese anti-drug policeman, had joined our 2004 Grand Canyon trip. He didn't speak English and had been kicked off the paddle raft by Feng Chun for falling off in a rapid, so Travis, who spoke Chinese, invited him to learn to row. Guo eventually got so good that Travis encouraged him to row Lava Falls. He didn't have a perfect run, but that happens to lots of river guides. Over the next couple of years, Travis taught him to kayak, then the unspeakable happened. An American idiot rafter (way beyond the "Ugly American"), a guy named Brown, somehow convinced Na Minghui to loan him some of our life jackets and other river gear for a first descent of a river north of Kunming, the capital city of Yunnan. Most of the year this river is too small to float, so Brown waited until it was in flood (and when Travis wasn't around), then managed to cause the drowning of two of his American friends and Guo. Brown was banished from China after that. He should have been put into a Chinese prison for life. Guo's parents burned his kayak at his funeral.

In 2002 Travis was accepted by Clark Honors College at the UO, which required an honor's thesis and defense to graduate. The application required an essay, and Travis wrote one about his experience helping a Tibetan monk on a pilgrimage to right a Tibetan prayer flag post on a pass on our way to run the upper Salween in 2000. The title of his honors thesis is "A New Political Space: Pristine River Corridors in Southwestern China," about the history of the relationship between whitewater recreation and river preservation in the US and whether it would work in China. It was based in part on the efforts of David Brower, who, as executive director of the Sierra Club, stopped the US Bureau of Reclamation from building the Echo Park Dam in Dinosaur National Monument in the 1960s by taking dozens of influential people on river trips through the Monument (Lou Elliott

was a good friend of his). It has been hard to say how effective this project has been in China, because there have been so many other forces at work impacting where and when large construction projects like dams are built. One of the references Travis cited is “Oriental Despotism” by Karl Wittfogel. It's about the history of hydraulic societies, which were the first to build dams and irrigation systems. They all developed thousands of years ago in desert societies in the “East” - the Nile in Egypt, the Tigris-Euphrates in the Middle East and the Yellow in China, all resulting in rapid advances in political and cultural systems and engineering technology. The 20<sup>th</sup> Century extensive dam building in the desert rivers of the western US and the current extensive dam building program on the desert rivers in western China are extensions of the need to control floods to “save” water for energy and irrigation. However, at the same time, Xi Jinping, the current chairman of China, was very successful in mounting an anti-corruption campaign that in recent years has reduced corrupt incentives for building large construction projects and so many dams have been stopped. Xi Jinping has also encouraged a new direction for economic development that revolves around developing tourism and protecting the environment, which has created tremendous opportunities for Travis and Weiyi and their river conservation projects. More and more Chinese are also seeking authentic experiences in nature, so perhaps the process that Travis researched in his thesis will actually play out in favor for China’s rivers as well. He has certainly led the charge and in spite of great difficulty has made a tremendous contribution to China’s river industry and river conservation community in China.

On our road trip to Mount Kailash and the Indus headwaters in western Tibet, we stopped in a remote village for lunch. One of the drivers, Bimba (they were all Chong Dak's cousins), made a big show of trying to crush a hard boiled egg. After failing, he gave it one of the other drivers, Mingma, who promptly crushed it, only to find a raw egg all over his pants. Travis snuck out of the restaurant, jacked up the drive wheels of Bimba's Land Cruiser about an eighth of an inch so they would spin – no traction, and when Bimba discovered this and slid under the Land Cruiser to remove the jack, Travis tied his shoe laces together, so when Bimba slid out and stood up, he fell over, much to everyone's amusement, especially Mingma.



The Ahai Dam on the Great Bend of the Yangtze in northwestern Yunnan.  
The Liyuan Damsite. Photo by Adam Elliott, 2009

From 2006 to 2011, Travis and Weiyi made enough progress bringing influential Chinese out to the river that they decided their hopes and dreams for river conservation might actually become a reality. However, by 2012 construction of the Liyuan Dam on the Great Bend of the Yangtze in



northwestern Yunnan (a thousand miles upstream from the famous Three Gorges Dam) had forced him to stop running this stretch, and the Chinese government had closed Tibet to foreigners. His only remaining choices for summer trips were the upper Yangtze (Tongtlen He) and Mekong headwaters (Za Qu) on the southeastern Tibetan Plateau in Qinghai.



A member of Last Descents' Youth Kayaking Club on the Salween, 2013.  
Photo by Will-Stauffer Norris.

The trips in Qinghai were eight days long, very remote and at a high elevation (over twelve thousand feet), which made them difficult to market. Fortunately, he was able to make ends meet by teaching the children of wealthy Chinese in Beijing to kayak in a private swimming pool in Beijing during the winter. This gave him the idea of taking them and their parents on the much shorter (three to four day) trips on the Salween in southwestern Yunnan in the Spring, which has easy access to an airport and where cell phones work in case of an emergency. This is also a relatively low elevation area (three thousand feet) with many cultural and scenic attractions, so it's much easier to market. While this section was originally slated to be dammed in 2013, it now looks like the Salween will be protected. In 2015, Travis chartered a Main Salmon River trip with Canyons Inc with six Chinese children in kayaks and their mothers. Although the forest along the river canyon was on fire and unpleasantly smokey, it was a remarkable trip. Travis has done a much better job of outreach than I ever did and a film about his efforts to educate the Chinese (and us) about the need to protect the Salween River, "Salween Spring" was chosen by the Banff Mountain Film Festival in 2015 and was selected for their world tour (see [www.lastdescents.com](http://www.lastdescents.com)). You can find films and articles about him using any of the major search engines. In 2017 I joined him, along with Ralf Buckley and Steve Martin (who took my place as a river ranger for Grand Canyon National Park in 1975 and eventually became the superintendent and then deputy director of NPS) on a trip on the Za Qu, the headwaters of the Mekong on the Tibetan Plateau in Qinghai. We were there at the invitation of the local government to help give them advice on National Park planning for a part of China's first pilot international park, surrounding the headwaters of the Mekong, the Yellow and the Yangtze. The amount of influence Travis is developing with government leadership amazes me.



Celebrating Chinese New Years on the Salween River, Yunnan.  
Photo by Travis Winn, 2016.



Travis Winn, kayaking in Tibet with a prayer scarf (thankla) on his boat.  
Photo by Will Stauffer-Norris, 2013.

## Travis

Travis was born in Salt Lake City, UT on January 4, 1984, about six and a half years after Cindy and I got married. Cindy wanted to have a natural childbirth – no pain meds - so we went to Bradley classes for a few months. She learned to reduce the pain by focusing on breathing, which is also the foundation of Vipassana meditation. She also went to see a seriously overweight nurse midwife, who recommended doubling her food intake to increase protein. By the time she was ready to deliver, she had gained fifty pounds – way too much. She was diagnosed with pre-eclampsia and put on bed rest for a month. Her obstetrician suggested walking and sex to avoid a C section. This worked, but shortly after delivery her blood pressure dropped precipitously. Fortunately the nurse had put in an IV before delivery and they were able to get her back to normal within a few hours. By then hospitals allowed husbands in the delivery rooms. I'd seen videos of childbirth in our classes, but being there, holding her hand and telling her to breathe and relax through her contractions and watching Travis join our world as an individual was a real eyeopener. Cindy changed dramatically after becoming a mother – I'm convinced there are three sexes: men, women and mothers.



Cindy, holding Travis when he's about six months old, with the author rowing on a San Juan river trip, 1984. Photo by Julie Sullivan, David's wife, whose baby daughter Lucy was also on the trip.

Travis had trouble falling asleep, so we used to put him in a baby car seat and drive for half an hour to put him to sleep, sometimes more than once a night. He was a really curious baby and somewhat precocious, but rarely wandered very far from us. We read to him and played games with him – we didn't use TV or movies as baby sitters, and we took him everywhere we went. This included rafting at six months old and cross country skiing in a child pack at a year. While Cindy was pregnant, Will Downs took us out to an Italian restaurant where we ate an escargot dinner. At a family reunion near Bend, Oregon when Travis was about ten years old, he surprised all of us (including the waitress) by ordering escargot at a local restaurant (it's still my one of my favorite foods, mostly because it a great garlic hit). We moved to Grand Junction when he was two and bought a house (Cindy calls it Paradise Farm) right across from Scenic Elementary School in the Redlands, not far from the Colorado River. We'd take Travis (and later Carmen) to the school play ground, which had a hill that was fun to sled in winter. There was a small creek on the other side of the school that eventually became one their favorite places to play.



Male Panther chameleon, *Furcifer Pardalis*. Photo from our supplier.

Travis developed a strong interest in amphibians, snakes and lizards, so our house was always full of terrariums. Over the years, we had giant White's frogs (which we always found in the toilet when they escaped) plus several different kinds of snakes and lizards. Travis did a project on chameleons in fifth grade, which resulted in my constructing a very large glass cage (two feet wide by four feet long by four feet high) with large plants growing in Cindy's pots, and two Panther chameleons (a male and female, which unfortunately never mated). They ate crickets (we'd buy hundreds at a time), which he and Carmen would hold in their fingers about a foot from the chameleons, which would zing them with their long and sticky tongue to the great amusement of their friends. If I ever decide to get another pet, it would be a male Panther (though I now have a collection of "pet" rocks that don't need to be fed or have their cages cleaned:). When Travis wanted to show his friends how fast *Furcifer* could change his colors, all he had to do was carry him to the bathroom mirror. We also bought an iguana. Travis called "him" Verde, Spanish for green. When Verde outgrew the old chameleon cage, we decided to let "him" have the run of the house and "he" eventually grew to about four feet long. I called him Garbogwana - "he" was always climbing onto the kitchen counter, where we had a compost bucket, knocking it over and feasting on the contents. Thankfully, Verde trained us to put an adult disposable diaper under the toilet tank. Iguanas are climbers and "he" trashed our picture window curtains, so I built a perch in the dining room picture window for "him" to climb and hang out in the morning sun. After a while "he" stopped eating but didn't lose weight, then one day "he" laid about fifty eggs. Another time, while Verde was sunning on the perch, a woman stopped by to sell us life insurance. We were sitting at the dining room table while she showed me various options when Verde decided to jump off the perch to the kitchen counter to eat. The woman freaked out, ran out of the house and drove away, leaving all of her literature. She later called and asked me to bring it to her car when she returned. She thought Verde was a decoration but when she dropped off the perch the woman jumped to the conclusion that it was a baby alligator. We had once put a very realistic plastic rattlesnake coiled up in the living room picture window, near the front door, with a sign on the door saying "This home is protected by a pet rattlesnake." I seriously thought about putting up a sign saying "This home is protected by a pet alligator" after that. Verde would occasionally escape through the cat door and a neighbor would call to tell us where she was. One day she just disappeared.

During elementary school, Cindy encouraged Travis to learn to make pottery and to play a flute, and I encouraged Travis to try a variety of sports. In one of his soccer games, we watched him holding hands with a girlfriend – neither of them had any interest in chasing the ball, though he now enjoys

jogging. Cindy and I convinced him to join a Little League baseball team and I volunteered to be an umpire. It was a thankless job – no one liked me, including Travis' coach. Travis didn't like baseball either, so we both quit, though when I was in elementary school, I'd collected baseball cards and one of my favorite quotes was Mickey Mantle's "Swing from the Soul." The only ball sport Travis plays nowadays is kayak polo.

As I prepared for my first trip to China in 1987, I asked three year old Travis what kind of present he'd like me to bring home for him. He asked for a toy Chinese fire truck, which wasn't hard to find – I guess Chinese boys like to play with them too. A few weeks after returning to the US, I saw the exact same fire truck for sale in Walmart, with made in China stamped on it. When I was living in Dali, I was surprised by how many Chinese celebrated Christmas – very few of them are Christians. I asked a Chinese friend, a successful businessman and not a Christian, why he celebrated Christmas. I shouldn't have been surprised at his response: because he made so much money shipping products to Christian nations for Christmas gifts, probably including fire trucks.



Travis rowing the San Juan in southeastern Utah at age ten.  
He called his boat "Triceratops."

When Travis was six, Cindy, who had hiked out from a Grand Canyon trip at Phantom Ranch to be with Carmen (who was one year old at the time), brought Travis to Diamond Creek (Mile 226) where there was a road down to the river. He rode on my dory through the last ten miles of rapids, his first time in big water (of course, kids also love roller coasters and other amusement park rides that terrify many adults, including me). By the time Travis finished second grade, he had learned to ski and could row for a while on our thirteen foot Avon Adventurer. Cindy and I had an eight foot Udisco raft that was just the right size for an eight year old, so I built a frame for it and bought some six foot oars. It was like rowing a peanut shell with toothpicks to me, but he loved it. By the time he was twelve and getting old enough to learn to kayak, he had rowed it down the Colorado River through town, through Ruby and Horsethief Canyons between Loma and Westwater (during a flood, a spooky experience for all of us), the San Juan in southern Utah and the Main Salmon in Idaho. He flipped in a hole in Hancock Rapids on the Main and it didn't phase him.

Travis' fifth grade teacher, Carey Atwood, was really cool. She had all of her students create an illustrated story book and make a presentation to the class. Travis chose to write a story about a

group of animals (snakes, lizards, scorpions, mice, etc.) that sabotaged bulldozers and other construction equipment being used to build new houses at Delicate Arch in Arches National Park near Moab, Utah, after reading Ed Abbey's "The Monkey Wrench Gang." He wore my old "Smokey Bear" hat from my days as a river ranger when he made his presentation. At the end of the school year, Carey kayaked with us on a family river trip through Ruby and Horsethief Canyons of the Colorado near Grand Junction. In one of our camps, we watched baby kestrels learn to fly. Cindy still keeps in touch with her – Carey even came to Travis' wedding.

Travis picked up kayaking quickly and by the time he was thirteen he had a good roll. We bought one of the first small plastic kayaks, a Dancer XS, from Rob Elliott (Adam had learned to kayak in it, and it was originally bought by Tim Cooper, who had kayaked the Little Colorado in flood with Brad Dimock, see the story in Christa Sadler's book "There's This River"), and took him through Westwater Canyon of the Colorado. It's a step up from the Main Salmon, especially for a beginning kayaker. He did so well I decided to let him take his kayak on a Grand Canyon trip later that summer. He only had to roll once (Mile 24.5), though he decided not to run several of the biggest rapids (he did run Hance, which surprised me). I'd taught him to surf at "Big Sur" on the Colorado upstream from Palisade that summer (where we met Will Perry, who had been a kayaker on my first kayak trip through the Grand Canyon in 1972), and around Mile 210 he found a perfect surf wave and stayed on it for about ten minutes while we waited for him. Probably a Guinness World Record. Surfing is addictive, so I'm not surprised he ended up being a rodeo kayak champion. Many years later he tried to surf the big hole in Crystal – five times!



Travis Winn and my father at Deschutes whitewater rodeo, 1999. Photo by my mother.

When Travis started high school, Cindy and I volunteered to be the parent sponsors of the outdoor club. The club had become inactive, so Travis and a couple of friends convinced their geography teacher to be the teacher sponsor and we started doing all kinds of fun trips – hiking slot canyons, rafting, caving, hiking, cross country skiing, etc. I had run kayak pool sessions in Flagstaff, and with help from Pete and Monica Atkinson, who own Whitewater West, a kayak shop in Grand Junction, we got permission to use the Fruita Monument high school pool for kayak roll lessons for outdoor club members, using kayaks loaned to us by Pete. Their first trips were on the Colorado through Grand Junction, and eventually we let Travis haul his kayak to the river using a bike trailer made with a dolly. We started taking Travis and some of his friends to whitewater festivals until he got his driver's license and could go on his own. Colorado, with the Rocky Mountains providing snow melt for many rivers, was the perfect setting for the early development of whitewater parks. The first ones were natural, but as time passed they and many others were enhanced by man-made

features, becoming popular places for whitewater rodeos in addition to racing. They're sometimes called "Park & Play" because you don't need to run a shuttle. At a kayak rodeo, the boaters do tricks similar to those in a diving competition, such as aerial rolls, three hundred sixty degree flips with a twist and many others. Now they're popular all over the world, including China. We went to Yampa River Days in Steamboat Springs, Animas River Days in Durango, FIBARK on the Arkansas in Salida (the first whitewater race in the US started there in the 1950s), the Clear Creek Whitewater Park in Boulder and the Taylor River Races near Crested Butte, plus a few others. At the Taylor River Races, Travis met Eric Jackson (EJ), a kayak designer and builder from Steamboat Springs who opened up his shop to Travis and friend to design and build their own "squirt boats," which are very low volume kayaks that can go under waves and sink in turbulent eddies, kind of like a kayak submarine. Cindy and I had sent Travis to a two week summer camp in Washington DC to learn about the US government, and while there he arranged to visit a engineer who designed submarine hulls for the US Navy (and who of course was a kayaker). Travis returned with a computer generated design for a squirt boat, which he and his friend used to make the plugs (to make the molds) for their squirt boats. Unfortunately, they built them when they were fifteen, then outgrew them. All that training and competition at the whitewater rodeos paid off when Travis won first prize (a new kayak) in the junior division at a whitewater festival at a natural whitewater park on the Deschutes River in Oregon.

Both Cindy and I played the flute, and encouraged Travis to take music lessons. He eventually competed with his high school girlfriend for first chair flutist in the band, and still plays on his river trips. He played a song for Mu Shengpeng and "Prince Edward" at their wedding ceremony on the Great Bend of the Yangtze, and plays my alto flute much better than I ever have. Travis also joined the "Knowledge Bowl," basically a memory sport. His team competed with teams from other high schools on the knowledge of all kinds of subjects – almost any subject taught in high school. His team usually did pretty well. I'd been on a similar team in high school and really enjoyed it.

Travis graduated from Fruita Monument high school a semester early. When we asked him what he wanted as a graduation present, he responded that he wanted to go kayaking in Chile. He had taken seven semesters of Spanish and figured he could get around on his own. I was pretty sure he was too young to rent a car, and hauling a kayak around on buses might be difficult (turns out it wasn't). I knew a young woman, Sara Jansen, who was planning to kayak there with her boyfriend, and they agreed to take Travis with them. Chile, like many countries, required tourists to leave after a month or two, so Travis took the bus over the Andes to Argentina. He called us from there, and while he was talking to us he yelled "a riot just started, talk to you later" and hung up. Needless to say, we were really concerned for his safety until he called us a week later from Chile. This was an aspect of parenthood we were having trouble getting used to. While in Chile, he found that the locals didn't speak the Castillian Spanish he'd learned and it was hard to talk to them, but he had a great time anyway.

I had inherited a high mechanical aptitude from Dad and by the time I was twenty-five or so I had rebuilt two car engines and made lots of other repairs to cars and outboard motors. I'd learned that I really enjoyed figuring out how to do everything I could with minimal help from others. Travis really wanted a Toyota 4Runner to access remote creeks for kayaking, so we found a used one that was affordable. Naturally, it broke down on the way back from a Westwater Canyon trip, so we towed it back to Grand Junction and I convinced a friend who had an automobile repair shop to let Travis help him repair the engine. Once it was running again, Travis decided to sell it – he could carry more kayaks and other gear in one of our minivans, one of which he still drives when he visits the US.

Travis decided he wanted to go to the University of Oregon in Eugene, where water is liquid in the winter and there's some great paddling. On the downside, western Oregon is humid, so books rot, etc. On one of my visits, I found mushrooms growing in the carpet of his van. I didn't ask him if they were psilocybin mushrooms :). Cindy, Carmen and I drove with him to Eugene for college orientation week and he convinced us to let him practice whitewater rodeo tricks in a well known wave on the Willamette River, which separates Springfield from Eugene. Carmen decided to go camping with her cousins and Uncle Chris, and Cindy and I went for a cup of coffee, arranging to meet him at the river park. On our way across a footbridge to meet him, we saw an orange kayak that looked like his, recirculating in a pour-over caused by a six foot high old irrigation dam. We freaked out and called 911. Because the river was on a boundary, the dispatcher called both city rescue departments and the county rescue department. While they were on their way, I spotted a pickup with a kayak on top and took it, paddling with my hands and no spray skirt or helmet across the river to a dam abutment. By the time I got there, the kayak was gone, and the fire department's hook and ladder truck was just arriving. I explained to them the reason for the call while Cindy did the same to rescuers on the other side of the river. They told us they had rescue boats on the river both above and below the dam, looking for him. After forty-five minutes they hadn't found the kayak or Travis. I paddled back to the river park in tears, where the owner of the kayak berated me for stealing his kayak. He apologized when he found out Travis was missing, and we were blown away when he told us he was a friend of Travis'. Just as the county sheriff was about to leave, Travis rode up on a bicycle, looking for us and wondering why we hadn't met him at the river park downstream. He was just fine, hadn't gone for a swim or lost his kayak, and was sitting on shore when the county search and rescue boat had gone by. He found a bike hidden in the bushes and rode up stream to find out what was going on. After tearful hugs, the sheriff called the search off, then asked us "Do all people from Colorado steal kayaks and bicycles?" Travis promised to return the bike to where he found it, and, remarkably, we were never charged for cost of the search and rescue effort. It turned out that the two cities and the county were planning a joint training program anyway.

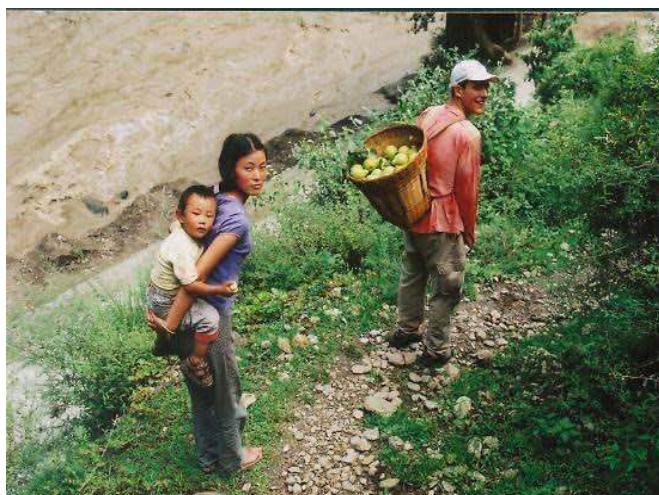
A few years later, Travis was the subject of another 911 call, this time on a very challenging stretch of the Middle Fork of the Feather River in northeast California above Oroville Reservoir. He and Adam Elliott and another friend from UO were dropped off at the put-in by Travis' girlfriend, who then drove to the take-out with instructions to call 911 if they didn't arrive by a specific time. While on the river, it had a record flood – rain on snow. About half way through the stretch, they stashed their kayaks up high and hiked out through the forest. They spent the night in the snow under a tree, then were found by a forest service ranger as they walked along the first road they found, cold but OK. That explained why their bodies or kayaks hadn't been found on the reservoir, and why the search helicopters hadn't seen them. It was a bad night for all of us, and again, we were fortunate that we weren't charged for the cost of the search. When I was a crazy kayaker in my twenty's and thirty's, I had done several solo trips on remote and challenging rivers, and after telling Dad about them, he bought a life insurance policy on me to cover the cost of any searches for my body (and my funeral). I considered doing the same.





Liu Hanli and Travis on top of Cathedral in the Sky on a Chinese charter trip in the Grand Canyon that we'd organized in 2004. Rob Elliott was the trip leader, Travis and I were guides and Hanli was our primary interpreter. Photographer unknown.

By the time Travis was eighteen and a high school graduate, ARTA had long been broken into pieces which had been sold by Lou Elliott's widow, Claire. The Grand Canyon operation had been bought by her son Rob and was called Arizona Raft Adventures (AzRA). Rob had increased the minimum age for guides to twenty-one, so Travis was faced with three years as a trainee – not having his own raft. Fortunately, Grand Canyon Dories had had to start running a baggage raft to comply with the regulations requiring that all solid human waste had to be carried out (no way were they going to carry shit in a dory), and Travis was able to get on with them, rowing the shit raft without passengers. Eventually, he started running trips for AzRA, but after a nasty experience with an insecure trip leader (Eric, who was later fired), he decided to start his own rafting business in China. By then he'd been on several of my river trips in China, spoke Mandarin, had met Na Ming Hui and had the use of my and Kitamura's rafts. He'd also met Jed Weingarten and Willy Kern and had run a couple of kayak and raft trips with them. Jed spoke Mandarin and Willy had been on a crazy first descent of the Yarlung Tsangpo in SE Tibet (the Bramaputra headwaters) a few years before. They had just started their own rafting company in western China, FLOW (For Love Of Rivers, no longer active). In 2004 Travis was a guide on an AzRA charter trip through the Grand Canyon that Liu Li and I had organized, and in 2012 he brought Weiyi on a Grand Canyon trip. Weiyi thought their Chinese clients would be interested in rafting the Grand Canyon trip, so she and Travis organized an AzRA charter trips for 2013, 2014 and 2016, and Travis works as a guide for AzRA on these trips. AzRA is now owned by Alex, Rob's daughter and Lou's granddaughter, and Alex's older brother, Adam, now works as a trip leader for Travis on his trips on the rivers of western China. On one of Travis' first commercial trips on the Great Bend of the Yangtze in China (2009), Rob, Adam, Travis and I were among the six guides. One of the participants was Carmen Yuan, a writer for the Chinese version of Outside Magazine, and she interviewed us. The story of our families' intertwined history over three generations, with some great pictures, was published (in Mandarin) that September. There were a number of amazing people on that trip.



Travis Winn sent me this photo of him with my new grandson in 2003, as a joke. Photographer unknown.

Since 2003, Travis has run several all kayak trips on his own or with friends in western China. In 2003 and 2004 he ran first descent trips on numerous tributaries to the Dadu, a large tributary to the Yangtze in western Sichuan, unsuccessfully looking for stretches of rivers that could be commercialized. This was the year SARS was a global scare and few people wanted to travel to China, where it originated, so I didn't even try to run my own trip that year. Fortunately, incidents of SARS were largely limited to east coast cities, and there weren't any known incidents in western Sichuan. The second trip was filmed for Rush TV. In 2006 he did a solo kayak trip through the Yong Bao gorge of the Mekong in western Yunnan, a stretch that I'd run twice (1995 & 1996), in preparation for his first commercial trip in China with Gary Lacey's family a month later. In 1996, Eric Hertz of Earth River Adventures had lead a first descent of the Shuiluo, a tributary to the Yangtze which flows due south through western Sichuan, into the river at the apex of the Great Bend. After encountering numerous rapids that required portaging, Eric's team left the river. Their trip is described in a National Geographic Magazine article in the November 1996 issue. In 2005, Travis and five other kayakers completed a first descent of the eighty mile stretch of the Shuiluo from the footbridge where Eric ended his trip, all the way to the Yangtze, then kayaked the main stream for another fifty miles. In 2006 he led a group of nine kayakers down the Yalong, a large Yangtze tributary in western Sichuan. In 2007, he was co-leader of a team that ran the first descent of the Salween in southeast Tibet, which included Craig Childs, a well known environmental writer who published a story about the trip in Men's Journal in 2008. Weiyi helped him with logistics for the trips beginning in 2010. In November 2010, he led some British kayakers down the Litang, a steep tributary to the Yalong, then in December 2010 he led them on a third descent of the Yangtze below Batang (the first two expeditions were in 1986 at summer high water, resulting in over ten deaths and requiring several portages), having to carry their kayaks over a snow covered pass to get to the put-in. In 2011 he did a solo kayak trip on the stretch of the Yellow River in northeast Qinghai where seven Chinese rafters had drowned and agreed that it wasn't safely raftable. In 2012 he led a first descent of a tributary to the Yellow River in the Anyemachin Mountains in northeast Qinghai that ended up being a near disaster. The team came to a rapid that wasn't safely runnable or portageable, so they had to leave their kayaks and climb out (no way to call 911). It took them two days to find water and a ride to civilization. The scariest part of the video of the trip was their climb out of the canyon. I think he's mellowed out since then, though he led first descents of the upper Dulong (Irawaddy headwaters) in far SE Tibet and NW Yunnan in 2013 and 2015.



Guo Zheng on the Upper Yangtze, 2009, photo by Li Hong.

One of the most depressing experiences that Cindy, Travis, Carmen and I had was when Guo Zheng, China's first Class IV kayaker, drowned on a flooding river north of Kunming, Yunnan. Guo, a Chinese anti-drug policeman, had joined our 2004 Grand Canyon trip. He didn't speak English and had been kicked off the paddle raft by Feng Chen for falling off in a rapid, so Travis, who spoke Chinese, invited him to learn to row. Guo eventually got so good that Travis encouraged him to row Lava Falls. He didn't have a perfect run, but that happens to lots of river guides. Over the next couple of years, Travis taught him to kayak, then the unspeakable happened. An American idiot rafter (way beyond the "Ugly American"), a guy named Brown, somehow convinced Travis' Chinese partner, Na Ming Hui, to loan him some of our life jackets and other river gear for a first descent of a river north of Kunming, the capital city of Yunnan. Most of the year this river is too small to float, so Brown waited until it was in flood (and when Travis wasn't around), then managed to cause the drowning of two of his American friends and Guo. Brown was banished from China after that. He should have been put into a Chinese prison for life. Guo's parents burned his kayak at his funeral.

Travis was accepted by Clark Honors College at the UO, which required an honor's thesis and defense to graduate. The application required an essay, and Travis wrote one about his experience helping a Tibetan monk on a pilgrimage right a Tibetan prayer flag post on a pass on our way to run the upper Salween in 2000. The title of his honors thesis is "A New Political Space: Pristine River Corridors in Southwestern China," about the history of the relationship between whitewater recreation and river preservation in the US and whether it would work in China. It was based in part on the efforts of David Brower, who, as executive director of the Sierra Club, stopped the US Bureau of Reclamation from building the Echo Park Dam in Dinosaur National Monument in the 1960s by taking dozens of influential people on river trips through the Monument (Lou Elliott was a good friend of his). This plan hasn't been very effective in China, and under the current Premier, Xi Jinping, it's risky to pursue. Xi is a pro-dam Maoist and is clamping down on any resistance to his plans. One of the references Travis cited is "Oriental Despotism" by Karl Wittfogel. It's about the history of hydraulic societies, which were the first to build dams and irrigation systems. They all developed thousands of years ago in desert societies in the "East" - the Nile in Egypt, the Tigris-Euphrates in the Middle East and the Yellow in China, all resulting in rapid advances in political and cultural systems and engineering technology. The 20<sup>th</sup> Century extensive dam building in the desert rivers of the western US and the current extensive dam building program on the desert rivers in western China are extensions of the need to control floods to "save" water for energy and irrigation.

On our road trip to Mount Kailash and the Indus headwaters in western Tibet, we stopped in a remote village for lunch. One of the drivers, Bimba (they were all Chong Dak's cousins), made a big show of trying to crush a hard boiled egg. After failing, he gave it one of the other drivers, Mingma, who promptly crushed it, only to find a raw egg all over his pants. Travis snuck out of the restaurant, jacked up the drive wheels of Bimba's Land Cruiser about an eighth of an inch so they would spin – no traction, and when Bimba discovered this and slid under the Land Cruiser to remove the jack, Travis tied his shoe laces together, so when Bimba slid out and stood up, he fell over, much to everyone's amusement, especially Mingma.



The Ahai Dam on the Great Bend of the Yangtze in northwestern Yunnan.  
The Liyuan Damsite. Photo by Adam Elliott, 2009

From 2006 to 2011, Travis and Weiyi made enough money to encourage them to keep running trips. However, by 2010 construction of the Liyuan Dam on the Great Bend of the Yangtze in northwestern Yunnan (a thousand miles upstream from the famous Three Gorges Dam) had forced him to stop running this stretch, and the Chinese government had closed Tibet to foreign rafters. His only remaining choices were the upper Yangtze (Tongtlen He) and Mekong headwaters (Za Qu) on the southeastern Tibetan Plateau in Qinghai (summer trips) and the Salween (Nu Jiang) in southwestern Yunnan, a roadside stretch (winter and early Spring trips).



The daughter of one of Travis' clients kayaking on the Salween, 2013.

Photo by Will-Stauffer Norris.

The trips in Qinghai were eight days long, very remote and at a high elevation (over twelve thousand feet), which made them difficult to market. Fortunately, he was able to make ends meet by teaching the children of wealthy Chinese in Beijing to kayak in a private swimming pool in Beijing during the winter. This gave him the idea of taking them and their parents on the much shorter (three to four day) trips on the Salween in southwestern Yunnan in the Spring, which has easy access to an airport and where cell phones work in case of an emergency. This is also a relatively low elevation area (three thousand feet) with many cultural and scenic attractions, so it's much easier to market. Plus, although the Chinese government has plans to dam these rivers, it will be many years before they are built. After that, who knows. In 2015, Travis chartered a Main Salmon River trip with Canyons Inc with six Chinese children in kayaks and their mothers. Although the forest along the river canyon was on fire and unpleasantly smokey, it was a remarkable trip. Travis has done a much better job of getting stories of his expeditions published than I ever did and a film about his efforts to educate the Chinese (and us) about the need to protect the Salween River, "Salween Spring" won an award at the Banff Mountain Film Festival in 2015 (see [www.lastdescents.com](http://www.lastdescents.com)). You can find films and articles about him using any of the major search engines. In 2017 I joined him, along with Ralf Buckley and Steve Martin (who took my place as a river ranger for Grand Canyon National Park in 1975 and eventually became the superintendent and then deputy director of NPS) on a trip on the Za Qu, the headwaters of the Mekong on the Tibetan Plateau in Qinghai. We were there to help him convince the government to stop building and paving roads in a newly proposed national park surrounding the headwaters of the Mekong, the Yellow and the Yangtze. The amount of influence Travis is developing with government leadership amazes me.



Celebrating Chinese New Years on the Salween River, Yunnan.  
Photo by Travis Winn, 2016.

### **Carmen**



Carmen, rowing the Great Bend of the Yangtze in  
northwest Yunnan China in 2008. Photo by Adam Elliott.

Carmen was born at Saint Mary's hospital in Grand Junction and is about five years younger than Travis. As a child, Carmen was very different than Travis, though you'd never know it today. Travis always hung around us when he was little, but Carmen was an explorer. We had to watch her like a hawk. By the time she was three she had learned to operate our cassette player and we'd sometimes catch her dancing to the music – a harbinger of things to come. All parents tell their children to never take candy from strangers – we had to tell her to stop giving candy to strangers. Even today, she's very outgoing, which has caused problems with guys who mistake her friendliness for encouragement. While in college, she once asked me how to deal with this. She had already stopped wearing dresses and makeup, so I suggested wearing a fake wedding ring. She just laughed and told me that didn't matter anymore. I guess I was becoming an old fuddy duddy.

Cindy and I are pretty sure Travis was conceived on a San Juan river trip at Slick Rock Canyon that just the two of us did in the Spring of 1983, and that Carmen was conceived on a raft trip through Desolation and Grey canyons of the Green in eastern Utah in the Summer of 1988. We took her on this trip when she was four (it's easy Class 3), and stopped at Chandler Falls camp to show her where she “was made.” A day later, while having lunch at Rock Creek, an ARTA commercial trip stopped to join us. It was a Women-in-the-Wilderness charter trip, and Carmen, being typically outgoing, went over to their lunch table and announced that she had “been made” at Chandler Falls, much to their amusement.



Carmen in preschool, about 1993. Photo by Cindy Appel.

Being typical parents, we gave boy's toys to Travis and girl's toys to Carmen. When she was four we gave her a Barbie doll. A few days later, I found it dismembered. We didn't use TV as a

babysitter, but did watch the Discover Channel. We had recently watched a program on anatomy and she was just trying to figure out how to put Barbie back together, perhaps the beginning of her career in science. I helped her so she could do this anytime she wanted. I didn't like Barbie anyway. When I was in elementary school, Dad found me trying to put his alarm clock back together, and he helped me. Epigenetics at work? Oddly, she never did this to the stuffed Unicorns she asked for. While she was in kindergarten, she asked for a blackboard for Christmas, put doll clothes on one of Cindy's banty chickens and proceeded to teach the alphabet to it. Obviously, it needed a teacher because its chicken yard scratches were totally illegible. A few years before getting divorced, Cindy replaced her aging thirteen foot 1972 Avon Adventurer with a state-of-the art self bailing NRS Otter, and I built a rowing frame for it. After our divorce, Cindy and Carmen were invited on a Grand Canyon river trip with Chris and Nancy and their kids, and Carmen decided to replace the rowing frame I made with one of her own design. I rowed the raft with Carmen's frame through Westwater Canyon of the Colorado in 2015 and realized she had one-upped me.

When Carmen was six, we took her and Travis on a Westwater Canyon overnight trip. I knew Skip Edwards, the river ranger (who led the effort to stop illegal mining in Westwater Canyon), and convinced him to give us the Big Horn camp below the rapids. It was a crazy trip – at lunch just above the Little Dolores confluence, we got dumped on big time by a cloud burst, which created hundreds of spectacular waterfalls, caused the river to double in volume and the waves filled my dory with drift wood and juniper berries. Just above our camp at Big Horn, we found two fishermen who had motored up from Cisco, the takeout, sitting in an eddy under a waterfall. They had pulled into the eddy to get out of the rain and the dry wash above had flashed and sank their boat. They were waiting for the flood to end so they could bail their boat and float back to Cisco, and didn't need our help. We set up camp and were starting dinner when another raft party stopped and informed us that they had also been given Big Horn Camp. We volunteered to let them join us, but a woman on the trip was Skip's supervisor and informed us Skip had written down another camp for us and we had to move. An argument ensued, and after about five minutes of yelling at each other, Carmen walked out and told the woman she was acting like a four year old and to grow up. Everybody laughed, and the other group moved downstream to the next camp. If they hadn't been so nasty, I'm sure she would have offered them some candy.

When Carmen was eight, Cindy and I took her on a Grand Canyon trip. I borrowed a snout boat from Bob Melville, one of the ones I had built for ARTA in the early 1970s, which he had bought when ARTA switched to eighteen foot self bailing rafts. Carmen's eleven year old cousin Jessica and eight year old cousin Mark came along with their parents (Chris and Nancy), and Travis kayaked. Carmen had been a budding actress in school and community plays and loved to sing, so she would entertain us on long flat water stretches and in camp. One of my favorite memories of her on this trip was singing while washing everyone's hair under a solar shower we'd set up in shallow water at camp.

Also about this time, she was in a church play when she backed up into a candle and caught her hair on fire. Amazingly, she immediately dropped to the floor and rolled until it was out, so fast she didn't need help. One of the parents was a Grand Junction city fireman who was videoing the play and captured the entire scene. With Carmen's and our permission, he gave it to a local TV station, and the GJ fire department gave Carmen a tour of the fire station, including letting her use the fire pole and a free ride on a fire truck. At least for Carmen, the safety classes at her school had paid off, in more than one way. Many years later, as a director of Colorado Disability, I helped convince the GJ fire department to give rides to disabled children during one of the city's parades.

When Carmen was in third grade, she did a project on California Condors, an endangered species



with a ten foot wingspan. We took her and Travis to the Vermillion Cliffs, just west of Lees Ferry, where several condors which had been raised in captivity had recently been released. That night we camped up House Rock (Rider) Canyon and watched the Hale-Bopp comet with our binoculars. Gene Shoemaker, after whom the Shoemaker-Levy comet was named in 1994, was working for USGS in Flagstaff with Gordon Swann when Cindy worked there. I'd done a lower Grand Canyon trip with him, and Cindy and I had been to some of his lectures on how Earth's Moon had formed and by extrapolation how Earth had formed from collisions in a belt of asteroids (gravitational attraction, and when the mass reached a certain size, a molten core formed). Flagstaff was where the first Moon astronauts had learned to drive a rover and how to collect Moon rocks and Gene had been part of the planning team, along with Gordon Swann. Gene had also been part of the team that made the first geologic map of the Mule Ear Diatreme just south of the San Juan River near Bluff, Utah, a really cool hike, and was one of the first planetary geologists to push for the search for extra-solar planets. He was convinced many of the meteorite fragments found in Antarctica were from Mars, and years later astrogeologists proposed that some of them contained evidence of life, leading ultimately to the Mars rover's search for ET. Carmen had been to the Mule Ear diatreme (a gaseous volcano) with us while on a river trip down the San Juan when she was a toddler. I carried her up to it and plunked her down near a black ant hill (they don't bite people) so she could pick out red garnets that had been carried up from as much as eighty kilometers below the surface (but not by ants, unless they're the original aliens). Carmen was fascinated by the garnets and years later by the comet.

One of Carmen's elementary school projects was on Orcas (killer whales), after watching the movie "Free Willy." We ended up taking her to Sea World to watch them jump high out of the water and soak us (and many other spectators). We also took her to the Oregon Coast Aquarium near Newport to see Keiko, the star of the movie. The story of his life is at [en.wikipedia.org/wiki/Keiko\\_\(orca\)](http://en.wikipedia.org/wiki/Keiko_(orca)). Pretty cool experiences for all four of us.

Carmen had also developed an interest in volcanoes and fires about this time, so Cindy and I planned a family vacation to Yellowstone National Park, about three years after the famous Yellowstone fire. Her cousin Johnny joined us (one of David's sons), and it was an amazing experience for all of us to see the rapid rate of plant regeneration and the large number of buffaloes still present in the park (not to mention the numerous signs warning about bears). We visited Old Faithful, and while at the visitor center ran into Bob Smith, who had been my tectonophysics (seismology) professor at the University of Utah. He had set up a seismic network to monitor the subsurface magmatic activity of the Yellowstone Caldera, one of the largest regions of high crustal heat flow on our planet and probably the site of global climate changing volcanic eruptions. There's not anything we can do about this and it probably won't happen during your lifetime, so don't worry. If does, just hold your breath for a few years. The Yellowstone fire would be insignificant compared to a fire that burned most of western North America. In another one of those small world coincidences, I learned from Michael Connelly that the teaching assistant for my tectonophysics class, Harley Benz, had become the chief seismologist for the US Geological Survey, and I eventually contacted him for help on an article I wrote about earthquakes and large dams in western China. Harley gave me the link to a United Nations seismological risk map of China, created in part using USGS seismic data.



The Large Binocular Telescope on Mt. Graham, AZ, under construction when Carmen was there in the early 2000s. Photo from Wikipedia.

Cindy and I had learned with Travis that it was better to support our child's interests than it was to encourage them to do something they weren't interested in. During elementary school, Carmen was part of a district wide competition where kids built a Mars habitat. They were the only team that planned to use human waste as a fertilizer – none of the other teams had even thought about it, but it's a common practice in China (called “night soil”). During middle school, one of Carmen's girlfriend's parents had sent their daughter to Space Camp in Houston, where she learned all about NASA's space program. This didn't appeal to Carmen – after watching the Hale-Bopp comet, she wanted to visit a big telescope. Cindy and I searched the internet for astronomy camps, and found one run by the University of Arizona on Mount Graham, where the Large Binocular Telescope (LBT) is located. The LBT is one the largest and one of the most advanced telescopes on our planet. Oddly, one of the first of the three telescopes there was paid for by the Vatican, which had put Galileo under house arrest in the early 1600's for supporting the relatively new belief that the earth revolved around the sun. The ten or so students in the class stayed in the astronomer's dorm and ate in their cafeteria. By then, large telescopes used special digital cameras to capture images and it was no longer possible to look through the lens. She loved the first camp so much we sent her back the next year. Cindy and I went to her graduation ceremony, which was a lot of fun - the staff really loved her. Carmen is also mechanically inclined, so when she took a tech class in middle school I helped her build a very basic eight inch reflecting telescope based on diagrams from Astronomy Magazine and Sky & Telescope, both of which I subscribed to since I also had an interest in astronomy (and still do, thanks to Carmen, Gordon, Jody and Gene). Gene later died in a car crash while studying sand dunes in central Australia with Carol Breed, Bill's ex, who also worked at the Flagstaff USGS as a geologist.

Carmen got tired of having to constantly adjust her heavy homemade telescope as the earth turned, so while in high school she got a job mowing lawns and bought an eight inch reflecting scope with a motor drive that compensated for the earth's rotation and a computer that she could use to find thousands of stars, galaxies and constellations. She formed an astronomy club in high school and

joined the West Slope Astronomy Club, which periodically held programs for the public where she showed off her telescope and knowledge of the night sky. Grand Junction is one of the most light polluted towns in the US, so we planned our car camping trips to places with very dark skies. One of our favorites was near the Escalante River in southeastern Utah. During the day we'd explore slot canyons, and at night Carmen would take us on a tour of the night sky.

When she about twelve and could paddle a kayak in a straight line, I took her on a trip through Cataract Canyon of the Colorado with Ralf Buckley and Ben Foster, Ben's family and another family. We paddled down to the beginning of Cataract, then put her kayak on a raft for the rapids. The raft run by the other father, John, wasn't really rigged for rowing big rapids, flipped in Big Drop Two and got stuck on a rock near the left bank at the top of Big Drop Three. Ralf swam out to the raft and we rigged a "Z line" (a come-along using climbers' caribeaners as pulleys) to right it. After several tries, Ralf noticed that the raft's stern line had been snagged between two rocks on the river bottom. Since there was no way to lift the river bottom, Ralf cut the line and we finally righted the raft. What a hassle, but I really had a great time with Carmen on that trip.



Carmen at the Mauna Kea Observatories, summer 2005. The tour is amazing.

On one of our vacations, we decided to go to Hawaii so Carmen could visit the Mauna Kea Observatories on the Big Island. This was my first visit to a really large observatory – there are a dozen telescopes there, operated by governments of many nations and using a variety of viewing technologies (see [en.wikipedia.org/wiki/Mauna\\_Kea\\_Observatories](https://en.wikipedia.org/wiki/Mauna_Kea_Observatories)). From its base on the sea floor, Mauna Kea is the highest mountain on earth – higher than Everest! At its summit of 13,785' above sea level, the view is stunning (and very cold – not a place for swimming suits).



Lava flowing into the Pacific Ocean at night, 2005.

We also visited Volcanoes National Park and hiked a couple of miles along lava flows to view molten lava flowing into the ocean. We waited until it got dark to watch this at night. Mother Nature at work, I love it. She and Travis also took scuba diving and surfing lessons on this vacation, but they both prefer climbing and kayaking. We also visited the tropical botanical gardens on the big island. Cindy is an avid gardener, makes her own flower pots (her house is full of plants) and wanted to buy some orchids (which are very challenging to grow).

While she was in middle school, I taught Carmen to row and kayak. By the time she graduated, she could roll Travis' first kayak, but only in flat water. When she was fourteen, we did a family vacation in Idaho, where we ran the Snake just below Jackson Lake in Teton National Park (a flatwater stretch with lots of wildlife and several nasty log jams). Downstream, the Snake ran through a short gorge with some fun rapids, including "Lunch Counter." Then we drove to Boise and ran Cobarton Canyon of the Payette, Class III with one Class IV. Carmen flipped her kayak and swam twice – once in a long Class III rapid beneath a railroad bridge, and again in the Class IV, Howard's Plunge. She made it through the Plunge once without flipping, then carried her kayak back up to run it again, then swam. This has happened to me a few times.



Carmen with the author and her mother, Rocky Mountain National Park.  
Photograph by my father, 2005.

Kids are really fun to vacation with – I don't know why some parents leave them behind. Besides visiting Keico in Oregon and Hawaii, we took them to Disneyland (but the “Log Ride” doesn't compare to kayaking) and several amusement parks and water parks with rides that they loved but that scared the shit out of me.



Artist's image of a gamma ray cones from an M Star explosion. NASA image.

Also while in middle school, she decided to do a project for her school district's science fair on “M Type” stars – the largest in the universe. When these explode (like a supernova) they produce intense gamma ray energy. Some astrogeologists have proposed that earth was bombarded by intense gamma ray energy about five hundred million years ago, causing about sixty percent of life on earth to become extinct. Other major extinctions may have been due global volcanism or to environmental damage from a large asteroid impact, like the one that hit near the Yucatan Peninsula that finished off the dinosaurs, allowing the rapid evolution of mammals, ultimately

including humans. Gamma radiation is also suspected as a cause of genetic mutation, which has both positive and negative effects on evolution. Carmen used a styrofoam globe represent to earth and used sticks of varying lengths with small foam balls representing distance of the M stars from earth, and stuck the sticks in the foam at various longitudes and latitudes to represent their location in the sky. We both learned a lot about how astronomers use geometry to locate stars and how the constellations got their names. She got an honorable mention for this project.

In middle school she made friends with a blind girl at about the same time that Travis made friends with her older brother, also blind (a genetic anomaly). Cindy, Travis, Carmen and I took them and their parents on a one day trip on the Colorado River near Glenwood Springs, a special experience for all of us. I'm sure blind people develop senses about their environment that sighted people don't. In 2013, Carmen led a river trip through the Grand Canyon with the first blind kayaker.

During the summer after her sophomore year (2004), she joined Travis, Cindy and I on a charter trip with eleven Chinese rafters with AzRA through the Grand Canyon. She made friends with the guides and learned to run a twenty-two foot motorized cataract (snout boat), which we'd brought along for the TV cameramen. One of the guides was Kristen Huisinga, a botanist who later co-authored a guide book on Grand Canyon plants. When Carmen was a junior in high school she got mixed up with some goths and her grades plummeted. By the time summer came, Cindy and I thought about selling her – there was no way we could live with her being at home all day, and jobs in Grand Junction weren't very interesting. I'm sure my parents wanted to sell me – more epigentics? She never broke the law, so maybe she learned from my mistakes. We arranged for her to live with Kristen and work in AzRA's warehouse in Flagstaff, during which time she managed to get on a few GC river trips.



Carmen giving a young monk a ride in her inflatable kayak on the Indus River headwater, 2005. Photo by Scott Sanderson.

When Carmen turned sixteen, I took her on a first descent of the Indus River headwaters (Sengge He, or Lion River) in western Tibet. Based on Russian topos and Chinese geologic maps, I decided it was safe for inflatable kayaks (IKs). After the three day hike around Mt. Kailash (which was a piece of cake for Carmen, even the climb to the 18,500' Drolma Pass), we loaded our IK's on yaks and either rode yaks, ponies or walked for four days (about forty miles) over a 17,000' pass to the

river. Carmen hit it off with a young woman, “Purple,” who was one of the yak guides on the trek. The river ended up being an easy Class II, flowing over its own river gravels deposited as glaciers from the advance of the north polar ice cap retreated beginning about twelve thousand years ago, so it was no big deal for Carmen. One the way back, we ran a three day trip on the Raka Tsangpo, a large tributary to the Yarlung Tsangpo (Brahmaputra headwaters in Tibet). This stretch only had one Class III rapid but the last day was a maze of braided river channels, and again she did just fine. See my journal of this trip at [www.shangri-la-river-expeditions.com/journals/indus2005/indus2005.html](http://www.shangri-la-river-expeditions.com/journals/indus2005/indus2005.html). Since then, she's rafted with me and/or Travis in China almost every year, and has produced some really cool coffee table books for Travis' clients. She's so good she could probably make a living at this.



Carmen, in traditional Tibetan dress. Professional photo.

Like Travis, Carmen also graduated a semester early from Fruita Monument high school. She asked Travis, who knew one of the managers of Rios Tropicales River Expeditions in Costa Rica, to help her get a job as a river guide there, with support from Cindy and me. She worked there for about two months, and after about a month she convinced Cindy, Travis and I to come down and run a couple of rivers with her. It was a really cool experience. We ran the Naranha (Orange) River through a tropical jungle with monkeys and a spectrum of birds, then its headwaters, a crazy little Class V gorge where flipping our small paddle rafts was just expected. Fortunately, the rapids were pool and drop and the water was warm. The take-out was at a cinnamon plantation, surrounded by fantastic flowering plants. Carmen also took us on a multi-day trip on the Rio Pasquale, which flows into the Caribbean, where we stayed in a really cool tropical forest resort where we rode on zip lines through massive trees. While there, we visited Volcan Arenal, an active stratovolcano (which forms a cone shaped peak and can have very explosive eruptions, such as the San Francisco

Peaks near Flagstaff) and stayed nearby that night to watch lava flow down its flanks. When we returned to the US, Cindy bought a Bougainvillea bush, a native plant in Costa Rica which blooms year round indoors (and makes a mess).

That summer Carmen worked for NAVTEC, a rafting company in Moab, UT where she learned to drive trucks with trailers (and back them up) and ran trips on the Moab Daily, Westwater Canyon and Cataract Canyons on the Colorado River. One of her clients was running source to sea trip on the Colorado. NAVTEC had bought ARTA's permits for Westwater and Canyonlands, and I had known the owner when I worked for ARTA in Moab thirty years earlier – small world.

Carmen took a class at Mesa State College in Grand Junction (now called Colorado Mesa University) while still in high school and met Chad Thatcher, who was the director of the outdoor program and a friend of mine. She joined one of his Cataract Canyon trips and another to Idaho to run the Middle Fork of the Salmon. The Middle Fork was flooding and not safely runnable, so they ran the Lochsa instead. It was also flooding but since it was roadside, rescues and the potential need for evacuations was manageable. Kudos to Chad for making safe decisions.



Saturn's rings, the view Carmen Winn showed people waiting to visit the Lowell Observatory. NASA photo.

She eventually decided to go to Northern Arizona University to study geology, where she joined the local astronomy club. The Lowell Observatory (built by Percival Lowell, where Pluto, now called a dwarf planet, was discovered in 1930) is located near Flagstaff and is a tourist trap in the summer. Pluto the dog first appeared in cartoons about the same time, but the Greeks invented the name. Sometimes the line to take the tour is over a hundred people and an hour long. Carmen and the other astro club members would take their telescopes up to the observatory and, spaced about every ten people, would entertain them with views of and stories about the night sky. At the time, Saturn was oriented such that its rings were highly visible, so this was the view that she showed them. She made friends with one of the astronomers at Lowell, who gave her permission to take us on a private tour during the off season. By this time, I'd been allowing SETI (the Search for Extraterrestrial Intelligence organization at the UC Berkeley) to use my computer via the internet to process part of the huge amount of data they were receiving from radio telescopes all over the world. I still do this, though the search for ET may be misplaced – the universe is at least thirteen billion years old, Earth is only four and a half billion years old and “intelligent” life on earth (us?) has only been able to receive and send radio waves into space for less than a century. Most likely ET is already here - maybe as a silicon based life form and we are just now realizing that silicon has taken over our cell phones and laptops. Who says carbon based life forms are the only intelligent life forms? Pluto or any dog that has trained its “master” to throw a Frisbee should be able to come to this conclusion. Or, who knows – you or I may be aliens:). As a reward, I was able to put Carmen's name on a gold disk that was included in a satellite that was sent out of our solar system,



which recently passed Pluto. I hope who ever deciphers the disk is as friendly as those in Carl Sagan's movie "Contact." Interestingly, early astronomers thought the earth was the center of the universe until 16<sup>th</sup> century astronomers figured out that earth was a planet circling the sun, yet today astronomers can only see about thirteen billion years in any direction, once again placing earth at the center of the universe. However, this may also be true for ET, who may live thirteen billion light years from Earth. Pretty bizarre.

I suggested to Carmen that she should combine her interest in astronomy with geology and get a job searching for extra-solar planets, which was just becoming a rapidly growing field. However, she loved getting outside, and pretty much anything to do with astronomy meant working indoors with computers. She got a job working at the NAU rock climbing gym and as a guide and trip leader running river trips on the San Juan for their outdoor program. She got accepted to the NAU honors college, which required a senior thesis, and one of her professors helped her get a grant from NASA to study rocks of the Bandera Volcanic field near Los Alamos, New Mexico. She presented her results on a poster at a Geological Society of America (GSA) conference in Albuquerque, explaining the use of cutting edge geochemistry to determine the depth and timing of the melt that produced the volcanic rocks. She later met Peter Molnar at a GSA conference in Denver, who surprised her by saying he knew she was my daughter (though he'd never met her).

While at NAU, Carmen did a solo IK trip on the San Juan, organized a trip there with several of her housemates, Cindy and me, and rafted the Salt in northeastern Arizona – a challenging Class IV stretch that is like a mountain stream flowing through a Saguaro Cactus desert. She also joined a couple of canyoneering trips to Marble Canyon (upper Grand Canyon). She and her friends rappelled off side canyon cliffs down to the river about fifteen hundred below, carrying pack rafts, then floated down to a trail where they hiked out (via a trail up Eminence Break near President Harding Rapid at Mile 44). Wild stuff! She also volunteered to be a guide on Grand Canyon trips for Team River Runner, which teaches disabled war veterans to kayak, in 2010 and 2011, and to lead their 2013 trip. One of the kayakers on the 2013 trip, Lonnie Bedwell, was totally blind. At Pancho's Patio, a camp at Mile 137, the guide leading a commercial motor trip camped just downstream (Football). He knew Kelly, one of the guides on the TRR trip, and showed up after dinner with a cooler full of alcoholic beverages. Carmen explained to the vets on pain meds that if they wanted to party to stop taking their meds, and we had a very entertaining party. Lonnie started telling jokes about women, and after a few drinks Carmen started telling jokes about men. It's hard to say who won, but it didn't matter – all of us laughed our heads off for a couple of hours. The next day I asked Carmen where she learned so many jokes. Her response: from her mom, Cindy. Very few people lead their first Grand Canyon trip when they're only twenty-four years old. Carmen did a great job.

Carmen decided to apply to several graduate schools. Only two offered her scholarships – the University of New Mexico and the University of Montana. She joined one of Karl Karlstrom's Grand Canyon field camps and realized she really wanted to study under him. He had funding for a project in western Grand Canyon, using relatively new geochemical techniques to determine the burial depth and time and rates of uplift and erosion of the rock layers from the bottom of the Grand Canyon to the top of the Grand Staircase in northwestern Arizona and south central Utah. After her first year of coursework, fieldwork and working as a teaching assistant, she asked Karl if she could skip an MS and go straight for a PhD. Her PhD proposal is to test and revise a new geochemical method that will help determine the age of western Grand Canyon, a problem that has puzzled geologists for a century – western Grand Canyon is about twelve million years younger than central Grand Canyon. Both her professors at NAU and Karl at UNM have helped her publish her work and work she's done in conjunction with other geologists. For someone who is still a student, she's

doing very well.

The abstract of her most recent publication is at [adsabs.harvard.edu/abs/2017E%26PSL.474..257W](https://adsabs.harvard.edu/abs/2017E%26PSL.474..257W). Basically, Marble Canyon and western Grand Canyon are about 5 million years old and central Grand Canyon is about 17 million years old. However, these dates represent the age of the drainage, not of the canyon cutting event. Where the central drainage went between 5 and 17 million years ago has been a matter of controversy for decades, mostly due to lack of traditional geologic evidence. Abundant evidence indicates it didn't reach the Pacific Ocean until about 5 mya, so it must have ponded in either the UT-NV or the AZ basin and range regions. Hopefully the new geochemical techniques Carmen is using will help solve the controversy.



Besides astronomy, geology, rock climbing, whitewater rafting and kayaking, Carmen loves to read and has a big collection of fantasy novels, plus some really cool science books. She's a mesmerizing swing dancer and makes her own dance dresses, learned to be a pretty good potter, used to play piano and clarinet, is learning to play guitar, and loves to sing (especially river songs). When Carmen was in elementary school, Cindy and I took her and Travis to a symposium at Pack Creek Ranch near Moab to meet a group of people who were trying convince the US Congress to remove Glen Canyon Dam, one of whom was Katie Lee, a famous Colorado River folk singer. Cindy and I had a cassette of Katie's music (this was long before CDs), and Cindy, who also loves to sing, taught Carmen many of Katie's songs. When we introduced Carmen to Katie, she immediately began to sing one of Katie's songs about Glen Canyon dam, and Katie drew Carmen into her lap and sang along with her. It was a very touching moment for all of us. Carmen still likes to belt out Katie's songs as she rows. In many ways she takes after Cindy.

Once guys get to know her, I'm sure most of them are intimidated by her achievements, without her intending to do so. She learned early on that it's more fun to dance, climb or kayak with a guy who already has these skills than to teach a guy who doesn't, plus she has a strong need for companionship with a guy who's also interested in geology. Guys who meet her needs are not easy to find, but I think she might have found one – Steve, who was a geophysics post doc at UNM and is now teaching at an Australian University. Cindy and I long ago decided not to pass judgment on her choices – like the rest of us, this is something she needs to learn on her own. She's definitely getting better at it.

## Volunteer Activities

My parents taught me from an early age that it was important to participate in activities for the benefit of the community we lived in. While in junior high through my junior year in high school, I took this to mean training military police. In my senior year, as a new student at Woodland HS, I

got involved in student politics. I ran for senior class president using the slogan “Win with Winn.” I lost to a guy who gave out lolly pops for votes. This was decades before you could win a presidential election with “Tweets.”

### **Dams in Grand Canyon**

The first year I started working in the Grand Canyon (1969), I heard about a renewed plan to build two dams in the Canyon – Marble and Bridge Canyon. Preliminary work had been done in the 1940s, then dropped when Glen Canyon Dam was authorized in the 1950s, mostly due to the efforts of the Sierra Club. Two AZ Congressmen, Stump and Steiger, resurrected the building the two dams in the early 1970s, and for the next several years, dozens of outfitters and guides and hundreds of our passengers and other concerned citizens did our best to stop their plan. It finally succeeded when Steiger lost an election to an anti-dam candidate and Stump saw the handwriting on the wall. Today, both Lake Powell (behind Glen Canyon Dam) and Lake Mead (at the end of the Grand Canyon (behind Hoover Dam) are only half full due to a long drought. This was predicted by Luna Leopold in 1958 – he's the father of modern surface water hydrology, when President Eisenhower was in the process of authorizing Glen Canyon Dam. Politics won out, as usual. I highly recommend James Powell's “Dead Pool,” the story of how this happened. I also highly recommend “[Water: The Epic Struggle for Wealth, Power, and Civilization](#),” by Steven Solomon. The last chapter predicts that China's excessive large dam program is also a huge mistake.

### **Salt Lake City Politics**

While at the U of UT, Cindy and I got involved in UT politics and tried to help the first woman to run for Congress in UT. She was much more intelligent than her opponent, but he was a good old Mormon boy and she wasn't, so she lost. I gave up on politics after that. Sometimes I wonder if my vote makes any difference. The Mormon concept of bigamy is derived from Judaism, as are many of their beliefs, though it's no longer allowed by the LDS Church. Oddly, Tibetans also practice bigamy.

### **Mesa County School District**

In addition to helping get sound insulation installed in Scenic Elementary School, I helped convince the school district to remove Chinese Elms from the school yard and plant trees that weren't exotic, and also helped raise funds for upgrading the playground equipment, which at the time was thirty years old and getting to be a hazard. As our kids grew up and entered middle and high school, Cindy and I volunteered as parent sponsors for their outdoor clubs – a really fun activity. In addition to teaching kayaking at the Colorado Mesa University pool and the Fruita Monument high school pool, we took the students rafting on many river stretches, including Split Mountain Canyon of the Green in Dinosaur, the Moab Daily stretch of the Colorado, the San Juan in southern Utah and Westwater Canyon of the Colorado. We also took them on camping, caving and hiking trips in the San Rafael Swell in central Utah, the Escalante in southwestern Utah and the western Rockies in Colorado.

### **Westwater Canyon of the Colorado and Friends of Westwater**

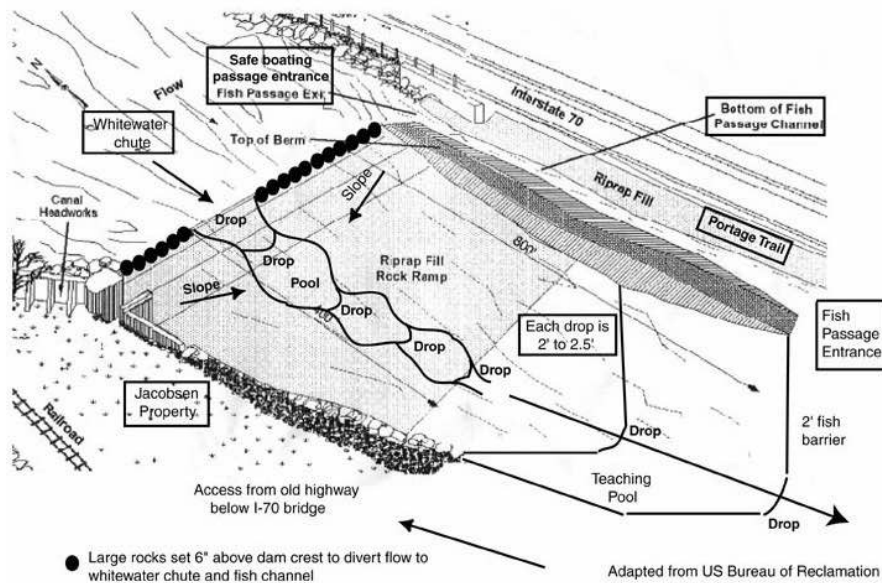
One of the reasons we moved to Grand Junction from Salt Lake was to be closer to Westwater Canyon, one of our favorite rivers for rafting and kayaking. It's like a miniature Grand Canyon, with red rock cliffs above a narrow black rock gorge. As a consulting geologist, I often used the services of Plaza Reproductions, a business that could make copies of large maps. In the early

1990s, the owner, who was also a Westwater rafter, gave me a poster he'd copied for a Westwater ranger, Skip Edwards. Skip, who had been an Air Force pilot in Vietnam, was trying to stop illegal mining in Westwater. I called him and volunteered my services as a geologist. With the help of Greg Trainor, the GJ City engineer, Pete and Monica Atkinson, who owned the local whitewater shop, and Amy Nurenberg, a graphic artist, we formed Friends of Westwater. Greg and I floated down to the "mine" site with Travis and I took samples for assay to see if the project, which was promoted by an old miner named Ron Pene, was really viable. After I'd received the sample assays (which weren't supportive), Travis and I painted some gravel from our driveway with gold paint, floated the river and spread it around Pene's backhoe, just to let him know we'd found out about his scam. It took years to convince the Bureau of Land Management to force Pene out and get legislation passed to prevent mining in the canyon for the next fifty years. Pete, Monica, Greg and Amy were critical to our success. The main reason it took so long was that Ron's twin brother, Ray, was a Grand Canyon commissioner and the BLM had already lost some battles over illegal road building because of his connections with Utah congressmen and senators. Ray finally left the county and the other commissioners supported the BLM's effort to get rid of Ron's illegal mining claims.

Skip won an award for his efforts, and he shared the award with me, Pete and Monica and Amy. I'd volunteered to find a musician for the celebration party, and Lloyd Mabrey, a singer/guitarist friend and neighbor of mine (also a dory owner, and his sons were friends of Travis and Carmen) volunteered to be the entertainer for the evening. He's a remarkable musician – he made a living performing all over the US, especially corporate motivational conferences and in school settings. He had a knack for wandering around the room during the pre-meeting social hour, memorizing names and some interesting kernel of info about the meeting organizers and other attendees, then making up a series of songs and the music to go with them, on the spot. He could make dozens of people laugh and cry based on a hour of brief interviews. I was one of them. Skip eventually bought a sailboat and who knows where he is.

After Skip left Westwater, Alvin Halliday took his place as the river ranger. He'd been the assistant boatman on the upper half of my last Grand Canyon trip for ARTA (the Randy's Rock trip) and I'd worked with his older brother, Big Dave. We often met Alvin at the Westwater boat ramp and continued our friendship for decades, even going to his wedding at his house in Cedaredge, CO. He has recently retired.

### Price-Stubbs Dam Modifications for Fish and Boater Passage



Suggested plan for the Palisade Whitewater Park.

### Palisade Whitewater Park

In the late 1990s, the Bureau of Reclamation (BuRec) was required by the Fish Recoveries Act to build fish ladders at historic diversion dams which provided water for canals for irrigation to provide for migration and expansion of breeding grounds for endangered species. Pete and Monica Atkinson and I and a few other kayakers decided this was a good opportunity to build a whitewater park. We hired Gary Lacy, who had designed and managed the construction of a few other whitewater parks in Colorado (and later nationwide and worldwide), to design one at the Price-Stubbs dam. We convinced the BuRec to include this as the preferred alternative in an Environmental Assessment in conjunction with their fish ladder. I managed all of the permitting, which wasn't much different than getting permits for mining, and Pete and Monica and a few others raised the \$1.1 million cost projected by Lacy. I also negotiated with the owners of the dam and the Town of Palisade as part of getting the permits with the help of Buck Coff, a local attorney and also a dory boatman. Unfortunately, the bids for construction were \$1.8 million more than the funds we had raised, and we only had a month to raise them. It took us years to get the permits and raise the funds we had, and there was no way we could raise so much money in a month. We had no choice but to give up, a real bummer for all of us. I'll never trust the Bur Rec again. However, I did find out that the initial cost ended up being about nine million dollars, then after the ungrouted two foot boulders the BuRec thought wouldn't move got shifted around in a high water year, it cost another three million to fix it. They should have paid for our whitewater park, which had four grouted dams with chutes and would have been fine at high water. Maybe someday someone else will succeed.

### Colorado Discover Ability (CDA)

When Cindy and I started taking Travis and eventually Carmen skiing at Powderhorn, a family ski resort about an hour's drive from Grand Junction, I often saw skiers in red jackets who were teaching disabled children to ski. When Travis and Carmen grew up and left home, I decided to volunteer to become an instructor. I learned that CDA ([www.coloradodiscoverability.org](http://www.coloradodiscoverability.org)) also taught kayaking and rafting in the summer, plus had bicycling, hiking and climbing programs in the

Spring and Fall. That winter I met Martin Wiesiolek, who managed the ski instruction program, the ski racing team and the summer river program, all as a volunteer. Amazing guy, lots of energy. He was also a disabled veteran – he had gotten HIV from an infected blood transfusion during the war in Bosnia, but was handling it well. He had been taking disabled war veterans on private trips through Westwater Canyon and had been busted for not having a commercial permit because the rafts had “Colorado Discover Ability” painted on the side. CDA had a commercial permit for rivers in CO but not UT. When I met him, he had been trying for two years to get a UT commercial permit, but was told CDA would have to buy an existing permit – no new permits were being issued. He was getting pretty angry. I volunteered to help him get special administration permits from the BLM, but it refused because the river use was at its capacity. We embarked on a two year process to change its position, and finally succeeded. We had to get the support of Disabled Sports USA (DSUSA, [www.dsusa.org](http://www.dsusa.org)), a national organization started after the Vietnam War by a disabled vet, Kirk Bauer, which was also the organization that provided CDA's liability insurance and which had impressive contacts in the federal government in Washington. DSUSA has about a hundred chapters nationwide, so it has a lot of clout. Their basic premise, which is supported by numerous medical and social studies, is that learning a sport – any sport, outdoors or indoors, gave disabled people a new sense of confidence that benefited them in all aspects of life, not just physical recovery from disease or injury. During the process of getting river permits for disabled veterans, we found that both Dinosaur National Monument and Canyonlands National Park had provisions for special administration permits for organizations like CDA. We used this fact to get permits for Team River Runner in the Grand Canyon, then used this fact to convince the UT state director to give special administration permits to DSUSA chapters. DSUSA chapters were able to apply for permits for BLM managed sections of the Colorado through Westwater and the Moab Daily, the San Juan River in southern Utah and the Green in Desolation-Gray Canyon in eastern Utah for a five year test period, which was extended for another five years in 2014. In addition to CDA, this included Colorado chapters in Aspen, Steamboat Springs, Telluride, Durango, Crested Butte and the Denver area. During this process, the directors and/or program managers of all of these organizations were very supportive and became good friends. The only downside was that I lost some friends who owned commercial rafting companies and were upset that they couldn't get this business. Our argument was that non-profit adaptive sports organizations could run the trips with volunteers at less than half the cost of a commercial trip, even with the 20% discounts they were offering. Thus their funds could be used to help twice as many people with disabilities. Plus, our volunteers were trained to teach disabled veterans to row, paddle and kayak, and the commercial guides weren't.



Team River Runner kayaker in the Grand Canyon, 2010.  
Photo by Marc Huster.

### **Team River Runner**

By the time Travis was about ten years old, he had learned to row and kayak (but was still too small to roll the smallest kayak available). I put his name on the waiting list for Grand Canyon private trips, which had grown to about ten years. Regulations required that the trip leader be at least 18, and I figured Travis would qualify by then. Due largely to the efforts of the Grand Canyon Private Boaters Association spear-headed by Tom Martin ([www.gcpba.org](http://www.gcpba.org)), GCNP increased number of private user days from 28% to 50%, changed the waiting list to a lottery and encouraged groups of people on the waiting list to group together to apply for permits via the lottery, increasing their chances. I convinced Travis, Ben Foster and Gordon Bare to join together and apply for a permit via the lottery. Travis had boated with both of them but Ben and Gordon had never met, They got a permit for summer 2008 when Travis was twenty-four. Besides Cindy, Carmen (then eighteen) and me, Travis invited a girlfriend. Ben invited his wife and two daughters and Ralf Buckley, and Gordon invited Joe Mornini, the executive director of Team River Runner, a non-profit organization that teaches disabled war veterans to kayak as a form of physical, psychological and sociological therapy. Joe brought three of his best kayakers along – one with a paralyzed leg, one missing a leg, and one with no short-term memory. It was a life changing experience for all of us.

I had trained and worked with Vietnam veterans who hadn't been physically disabled in the Grand Canyon in the mid 1970s, though a few had some mental health problems. Wesley Smith was addicted to Quaalude, psychedelics and marijuana and eventually died young from liver failure. Whale, a well known guide, and Jim Whitfield committed suicide, and the Grand Canyon guide community woke up to the problem and formed the Whale Foundation ([whalefoundation.org](http://whalefoundation.org)) to help guides with mental health issues. In 1982, post traumatic stress syndrome (PTSD) was finally recognized as a psychological disorder in nearly all war veterans, not just those who had been

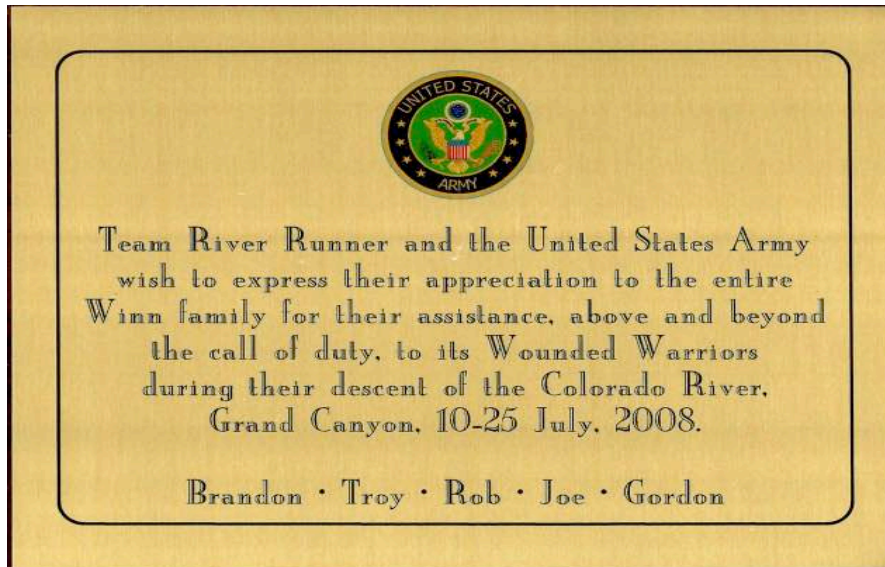
physically disabled, largely due to the recognition that Vietnam veterans committed suicide at twice the national rate. Over the years, the disorder has been expanded to include victims of rape, child abuse and cancer.



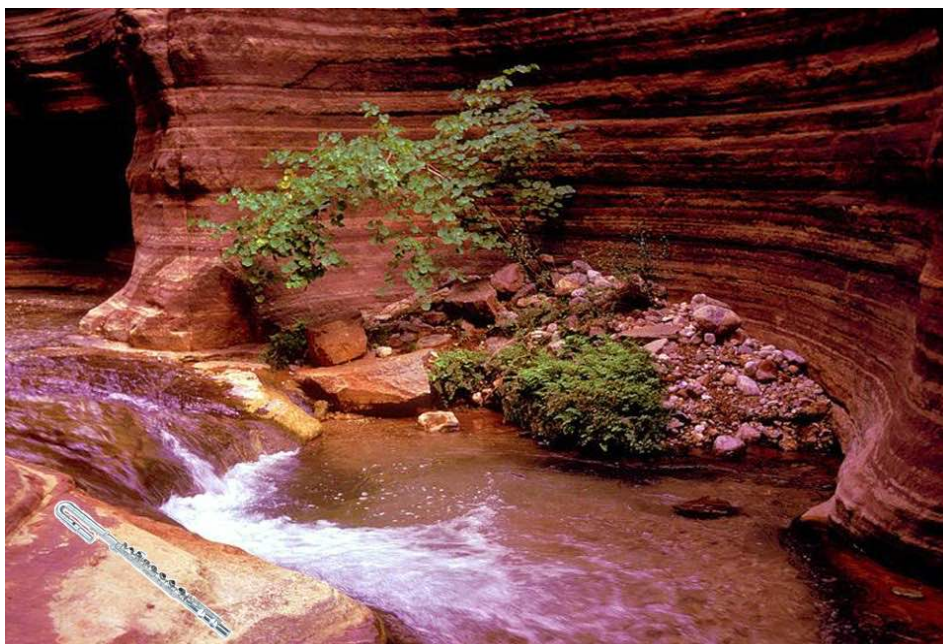
Ceiba rafts on a TRR trip, 2010. More than once passing trips sang our National Anthem as they passed. Photograph by Marc Huster.

Joe and I hit it off so I decided to help him get GC permits for one trip per year. I failed in 2009 (reminding me that our own government is still having trouble dealing with disabled veterans) and Joe had to raise enough money for an AzRA charter trip – even with a discount, very expensive for a non-profit. I lucked out from 2010 to 2013 and got permits for four trips, with the help of trip leaders I'd chosen. For these trips, we used the services of Ceiba Adventures, [www.ceiba.com](http://www.ceiba.com) (Scott Davis and Rachel Schmidt, great folks), which gave us a discount. The GCNP superintendent at the time was Steve Martin, who had taken my place as GCNP river ranger in 1975 and was quite supportive. Unfortunately, when he retired, his replacement, Dave Uberagua, canceled all special administration permits for a several years, until a lawsuit by a group of women claiming sexual harassment by male river rangers was settled. TRR, the University of New Mexico's geology field camp that Carmen was a guide for and The Tamarisk Coalition, which removes invasive Tamarisk trees from river environments, were innocent victims of misogynist river rangers. It boggles my mind that the US government continues to discriminate against disabled war veterans.





On the first trip (2010) I asked Kate Belknap to be the trip leader. She was an Outward Bound river guide instructor and her husband was a GC dory boatman, so she had lots of river experience. In case something happened to me, I wanted the program to continue, and she was interested. Carmen was one of her guides. One of my favorite hikes in the GC is upper Deer Creek Narrows, which requires a thirty foot down (and up) climb, and for safety and to speed things up we'd always use a rope. It's about a hundred yards long and fun scramble along the creek. We took the veterans who were able to make the climb down into the canyon, and while one of them was climbing out, his leg prosthesis fell off. Even the veteran laughed. I used to bring my flute down and play it across from a Redbud tree in an eddy. In the mid 2000's, a flash flood carried away the tree. On the 2010 trip, Carmen ran two miles up Deer Creek to a Redbud tree she'd seen on a hike over Surprise Valley from Thunder Falls, brought back seeds and planted them in the same eddy. By 2015, one of the seeds had grown to about three feet high! A special memory of this trip was when Carmen and Dana Larcenaire (a TRR safety kayaker whose husband Craig was one of the disabled vets) gave me and Dana's father (Bonehead) Father's Day cards.



I used to sit on the ledge on the left and play my alto flute to this famous

redbud tree and the water ouzel that lived there. The new tree is growing where the fern used to be. It's now against regulations to climb down into upper Deer Creek Narrows.

Chip Sell was one of the kayakers on this trip. He was an electronics whiz in Iraq, but lost his ability to do math as a result of a brain injury. By the end of the trip, he was beginning to remember his abilities. Another veteran had lost his ability to say anything but “FUCK! YOU!” (with a variety of intonations, which eventually became a joke and he even started laughing when the other vets mimicked him). At the end of the trip he gave a five minute speech about his experiences kayaking the Grand Canyon. In 2013, Chip returned to help guide a blind kayaker, Lonnie Bedwell, through the Grand Canyon (a trip led by Carmen). Long kayak trips are one of the best forms of physical, psychological and sociological therapy. Being part of them is very rewarding.

In 2011, Kate ran the trip without me along, and again Carmen was one of her guides. This was the second trip with a female disabled vet and it was a mistake to mix her in with the guys. Other organizations like Warriors on Cataract ([www.warriorsoncataract.org](http://www.warriorsoncataract.org), run by Fred Solsheim) have switched to trips with either all men or all women veterans. TRR did ask me to train a disabled female vet to row on the 2013 trip, AC (a helicopter mechanic), and I got an earful from her about being a woman in a war zone (Iraq). I won't go into detail, except for one incident she had learned to laugh about. To measure airspeed, helicopters have a one inch tube about the size of an erect penis that extends from the front of the helicopter. Her supervisor told her the quickest way to make sure the tube wasn't clogged with dust was to blow in it. While she was doing this, he took a picture of her giving a blow job to the helicopter, then posted it in the lunch room (needless to say she didn't give me a copy). Sexual abuse in the military (and the corporate world) is common and there's no adequate legal recourse, though recently that has been changing. AC was rowing so well that by the midpoint of the trip I got off her boat and let her row the rest of the canyon by herself. She had a scary run in Lava but didn't flip. I'd ask her to row on another TRR trip, but I doubt she'd be interested unless it was an all women trip - she never connected with any of the male veterans, just the other guides. Nelson DeMille wrote a novel about rape in the military, “The General's Daughter,” pretty scary (it's also a movie). Kate decided not to lead TRR's 2012 trip, so I asked Bill Alexander to take over. He was one of Vietnam veterans that I had worked with in the GC in the 1970s and still ran his own private trips though the Canyon. He picked his own guides and did a great job. Carmen and I scheduled the 2013 trip so that it would overlap with a charter trip of Travis' Chinese clients. Cindy was on Travis' trip, so we had a mini-family reunion at side canyon attractions for a few days. TRR's program is a fantastic support system for disabled veterans, due the work of Joe Mornini and dozens of volunteers. Unfortunately, it's web site, ([www.teamriverrunner.org](http://www.teamriverrunner.org)) rarely mentions the volunteers he's motivated to make the system work.

Most of TRR's programs are day kayak trips, but TRR holds out the carrot of longer trips for those veterans who excel. In addition to sixteen day trips down the Colorado in the Grand Canyon, one of these trips is on the Main Salmon in Idaho, a six day, Class III to IV moderate sized river that flows through a major wilderness area. I couldn't get a special admin permit for TRR from the US Forest Service, which manages the river, but USFS encouraged one of the commercial companies, Canyons Inc., to offer a fifty percent discount. They were able to this because their clients donated funds to help cover costs. One of TRR's long time volunteers and a Vietnam War veteran, Dave Robey, took on the responsibility for organizing these trips. Travis hired one of Canyons' guides, Kelli, to work for him on the Salween in Yunnan, China. I met her on a trip Main Salmon trip with several Chinese children that Travis had taught to kayak in a Beijing swimming pool. The parents of Travis' clients expressed an interest in taking their children kayaking a river in the US, and the end result was a trip on the Main Salmon, run by Canyons, with Kelli as the trip leader. Travis

invited me, Cindy, Carmen and her boyfriend, Steve, to join the trip. The kid's mothers paddled a raft, and the kids did incredibly well in their kayaks. Some of the other guides and I had friends in common. Small world.

### **The Grand Junction “Meet Up” Club**

I joined this club to meet people after Cindy and I divorced. I met a few people who became friends, in particular Beverly, who was the twin sister of one of my girlfriends in Flagstaff nearly forty years ago – small world. The club tended to have relatively large groups on hikes, which neither of us liked, so we just hiked together. I'd also met her at a meeting of war veterans at Colorado Mesa University, where she was a professor in the School of Nursing. This meeting led to my helping set up kayak pool sessions for disabled veterans at CMU (where I was taking an ARC GIS class) and later the Grand Junction chapter of TRR. Just before I left Grand Junction for China, the Meet Up organizer asked me to give a presentation on international whitewater boating. About a hundred people were there and it was well received ([www.shangri-la-river-expeditions.com/riverstories/GlobalWhitewater.pdf](http://www.shangri-la-river-expeditions.com/riverstories/GlobalWhitewater.pdf)).

### **The Pinyon Ridge Uranium Mill in the Uravan Mineral Belt**

Cindy and I had known Lee and Patty Gelatt for at least twenty years – our kids went to school together, they're also whitewater boaters, we had quite a few friends in common, and Patty was the US Fish and Wildlife representative that I worked with on getting approval for the Price-Stubb whitewater park on the Colorado near Palisade. Cool folks. Lee had become a leader in the Western Colorado Congress, a civic group that attempted to reconcile differences among environmental groups, farmers, ranchers and miners. I'd heard about a controversial plan to build a new uranium mill between the San Miguel and Dolores rivers, between Uravan, UT and Bedrock, CO. The Dolores is one of my favorite rivers, but Cindy and I were in the final stages of getting divorced, I had just retired and was planning to move to China, so I wasn't interested in getting involved. Lee knew that I had been involved in stopping illegal mining in Westwater Canyon and persuaded me to look into the situation. I knew a lot about the uranium industry and small public companies, plus a few years after Cindy and I bought our house in Grand Junction, we found that one of previous owners had used uranium tailings as sand to fill in low areas in the yard, a common practice in the 1950s and 1960s. It took three weeks for the local DOE contractor to remove and replace the tailings. We got a new lawn, new sprinkler system and new back patio, all at tax payer cost. I borrowed a Geiger counter just to see how hazardous it was – the radiation was comparable to background in many parts of the world. In reality the removal process was just a jobs program. Our neighbor had used tailings in his septic leach field, which was under his driveway. DOE planned to replace it in the winter, before the irrigation ditch water became a problem. However, their geologist didn't realize the backhoe was digging below the leach field into a layer of rock that often carried naturally high concentrations of uranium, and the hole eventually filled with irrigation water. Fortunately, they didn't dig all the way to China. If it hadn't been so “radioactive,” I'm sure kids would have enjoyed swimming in the new pond along Scenic Drive. Lee was also involved with the Sheep Mountain Alliance (SMA), and Patty was involved with the Western Colorado League of Women Voters (WCLVW), both of which were trying educate voters about the Pinon Ridge Uranium Mill project. SMA had environmental concerns related to water contamination, and WCLVW had concerns about the negative impact that re-development of several historic uranium mines and construction of the first new uranium mill in the US in thirty years would have on the local tourism industry, which had replaced mining as the primary industry in the area. As a geologist in the mining industry, I knew other companies had been able to successfully address these issues, but as I read about Energy Fuels (EF), the company planning to build the mill, I

realized they didn't have a financially viable project and there was a high probability that it would fail. It was a high cost project with a lot of local opposition, their reclamation bond was insufficient, uranium prices were declining, and they had serious low cost international competition. These issues, along with their stock structure, made them a bad investment. In discussions with Lee and others, I learned that EF had petitioned Montrose County to build a small dam on the San Miguel to guarantee an adequate source of water for the mill. Failure to get this would be a death blow. WCLWV arranged for me to give a presentation to the County Commissioners. Since the environmental and social issues had already been presented, I focused primarily on financial issues (<http://www.sheepmountainalliance.org/media/at-current-prices-is-pinon-ridge-mill-viable-the-watch/>). It was the proverbial “straw that broke the camel's back,” and eventually the Commissioners voted against the project. I was right – uranium prices have continued to decline. I believe that Thorium, an abundant radioactive mineral which doesn't produce radioactive waste (or CO<sub>2</sub>), will probably replace uranium as nuclear power plants are retired over the next fifty years. In fact, the countries with the largest economies (except Japan) have enough Thorium to replace carbon based fuels as a source of electricity for many centuries. Efforts to create high capacity quick recharge batteries will eliminate gas and diesel for land transportation within a few decades, but until Thorium replaces fossil fuels as a source of electricity for recharging batteries, we'll still be dependent on carbon. Large scale batteries will help solar wave and wind energy sources, but their land and sea footprint is so large compared to Thorium they'll never be a major source of electricity – the same for hydropower. The Chinese are among the most progressive (they're one of the largest producers of solar cells and windmills), with rapidly increasing use of solar power (including whole buildings covered with solar panels, solar street lights, solar homes in rural areas. They're also one of only half a dozen countries that are building Thorium power plants. However, it's likely that someday fusion will replace Thorium.

## **Hobbies**

### **Religion, Philosophy, Politics and Science**

Most people don't consider these as “hobbies.” I do, even though my interest in science has been a life-long one – I studied it in high school, as a pre-med student in college, and I made a living as a geologist for over thirty years. I've come to believe science is another form of religion – it's far older than us humans. For instance, humans invented crab pots, only to find that octopi quickly figured out how to enter the pot, eat the crabs and escape. Why search for food when humans deliver it to you? “When kids are born, they're already little scientists, exploring the world.”- Estela Renner, who directed a new film about babies' development. Humans discovered fire and the wheel long before modern religions.

My parents were both Presbyterians and had siblings and cousins that were Presbyterian ministers. When Dad joined the Army, most bases only had non-denominational Protestant churches, so that's how I and all my siblings were raised. Sunday school and church was just OK (I hated singing), though I did get in trouble for getting caught after taking the daughter of the minister for a moonlight skinny dip when I was a high school junior at Cole High School in Fort Sam Houston, TX. When Dad retired and we moved to Woodland, CA, there wasn't a Presbyterian Church there, so he and Mom joined a Methodist Church. The youth counselor was a great guy – really into hiking, camping and whitewater tubing, and never pushed his religious beliefs on us. As a senior, I fell in love with a classmate who was a strong Southern Baptist, but she wasn't able to convert me (neither were Cindy's sisters or parents), and Cindy didn't try.

When I left home for college, Mom and Dad suggested I take classes in biblical history,

comparative religion and philosophy. All of them were eyeopeners. The biblical history class was really an archaeology class – we studied the origin of the both the old and new testaments of the Christian Bible. It contains 39 to 51 books, depending on the specific modern day Christian Church. Judaism developed about 600-700 BC. The old testament is based on the Tonakh (Torah), which was written in several stages, beginning about 400 BC and ending about 100 BC. “Noah's Flood” was adapted from Babylonian descriptions of floods on the Tigris-Euphrates. If you're interested in this subject, read “The Rock's Don't Lie,” by David Montgomery. The New Testament was written in Latin beginning about 200 AD, but the final version wasn't completed for another century. So, for perhaps as much as 300 hundred years each testament, the books of the Bible were verbally passed from generation to generation. You've all heard of the “telephone game,” where one person whispers something to the person sitting next to them in a circle, and by the time the message reaches the first person, it's completely different. However, if the original message is a phrase from a well known song, it often remains unchanged. Biblical scholars believe that the books of the Bible were sung from generation to generation (Psalms is an old Hebrew word for song), and that most of the well documented changes over the centuries resulted from translations into various languages. I was surprised to learn that the Catholic, Protestant, Eastern and Oriental Orthodox bibles were different (besides different numbers of books, they were in different orders), and that not all translations were the same. If these bibles, including the Jewish Torah and the Muslim Quran, are all the work of God, “He” has multiple personalities. Cindy once had a refrigerator magnet that said “When God made Man, She made a mistake.” Mao Tse Tung once said “religion is the opiate of the masses.”

The philosophy class was taught by a “logical positivist”, who was basically a logician who had us read books such as Principia Mathematica by Bertrand Russel (not easy reading). Russel's basic premise was that if God created the universe, who created God, etc. Logically, God and the Universe must be the same, with the final conclusion being that the Universe has and always will exist (Buddhists believe the “Big Bang” is just the most recent of many expanding and contracting universes). God is just another name for the Universe, and humans have always anthropomorphised that which they don't understand. Russel believed math, science, religion, atheism (another form of religion) and philosophy were just different ways humans explored the universe, a belief I still hold. Years later, I read “Sophie's World,” a novel about the history of western religion and philosophy. Jostein Gaarder was a Norwegian high school teacher so the book is written for young people, but it's a fun read no matter how old you are. I really enjoyed the ending. The Universe is not a “thing,” it's an activity.

I also took a philosophy of science class, where we studied the history of science and math and their relationship, going back thousands of years. One of our texts was “The Structure of Scientific Revolutions” by Thomas Kuhn, who analyzed the transitions in science from Arabian, Egyptian, Greek, Roman, the European age of enlightenment (Galileo and the transition from an earth centered universe to a sun centered universe, a belief ancient cultures have always had) to modern science, including studies by Darwin (evolution, in the 1850s), Einstein (relativity, in the 1920s), Heisenberg (quantum mechanics, in the 1930s) and the geologists who first recognized plate tectonics (1920s to 1960s). We also studied the development of the scientific hypothesis, which relies on two concepts: Occam's Razor – the belief that more simple explanations are more “correct” than more complex ones, and that if a scientific study can be duplicated by others, its results are “correct”. I've followed analyses of these two concepts over the years, and there's some controversy about what “simple” means, and quite a bit of controversy about duplication of studies, especially in fields where a lot of money is involved, such as pharmaceuticals, and where politics is involved, such as global warming, now called climate change. Another text was Kurt Godel's proof that our system of mathematics is fundamentally flawed. It produces numbers like the square root

of negative one (which doesn't exist), infinity (any number divided by zero), and infinite irrational or repeating numbers like Pi (3.1416... - the ratio of the circumference of a circle to its radius) which need to be "truncated" for calculations. Fortunately, even when these numbers are either eliminated or truncated in calculations such as those used to determine the trajectory of a rocket that successfully lands a rover on Mars, the error is so small that we have faith in the math. Sounds a lot like a form of religion. Another really cool book is "The Loom of God" by Clifford Pickover, about the relationship between religion and math.

The comparative religion class was taught by Barry Wood, a visiting professor from Canada. We studied the major world religions, such as Judaism (first writings about three thousand BC, contemporary with other early Middle East religions established by the Egyptians and Greeks), Taoism (first writings about twenty-seven hundred BC), Hinduism (first writings about six hundred BC), Buddhism (derived from Hinduism shortly after its writings), Confucianism (about five hundred fifty BC), Roman religions (about three hundred BC, derived from Greek religions), early Christianity (derived from Judaism - the estimated date of birth of Jesus was eventually used as the "zero" date dividing BC and AD), which led to Catholicism (the New Testament was written between two hundred and three hundred AD), Islam (which was derived from Judaism about six hundred AD), Protestantism (Lutheranism and Calvinism, which were derived from Catholicism about fifteen hundred AD) and dozens of other Protestant sects (including Mormonism, which evolved over the past two hundred years). Most of these religions were established by influential writers and speakers (all human beings, of course). Martin Luther once wrote a book complaining that Jews didn't convert to Protestantism, which some historians believe eventually led to the WWII Holocaust. We also studied religious beliefs of "indigenous peoples" world wide, including North and South American civilizations, Australian Aborigines, Africans and a few others, which probably predate all of the other religions but don't have written records. As you might expect, the "gods" of Africans are all African, etc. The Taoists and Buddhists believe that everyone has a different path to enlightenment and there shouldn't be conflicts among various religions – they should respect each other. For example, the Dalai Lama believes you can be both a Christian and a Buddhist. There's a really cool book called "Navajo and Tibetan Wisdom" by Peter Gold, comparing the religious art of the two cultures that hypothesizes that Navajos descended from Tibetans that migrated to the New World about 10,000 years ago. Buddhists believe, like mystics from all religions, in the "indivisibility of body and mind." A prominent memory I have is a study we read documenting that a huge majority of people adopt the religious beliefs of their parents and their parents' communities and most reject the beliefs of others, often to the extent of fighting wars for dominance. A historian studying religious terrorism, such as fundamental Christian attacks on abortion clinics and extreme Islamic attacks on the World Trade Centers, believes that it is really a form of racism. I eventually realized that none of these religious beliefs were more true than any of the others, so I could believe whatever I wanted to, as long as I didn't break any laws (though I'm not sure this matters anymore). Barry Wood and I became good friends, and Barry later mentioned me in a book he wrote, "IT," which describes his personal belief system (a Westernized form of Zen Buddhism). When you kayak, you often feel "one with the river." He chose "IT" for the title because it's gender neutral (God is referred to as "He" in Judaism, Christianity and Islam, plus most gods in other religions are also male). One of my favorite quotes about the study of science and religion is "All we are left with are approximations, nuances and multitudes of plausible explanations. Take your pick." - William Boyd.

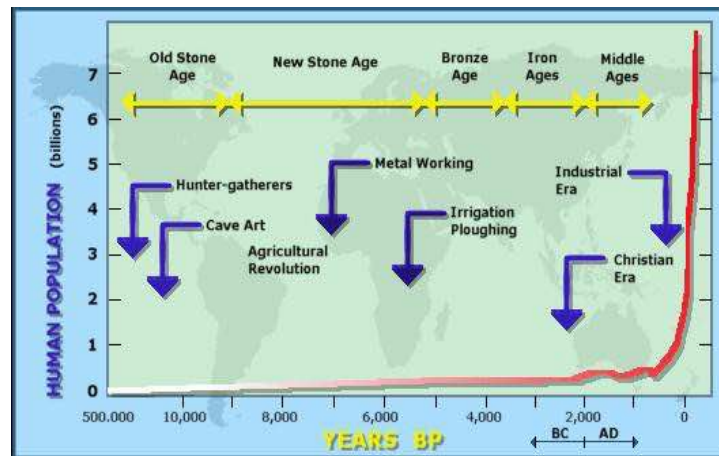
In my chemistry, physics, biology and psychology classes, I was taught that we're all made of atoms (which are really just a form of energy) and we survive and thrive by continuous consumption of the atoms and molecules that make up "non-organic water, minerals and oxygen," plus dead organic nutrients containing carbon. How do these "non-living" ingredients combine to make "life," and

even more important, how do they combine to create conscious and intelligent beings like humans? Since we don't really understand this, most people claim it's due to God, regardless of their particular religion's name for God (or in many cases multiple gods). But, if God, who also appears to be alive, conscious and intelligent, and the Universe are the same, then everything is alive, conscious and intelligent, including the atoms and molecules that we're made of. It appears that we humans, with our religious, philosophical and scientific beliefs, are among the many ways the Universe is exploring itself. Mystics have intuitively known this for thousands of years. I've had mystical experiences (powerful feeling of oneness with the universe, often accompanied by an "out-of-body" feeling), usually in wilderness settings, sometimes induced by psychedelic drugs such as mescaline, mutual orgasms and meditation, but most often while kayaking, which promotes a strong feeling of oneness with the river and a sense of "slow time." Friends have told me they've had similar experiences while kayaking, climbing or participating in other adventure sports. Shilling once wrote "The natural and the spiritual are expressions of the same thing" and Majek Pashek believed "the promised land is a state of mind." Biologically, we're just as much a part of nature and the spirit world as any animal – a huge percentage of our DNA is identical, we're born, drink water and eat similar foods, grow up, reproduce, and die of old age and similar diseases. And, if you believe in evolution, we humans are not at the top or end of it, we're in the middle of it. Although it's easy to believe we're "egos in a bag of skin," in reality, our skin, eyes, nose, ears and taste buds connect us to the world – they don't separate us from it. Plus, modern biotechnology is rapidly changing us into a combination of carbon and silicon based life forms.

You may have heard of the "Butterfly Effect," in which a butterfly in New York (or any place) flaps its wings and causes a tornado, hurricane or monsoon in some other part of the world. The fundamental concept of chaos theory is that all things can be analyzed and become predictable at some scale, but beyond that scale, predictions become increasingly unreliable. If you like learning about things like this, there are many books about chaos theory. If you have a background in physics, I'm sure you're familiar with Heisenberg's Uncertainty Principle and Einstein's Theory of Relativity. Both theories are based on the inseparability of the viewer and the viewed, though at vastly different scales.

As I wrote this story of my life, I realized I had some strong opinions on many subjects, some that I'd never vocalized because they were too controversial, and too many to write about here, so I decided to limit them to one, as follows. It's OK if you don't agree with me.

When you read about human history, it's easy to come to the conclusion that humans are pretty violent and have been for thousands of years and probably much longer. We're also about two hundred years into population explosion that has only caused more violence, not just among each other but towards our nest: planet earth. We're polluting the sky, the land, rivers and lakes, ourselves, and probably causing the sixth great extinction. It took about 500,000 years to reach a population of a billion (including homoerectus and Neanderthals), 200 years to reach a population of 7.5 billion, and demographers predict that earth's human population will reach over 10 billion by the end of this century. Although many trends are positive, the exponential population growth is unsustainable.



From Wikipedia.

When you look at population trends of individual countries, it's evident that current large rates of growth occur in developing countries, while population growth in developed countries is largely due to immigration. One of the major social differences between the two is the extent to which women have access to education. Even in developed countries, poorly educated women have more children.

The solution is to encourage people to have fewer children by educating women. Unfortunately, there are some insurmountable hurdles. The Catholic Church, which dominates South and Central America and Mexico, forbids abortion and contraception, though educated Catholic women in developed countries often ignore the prohibition of birth control. High caste Hindu women are educated but poorer low caste women are largely denied education. Women in countries dominated by Islam (the Middle East, southeast Asia and much of Africa) are rarely provided with educational opportunities. Regions dominated by these three religions comprise over half of the world population and have an average population growth rate of over 4%, compared to an average of 2% (the "replacement rate") for developed countries. Frankly, I don't think this situation will change without the intervention of one of the Four Horsemen of the Apocalypse (pestilence, war, famine and death – which often occur together). There is one of other solution, though it's unlikely, unless unleashed by a woman. Read "Inferno," by Dan Brown.

### **Favorite books, music, dancing, etc.**

I'm an avid reader and have been since I first learned to read, plus I love to listen to music when I read. I'd much rather read than watch TV, though I occasionally watch mystery movies, preferably in international settings. As a youth, I read every Hardy Boys, Nancy Drew and Tom Swift story. By the time I was in college, I'd learned to like reading non-fiction of all sorts, but mostly related to science. Nowadays I read several books a week, though "The Encyclopedia of the Universe" took me a month. It's a fantastic history of science. Another favorite is "Whitewater" by Graeme Addison, a coffee table book about global whitewater rivers. One of my dreams is to float all of them, but that will have to wait until my next life. I love to read mysteries and thrillers set in my favorite places, such as the southwestern US (J. A. Jance, Tony Hillerman and his daughter, Anne, J.D. Doss, Rudolfo Anaya, Margaret Coel) and China and Tibet (Eliot Pattison, Robert Van Gulik and Donna Carrick), geology mysteries (Susan Andrews, Susan Cummins Miller), national park mysteries (Nevada Baar), medical mysteries (Patricia Cornwell, Michael Crichton, etc.), various political thrillers, science fiction authors (especially classics by people like Asimov, Robert Heinlein and Jules Verne), and classic mystery authors like Sir Connan Doyle (Sherlock Holmes) and Agatha Christie. I've read so many books that I sometimes don't realize I'm reading a book I've already



read until I'm well into it. The reason I like mysteries is that a good author will provide clues to the solution and it's fun to guess right. The reason I like books set in other countries or societies is that this a really fun way to travel.

I like most kinds of music, but don't enjoy really fast or noisy tunes. I grew up with the Beatles, Herman's Hermits, the Moody Blues and the Rolling Stones, but mostly listen to Celtic (especially flute), Tibetan, Chinese, Classical, Spanish (cumbia and salsa), African (drums), New Age (including drums and singing bowls), Nature, Blue Grass, Western, Hawaiian, Indian and Native American. I never get tired of music, and get a craving for it when I don't have access to it – it diminishes my tinnitus, probably due to listening to loud music, then hanging around noisy drill rigs. I also love to dance, especially swing, contra and salsa, though I'm not as good at these as I used to be, mostly because I don't get the chance to dance very often anymore since there are no venues in Bluff and I don't travel as much. It's a great form of exercise. There's an old Intuit saying “If you going to walk on thin ice, you might as well dance!” I often get up from my chair and dance.

## Health

Generally I've enjoyed great health, in spite of my tendency to overdo things. I've had surgery much more often than others (eleven times, including the removal of the bot fly from my wrist). I've only broken a bone once – I dropped a heavy trailer tongue on my left ankle when I was about fifty, and had to have three stainless steel pins put in to hold it together while it healed (which are still there). Fortunately, it didn't keep me from skiing or hiking and they rarely show up at airline security gates. When I was in junior high school, Mom had my ears pinned back so didn't look like a monkey (though I was able to convince Landi that I descended from them), and increasing Mom's chances of having grandchildren. I developed bunions on my left big toe joint running track in high school, and once won an ugly foot contest because of it. Fortunately, it's not painful. I've had two discectomies, L3-4 and L4-5, both resulting from accidents and both at times that made it hard on Cindy. The first time was a few months before we got married, the second time was a month or so after Travis was born (the stress of becoming a husband, then a father?). Dad had three of them, so it may be partly genetic, but mostly it was due to sclerosis from rowing heavy Cadillac rafts through the Grand Canyon. Fortunately, the surgeries went well, and other than losing a half inch of height (a never ending problem as you age), I've been able continue rowing, kayaking and skiing as if I never had surgery, until age started to get the best of me. I've had surgery on both shoulders to repair damaged ligaments. The first probably resulted from my preference of rolling my kayak on my right side, so I developed a preference for rolling on left side (which is actually easier if you have a right handed paddle). The second resulted from a decision to learn to snowboard when I was about fifty. I was a talented telemark skier but was a little jealous of how much faster snowboarders could go – I used to be an adrenaline junkie. I borrowed Travis' snowboard, taught myself to turn on the “bunny” hill, then took the lift to the top of the mountain, where I learned how painful snowboard crashes can be. I've had eye surgery twice, both on my left eye, which still doesn't work very well. Even as a child I had problems with this eye, especially in bright sunlight, where I have to wear dark sunglasses. I tried wearing sunglasses with just the left lens, but got tired of being called “Pirate Pete.” I've adjusted to the fact that my peripheral and depth vision will never return to normal, mostly by just closing my left eye when it gets tired, especially in bright sunlight and in the evenings. Lack of peripheral and depth perception seriously affects my ability to drive safely, so I've had to quit driving. I also have to careful on stairs and curbs. Wallace Stegner once wrote “The lessons of life amount to scar tissue.” I certainly have more than my share. The bot fly removal scar on my wrist looks like a suicide attempt.

After my first discectomy I was laid up for six months. When I was finally able to drive again, I didn't have any work – I wasn't going back to commercial guiding or truck driving, and it was going to be a year before I would graduate from NAU in geology. Cindy was working as a waitress at the Hong Kong Cafe while looking for a geology job and I was going bonkers with boredom. Fortunately, Allen Wilson and Hugh Wingfield (another an ARTA guide) taught me to drive a backhoe and got me a job digging fence post holes. Allen and Hugh learned to operate backhoes while working gold placers in Alaska. I wasn't very good at it, so they bought me a chain saw and taught me how to cut down trees for firewood. I added two foot high rails to the bed of my pickup (Old Blue) so it could carry a cord of wood and Cindy and I went into the firewood business. It was hard work but it was fun to be in the forest and doing something that helped make ends meet. The biggest tree we cut down was a one-hundred fifty foot tall dead pine in the San Francisco Peaks. For some reason it wouldn't fall down, so I drove Old Blue about two hundred feet away and waited for the wind to blow it over. Unfortunately, it was mostly rotten. Hugh is famous for being the only river guide who had to call a hook and ladder fire truck to rescue him. In the late 1970s, he decided to raft the Salt River through downtown Phoenix, AZ during a hundred year flood. He got stuck in a river wide reversal (caused by a submerged road), and the fire department dropped a rope from an extended ladder, then pulled him to shore. The rescue made the front page of the newspaper.

I had a vasectomy after Carmen was born – Cindy and I didn't want any more children, and neither of us wanted her to take birth control pills until menopause. My testicles swelled up to twice their size and were so painful I had to walk like a cowboy for two days. It reminded me of what Jerry Jordan must have felt like when he got stung there by a scorpion. Unfortunately, a side result was a slow loss of interest in sex. The worst surgery I had was a radical prostatectomy. I was in my late fifties and Dad had suggested I get my prostate checked – he had been diagnosed with prostate cancer and was worried that I had a genetic predisposition to it. I postponed the test for a few years, then one day while driving home from a business trip I passed St Mary's Hospital, which had a huge sign saying “free prostate exams.” I guess you get what you pay for. I stopped and walked into the annex, only to find a line of at least a hundred guys. I hate waiting in line, so I turned to leave, only to find a very large nurse blocking the door, who told me it was a really fast line. I only had to wait a half hour, then a week later the doc who had done the test called and told me I needed to come in for a biopsy as soon as possible. Fortunately, the cancer hadn't spread so surgery was a better option than chemo/radiation. He used an arthroscopic surgical machine, which meant only six small cuts. The nerve that tells a man's penis to become erect upon stimulation runs along the urethra (the tube draining urine from the bladder), and the prostate gland is wrapped around the urethra, right next to the bladder, so the operation required cutting an inch or so of it and the nerve (and removing the bladder sphincter muscle). Before the surgery, the doc told Cindy and I that I would be impotent for a year or at most two, until the the two ends of the nerve grew together. Unfortunately, this turned out not to be true. After a couple of years, Cindy and I tried everything the doc recommended, but none of them worked. I got really depressed, and on the recommendation of a friend who had had a similar experience, I went to another doc, who informed me that my situation was typical, and recommended counseling. For many men who have had a prostatectomy, physical impotence becomes psychological impotence, which affects all aspects of life, including work and marriage. I'm still dealing with this, including a DUI that led to a decision to retire early and to get divorced. My last counselor suggested that given my vision problems, it was easier to stop driving, then worry quitting drinking. I no longer drive, and don't worry about drinking. Sometimes you get the shaft, sometimes you get elevator. One of my therapists, a hypnotist, frequently read me a quote that really resonated:

Our deepest fear is not that we are inadequate.  
Our deepest fear is that we are powerful beyond measure.  
It is our light, not our darkness that frightens us.  
We ask ourselves, who am I to be brilliant, gorgeous, talented and fabulous?

Actually, who are we not to be?  
Playing small does not serve the world.  
There is nothing enlightened about shrinking so that other people won't feel insecure  
around us.

We are born to make manifest the glory that is within us.  
It is not just in some of us; it is in everyone.  
And, as we let our own light shine, we unconsciously give other people permission to do  
the same.  
As we are liberated from our own fears, our presence automatically liberates others.

*Nelson Mandela  
Inaugural Speech, 1994*

Amazingly, after working outdoors for several months a year and never using sunscreen, I never got skin cancer, also rarely got sunburns. I'd read an article showing the statistics of solar exposure and use of sunscreen. Most people who get skin cancer are either "weekend warriors" or women who use tanning salons. People who work outdoors, such as river guides and construction workers, really don't need sunscreen to prevent cancer, though it's useful for preventing sunburns.

Another thing I inherited from Dad was a love of very spicy foods, especially Mexican, Thai and Chinese. I still drink red pepper tea and add cumin and black pepper and sometimes mustard, horseradish or wasabi to my meals in place of salt. Cindy is a great cook and we ate really well, including a lot of fresh fruits and vegetables from her garden. I'm still really conscientious about what I eat, except when I travel. I have atrial fibrillation, which periodically causes my heart to beat irregularly. It never bothered me until about ten years ago, when I spent two nights in the hospital for a very high pulse and very high blood pressure. The doc prescribed four medicines, which made me feel like a VW on two cylinders. The doc suggested I consider ablation (heart surgery). I asked my Dad, who had performed this operation many times, for advice. He recommended I substitute potassium chloride for table salt and avoid foods with high sodium and sugar. So far that's worked just fine. I also have high cholesterol (genetic, not from my diet), and Dad told me not to worry as long as my C Reactive Protein (CRP) blood level was below three. It's a measure of stress (both physical and psychological), which is easily controlled with meditation and exercise, so I do both every day. The pharmaceutical and medical industries want us to pay for medicines requiring a prescription to lower blood pressure and cholesterol, but they're rarely necessary. In addition to reducing stress, eating a lot of garlic and onion helps. So far, so good, but I do have garlic breath, so you need to like garlic if you enjoy my company:) I'm one of the few people my age I know that doesn't take prescription meds.

## Retirement

Life can be compared to the physical states of matter. When you're young, life is a gas – rapidly expanding. During your working years, life is like a liquid – it changes from hot to cold and back, again and again (perhaps especially if you're married). When you retire, life is like making the transition to a solid – changing even more slowly, until you recognize you're part of the universal consciousness and it's OK to become whatever you want. I'm in the transition from liquid to solid, which hopefully will take at least a couple of decades, unless my liver gives out on me. The biggest problem I have with this transition is that my body is slowing down faster than my mind, even though I've always thought they were the same.

For most of my life, I've lived on army bases, college campuses and small towns. I don't mind visiting large cities, but a week of the noise and congestion is my limit. Even Salt Lake City, where Cindy and I lived for ten years, was too much – I traveled as often as I could to more remote areas. Grand Junction was perfect for us, and Bluff is even more quiet. Basically, I'm a country mouse (you might enjoy “Town Mouse, Country Mouse” by Jan Brett).

When Cindy and I decided to get divorced, I went back to college (Colorado Mesa University, CMU, formerly Mesa State College, in Grand Junction) and audited two semesters of a class in Geographic Information Systems (ARC GIS) to re-learn how to make multi-layered digital geologic maps so I could make one of the large dams, earthquakes and seismic hazard zones in western China. I had a really good time at CMU, living in a mobile home near the campus. I liked the GIS prof, Vernor Johnson, and my classmates, who were young enough to be my grand kids. Being around them made me feel younger – it was fun to interact with them. I had met Gigi Richard, the hydrology instructor at CMU, years before, and on a couple of occasions, she had asked me to teach her class while she attended a conference. I gave a lecture on the evolution of the Colorado Plateau and the Colorado River (still one of my favorite subjects) and another on Reservoir Induced Seismicity (RIS), which later formed the basis of the article I wrote on RIS risk and large dams in western China, using maps I learned to make in the ARC GIS class ([probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf](http://probeinternational.org/library/wp-content/uploads/2012/08/JohnJacksonreport-July24.pdf)). I also took private alto flute lessons, a Pilates class and convinced the outdoor program director to open the college's kayak pool lessons to disabled veterans at no cost. This later expanded into a Team River Runner chapter run by a former co-director of Colorado Discover Ability, Ryan Keyes. In 2015 and 2016, Bill Alexander and Ryan lead groups of disabled veterans in kayaks on an upper Colorado River trip.

When our divorce was complete, I decided to visit Scott Sanderson to go on a four day sailing trip in Chesapeake Bay with him (we had a fabulous dinner in Annapolis), then to fly to China via Europe. Scott, being an Easterner, had always wanted to fly west around the world, and he did so as part of joining our trip on the headwaters of the Indus River in far western Tibet in 2005. That gave me the idea, being a Westerner, of flying east around the world on my way to visit Travis and live in Dali, Yunnan, China. After our sailing trip, I flew to London, then to Paris, then took a high speed train to the French Riviera, where I spent a week camping on the beach at Cap D'Age. This is the largest naturist community in the world – as many as ten thousand nudists spend the month of August there. My parents, who were closet nudists (the only way when you're in the US Military), had taken me and my siblings there in the early 1960's on a family vacation when we lived in Landstuhl, Germany. When Dad died and I went through his pics, I found a funny sequence of four of his boys, nude, from behind. First one of me, then of David and me, then of Michael, David and me, then of the three of us with Steve. I showed them at his memorial service. Everyone laughed. Having grown up swimming nude in remote lakes in Colorado, I had always wanted to return to

Cap D'Age. It was definitely not what I remembered. Though there were a few families, most of the vacationers were ugly old folks like me, and few of them liked Americans. I left after a week of making very few friends.

When I arrived in Yunnan in August 2012, I moved to the Salween River Valley in western Yunnan to live with Travis and Weiyi, who were scouting the river for fun, safe stretches to run with Chinese clients. It had first been run by Phil Kantor and a group of folks from Boulder, Colorado, in 1996, and I had a copy of a video of the trip. Travis had kayaked most of it and had some ideas. First we lived in Liuku, which is the largest town on the river and had really fun traditional circle dances every night, but it was too noisy. Then we moved a day's drive upstream to Gongshan, near the border with Tibet, where I took Chinese language lessons from English teachers at the local high school. I also met some young German women who were teaching English at the local middle school, where I helped them set up an English Club. Gongshan is in a beautiful setting and I spent a lot of time playing my flute down by a major rapid on the river. Travis eventually decided the river downstream (south) of Liuku was the best stretch for educational trips, so he, Weiyi, Tang Jing Zhong, Wang Heng (a videographer friend of Travis') and I rafted it in late December to confirm his choice. December was too cold for rafting, but February and March trips have become quite successful for Last Descents.

That summer, Travis ran a trip on the headwaters of the Yangtze (the Tongtian He) and the headwaters of the Mekong (the Za Qu or Da Qu) in Qinghai on the Tibetan Plateau. He'd run these before but not commercially and wanted me to see them. His sister Carmen and I rowed rafts and he kayaked. Both rivers are really spectacular – especially the wildlife on the Tongtian He, but it's terrifying at high water, while the Da Qu is a much smaller river and high water is manageable. We had to line a nasty rapid on the Da Qu, but there's a beautiful side canyon hike there. Unfortunately, while relaxing up the side canyon, the rock the rafts were tied to fell over and the rafts floated away. Travis took off in his kayak while the rest of us scrambled along deer trails across a steep hillside for a couple of miles. Travis finally caught the rafts, which were still tied together, but nearly drowned trying to get them to shore. We all learned a really good lesson about double tying the rafts to shore anytime we left them.



flower mall in Dali. Photo by Landi.

I moved to Dali in January, 2013, where I rented a room in a local hostel until I found an apartment. I had been to Dali several times (1987, 1995, 1996, 1997 and 2004) and had fond memories of it as a small tourist trap with an interesting history and a perpetual spring climate in a spectacular setting. It's situated between the twelve thousand foot high Dian Cang Mountains on the west and six thousand foot Er Hai (Ear Lake) on the east. I found an apartment with a view of each, within walking distance of the mountain, the local university where I hoped to enroll in a Chinese language class and Old Town Dali, and a short bus ride to the lake. My apartment was located in a beautifully landscaped gated community where I was able to make some good friends, including Landi, a twenty-six year old woman who became my Chinese language tutor (I couldn't attend the college due to my age), her parents, several other residents (some of whom knew Travis and his Chinese friends), a Chinese woman from Canada (Margaret), and Lily, the Chinese owner of a local pizza parlor and dance studio (the Lazy Cat). Landi had become a fundamental Christian and one day tried to convince me that humans had been created by God and had not evolved from apes. I told I could prove I was related to apes, and lifted up my T-shirt, showing my hairy chest and the beginnings of a beer belly. She never brought up the subject again. Lily made great pizzas, taught belly dancing, Pilates and Salsa, and her students were college girls studying English. When they found out I knew how to swing dance they asked me to teach them. On Friday or Saturday evenings, they'd take me out to dinner for pizza at Lily's, then we'd take the bus to Old Town Dali, find a street band that played music suitable for swing dancing, and I'd teach them and their boyfriends to dance. Lots of tourists would stop and watch us, leaving tips for the band. I had a blast, and kept in touch with some of the girls by email for a while, even after I left China.



The Three Pagodas of Chong Sheng Temple, Dali, built in the 1500s before Dali was conquered by the Han Chinese. A large earthquake caused them to tilt. From Wikipedia.

One day as I walked up the hill to my apartment in Dali, the manager drove by in multi-passenger golf cart with a Chinese woman about my age who spoke very good English (and she had dyed red hair). “Michael” (his English name) was teaching me to play Chinese chess and gave me a ride home. Later that day, Margaret (her English name) came by to visit me. I had put a huge geologic

map of China up on the wall (from 1987, now Carmen has it, all in Chinese) and she was immediately drawn to it. Even though I couldn't read any of the river or town names, I knew the names of many of them from my twenty visits to China. She was a retired architect who had been born near Hong Kong, went to college there, met and married a Canadian, had lived in Canada for twenty years and had two adult children about the same age as Travis and Carmen. One day she invited me to her apartment for lunch, and while sitting there an earthquake struck. Fortunately it didn't cause any damage, but some of her wall hangings fell. We later learned it was a 5.0, in the Yangbi drainage on the other side of the mountains – a place both of us had visited. We became good friends – she's a world traveler and has been to almost every continent, often on her own. Pretty gutsy. We still keep in touch by email and sometimes by Skype. She's an excellent photographer and has sent me some really cool pics of her travels. Who knows, maybe she'll visit me in Bluff someday. It's pretty photogenic here.

I had to leave China every three months to renew my visa. I usually went to Hong Kong, and on one of my trips back to Dali a taxi driver ripped me off for about \$100 by telling me the Chinese bills I had given him were counterfeit. In reality, they were just fine, but when he returned them to me he gave me counterfeit bills. He was probably a magician in his spare time. On another trip back to Dali, I had my day pack stolen while sleeping on an overnight bus, losing about a thousand yuan (about one-hundred sixty dollars) and my laptop. Fortunately I had a good backup drive and Travis brought me a new laptop from the US, though when I re-downloaded my favorite programs, they were all in Chinese. However, in general I feel safer in China than I do in large US cities. On another trip I decided to go to Thailand to spend a week with a friend. I didn't have a very good experience - my wallet got stolen one evening on the beach, but fortunately I left my passport, in which I kept a backup credit card, in my hotel room. Unfortunately, when I entered Chinese customs at the Bangkok airport, the agent canceled my visa because my passport looked "old." It did (from frequent use), but it still had three years to expiration, so I asked to see her supervisor, who gave me an entry stamp for two months, then told me I had to get a new passport to get the visa renewed again. I flew back to Kunming on my way Dali and told Travis about this problem. He thought I could get a new passport in Hong Kong, so I decided to go ahead and celebrate my 65<sup>th</sup> birthday at the Green Lake Hotel in Kunming, where I'd stayed on my first trip to China twenty-six years ago. It had been rebuilt and is now a five star hotel. I rented a paddle boat and cruised around the lake, reminiscing, then had my favorite birthday dinner – lamb. Cost me a leg and an arm, but it was worth it. A year before, Travis had convinced me to take a ten day Vipassana Meditation course, and I'd done it at the Hong Kong Center ([www.dhama.org](http://www.dhama.org)). This is a world wide program, totally free (including room, board and instruction). Once you've taken a course, you can apply to be a "Dhama Slave," or volunteer, with duties such as sweeping and mopping, serving meals, doing dishes and even being a cook's helper. I applied for a position for a course a few days after I had to leave mainland China, then went to the US Consulate to get a new passport and was told I'd have to mail it to Washington DC and that it could take a month or more, plus the Chinese visa office in Hong Kong wasn't issuing new visas at the time. Now I have a ten year visa and keep my passport in a protective cover.

When I realized I had to return to the US, I searched the internet for places to live there. The name of my river exploration business in China was called Shangri La, so I searched for a community with this name, and found one in New River, Arizona, in the Sonoran Desert. I love the Sonoran Desert - it's really lush - and the community was on a large tributary to the New River with spectacular views of Basin and Range mountains. It was a clothing optional resort with about one hundred and fifty year-round residents, another hundred and fifty snowbird residents and a few dozen non-residents who came up to swim on weekends (mostly retired). The lot rent at the Shangri La Ranch was reasonable, especially considering the amenities (a heated pool and hot tub,

showers and a library with books and videos) and social activities (including some wild dances), so I moved there in January, 2014. I bought an old twenty-eight foot mobile home located on the lot with the best view of the desert and mountains, which also had great sunrises and sunsets and lots of wildlife, including abundant javalina, coyotes, birds (one being a friendly roadrunner, plus lots of humming birds) and two thirty foot Saguaro cacti in my front yard, which had a record bloom of huge white tuba shaped flowers that spring. I was also surrounded by Palo Verde trees, which have green bark and beautiful yellow flowers that last for six months. Unfortunately, I didn't know that I was severely allergic to them, almost to the point of asthma, until they started blooming in April. I finally went to see a doctor, who gave me a very strong antihistamine inhalant, which worked, more or less. However, I really don't like taking synthetic drugs (though I do take synthesized naturally occurring vitamins, minerals and amino acids), so I decided I couldn't live in a Sonoran Desert Shangri La anymore.

I was younger than most of the people at Shangri La. It was clearly not a resort with sexy young folks – the women's breasts hung down to their belly buttons and the men's penises looked like small mushrooms, mine included. I made a few friends at Shangri La. Bill and Barb ran the local restaurant, which I heard was marginally profitable, so I ate there three times a week to support them. They introduced me to their forty year old son, Brian, who worked as their waiter and dishwasher. When he was sixteen, he'd been in a bad motorcycle accident and lost his front teeth (upper and lower) and had some minor brain damage. I'd started writing these memoirs a few of months before I met him and was suffering from writer's block. I'd been reading a Sherlock Holmes novel (Sir Arthur Conan Doyle) and noticed that he always smoked a tobacco pipe while solving the mystery, and mentioned this to Brian. He gave me a bag of pipe tobacco and a pipe, and I still smoke it to motivate me (but, like Bill Clinton, I don't inhale). After making friends with the three of them, I found out Bill was Brian's stepfather and still working part time as a truck driver to make ends meet, and that Barb had never had the money to buy dentures for Brian. I loaned them the money, no interest, and they gave me a free ride to Phoenix once a week to buy groceries when they went to buy food for the restaurant. Cool folks. I met another couple, John and Robin, who had retired and moved every few months from one nudist community to another with their fifth wheel mansion. John was a semi-retired Presbyterian Minister and his wife was a devout Catholic. Needless to say we had some really entertaining conversations. Robin once mentioned that it was sin for a non-Catholic to take Communion, so I asked her that if I, as a non-Catholic, took Communion, would I have to confess my sin to a priest? She told me I'd have ask the Pope. I told her I'd once taken Communion at a Presbyterian Church, and the wafer tasted like a moth. She suggested I shouldn't tell that to the Pope. I still keep in touch with them.

Although Skunk Creek, the large tributary to the New River, had a hundred year flood that summer (so did so many other creeks and rivers that I-17 was closed for a day or do), I really missed living near a river. So in December, 2015 I decided to move to Moab, UT, where I'd lived for a few months in 1976 while managing ARTA's southern UT river operation (Westwater and Cataract Canyons of the Colorado), and where there were no Palo Verde trees. Moab is in a long fault controlled valley near Canyonlands National Park and Arches National Monument (the latter made famous by Ed Abbey's book "Desert Solitaire"). It's surrounded by spectacular red and white slickrock cliffs that have over the years attracted thousands of mountain bikers, river rats, four wheelers and hang gliders. It's named after a Jewish town near the Dead Sea (as is Zion National Park and many other places in Utah). Unfortunately, it's also located near an oil reservoir so there's lots of drilling and associated large truck traffic. Although I found a great place to live (Pioneer Spring), the traffic noise was horrendous. It echoed off the cliffs and never stopped, being completely irritating from Spring Break to Thanksgiving. Moab has always been a schizophrenic town, and it has gotten worse – the environmentalists versus the motorized river trip companies



versus the mountain bikers versus the off roaders, all upset by the drillers. The US Bureau of Land Management (BLM), which manages much the federal land surrounding the town, just can't satisfy all of them, and it just going to get worse.



The Pioneer House in Bluff, UT

In late April I gave up on Moab and moved to Bluff, UT, on the San Juan River. It's one of my favorite rivers even though it's only Class II. It carved the famous Goosenecks, which are deeply incised pinched meanders. The Anasazi and Pueblo people lived here over a thousand years ago, leaving many ruins and petroglyphs. Some of the petroglyphs have human shapes with antennae, which always remind me of an old TV program, "My Favorite Martian." Like Moab, it's surrounded by beautiful slick rock scenery, and I found an apartment in the Decker House, formerly called the Pioneer House, built in the 1880s when the Mormons settled there, and listed on the National Register of Historic Places. The Bluff Fort has been converted into a museum with a really cool tour with pictures and videos recreating the Hole in the Rock expedition, which illustrate the Mormon expedition that settled in Bluff in the 1870s. The Bluff Library is in the old jail. Cindy and I had stayed at the Pioneer House many times before or after our San Juan river trips in the 1970s, when it was owned by Gene Fushee, a retired geologist who had built Recapture Lodge. The Pioneer house had been remodeled and my apartment had a porch with a great view of the Jurassic age Bluff Sandstone cliffs across the river, which is less than a mile away. In twenty minutes I can carry my inflatable kayak with gear for a four day trip to the river, arranging for a local friend to pick me up in Mexican Hat, about thirty miles downstream. Bluff is like Shangri La Ranch – about one hundred fifty year round residents and one hundred fifty seasonal ones, though nudity is not acceptable (I even have to wear a T-shirt on my porch). The full time residents in Bluff are mostly retired archeologists, Mormons or Navajos, the seasonal ones mostly river runners, hikers and mountain bikers. Although I'm a full time resident and have made friends with individual Mormons and Navajos over the years, I don't fit into either group very well, and haven't found any way to do local volunteer work. Pretty much all of my good friends live elsewhere, so I've become a hermit, reading (Bluff has a great library), listening to music and writing. After two years in the Dekker House, I moved to a nearby cottage, The Granary, owned by the Fushees, which I like even more. They recently passed away (old age) and in another small world encounter, the guitarist at their memorial service in Bluff was Don Keller, who also played guitar at Cindy and my wedding on the North Rim of the Grand Canyon forty years ago.

Tony Hillerman, who writes murder mysteries set on the Navajo Reservation in New Mexico, Arizona and Utah, authored one about Bluff, "Thief of Time." I like living in Bluff and hopefully time won't steal it from me before I'm ready to leave.



Goosenecks State Park, photo from its website. Needless to say, it's easy to get disoriented floating through them.

I still maintain my website, [www.shangri-la-river-expeditions.com](http://www.shangri-la-river-expeditions.com), and am working on a study of deeply incised goosenecks of the Colorado River drainage. I'm convinced they're quite young (geologically), formed by huge floods at the beginning of each of the dozens of interglacial periods that have occurred over the past two million years (and before Noah's Flood). The largest flood at Lees Ferry of about 300,000 cfs in 1880 (estimated) and the second largest one of about 220,000 cfs in 1920 (measured) didn't significantly modify rapids identified by JW Powell on his 1969 and 1971 expeditions. It will probably take floods on the order of a million cfs or higher to scour bedrock, deepening the canyons (the highest estimated flow is about 800,000 cfs in the 15<sup>th</sup> century). Gene Stevenson, a geologist and author of a seminal study of the geology of the San Juan river canyon, which flows through Goosenecks State Park about thirty miles west of Bluff, is one of the full time residents in Bluff. I once asked him how they formed: "like a hot knife through butter." Thinking about things like this is good for my aging brain.

Over the course of my life, I've occasionally had thoughts about death, usually spurred by the death of a parent or friend. For many years, I've thought drowning would be the best way to go, fitting, given my addiction to running rivers, though in my first will I asked for my ashes to be spread from the North Rim of the Grand Canyon. Now, unless I die in my sleep and my body becomes a bloated mess, if I'm diagnosed with an incurable disease, I plan to go to Colorado, where assisted suicide is legal, and donate my body to the CU medical school in Denver. Dad would like that.



A hole in a travertine dam below Havasu Falls.

One of the classes I took at Stanford was called “Sleep and Dreaming,” taught by Stephen Dement. It was a popular class, mostly because there were no midterms, finals or term papers and attendance wasn't required. However, Dement was such a good lecturer that the class was always full. It was a pass-fail class – no grades, and the only requirements were to spend a night in Dement's sleep lab and to keep a dream journal, which had to be turned in at the end of the quarter. I followed his research for decades after that. He believes that dreams are the “garbage of the mind.” His theory reminded me of Parallism, where you can change your past just by using your imagination. He taught us that there's a way to interact with your dreams, to change them at will and to create sequential dreams, called “active dreaming.” I was able to get rid of nightmares I'd had since I was a child, in which I fell from the sky through the roof of my house, waking up sweating and nauseated (probably due to once having fallen out of tree) and dreams of spiders from a bad LSD trip. My most recent dream was of a long swim, and I woke up feeling like I'd been “Swirling in the Current.”