



# Life Along the River

## IT STARTS WITH THE SNOW

Snow falls in the high mountain peaks and forests. When spring comes, melting snow feeds the Rio Hondo. The stream has seasonal moods: quiet and blanketed with snow in winter; frothy with whitewater in spring; and gentle cascades through summer and fall, with occasional rushes of water after thunderstorms.

Trees that grow by the stream have an easy life because their roots have access to water year-round. But they must also tolerate days when their roots are completely underwater at high flows. Narrow leaf cottonwood and willow are two plants that thrive in these conditions.

During high water flows, the stream will probably spread out into the adjacent forest floodplain. These floods saturate the ground and, once it is wet, the ground will absorb water like a sponge. As water levels fall and stream flows drop to summer low levels, water stored in the ground is slowly released.

Fires historically burned at low-intensity through the grasses and shrubs along the stream, cleaning out seedlings that multiplied in the moist soils. In this area, pine, fir and spruce seedlings took over, crowding out the narrow leaf cottonwood, willow and alder preferred by wildlife. The before and after photos show how densely overgrown this area was before thinning.



LEFT TO RIGHT These photos were taken before and after thinning. The orange ribbons on the trees at left are the planned leave trees. Can you find the building in the photo taken before the thinning? Thinning removes the overgrown trees that act as fuel for wildfire. © Peter Walker

## Home along the stream

Water is life in New Mexico, and nowhere is that truer than along the Rio Hondo and mountain streams. Forests along the stream have a higher variety of shrubs and plants than surrounding areas. The dense thickets of plants provide a home for small animals like masked shrew, water shrew and ground nesting birds. Plant roots hold the banks together and clean the water before it enters the stream, while trees offer nesting and perching sites for birds, and protection for wildlife that follow the stream banks like a highway. Shade from trees and shrubs along the river keeps the water cool for trout and the Rio Grande sucker and chub. The cool water also provides foraging habitat for the American dipper bird.



LEFT TO RIGHT Winter snowpack brings high stream flow in the spring. Flows recede in the summer, increasing for short periods after thunderstorms. © Alan Eckert Photography; © Peter Walker

## Flowing to the farms

Farmers and ranchers downstream have depended on mountain streams and water stored naturally by floodplains and wetlands for centuries. Spanish settlers created networks of acequias (irrigation ditches) to deliver water to their farms. The acequias rely upon a spring flush of snowmelt, and their flows are sustained into summer from water stored in forests and wetlands.

If forests are too overgrown or burn severely in a wildfire, their ability to capture snowpack and store water is diminished. Natural water storage is an essential function for our forests to be healthy, and for farms downstream to be successful—today and into the future.



CLOCKWISE A few miles downstream is the community of Valdez, where farmers use water from the Rio Hondo to irrigate fields. Acequias to carry the water were built centuries ago, using hollow logs and hand-dug ditches. © Taos Valley Acequia Association (TVAA); © Alan Eckert Photography

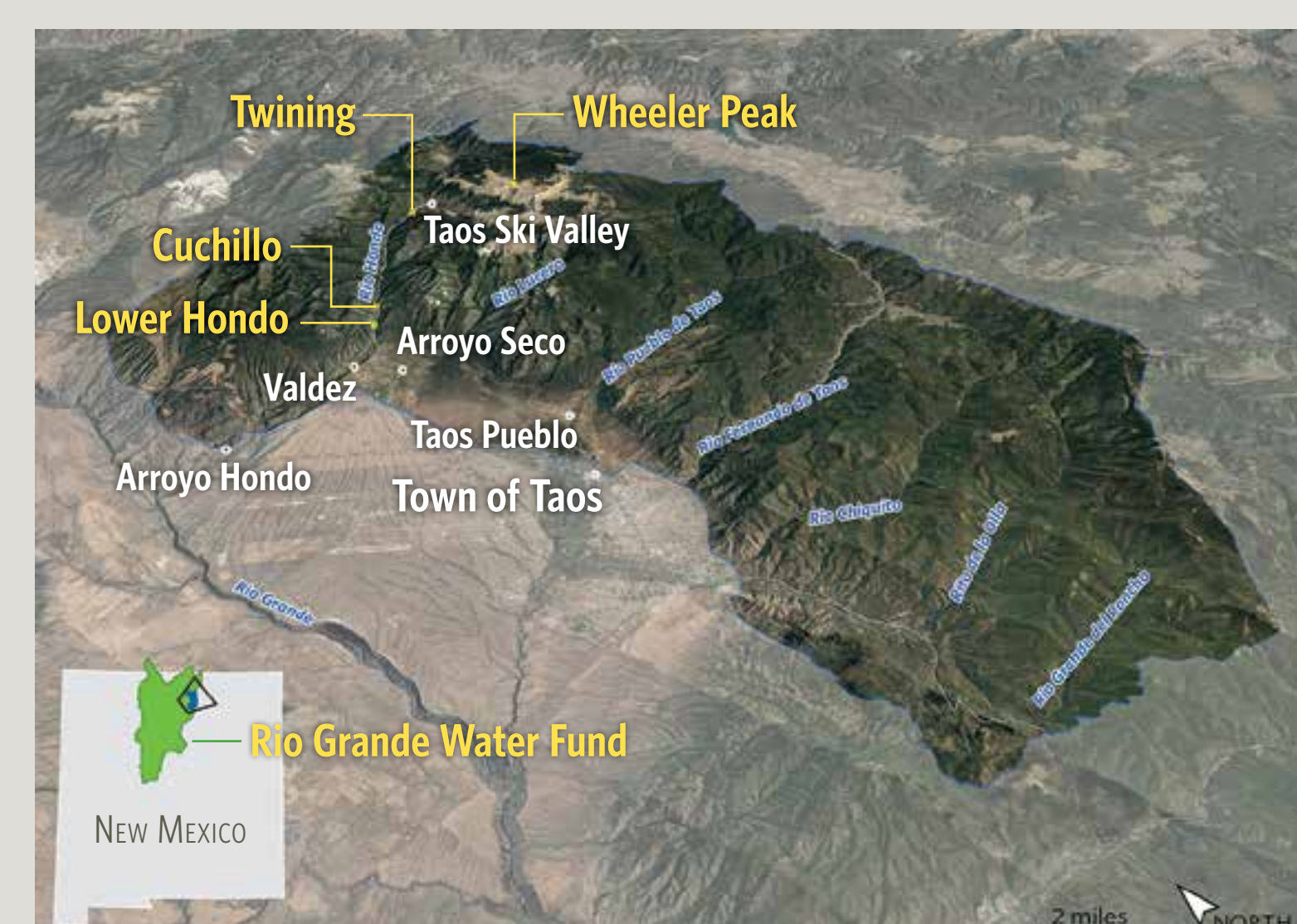
## Forest architects

Beavers are nature's engineers, building dams that store spring snowmelt for release during drier summer months. You've probably seen the paddle-like tail and one-inch teeth, but have you noticed the transparent eyelids? Or the valves on their ears and nose that automatically close when submerged? These unique features allow beavers to remain underwater for up to four minutes at a time! Their powerful tail and webbed feet enable a beaver to swim one and a half miles underwater.

Beavers can get into trouble when their ponds cause flooding on roads or when they eat farmers' crops. However, beavers are capable of restoring the natural environment and improving the river conditions for a large variety of animals and fish, and for people and farmers in the valleys below.



LEFT TO RIGHT Beaver build their dams of sticks, mud and rocks and the water they retain is slowly released downstream throughout the summer. © iStockphoto; © Alan Eckert Photography



## Working together for nature

The Taos Valley Watershed Coalition is working to restore the Rio Hondo and other forest areas that supply water to people in the Taos Valley and the Rio Grande basin. The Coalition's goals are to reduce overgrown trees and brush that act as fuel for fires and to restore natural fire when and where it is safe to do so. Some of the partners include: Carson National Forest, The Nature Conservancy, Taos County, Taos Pueblo, Town of Taos, Taos Soil and Water Conservation District, Taos Ski Valley Inc., Trout Unlimited, Village of Taos Ski Valley, FireWise communities and others.

The Taos Valley is one focal area for the Rio Grande Water Fund: a public-private partnership with more than 60 agencies, organizations and businesses participants. The Water Fund goal is to restore 600,000 acres of at-risk forests over 20 years to secure critical water sources for over 1 million people from Taos to Albuquerque and beyond.



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