If Boats Could Talk
Craft, Culture, and Change on the Colorado
THE VIEW FROM THE RIVER

The history of whitewater boating in Grand Canyon is rich with colorful characters, from one-armed Major Powell to the daring Kolb Brothers; from the pioneers of motorboats to the entrepreneurs who developed visitation on a grand scale. Yet nothing tells the story of these innovators better than the boats they chose to challenge America's biggest whitewater. River running's evolution follows the modification of boats and techniques developed for this unparalleled fastwater proving ground. The story of Grand Canyon boating continues today as new materials are incorporated in rowing rafts, motor rafts, and dories; quieter, cleaner engines and new composite oars propel them, and new techniques of running rapids continue to push river running into an ever-safer and more enjoyable future. Yet as exciting as today's world of whitewater is, it is made far richer by preserving, interpreting, and understanding the boats and the boaters that brought us here.

Cover: In Waletenberg Rapid, the Edith hit a rock, tearing a large hole in her side. The Kolb Brothers and Bert Lattzon spent Christmas Day, 1911, repairing Emery's boat with tin, canvas, and pieces of mesquite. pho111: Kolb Bros. NAI PH 569-3437

Below: Ellsworth (left) and Emery Kolb (with Bert Lattzon on the back) before running Waletenberg Rapid on Christmas Eve, 1911. pho111: Kolb Bros. NAI PH 569-3434
JOHN WESLEY POWELL: FIRST TO EXPLORE THE RIVER

In October, 1938 river runners Julius Stone and Russell Frazier accompanied rancher Leo Weaver to a burned pile of stubble in his field at Lee's Ferry, where the Colorado River enters Grand Canyon. After searching the weeds, Weaver pulled out fragments of what he said had been, until that morning's brush fire, a boat. The following May, Park Naturalist Edwin McKee confirmed that the men had found the only known remnants of one of Major Powell's boats.

John Wesley Powell had made history with his voyage of discovery down the Colorado in 1869. In 1871 he launched a repeat voyage, wintered his boats at Lee's Ferry, then continued downriver the following summer. They left behind one boat, the Nellie Powell. Had Stone and Frazier arrived a little earlier, the collection at Grand Canyon National Park might include the complete Nellie Powell instead of a few charred fragments.

Powell's 1869 voyage brought the Colorado River and Grand Canyon to the American consciousness. He not only discovered terrain, he studied and interpreted it, many of his concepts of geology becoming cornerstones of modern theory. Likewise his discussions of water in the arid West remain prescient even today. Powell's boats and most of those who followed over the next few decades were of a design that evolved in New York Harbor. Called Whitenhall boats, these sleek, keeled catamaran boats were ideal for fast travel in relatively smooth water. They were powered by one or two men pulling downriver while facing upstream, and steered by a man in the stern with a sweep oar or rudder. Unfortunately, the Whitenhalls were poorly adapted to shallow, rocky rapids, so Powell and those who followed ended up portaging around most major rapids or lifting their boats along the shore with ropes. By the end of the 19th century the Whitenhall had all but vanished from the Colorado.

Nathaniel Galloway is considered the father of modern whitewater rowing technique. He was a trapper from northern Utah who devised his own boat and rowing style to cope with the challenges of the Green and Colorado Rivers. Rather than using a deep-keeled boat like Powell, he devised flat-bottomed upturned boats for shallow draft and ease of pivoting. And rather than pull downstream with his back to the view, he chose to face the rapid, pull upstream to slow his momentum, and ferry gently back and forth to miss the obstacles. His system revolutionized whitewater boating, enabling him and those that followed to navigate rapids with greater safety and success.

In 1897 Galloway and a fellow trapper ran the entire Grand Canyon using his new boats and technique.

GALLOWAYS: JULIUS STONE AND THE KOLBS

Ellsworth Kolb with Bert Lawson (top) lining their Galloway boat, Lava Cliff Rapid, 1912. Photo Kolb Bros, NAUPH 568-5199
In 1909 an Eastern industrialist, Julius Stone, hired Galloway to lead a group of four Galloway-style boats down the Green and Colorado. Stone rowed his own boat, which is now the centerpiece of the Grand Canyon National Park collection.

Two years later Grand Canyon photographers Emery and Ellsworth Kolb, after much communication with Stone, rowed similar boats down the river, making photographs and movies as they went. Both their boats, the *Edith* and *Defiance* are in the collection.

The wilderness aspect of the adventure began to fade in 1923 when the United States Geological Survey completed their mapping survey of the Green, San Juan, and Colorado Rivers. More than just charting the terrain, they were looking for damsites, several of which were eventually used to tame the muddy torrent. One of their boats, an oversized Galloway-style named *Glenn* is part of the NPS collection.

Galloway boats dominated river travel for four decades before more modern materials—plywood and neoprene—brought new designs to the river.

High on the Colorado's bouldery shoreline in the heart of Grand Canyon lies an old metal rowboat. For nine decades it has represented the highpoint of comic calamity on the river.

Charles Russell joined with his old partner Bert Loper in 1914 to film their whitewater trip down the Colorado. But in Utah's Cataract Canyon, Russell sank his boat. Stashing Loper's boat, the two made an arduous hike to civilization. Loper designed and built a third—and far superior—boat from galvanized steel. It was named for local steamboat pilot Roswell "Ross" Wheeler. After a disagreement, Loper dropped out of the expedition. Russell took the *Ross Wheeler* and a new crew and started the trip over.

In Cataract Canyon they rescued their stashed boat, only to sink it. They had a fourth boat built and named it the *Titanic II*, after the recently sunken ocean liner.

As they entered Grand Canyon winter's chill froze the river solid. They climbed out and waited, starting again in February. Then the *Titanic II* sank. The crew hiked to the canyon rim, ordered another boat, and wheeled it down the Bright Angel trail on an old wagon axle.

Russell rowed the new boat a few miles downstream to where they had stashed the *Ros Wheeler*, only to find a rockfall had smashed its bow. Out they went again to get repair materials. They launched again, but...
soon wedged the new boat in the rocks at Crystal Creek Rapid. They climbed out again for a block and tackle, and winched out the sunken boat. Casting off, they immediately sank it—for good this time—in the same place they had just extricated it from.

Disillusioned, the three men trekked another ten miles before abandoning the Ross Wheeler at the foot of the South Bass Trail, where it lies today. John Wahrberg, a miner working in the area, found the boat and winched it high on the slope, near where it lies today.

For fifty years the boat and its contents remained untouched. More recently oars, pulleys, and other artifacts have disappeared. The boat itself has been vandalized on at least one occasion. It is our hope that with better education, we can preserve this boat intact in its historic location. Should you visit it, please treat it with respect—it is the one surviving boat of Charlie Russell’s hapless voyage.

**NORM NEVILLS’S CATARACT BOATS**

Norman Nevills began running whitewater on Utah’s San Juan River in the 1930s. Designing and building his own plywood boats, Nevills, based in the hamlet of Mexican Hat, offered tours down the San Juan and Colorado Rivers through Glen Canyon.

When botanist Dr. Eliza Clovey sought Nevills’s advice on studying cactus in the area, Nevills expanded the idea into a grand expedition down the Colorado River. To tackle the major rapids of Cataract and Grand Canyons, Nevills devised a new boat, modeled, he said, after boats his father saw on the Yukon. Called cataract boats, they were much wider than the traditional Galloway boats then in use on the Colorado. And using modern marine plywood, they were far easier to build. With the help of Don Harris, Nevills built a fleet of three boats, naming his own WEN after his father, W.E. Nevills. Harris named his boat after their town, Mexican Hat.

Nevills launched from Green River, Utah on June 10, 1938. After a week of arduous lining and portaging around major rapids, the expedition arrived late at Lee’s Ferry to a minor media frenzy about the lost expedition. After replacing some crew and resupplying with food, they pressed on. Dr. Clovey brought her assistant Lois Jeter on the trip, the two becoming the first women to traverse Grand Canyon.

The success of his 1938 expedition shot Nevills to national fame as America’s top float water man. He continued to run trips on the Green, Colorado, San Juan, Snake, and Salmon Rivers until his untimely death in a plane crash in 1949. By then he had run Grand Canyon seven times—the previous record was two—without a fatality or upsetting his boat. Nevills had bought Grand Canyon boating from the era of expeditions to commercial viability. His boat design lived on another twenty years before succumbing to more modern craft.
The folding kayak—devised in the 1800s and brought into production by Johann Klepper in 1907—underwent a boom in the United States when Jack Kissner moved his Folbot factory to New York from England in 1939. Kissner set about publicizing his folding kayaks, championing the sport of paddling them in whitewater, and mass-producing the boats to meet demand.

Alexander "Zee" Grant was in the forefront of the new sport. He had won several whitewater championships in the East before he turned his eyes to the Rockies and beyond. He took on the Canyon of the Yampa in the upper Green River in 1939 with fellow foldbooter Stewart Gardiner. Gardiner had soloed this stretch in 1938, hot on the heels of a trio of French paddlers who had kayaked the Green and Colorado all the way to Lee's Ferry. In 1940 Grant, Gardiner and three other paddlers ran the Middle Fork of the Salmon. In its own way, kayaking was booming.

Grant wrote pioneer river runner Norman Nevills in 1941, asking to join his upcoming Grand Canyon expedition. Nevills was dubious but agreed.

Grant, in preparation, worked with Jack Kissner to produce a custom "sixteen-and-a-half foot, folding, rubber-covered battleship," with "bulbous ends carved from balsa wood, and huge sausage-like sponsons along the sides, made from inner tubes of Fifth Avenue bus tires." For added buoyancy he crammed in eight additional inner tubes and five beach balls. He named it the Escalante. Grant's pluck knew no bounds. He described getting hit by the huge waves in House Rock Rapid: "about half way through one of the little fellows picked the Escalante up, and slapped her down smarmily on her topsides, leaving me sputtering in the water alongside. In a moment, climbing on her keel, I had the foldboat under control again and paddled ashore almost as easily as if she were right side up."

He ran most rapids but, following Nevills' lead, portaged Hermit and Lava Falls. Upon finishing the river, the group caught a tow across Lake Mead, arriving at Boulder Beach on August 3. Wrote Nevills: "Pictures are taken and Zee is the sensation of the hour—and justifiably so as he turned in a swell job of bringing his boat thru."

Even during his lifetime, Bert Loper was known as the Grand Old Man of the Colorado. He was born in Bowling Green, Missouri in 1869 just as his later hero, John Wesley Powell was first exploring the Colorado. Essentially orphaned when he was four, Loper was on his own by the age of thirteen. He wandered west, working as a ditch-digger, mule-skinner, and hard-rock miner before
finding himself on the San Juan River in 1893. He spent the next dozen years farming, mining, and serving in the Spanish American War. All that time, however, he yearned to return to the river.

In 1907 he launched on a voyage down the Green and Colorado Rivers in steel-hulled Whitehall boats, but circumstances prevented him from continuing into Grand Canyon. Instead, he towed his boat 165 miles back upstream in the dead of winter. For eight years he placer mined on the banks of the Colorado. In 1916 he left the river and married.

Later that year with Ellsworth Kolb, Loper was the first to boat through Utah's Westwater Canyon. In the early 1920s he was hired as lead boatman for surveys of the lower Colorado, San Juan, and Upper Green Rivers. To his great disappointment he was not chosen as boatman for the 1923 Grand Canyon survey, and his dream was stymied once again.

In 1939, at Loper nearly seventy, a young boatman named Don Harris sought advice on running Grand Canyon. Loper's advice: Let's do it together. They launched in July and became one of the first parties to run every rapid. They pledged to do it again ten years hence.

For his return trip in 1949 Loper built a new boat, the Grand Canyon, incorporating design elements of Calloway, Nevills, and his own ideas. He launched on July 7, three weeks shy of eighty years old, leading Don Harris and two other boats. The next day, Loper flipped in 24½-Mile Rapid. Loper was last seen motionless, floating downriver.

That evening they found his boat and dragged it high on the shore near mile 41, where it lies today. A half-century of sun, rain, rockfalls, and tourists have not treated it kindly. What remains is extremely fragile. If you visit it, please do not touch.

Ed Hudson, a druggist from Paso Robles, California, caught the bug to uprun the Colorado from fellow Nevills Expedition affiliate Harry Aleson. For his attempt, Hudson built in his garage a plywood craft modeled after A.J. Higgins's revolutionary World War II landing craft. With a strong V-shaped prow to burst waves and withstand debris impact, and a reversed V stern to protect the propeller and rudder in a "tunnel," the craft was ideal for high-speed operation in shallow water.

Hudson enlisted whitewater man Dock Marston to help pilot the vessel. Underpowered in 1948, they were defeated at 217-Mile Rapid and retreated. For the 1949 attempt Hudson heeded Marston's advice, agreeing to make a downriver run first to test the boat and stock gasoline. On June 12, 1949, they left Lee's Ferry, taking just over five days to complete their downriver run. They refueled at Lake Mead and made another upriver attempt, no more successful than the first. However, their downriver run had made history, being the first time a motorboat had run the river. And although the Esmeralda II
never did make it up the Canyon, it spawned an era of hardhulled motorboating through Grand Canyon that lasted well into the 1960s with Chris Craft and outboard skills streamlining through the waves on the high summer flows.

The *Esmeralda II*, however, had one more remarkable trip. Hudson launched in summer 1930 to repeat his downriver journey, accompanied by Marston in a new Chris Craft. Midway through the trip the *Esmeralda II* developed engine trouble and crashed. In despair, Hudson cast the boat adrift and helicoptered out. But a week later another river expedition found the *Esmeralda II* on a cobble bar, pushed it back into the river, repaired the motor and drove it on through the Canyon. Afterward Hudson got in a custody battle with the salvagers which was settled only when the NPS added the boat to their collection, where it resides today.

**GEORGIE WHITE’S BIG RIGS**

Much as plywood enabled the phasing out of the old Galloway boats, the introduction of neoprene—a durable synthetic rubber—facilitated the invention of inflatable whitewater boats. Their ease of transport and durability in rocky rivers signaled the sunset of wooden boats on the Colorado.

The first inflatable down the Colorado was Amos Burg’s 1938 Charlie, a custom-made 83-pound raft. Although Burg’s trip proved the craft was viable, it was not until the end of World War II, when surplus military rafts flooded the market, that inflatables made a serious showing on the Colorado. Scouting groups from Salt Lake City began running multi-rafting trips through Glen Canyon, and it was not long before the boats were common in Grand Canyon.

One pioneer of inflatables was by far the most famous woman boatman of all time, Georgie White. She made her first trips on the river hiking and swimming in the lower Grand Canyon with river runner Harry Aleson. Soon, however, Georgie was rowing her own surplus rafts, then tying two or three together for more stability. By the mid-1950s she had brought huge bridge pontoons to Grand Canyon, powering them with outboard motors. She attracted passengers with her affordable "share-the-expense" trips and opened Grand Canyon to large scale river tourism.

The economics of Georgie’s big rigs soon spread throughout the river business and for a short time in the late 1960s few rowing trips were seen. But by 1970 the offerings began to re-diversify and expeditions by rowing raft, and even a few wooden boats, regained their place in the mix.
Georgie continued running her trips aboard her gigantic pontoons past her eightieth birthday, and one of her early rowing rafts is part of the NPS collection. A rapid in Grand Canyon was named for Georgie to commemorate her remarkable role in Colorado River history.

WALTER KIRSCHBAUM AND HIS FIBERGLASS KAYAK

In the decades following Lee Grant's pioneering 1941 kayak trip through Grand Canyon in his wood-and-canvas folding boat, fiberglass was invented, perfected, and became commonly available. By the late 1950s, paddlers around the world had begun experimenting with this new miracle material to build a better kayak. One such experimenter was Walter Kirsichbaum.

Kirsichbaum had been paddling since the 1930s, originally as a member of the Hitler Youth organization in his native Bavaria. After being drafted into the German Army as a young teenager, Kirsichbaum was captured on the Eastern Front and held for years after the war in a Siberian work camp—an ordeal that damaged his growth, health, and emotional well-being.

Once back in Germany, he began paddling folding kayaks again and won the 1953 World Championships. He visited America to paddle and fell in love with the rivers of Colorado. He conceived the goal of running every river in the Colorado River system.

Kirsichbaum began experimenting with hybrid boats—a fiberglass hull for strength with a canvas deck to keep the boat light. In 1959 he ran Cataract Canyon on the upper Colorado River in one of his new boats. In 1960 Kirsichbaum became the first person to kayak every rapid without portage, as well as the first to paddle a rigid kayak through Grand Canyon. After upstreaming in Hance Rapid, "a giant's list, then, it seemed, dragged me out of my kayak," he lost his paddle and tried to swim the boat ashore. He was twice sucked under by whirlpools as he drifted toward the next rapid. "Finally, I thought of the spare paddle that I always keep on my rear deck, assembled, feathered, and ready to use. I pulled it off, rode and paddled my boat ashore as it was, upside down."

With classic humility, he later admitted that, aside from a few adventures, the trip was not that difficult—that in a boat so maneuverable one could sneak around almost any obstacle.

The idea of powering a boat up the Colorado first arose in the early 1940s in the mind of eccentric Harry Akebon. His attempts failed, as did those of the next uprunner, Ed Hudson. Hudson tried two unsuccessful upruns in his hard-hulled motorboat, the Estremada II, in 1948 and 1949. It was not until 1960 that the dream was realized, as the result of New Zealander Bill Hamilton's invention of the jetboat.

Hamilton, an inventor, perfected the jet thrust propulsion system in order to navigate the shallow streams of his country, and consequently invented the sport of motoring up whitewater rivers. His concept proved so popular that he began producing jetboats...
commercially. In 1959 friends working with Hamilton's American licensee conceived the idea of a promotional trip up the Colorado through Grand Canyon.

Enlisting the renowned Dock Marston as their Grand Canyon expert, the team piloted four jetboats down the river in 1960 to scout the terrain, test the boats, and stash fuel.

However, due to an injury, Bill Hamilton was not able to participate, sending instead his son Jon as lead pilot. Of the four boats to descend, the two larger ones were rejected for the upriver because of their unwieldiness. The two smaller craft, Wee Red and Wee Yellow, were joined by two new small boats, Doe and Kist. On July 4 the team left Lake Mead.

Two days later they fought their way up the toughest upriver rapid, Lava Falls. Three days later, with the hardest rapids behind them, the Wee Yellow sank unexpectedly in Grapevine Rapid. The remaining three completed the historic ascent on July 12. The Wee Red and Doe are in the NPS collection.

With the closing of Glen Canyon Dam in 1963, sufficient water for such craft was rarely seen again. And fearing the Colorado might become a motor testing ground, the NPS soon established stringent horsepower restrictions and banned uprants.

In the spring of 1963 the newly built Glen Canyon Dam pinched the Colorado River's flow to 1,000 cubic feet per second — a mere trickle compared to its normal flow of 10,000 to 20,000 cfs. River running photographer Bill Belknap proposed to his friend Otis “Dock” Marston a trip down this tiny “new” river. Belknap pitched his idea to several magazines, got a contract from the National Park Service to take photographs of the ultra-low river, and sought the ideal boat for the expedition.

In a marine supply house Belknap spotted a small foam-cored plastic boat. Designed primarily as a flatwater toy and harbor tender, the Sportyak II looked to be the perfect craft for the steep rocky rapids Belknap anticipated. He talked the manufacturer into donating seven of them, and on August 5, 1963 left Lee's Ferry with his son Buzz, Dock Marston, former ranger Mack Miller, and a good friend, painter Cliff Seghichian, who brought his daughter Robin and son Ted. Each person rowed a Sportyak with about eighty pounds of gear on board.

The river’s current had slowed to a near standstill and they struggled across one long flat pool after another to each rapid, falling increasingly behind schedule. “With the low water in the Colorado many of the rapids become cascades which are not runnable by any type of boat,” wrote Belknap. “In such spots we either ‘lined’ the boats down with ropes along the shore or, if the situation was bad enough, actually dragged them, loads and all—over
**MARTIN LITTON BRINGS BACK WOODEN BOATS**

Inflatable rafts had been fast encroaching on Grand Canyon boating by the mid-1950s, with ever fewer river runners opting for the wooden boats. But one former Nevills boatman, P.T. Reilly, felt a redesign of the old Nevills cataract boat would yield a superior craft. He narrowed the broad blunt stern to a point to punch through waves, and topped the voluminous cockpit for added buoyancy. The boats ran a bit better but not good enough. After a few calamitous high-water trips in the late 1950s, Reilly scuttled his boats mid-Canyon and hiked out.

But in 1962 one of Reilly's fellow boatmen, Martin Litton, a writer and ardent conservationist, wanted to take a group of journalists and politicians down the river to fight two proposed dams within the Canyon. He convinced boatless Reilly to try a radically different hull—Oregon's Mackenzie River Drift-Boat. These flare-sided, high-propped fishing boats—essentially dories—had evolved on Oregon Rivers for whitewater navigation. By using Reilly’s decked designs, and ballasting the boats with food and gear, the two men came up with what remains the ultimate hard-hulled whitewater boat, the Grand Canyon dory.

Although Reilly retired in 1964, Litton continued to run dories, soon expanding his hobby into a commercial operation. In the early 70s, Litton switched from the slightly unstable Mackenzie River drift boats to the fuller-hulled Rogue River drift boats, the dory hull most prominent in whitewater rivers today.

Reilly named his original dory the *Suze Too*, after his wife. He later sold it to Litton, who renamed it the *Music Temple*, following his theme of naming boats for natural wonders destroyed by works of man. After many more river trips it joined the NPS collection, completing the tale of wooden whitewater boats. In 1999 Litton, at 82, became the oldest person to run a dory—or any boat—through Grand Canyon.
Yes!
I want to be part of the effort to save the historic boats and the history of Colorado River running!

Name

Address

City, State

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I would like to contribute ___________ to help the Grand Canyon Historic Boat Project.

☐ Check enclosed (in 3.50 CCNDF)

Please bill my credit card:

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Card number

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Thanks!

Please return to Grand Canyon National Park Foundation

50 N. 5th Street, Flagstaff, Arizona 86001

HELP SAVE OUR BOATS!

For decades Grand Canyon's historic boats remained on display in an outside courtyard. In 2003, a group of concerned boat lovers formed the Grand Canyon Historic Boat Project to save the boats from weathering, to clean and stabilize them, and to work toward a major, new interpretive facility to display them. Working under the umbrella of the nonprofit Grand Canyon National Park Foundation, and in partnership with the National Park Service (NPS), the Project has begun the arduous and costly process of preparing the boats for future generations.

In addition to the fifteen boats now in the collection, the Grand Canyon National Park Foundation is working with the NPS to add other significant boats from around the Southwest.

Meanwhile, in concert with the Park, the Foundation is in the planning stages of a series of new displays, as well as many other projects—such as this interpretive booklet—to better convey the unique heritage of the Colorado River to the American public.

Please consider making a generous donation to this worthy project. With your help these boats will continue to tell the story of the adventurers who tackled the mighty Colorado.

Boat conservator cleaning and preserving the Edith. Photo: NPS
Deck Marston rowing his Sparrowhawk II during the 1963 low water trip.

We think the following major contributors to the Grand Canyon Historic Boat Project:

**Arizona Humanities Council**
**Boatman's Advisory Committee**

- Bead Demock
- Jack Schmidt
- Dave Edwards
- Carl Staveley
- Larry Hopkins
- Gaylord Sweeney
- Tom Moody
- Ellen Tibbetts
- Richard Quarstedt
- Ray Webb
- Dan and Alida Dierker
- Charles Mingus
- Phil Smith

**The Walton Family Foundation**

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