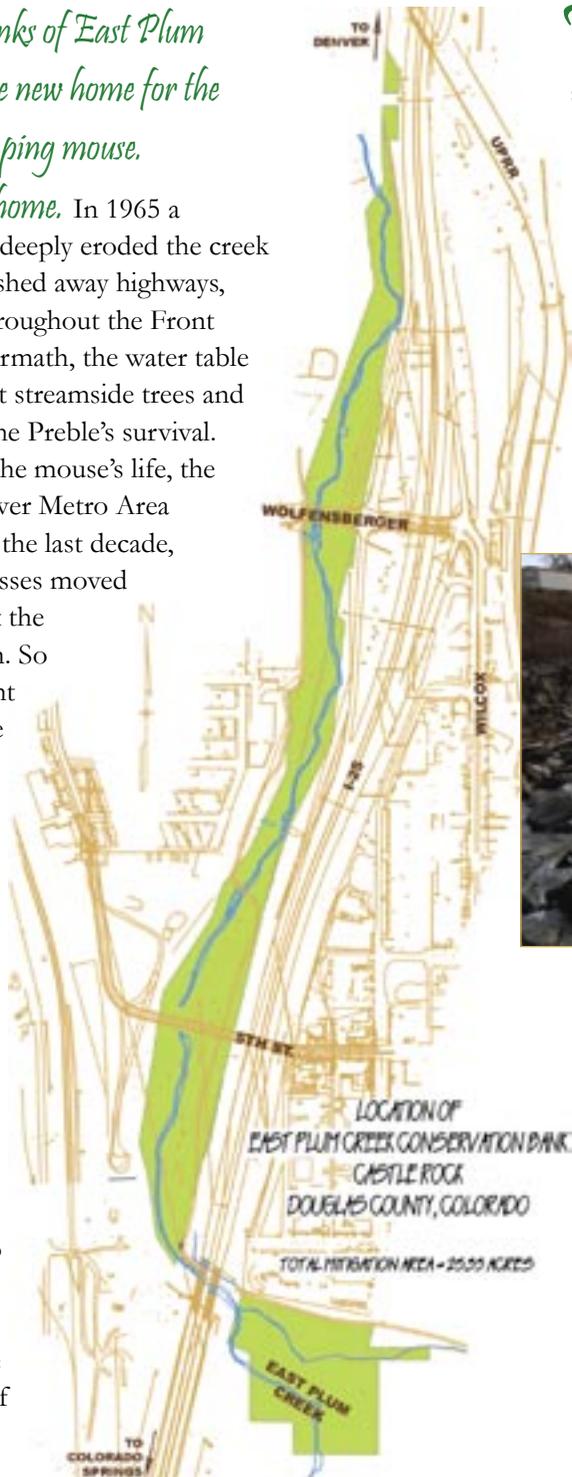


Here on the banks of East Plum Creek is a fine new home for the Preble's meadow jumping mouse.

A much needed new home. In 1965 a record-breaking flood deeply eroded the creek bed as floodwaters washed away highways, bridges, and homes throughout the Front Range area. In the aftermath, the water table was too low to support streamside trees and shrubs necessary for the Preble's survival. Further complicating the mouse's life, the population in the Denver Metro Area increased over 35% in the last decade, and homes and businesses moved into the landscape that the mouse once thrived on. So imperiled was the plight of this jumping mouse that the U.S. Fish and Wildlife Service (USFWS) listed it as threatened under the Endangered Species Act in 1998. Consequently, before development occurs in any Preble's habitat, agencies and individuals must work with the Fish and Wildlife Service to ensure their actions do not bring harm to the mouse, or jeopardize its continued existence through degradation of essential habitat.



The Colorado Department of Transportation (CDOT) began studying the jumping mouse in partnership with USFWS several years before it was listed under the Endangered Species Act. The goal was to understand how to plan transportation projects and maintenance activities in ways that protect the Preble's jumping mouse and its habitat. The agencies learned many things about the Preble's jumping mouse. For example:



Left: Pre-construction looking upstream showing the degraded ecosystem of the East Plum Creek.

Below: After construction, looking upstream at a restored portion of East Plum Creek



Preble's meadow jumping mice live in riparian, or streamside areas with adjacent undisturbed uplands in the foothills of the Southern Rocky Mountain Front Range. The mouse is 8-10 inches long, its tail accounting for 60 percent of its length! It has powerful hind legs and large feet adapted for jumping. Preble's can be distinguished from other riparian mice by a distinct dark, broad stripe, bordered on either side by cream to orange-brown fur, running from head-to-tail, down the center of its back. During the summer months, Preble's spend the majority of their time in streamside (riparian shrub) habitat. Preble's are adept at swimming both above and below the

water surface, allowing the mouse to move about rather freely and explore the riparian zone. In winter, some of the mice remain near the stream bank area to hibernate, while others move to the drier uplands nearby. Preble's preferred habitat is more severely restricted when erosion down-cuts the streams, vegetation dies off, or when extreme drought occurs, such as in the early years of the 21st century.

At the same time that the habitat of the Preble's jumping mouse was shrinking due to erosion, and precious habitat was being lost to development, CDOT found its transportation capacity along the Front Range stressed. During the planning process for roadway expansion one criterion CDOT weighed was stewardship of the mouse. In cooperation with the Federal Highway Administration and the USFWS, a construction project was developed to improve the riparian habitat along East Plum Creek, allowing existing populations of the Preble's mouse to persist in this area.



Preble's meadow jumping mouse (Zapus hudsonius preblei)

Check Dams were constructed to slow down the flow of the stream water and catch sediment behind the dams. By accomplishing this, groundwater levels would be restored and riparian vegetation and habitat conditions would improve. In an amazingly short time, less than two weeks, a rainstorm filled the channel behind the check dams and the vegetation began to bloom! CDOT was so enthused by the immediate success that the Program Engineer proposed to expand the project by installing six more check dams downstream. The protected and restored habitat within the ecosystem restoration area presently encompasses more than 25 acres and is more than 1 mile in length.

While CDOT's contracted biologists continued to monitor the health of the ecosystem, they observed that the Preble's meadow jumping mouse had moved into some of the new dam areas. In fact, in the drought year of 2002, the mouse found this habitat preferable to the up- and down-stream areas where it previously lived. It is indeed probable that this project helped the Preble's mouse survive during the terrible drought of the summer of 2002.

Continued protection of this restored ecosystem as a home for the jumping mouse was ensured by CDOT's, FHWA's, and USFWS's

resolve to create a threatened species bank covering the project area. The East Plum Creek bank is not only a tribute to CDOT's contribution to the preservation of this listed species; the bank also permits CDOT to use areas of less ecologically substantial habitat in cases where improvements to Colorado's transportation system cannot avoid impacts to Preble's habitat.



Above: East Plum Creek Conservation Bank

Creating a conservation bank such as this is a progressive means of dealing with transportation impacts, and at the same time, it streamlines the environmental protection process that takes place in advance of future projects.

The restoration of Preble's habitat has also provided a welcome environment for a variety of wildlife and has encouraged native plant life along East Plum Creek to thrive. The East Plum Creek Bike Path, just minutes from downtown Castle Rock, rewards a jaunt or bike ride with refuge from the

stresses of every day life and a memorable outing. The restored Preble's habitat has enticed other creatures to share the resurgence with the mouse. Numerous bird species and an array of creatures have also returned to the area, yielding visitors opportunities to enjoy the replenishing fanfare that only nature can provide.

The Colorado Department of Transportation, Federal Highway Administration, and U.S. Fish and Wildlife Service worked cooperatively on this ecosystem restoration project.



Colorado Division
FHWA



DEPARTMENT OF TRANSPORTATION



Preble's Meadow Jumping Mouse

East Plum Creek Conservation Bank

