



YANGTZE RIVER

China

The construction of dams on two-thirds of the world's rivers has spurred international concern for the future of freshwater.

Nowhere is this more apparent than China's Yangtze River, the world's busiest inland shipping corridor and the nation's longest river. In an effort to restore and protect this precious resource, The Nature Conservancy is part of a global community of scientists, engineers and water managers working to promote the sustainable management of the Yangtze for the benefit of China's people and wildlife.

The Yangtze Under Threat

The Yangtze River begins in China's Qinghai-Tibet Plateau and flows for 6,300 kilometers (4,000 miles) eastward to the East China Sea, traversing nine provinces and draining 180 million hectares (695 million square miles) of land. The Yangtze is the world's third longest river, ranking behind the Nile and the Amazon rivers. More than 400 million people live within the Yangtze River valley, and a large portion of this population depends on a fully functioning river for their livelihoods, electricity, food and drinking water. Fish provide the primary source of protein for tens of millions of Chinese along the Yangtze, but dams, water diversions and pollution are taking their toll on the river's fish and other wildlife.

In 2006, scientists announced the functional extinction of the baiji dolphin. For millions of years this freshwater mammal roamed the waters of China's Yangtze River. According to Chinese

legend, the baiji was the reincarnation of a drowned princess. But in reality, this graceful gray dolphin suffered the consequences of overfishing, pollution, altered water flows and habitat destruction. Scientists fear that if action is not taken soon to manage dams on the Yangtze in a sustainable manner, the same fate could await the finless porpoise, the critically endangered Chinese alligator or any of the 300 fish species in the river.

In addition to the nearly completed Three Gorges Dam, the world's largest hydropower facility, more dams are currently being constructed on the Yangtze to provide flood control and hydropower generation. While many value hydropower as a "green" source of energy, scientists caution that hydropower threatens to disrupt the natural balance of freshwater habitats by altering water flows, sediment transport, and water quality, thereby jeopardizing both the people and natural communities that depend on the river for survival.

A Step by Step Process

In September 2006, The Nature Conservancy hosted the first of two workshops aimed at ensuring the sustainable operation of proposed dams on the Jinsha Jiang, the major tributary to the Upper Yangtze River. Held in Chongqing along the banks of the Yangtze, 40 scientists and water managers gathered to determine the necessary volume and timing of water flows needed to ensure a healthy river ecosystem while still providing adequate flood control and power generation. The meeting resulted in the drafting of a consensus

statement – in English and Mandarin – laying the groundwork for the development of flow recommendations. With the Changjiang Water Resources Commission taking the lead, experts prepared a draft report of current information on ecological flow relationships and requirements which was presented at the 2nd Yangtze River Forum in April 2007.

A second workshop was held in November 2006 in Beijing, sponsored by the National Development and Reform Commission (NDRC), Energy Bureau, with coordination from the Chinese Hydropower Engineering Consulting Group Company and the Chinese Society for Hydropower Engineering. On the first day of the workshop, nearly 110 engineers and water managers convened to examine a number of case studies detailing the sustainable reoperation of hydropower systems to maximize ecological benefits. Studies presented included cases on the Savannah, Roanoke, Colorado and Columbia rivers in the United States, rivers in British Columbia and Canada, and the integrated hydroelectric grid in Brazil.

On the second day of the workshop, Conservancy scientists met with representatives of the Three Gorges Company, the developer of the four large dams on the lower Jinsha Jiang, and the NDRC to discuss the possibility of environmentally-favorable operations and the difficulties in defining appropriate environmental flow recommendations. As a result of that meeting, the Conservancy received an invitation to present a proposal to Three Gorges Company to assist in the development of environmental flow recommendations. Ideally, The Nature Conservancy can continue to work with the Three Gorges Company and the Yangtze River Basin Commission in an advisory role to help guide the future framework for ecologically-favorable dam construction and management along the Yangtze River.

In April 2007, The Nature Conservancy co-sponsored, organized and presented a variety of activities at the 2nd Yangtze Forum in Changsha,



China. The forum brought together scientists and water managers from all over the world to discuss the protection and sustainable development of the Yangtze River. Conservancy-sponsored sessions at the forum focused on river basin management and showcased the organization's global freshwater conservation work.

The Future of Freshwater Management

By working with global partners to protect the Yangtze River, The Nature Conservancy is playing a vital role in the conservation of freshwater resources around the world. But working at this scale is challenging, which makes the generous support of our donors more important now than ever before. By providing scientific expertise to address the environmental threats associated with dam construction and operation, Conservancy scientists are helping to shape the future of freshwater management worldwide.

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