SAVE THE KARNALI, NEPAL'S LAST AND MOST PRISTINE FREE-FLOWING RIVER

BY KAREN BENNETT AND MEGH ALE

The mighty Karnali, Nepal's longest, largest, and least known river system is in peril. Of the three major river basins emerging from the Nepal Himalaya—the Koshi, Gandaki, and Karnali—the Karnali is the only river that remains free-flowing. All others have been dammed for hydropower generation that reflects an increasingly intensive pattern of hydropower development across Nepal. There are currently three mega hydropower dams planned for the Karnali River with 28 more sites being surveyed. Construction of any one of these dams will forever change the essence and flow of the Karnali River. The construction of all three will devastate the river system and the cultures, species, and economies that depend on it. A dedicated group of people are working to protect the free-flowing Karnali. In spring 2018, a group of scientists, river adventurists, and a film crew will undertake an expedition along its entire length. Together, they will document the river's values and use what they learn to educate the public and decision-makers about the importance of protecting it.

The Karnali rises from Mt. Kailash on the Tibetan Plateau and flows 671 miles to its confluence with the Ganges River in India. The river provides water for millions of people, provides for fish and wildlife resources, and has a high value for ecotourism especially in the form of whitewater rafting and as an approach corridor to the Sacred Mt. Kailash. These ecological services sustain livelihoods throughout the Karnali River Basin.

An ancient river, the Karnali was in place as the Himalayan Mountains were thrust up by the collision of the Eurasian and the Indian tectonic plates. As the mountains rose, the river downcut into the landscape, the sinuous channel already in place. Hard rock ledges, as well as ancient and current day landslides create steep stream gradients, boulder strewn reaches, and world-class whitewater. Fed by glacial meltwaters and strong monsoon rains, this powerfully erosive river provides water, nutrients, and sediments to the lands along its path, and creates fertile agricultural plains along its floodplain.

Ultimate Descents Nepal, founded by Megh Ale, "Nepal's River Man," did the first commercial descent of the Karnali River in 1991 with David Allardice, Anders

Above: The Karnali River starts near Holy Mt. Kailash on the Tibetan Plateau as do three other great Holy Rivers of Asia, the Indus (Sutlej) into Pakistan, the Ganges through India, and the Brahmaputra to Bangledesh. Hundreds of thousands of worshipers travel to Holy Mt. Kailash for a spiritual renewal each year.
Map © Michael Buckley
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Blunquest and James Venimore. Together, they named almost all the rapids on the river. Megh describes the Karnali as a premier whitewater river and Nepal's "Last Best Place." Megh went on to form the Nepal River Conservation Trust in 1995 to conserve Nepal's Himalayan river system, preserve Nepal's cultural heritage, and develop an environmentally responsible river tourism industry. His vision and dreams today are focused on saving the Karnali's premier rafting section from proposed hydropower projects.

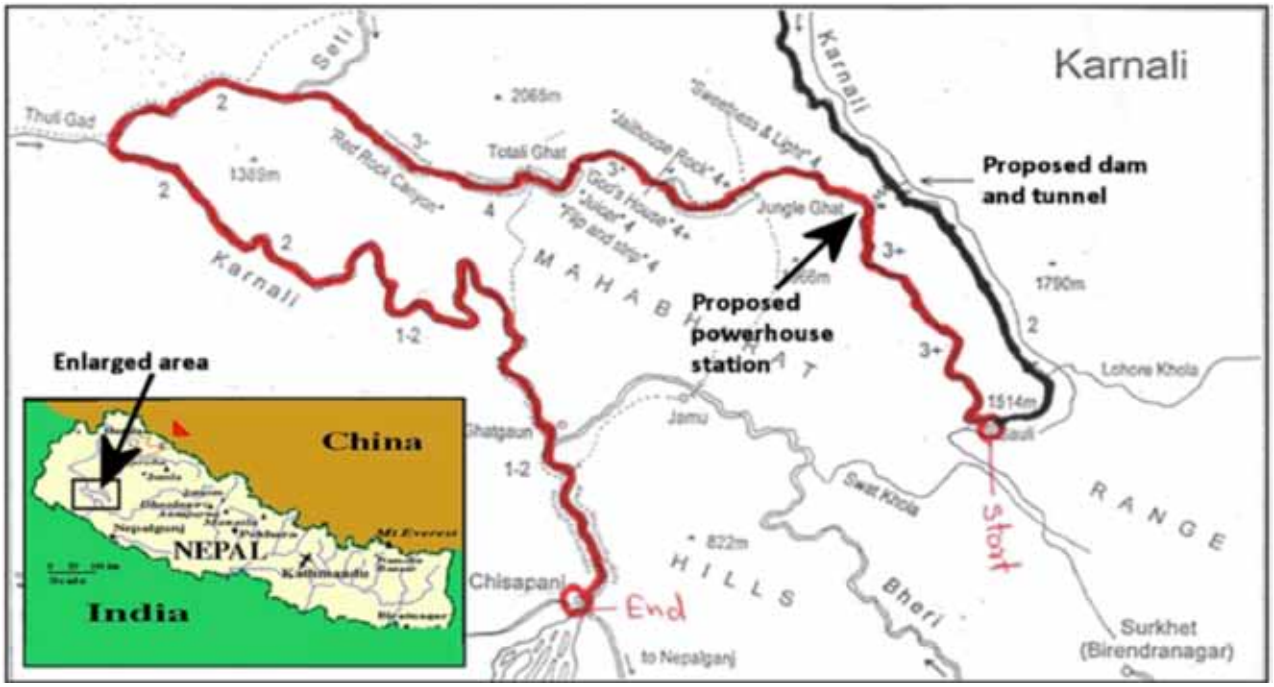
Others soon discovered the Karnali River. Hamish McMaster, owner of another international commercial outfitter, describes the Karnali River as one of the top 10 whitewater rivers in the world. He says, "Post monsoon, when rivers are at their best in Nepal, we head out to the Karnali River in the western part of Nepal, with all its incredible whitewater and remote beaches. One of the highlights on the Karnali for guests and guides alike is Gods House, a grade V rapid that offers a world-class challenge. Guides tend to scout this rapid and set up safety below. Rafts start center left and paddle hard toward the right of the river, dissecting two enormous holes. Massive waves are a common occurrence at medium to high flows when challenging Gods House. Immediately afterward, you'll be treated to a number of other Grade IV and V rapids such as Juicer, Flip 'n Strip, and Freight Train." These and other world-class rapids are at risk of being either dewatered or flooded with progressively more aggressive hydropower development proposals on the Karnali River.

Above: A river guide and his crew set up to shoot Jail House Rapid on the Karnali
Photos by Ultimate Descents Nepal

Nepal and Hydropower

Energy development is critical to the people of Nepal. Electricity and road access will open their society and enhance their livelihoods in many ways. Hydropower development of every river, however, with disregard to the social and environmental impacts, is unjustified. The *Wall Street Journal* recently characterized Nepal as a "Himalayan nation [that] is betting that a new energy gold rush, borne of its thousands of rivers and craggy peaks, will establish it as a major Asian electricity source" (Stacey 2017). However, rather

Having set up camp above God's House Rapids, on one of the many white sand beaches on the Karnali, rafting clients gather for morning coffee and conversation as breakfast is prepared and local villagers gather in the distance.
Photo by Ultimate Descents Nepal



Area map of Karnali River whitewater, overlaid with proposed dam and power station sites
Courtesy of Gary Wockner

than providing power to Nepal, most of the dams built during this imminent "gold rush"–especially the large ones–will provide power to India, Bangladesh, and possibly other South Asian neighbors instead. All the while, Nepal will bear the social, environmental, and economic costs of hydropower development.

Throughout Nepal, there are currently 43 hydropower dams in operation and another 83 dams currently under construction. In total, over 350 hydropower dams are slated for development—in fact, the licenses have already been sold (Niti Foundation, 2015). These licensed dams represent only 55% of the government's ultimate goal of producing 42,000 MW of hydropower. In no uncertain terms, hydropower development at this scale will affect every river basin in Nepal, with significant, highly uncertain impacts. And yet, tellingly, there is no national hydropower development strategy in Nepal that attempts to describe or mitigate cumulative environmental impacts of these projects (Lord, 2016) or that fully accounts for the significant risk that earthquakes or other geologic hazards will have on them (Rest, Lord, & Butler, 2015). Put simply, while Nepal still needs electricity, it does not need 350 hydropower dams.

The Nepal Ministry of Energy reports that, within two years, Nepal will produce sufficient energy to power the country and will be able to sell some of the energy to other parts of Asia during the high monsoon flows. So even without damming the Karnali and many other rivers, Nepal will soon be energy independent. In the long run, by keeping the Karnali River free-flowing, Nepal will gain much more in ecology and biodiversity, eco-adventure tourism, and in maintaining cultural heritage.

Efforts to Save the Karnali

While the Upper Karnali Hydropower Project has been highly contested for several years by a variety of different parties—ranging from locals organizing protests to cases filed in the Nepal Supreme Court by concerned scientists and civil society groups (Butler 2016; Pandit et al. 2014)—the project is now quickly moving forward with the GMR Consortium of India at the helm. Further, local populations are increasingly divided over the project, as the circulation of information about the project and its potential impacts is highly uneven (Butler 2016). As it stands, there is a great need both to understand the diverse perspectives of locals and to create different kinds of educational/narrative materials that can speak to a variety of audiences. Amid these uncertainties, recent news (*Kathmandu Post* 2017) suggests that land acquisition for the project will begin in the summer months of 2017.

Now is the time to convince the prime minister of Nepal to halt dam construction in the Karnali River until a basin-wide, environmentally sound and safe hydropower dam strategy can be developed.

Opposite: Boaters relax on the smooth blue waters of the Karnali River below the Seti River confluence
Photo by Ultimate Descents Nepal

If built, the Upper Karnali Hydropower Project will disrupt environmental flows and livelihoods, introduce new risks, and heighten vulnerability throughout the river corridor.

To capitalize on this precious chance to save the Karnali River, Nepal River Conservation Trust and Karnali River Waterkeeper is gathering local and international scientists from a variety of disciplines, including ecology, fisheries, and wildlife biology, soil science/geomorphology, hydrology, anthropology, rafting and kayaking experts, and an ecotourism specialist to undertake a 618 mile expedition from the headwaters of the Karnali River in China to the confluence with the Ganges River in India. Together they will collect information and describe the resources and ecological values along the entire route. This work will include mapping key features, sampling fish and water quality, assessing sediment source zones, and conducting interviews and focus groups with local citizens to understand their relationship to the landscape and to the river. The economic benefits of whitewater rafting in a pristine environment will be highlighted. The goal is to assess the natural processes that shape the river and its habitats, and understand the impacts that hydropower dam construction will have throughout the watershed. The Karnali Expedition, Spring 2018, will bring a scientific understanding to the river and surrounding landscapes, highlighting critical aspects that make the river what it is. The team's collective efforts will present an alternative "Sacred River Corridor" plan to the Government of Nepal, thus promoting both awareness and informed decision-making during these crucial moments of hydropower development.

The fate of this river, without international support, is the loss of this world-class resource. You can learn more about efforts to save the Karnali and how to support this work at: http://www.nrct.org.np/.