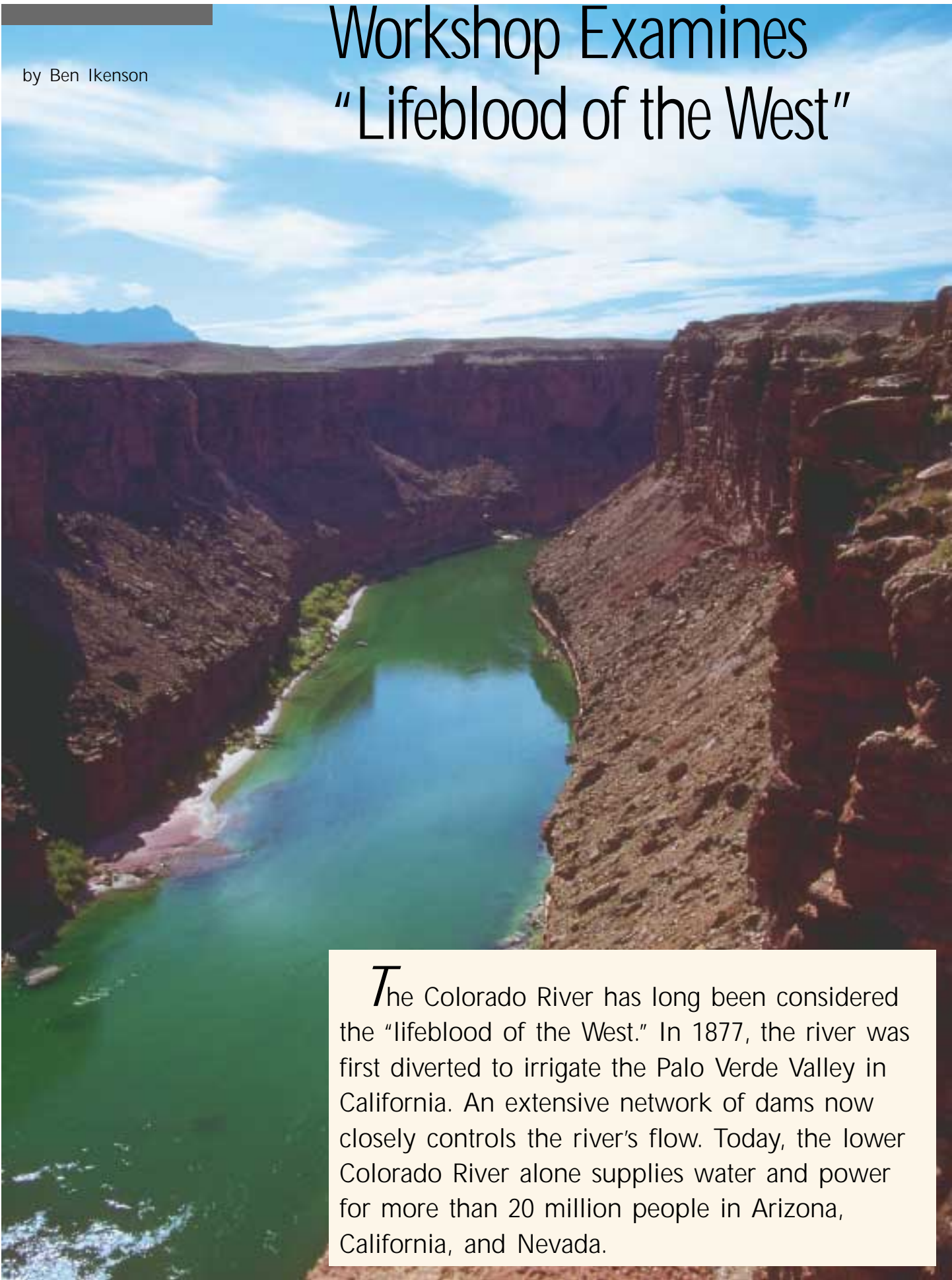


by Ben Ikenson

# Workshop Examines “Lifeflood of the West”

An aerial photograph of the Colorado River flowing through a deep, rugged canyon. The river is a vibrant blue-green color, contrasting sharply with the brown, rocky canyon walls. The sky above is a clear, bright blue with some light, wispy clouds. The perspective is from a high vantage point, looking down into the canyon.

*T*he Colorado River has long been considered the “lifeflood of the West.” In 1877, the river was first diverted to irrigate the Palo Verde Valley in California. An extensive network of dams now closely controls the river’s flow. Today, the lower Colorado River alone supplies water and power for more than 20 million people in Arizona, California, and Nevada.

In response to concerns following the U.S. Fish and Wildlife Service's (FWS) 1994 designation of critical habitat for four endangered fish species in the Colorado River Basin, the Lower Colorado River Multi-Species Conservation Program (MSCP) was formed. Representatives of Arizona, California, and Nevada, along with various water and power agencies and Native American Tribes, joined the regional partnership, which is aimed at protecting sensitive, threatened, and endangered species and their associated habitats. Last July, in Las Vegas, Nevada, a historic conference was held to discuss methods, concepts, and opportunities for restoring natural functions within the severely modified river.

In her opening remarks, FWS Southwest Regional Director Nancy Kaufman discussed how "over subscribed" the river is, painting a grim picture of potential water wars in the West, in which counties, cities, and states would vie for the purchase of costly water rights. "Think about a community of homeowners, each with a mortgage of a quarter of a million dollars, discovering that an overly optimistic water budget leaves their investment worthless because they can't get tap water."

After Kaufman spoke, Robert Johnson, Director for the Lower Colorado Region of the U.S. Bureau of Reclamation, encouraged the audience to explore the flexibility remaining in the "Law of the River." Dr. John Pitlick, a fluvial geomorphologist, spoke about hydrological and geomorphological aspects of large river restoration. Pitlick made the point that fish hatcheries serve a great purpose when they grow endangered fish species for release, but he added that it will make no contribution to the species' conservation if the habitats into which the fish are released are too degraded. The quality of the river itself must be improved, he said, calling the Lower Colorado River a "sediment-starved system."

Dr. Mark Bain, an aquatic scientist at Cornell University, spoke next on the benefits for native fishes that would result from flow enhancements downstream of large dams. He also stressed the importance of near-shore and shallow habitats, which can be transformed into "dead zones" as a result of dam operations. Using the Deerfield River in New England as a model, Bain referred to research that was used to justify enhanced flows for the purpose of restoring a diverse riverine fish fauna. "Species richness doubled," he reported, "and the abundance of fish increased 500 percent in sensitive shoreline habitats, with restored species being largely those specializing on flowing water microhabitats."

Dr. Julie Stromberg, an Associate Professor in the Plant Biology Department at Arizona State University, discussed the significance of restoring riparian vegetation in the Southwest, where "altered conditions select for a different suite of plant species, which then alters the functions and values of the plant community." Stromberg suggested one possible solution that may replicate the effects of the thwarted flow processes in order to appease the needs of the native pioneer plant species that depend upon periodic flood flows for regeneration. "In wet years, moderately high flows can be released in such a way to stimulate seed germination without compromising the human water supply. Prior to these germination flows, it may be necessary to mechanically scour aggraded flood plains and thereby mimic the geomorphic effects of large, seedbed-preparation flows."

Plans call for the MSCP to be implemented over a 50-year period. Ultimately, the goal is to reconnect the remaining fragile, fragmented parts of the river's native ecology, to restore natural function to the "lifeblood of the West."

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**Dr. Stuart Leon, Recovery Coordinator for the FWS Southwest Region, and Glen Gould, fishery biologist for the U.S. Bureau of Reclamation's Lower Colorado Region, spent months planning and coordinating the conference. About 150 people attended, including members of the Colorado River Indian Tribes, representatives of water management agencies, environmentalists, and agricultural interests. Land management consultants mingled with experts on the "Law of the River," a comprehensive list of legislative documents comprising river management statutes. Seated throughout the hall were members of the MSCP steering committee, as well as staff from Willow Beach National Fish Hatchery and several national wildlife refuges associated with the Lower Colorado River.**

*(opposite page) Early Spanish explorers gave the Colorado River its name for the rich reddish-brown color of its flows. The construction of dams has trapped sediments and converted warm, muddy flows on some stretches to cold, clear water with a greenish appearance.*

*Corel Corp. photo*