

Grand Canyon River Industry Basics

The first commercial river trip in the Grand Canyon was run by Norman Nevells in 1938 (today's Canyoners, Inc. is the direct descendant of Norm's company, Mexican Hat Expeditions). Until 1950, only about 100 people had floated through the canyon.

After 1950, use began to escalate as word spread about the experience. The dam proposals of the 1950's also increased public awareness. For a number of years, two dams in addition to Glen Canyon Dam were proposed, Marble Canyon Dam at RM 39 and Bridge Canyon Dam at RM 238. Today, the Grand Canyon is no longer threatened by these proposals.

After the gates on Glen Canyon Dam were closed in 1963 (it took seventeen years for the lake to fill to full pool), the modern era of Grand Canyon river running began to take shape. Public interest increased sharply and by the early 1970's, about 16,000 people per year were running the river commercially. The park issued the first set of river concession contracts in 1973 while capping the river's use at the preceding year's levels.

Today's Grand Canyon river industry is comprised of sixteen NPS-licensed professional river concessioners or outfitters, many of whom began operations in the late 1960's. The industry is represented by the Grand Canyon River Outfitters Association, a non-profit trade organization.

The Grand Canyon river experience is one of the most compelling and highly regarded backcountry experiences available within the National Park System. It is somewhat unique in that it remains, however, an experience that is accessible to nearly everyone regardless of age and ability. A large part of this is due to the availability of motorized trips.

Grand Canyon National Park is one of the most intensively managed public resources on the planet. Every aspect of access to and use of the river is defined and controlled by the National Park Service through its Colorado River Management Plan. This document was recently revised through a protracted, ten year planning effort that included multiple lawsuits. While making some changes to the trip mix and season, in 2006 the NPS expressly found that continued motorized use on the Colorado River within the park is in the public interest and will continue.

Motorized watercraft has been used in the Grand Canyon since the early 1950's. Under today's rules, there are approximately 625 commercial river trips each year. Of this number, about 430 are motorized and 195 are non-motorized. The commercial river season runs from April through October. The commercial motor season runs from April through September 15th.

Today, daily launch patterns vary by season, but the main summer pattern is three motor/one non-motor trip launch per day. Approximately 18,500 commercial passengers are served each year, with 14,000 travelling on motor trips and 4,500 on non-motor trips. Motor trips on average are one week long. Non-motor trips typically take about two weeks.

Motorized trips are essential to the operation of the current river plan and for the public's general accessibility to Grand Canyon river trips as well. Without motorized use, the number of trips and the number of participants would be radically reduced, by as much as fifty to sixty percent.

In 1997, the commercial river outfitters approached the NPS and voluntarily committed to phase-out the traditional two-stroke outboard motors then in common use. The goal was to address issues of motor noise and emissions. The four-strokes used today are substantially quieter and hugely cleaner. The four-stroke conversion was a significant factor in the NPS decision to continue motorized use.

Grand Canyon motorboats are typically propelled by a conventional 30 hp four-stroke Honda Marine outboard and on average, operate for about four to six hours per day. At times, such as in an emergency, these boats may operate for up to eight to ten hours in a single day.

Each boat carries two motors (one in reserve) and burns approximately fifty gallons of fuel while traversing 300 river miles over six to eight days. All trips are fully self-sufficient as resupply is not possible in the canyon.

Each season, 100 motor rigs are used to conduct about 425 such trips. Grand Canyon motorboats travel at approximately eight to ten miles per hour, a bit faster than the river's current which runs about four to six miles per hour.

At normal cruise, the motors are operated at about one-third to one-half throttle. Full power bursts are important for maneuvering the boats, particularly in rapids. Enough power must also be available to hold the boats against the river's current and to run upstream in certain flat water situations.

While every attempt is made to protect the equipment, each motor's propeller and lower unit is generally considered sacrificial. This is the nature of Grand Canyon river running. Outboards are routinely swapped when damage occurs, making the weight of the outboard an important consideration.

The Honda outboards used today weigh about 180 lbs wet. If this weight could be reduced in an electric drive alternative, it would be major advantage. In any alternative system, questions of system redundancy will be important. At a minimum, the in-water drive will need a backup and must be easily swappable.

The alternative motorboat project is the logical next step in the industry's desire to address issues of motor noise and emissions. Given today's energy related national security and environmental concerns, the outfitters are also interested in pursuing non-fossil fuel alternatives.

The Grand Canyon river outfitters believe that the successful development and implementation of a non-fossil fuel alternative motorboat propulsion system represents the future of our industry. We are committed to this vision.

Our goal is to eliminate motor noise and emissions from the motorized river trip experience while serving as a catalyst in our own very small way for society's long-term imperative to move to a sustainable energy future.