

A Look at Nature A River Runs Through Us: Middle Boulder Creek

If there is one dominant landscape feature that ties all of us together in Eldora, it is the creek: Middle Boulder Creek. Its waters start six miles west along the Continental Divide in the Indian Peaks Wilderness. The snows that accumulate over the winter and spring provide a source that maintains perennial water flow in the creek. The watershed is bounded on the northeast by a ridge that follows Mineral, Klondike and Bald mountains all the way to South Arapaho Peak. To the south, the watershed is bounded by a ridge that runs through the back of the ski area to Bryan and Guinn mountains and heads west just above Rollins Pass.

From the Divide, the snowmelt finds its way down the many rivulets which flow into the high lakes of the area: King, Banana, Betty, Bob, Woodland, Lost, Jasper, Devil's Thumb, Storm, Upper Storm, Dorothy, Diamond, and Upper Diamond help collect the water. Below these lakes the waters feed into creeks. Three main tributaries of Middle Boulder Creek come together near Hessie: the North Fork flows from Fourth of July valley, the South Fork flows out of King Lake, while the central fork is called Jasper Creek.

East of Eldora, Middle Boulder Creek flows into Barker Reservoir. It joins with North Boulder Creek, which originates in the City of Boulder Watershed, in Boulder Canyon at Boulder Falls. From here east it is called Boulder Creek and merges with South Boulder Creek, which drains the area west of Tolland, on the east side of the City of Boulder. Boulder Creek is eventually swallowed by the St. Vrain River near Barbour Ponds State Park five miles east of Longmont.

The amount of water in the creek is lowest in the winter and highest in late spring. Winter flows start to increase in April as warmer temperatures melt the snow in the high country and generally peak during the first half of June. The average peak flow, as recorded at the gage where Middle Boulder Creek enters Barker Reservoir, is near 570 cubic feet per second (cfs). The recorded high peak flow was 811 cfs on June 2, 1914. This summer the flow peaked on May 29th at 440 cfs, reflecting a slightly below average snowpack and early warm temperatures. In winter, flows drop to as low as three or four cfs in January and February.

The vegetation found near the stream thrives on greater amounts of moisture. The plant community is called riparian, a term which means associated with flowing water. Many of the plants thrive in areas seasonally flooded. Their root systems are tapped into the high water table. These are places where your feet normally get wet.

The overstory is dominated by Engelmann spruce (*Picea engelmannii*), a tree common in the forests of the Indian Peaks Wilderness, but which is also found at lower elevations in cooler and wetter microclimates, such as north facing hillsides and streams. Other types of coniferous trees are mixed in, including subalpine fir (*Abies lasiocarpa*), lodgepole pine (*Pinus contorta*) and Douglas-fir (*Pseudotsuga menziesii*), as well as deciduous aspen (*Populus tremuloides*). Also present, mostly in the center of town along the creek, are balsam poplars (*Populus balsamifera*). They are a dominant riparian plant along the streams of Canada and Alaska; those found in Colorado are most likely relicts of the Pleistocene era, a time when the local climate was much colder and wetter.

The understory vegetation along the creek is also dominated by moisture loving plants: thinleaf alder (*Alnus incana*), willows (*Salix* species), swamp honeysuckle (*Distegia involucrata*), cow parsnip (*Heracleum sphondylium*), twisted-stalk (*Streptopus fassetti*), horsetail (*Equisetum arvense*), false Solomon's seal (*Maianthemum amplexicaule*), bluejoint reedgrass

(*Calamagrostis canadensis*), and sedges (*Carex* species), to name a few.

Several areas of beaver ponds are found adjacent to the creek. Beaver colonies are most successful where the stream gradient is fairly level and the valley is wide; the stretch of the creek between Hessie and Nederland meets these requirements and several colonies are active. In building dams, beavers raise the water table and enhance the development of wetlands adjacent to the stream. These wetland plant communities are dominated by willow shrublands and wet sedge marshes and lack the tree overstory common along the stream. Well developed willow shrub wetlands, such as the Lazzarino Wildlife Preserve, located on the north bank of the creek east of the intersection of Eldorado and Klondyke avenues, are some of the richest habitats found in the mountains. They support high densities of breeding birds and some unusual species such as fox sparrow and veery.

The creek is home to several species of fish. Originally, greenback cutthroat trout were the only fish found in the cold water creeks of western Boulder County. Introductions of rainbow, brook and brown trout have occurred over the past 150 years. The greenbacks were out-competed by the introduced species, greatly reducing their numbers and distribution; a few greenbacks are around, though are generally considered to not be genetically pure. The pure strain of greenbacks are only found in segments of three creeks in the county, two of these in the high waters of Rocky Mountain National Park. Two other types of cutthroat trout were introduced in the past decade to some of the high lakes and may be seen locally, these being Pike=s Peak cutthroat and Colorado River cutthroat.

Several bird species make their living on the resources found in the creek. Dippers, sometimes called water ouzels, are our only aquatic passerine and spend their lives along fast moving streams. They eat every type and stage of aquatic insect which they can catch while standing, swimming or diving into the creek. They will generally nest in the stream bank, under a rock or in an adjacent cliff. Though some may be found up here in winter, most make a vertical movement down toward Boulder. Belted kingfishers will use stream, pond and lake habitat in their search for their main food which are fish, generally those less than 6 inches long. They generally also head to lower elevations for winter where there is more open water. Great blue herons are occasionally seen here during the summer, patiently standing and waiting near a pool of water for an unsuspecting fish. They are not known to nest up here; the closest known colony is located on Boulder Creek several miles east of Boulder. They are able to travel several miles from their nesting site to feeding areas. Whether those seen up here are making a daily visit from below for feeding, or if they are non-breeders who know a good thing when they find it, is not clear.

And finally, creeks, riparian areas and wetlands tend to have lots of insects, mosquitoes included. It just comes with the territory. Think of it this way: the wetter our valley bottom is, the less likely we are to burn in a wildfire. I=ll take the insect bites.

Dave Hallock