



## Green River Lake and Dam interim plan benefits ecosystem

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In 2002, the Corps implemented an interim plan designed with The Nature Conservancy to create more natural regimes of flow and stream temperature by changing the ways that water is released from Green River Dam in Kentucky. In May 2006, the interim plan was approved and officially integrated into the water management policies of Louisville District.

“The interim plan has shown that operation of Green River Dam can be changed in ways that improve ecosystems while continuing to provide recreation benefits and flood damage reduction to downstream communities. Adopting the plan into our operational policies is a tribute to its success and to the ongoing partnership between the Corps and the Conservancy,” said Col. Ray Midkiff, Louisville District commander.

The Conservancy first became interested in the Green River because of its biodiversity. With more than 60 species of mussels, 152 species of fish, a host of endemic species and multiple cave systems that are connected to the river, Green River has one of the richest aquatic collections in the nation. Many of these species have been negatively affected by human influences in the basin, including 12 globally rare fish species and seven endangered, and 21 imperiled mussel species.

After four years of altered water management, scientists are finding that many mussel species have reproduced during the interim operations and are encouraged by this promise for added recovery.



Dr. Richie Kessler, The Nature Conservancy, shows a bottlebrush crayfish to Lisa Morales, Corps headquarters, and John Paul Woodley, Jr., Assistant Secretary of the Army for Civil Works, during a visit to Green River. (Photo by Jane Ruhl of Louisville District)

Collaboration on the Green River began with a meeting between the Conservancy and Louisville District. In the meeting, the Conservancy proposed that the health of downstream ecosystems might be improved by changing release patterns from Green River Dam.

“Initially, we were impressed with how receptive the Corps was to discussing their operations and considering potential improvements. And now, after working together to develop, implement and incorporate the new operations, it is very gratifying to see the changes in stream flow and temperature starting to make real differences in populations of Green River mussels and fishes,” said Dr. Richie Kessler, Green River Basin coordinator for The Nature Conservancy.

Much of the credit for refining the interim plan is given to the Water Management and Environmental Resource teams in Louisville District.

Today, the teams continue to model and monitor the effects of the Green River Dam reoperation.

“Reoperation of Green River Dam has shown that there are opportunities to make water management more ecologically sustainable without sacrificing other important uses,” said Bill Byron, Louisville District Water Management team leader. “The other three reservoirs in Green River Basin, especially Nolin Reservoir with its connection to a colony of endangered bats, are also good candidates for changes like those approved for Green River Dam.”

“One of the most exciting aspects of this work is that its benefits are not limited to the Green River,” said Mike Turner, chief of the Environmental Resources Section in Louisville District. “This effort was also the spark for the Sustainable Rivers Project, where teams of Corps and The Conservancy staff are now working to achieve more ecologically sustainable flows for eight other river systems.”

The Sustainable Rivers Project (SRP) is an ongoing nationwide partnership between the Corps and The Nature Conservancy to improve the health and life of rivers by changing the operations of Corps dams, while maintaining or enhancing project benefits. The SRP also includes the West, Ashuelot, Roanoke, Savannah, Bill Williams, Big Cypress, Willamette, and the White, Black and Little Red River Systems.

The Allegheny and Purgatoire Rivers are currently under consideration for inclusion.

More information about the Sustainable Rivers Project is available online at [www.nature.org/initiatives/freshwater/partnership/](http://www.nature.org/initiatives/freshwater/partnership/).

*Editor’s note: This is the third in a series of articles about the Sustainable Rivers Partnership between the U.S. Army Corps of Engineers and The Nature Conservancy.*