



## Tamarisk



After 10 years of hard work by National Park Service staff and volunteers, Bent's Old Fort National Historic Site (NHS) has completely eliminated all standing tamarisk (*Tamarix ramosissima*) from the park.

More than 350 acres of tamarisk have been removed from the 800 acre park.

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By the late 1980s it had become apparent that tamarisk was out competing the park's native riparian vegetation and negatively impacting the historic scene. Moreover, the plant's thick growth habit created a fire hazard for the cottonwood-willow plant community.

The park's resource management staff started by assessing the extent of the infestation. This was done by using infrared aerial photography and GIS technology.

Subsequently a management plan was developed which laid out goals, priorities and strategies for the park.

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Controlling the park's tamarisk required cutting the tree within 6 inches of the ground and applying herbicide to the stumps. Monitoring has shown 90% control after the first treatment. Most of the work was done using chainsaws and herbicide in backpack sprayers. Some of the larger tamarisk was cut with a Bobcat-mounted tree shear. No larger equipment than this was used in order to minimize impacts to the Arkansas River floodplain, which bisects the park.

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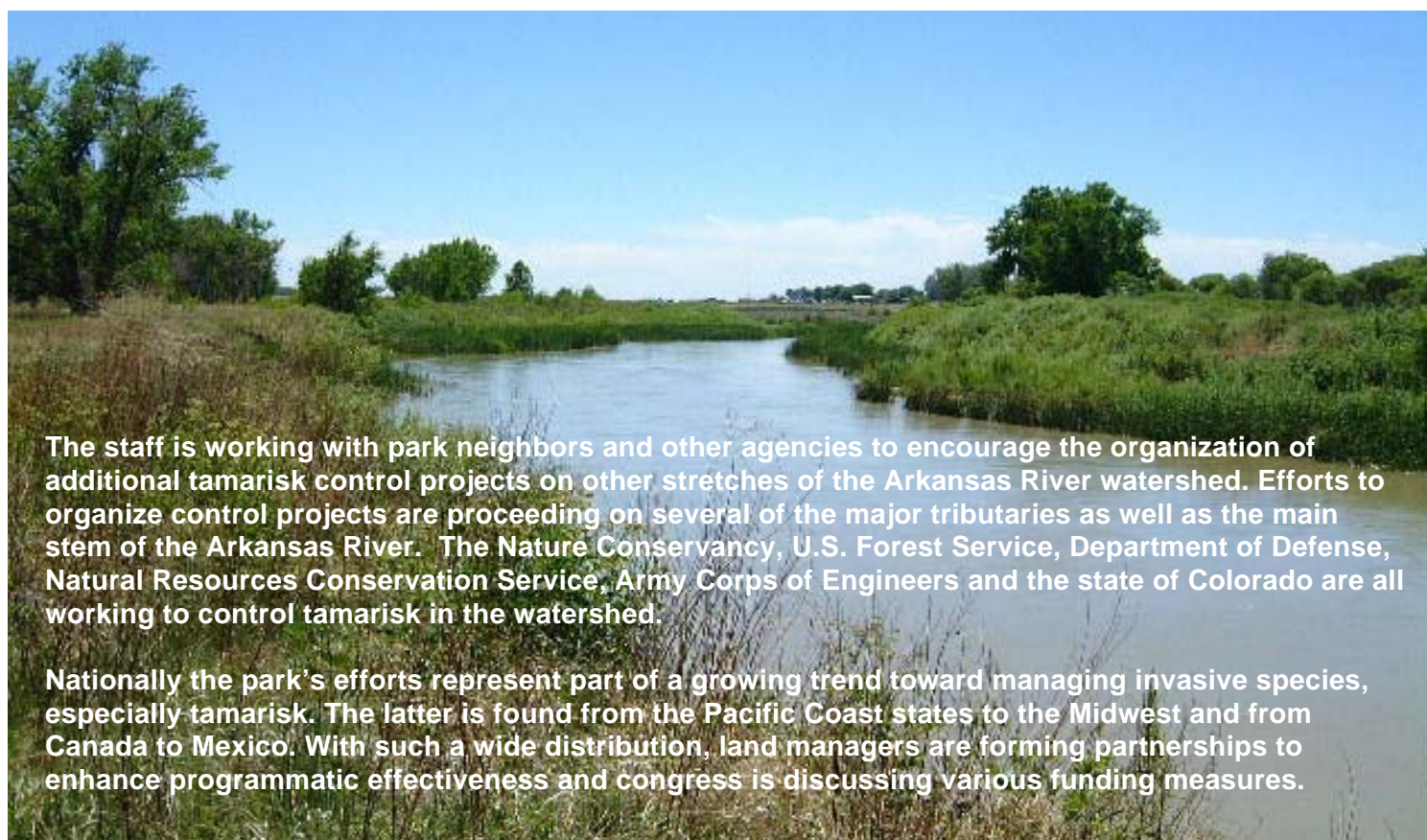
Monitoring and follow-up control efforts have been incorporated into the park's routine exotic plant management program. The park has been able to maintain control of the tamarisk regrowth despite 2 major floods and a major wildfire.

After sawing, the limbs were piled and the slash was burned. Due to the small size of the park staff, many partners were needed when slash was burned. These partners included: the Alpine Interagency Hotshot crew based at Rocky Mountain National Park, fire suppression and/or fuels managements personnel from Rocky Mountain National Park, staff from the Intermountain Region fire use modules, staff members from Florissant Fossil Beds National Monument, Intermountain Region fire staff, staff from the U.S. Forest Service, Colorado State Forest Service, and several local fire departments.



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Restoration and partnership development were other project elements that greatly contributed to success. The park's program was aided by neighboring ranchers, the Colorado Department of Corrections, the US Forest Service, Comanche National Grasslands, the Natural Resources Conservation Service, the Colorado State Forest Service, and the Colorado Division of Wildlife. National Park Service units that contributed to the effort were the Chihuahuan Desert Shortgrass Prairie Exotic Plant Management Team (EPMT), and plant management teams from Lake Meredith and Lake Mead National Recreation Areas.



The staff is working with park neighbors and other agencies to encourage the organization of additional tamarisk control projects on other stretches of the Arkansas River watershed. Efforts to organize control projects are proceeding on several of the major tributaries as well as the main stem of the Arkansas River. The Nature Conservancy, U.S. Forest Service, Department of Defense, Natural Resources Conservation Service, Army Corps of Engineers and the state of Colorado are all working to control tamarisk in the watershed.

Nationally the park's efforts represent part of a growing trend toward managing invasive species, especially tamarisk. The latter is found from the Pacific Coast states to the Midwest and from Canada to Mexico. With such a wide distribution, land managers are forming partnerships to enhance programmatic effectiveness and congress is discussing various funding measures.

The National Park Service works aggressively to restore native species and the processes and conditions that support those native species. The NPS goal is to do ecosystem restoration, to not only replace parts of a system, such as native plants, but restore conditions that support those native plants, such as soil organisms, controlling exotic species, and determining the appropriate frequency of fire.