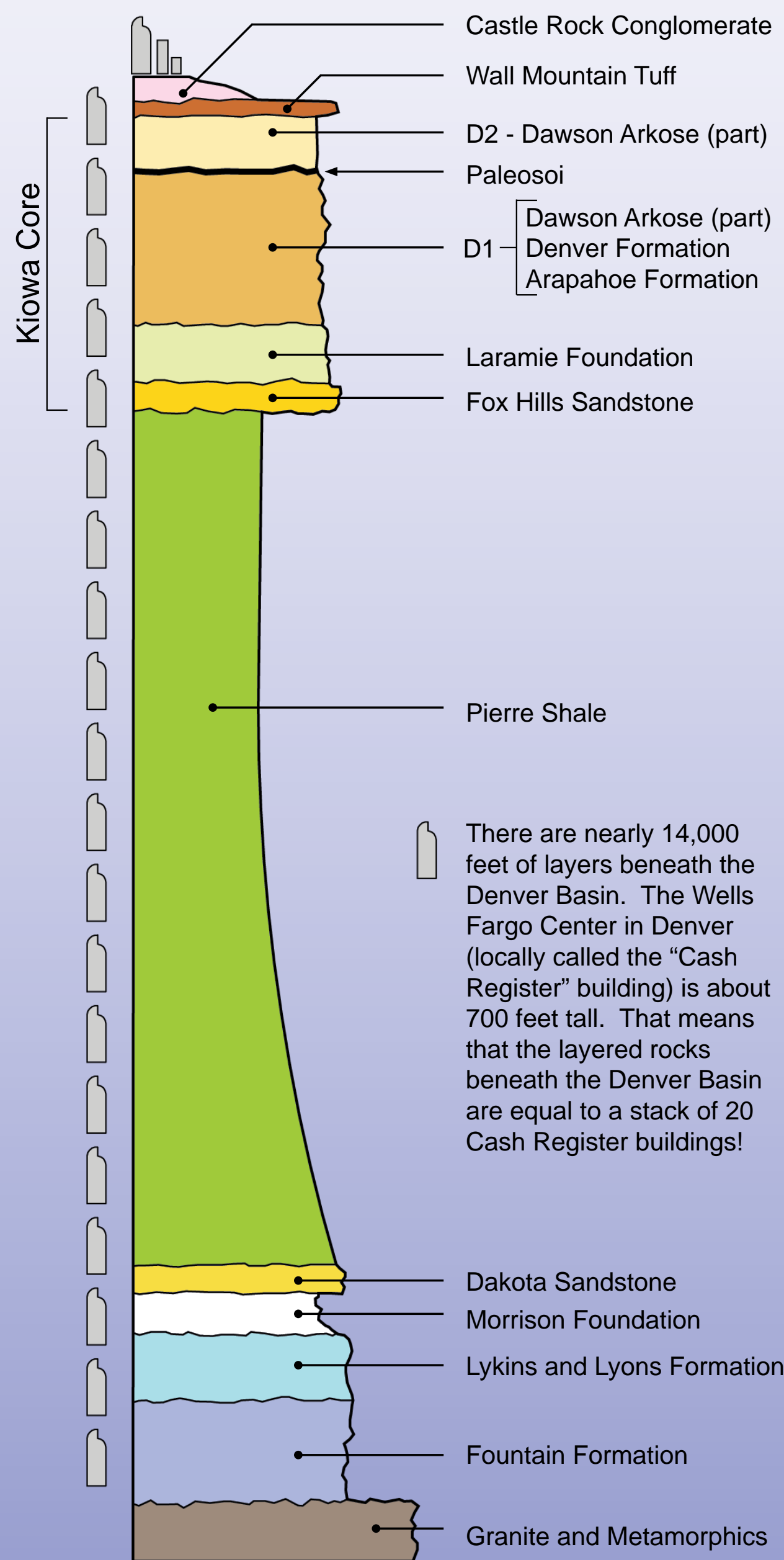


# Natural History - Geology



Fossils from the area where you now stand indicate this was once a tropical rainforest. Estimates have been made that the **Dawson Arkose** (D2) formation is a layer of sedimentary rock over 55 million years old. Erosion, the force of wind and water, slowly transforms this solid rock layer into the sand that moves along the channel of Cherry Creek.

Geologists estimate that sometime around 37 million years ago an enormous volcanic eruption occurred about 90 miles away. The molten rock and ash flowed from the volcano at temperatures over 2000 degrees Fahrenheit. As the flowing rock cooled, it became solid, but you can still see tiny air holes in the **tuff** (solid volcanic ash). The **tuff** that covered part of the Cherry Creek area is called **Rhyolite** and has been quarried for building stones. **Rhyolite** can be seen at the Castlewood Canyon State Park Visitor Center and picnic shelters.

**Castle Rock Conglomerate** was formed by the action of water carrying pebbles and a mineral called silicate along the sedimentary rock layer. As the pebbles, silicate and sedimentary rocks are tumbled along by the force of water, all the bits 'stick together' and form a kind of 'rockolate chip cookie'. Heavy floods continue to carry rock along Cherry Creek on a very slow journey to the Missouri River, the Mississippi River and on to the Gulf of Mexico.

## Events:

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## Journaling and Pictures:



A picture of the dramatic bank erosion found along Cherry Creek at Parker Jordan Centennial Open Space prior to reclamation.

## Did You Know?

In one year more than 210,000 tons of sand move through the Cherry Creek basin. Stream stabilization projects are underway to slow the movement of sand and protect water quality in the Creek and in the Cherry Creek Reservoir.



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# Natural History - Plants

## Plant Specimen - The Cottonwood Tree



The Cottonwood tree is the largest native plant along Cherry Creek. It can grow to 100 ft. high (over 30 meters) with a trunk over 5 ft. (nearly 2 meters) in diameter. The thick gray bark of the Cottonwood tree has given it the nickname "The Elephant of the Great Plains."

Cottonwoods provide shade, shelter and food for animals. They used as signposts that led travelers along Cherry Creek for hundreds of years.

"The pioneers were always glad to spot one of these trees in the distance, since it offered the possibility of wood and shade. It also represented the chance of finding water, since this species likes to keep its feet wet."

(Jim Mason, Great Plains Nature Center, Wichita, KS)

## Plant Specimen - Smooth Brome



Grasses form the 'carpet' for the Cherry Creek riparian forest. The most common grass you will see here is Smooth Brome. Also known as *Brumus inermis*, Austrian brome, Hungarian brome or Russian brome, it is an exotic species introduced after the disastrous 'dust bowl days' of the 1930's to help stabilize the prairie soils disturbed by cultivation.

*Brumus inermis* is a 'cool season' grass that has a competitive advantage over our native 'warm season' grasses. It is already well established before our Colorado State Grass, Blue grama, has awoken from its long winter's nap. Smooth Brome is now considered an 'invasive species,' but it was once the salvation of our prairie soils.

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## Journaling and Pictures:



Did you know you can make a swell whistle by stretching a blade of grass between your thumbs and blowing just below the first knuckle? Be careful though, the high-pitched squeal has been known to lure predators such as coyote, mountain lion and lynx.

## Did You Know?

Cottonwood Trees can be either male or female. You may see the fluffy white seeds of the female tree as you walk along the Cherry Creek Trail today.



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# Natural History - Animals

You are standing in the North American Flyway, an important migration route for migratory birds. The Pacific, Central and Mississippi flyways all come together in southern Texas. The birds you see and hear along the Cherry Creek Trail today may have come here from as far away as South America.



This QR Code will link you to a comprehensive list of wildlife you may encounter while exploring the open space.

## Birds



### Swainson's Hawk

A common hawk of the West, the Swainson's Hawk gathers in huge congregations to migrate more than 10,000 km to its wintering grounds in South America. If you are lucky enough to see a Swainson's Hawk in flight, look for its light-colored shoulders, 'dirty armpits', and dark feathers on the trailing edge of its wings.

## Bugs



### Woolly Worm

The woolly worm is actually the larval stage of the Isabella Tiger Moth, *Pyrrharctia Isabella*. Also known as Woolly Bears or Banded Woolly Bears, these caterpillars have black bands at each end and a band of reddish-brown in the middle.

## Prowlers



### Rattlesnake

Rattlesnakes are members of the Pit Viper family. The "pit vipers" have a triangular shaped head with a small cavity or pit on each side, between the eye and the nostril. The rattles and their distinctive rattling sound are the most recognizable features of this snake.

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## Journaling and Pictures:

### Swainson's Hawk



### Red-winged Blackbird



### Yellow Warbler



Click on the Listen Button to the left to hear the sounds of some of the birds that you may discover while you explore the open space.

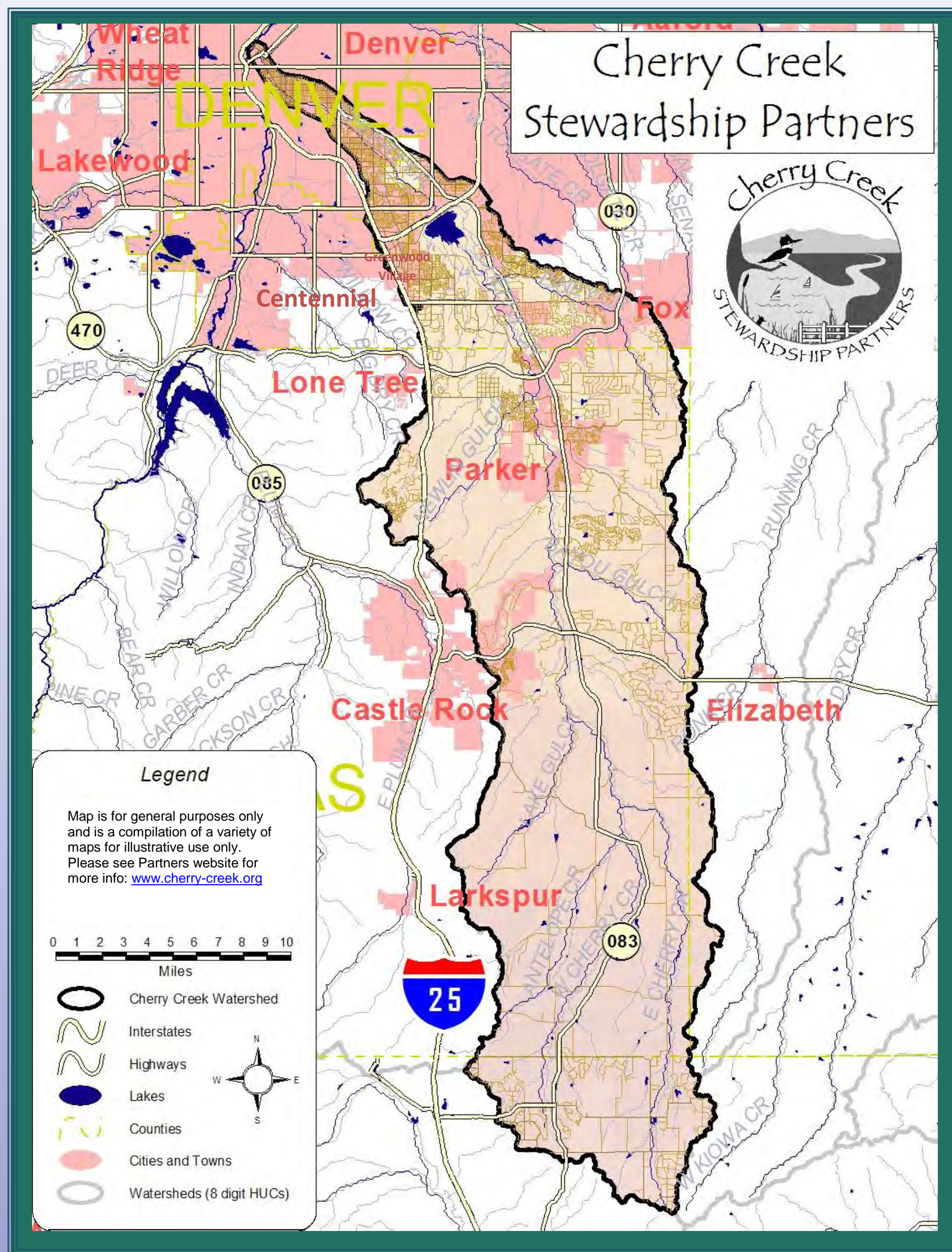
## Did You Know?

The concrete trail is a "heat sink" that absorbs heat during the day. Exothermic or "cold-blooded" animals like snakes love to crawl out on the warm trail and soak up heat on cool summer evenings.

Additional Functionality: Sound Files for each animal in Journaling Section



# Watershed - We're all connected



Cherry Creek Watershed

## Natural Forces

The Cherry Creek watershed is approximately 50 miles long and drains about 400 square miles from the Palmer Divide, flowing through eastern Douglas County and central Arapahoe County and on to Denver where it meets the S. Platte River near 15th & Water Streets – the Birthplace of Denver. The **alluvial aquifer** (shallow groundwater) in lower Cherry Creek is an important source of local water supplies in Denver and Arapahoe County.

## Human Influences

Over 250,000 people live, shop, eat and play in the Cherry Creek watershed. Over 100,000 people make their living working in buildings in the Cherry Creek watershed. All this living, driving, biking and walking mean more driveways, roads, parking lots and sidewalks that do not absorb water.

## Benefits

Site enhancements provided through the stream reclamation and open space restoration will help to reduce erosion and particulate pollutant transport, create a more sustainable and healthy riparian corridor and reduce floodplain impacts. Promoting sedimentation and pollutant filtration will help to reduce the amount of silt and pollutants that flow into the Cherry Creek Reservoir to the north.

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## Journaling and Pictures:



We all live in a watershed, an area of land that drains to a particular body of water.

## Did You Know?

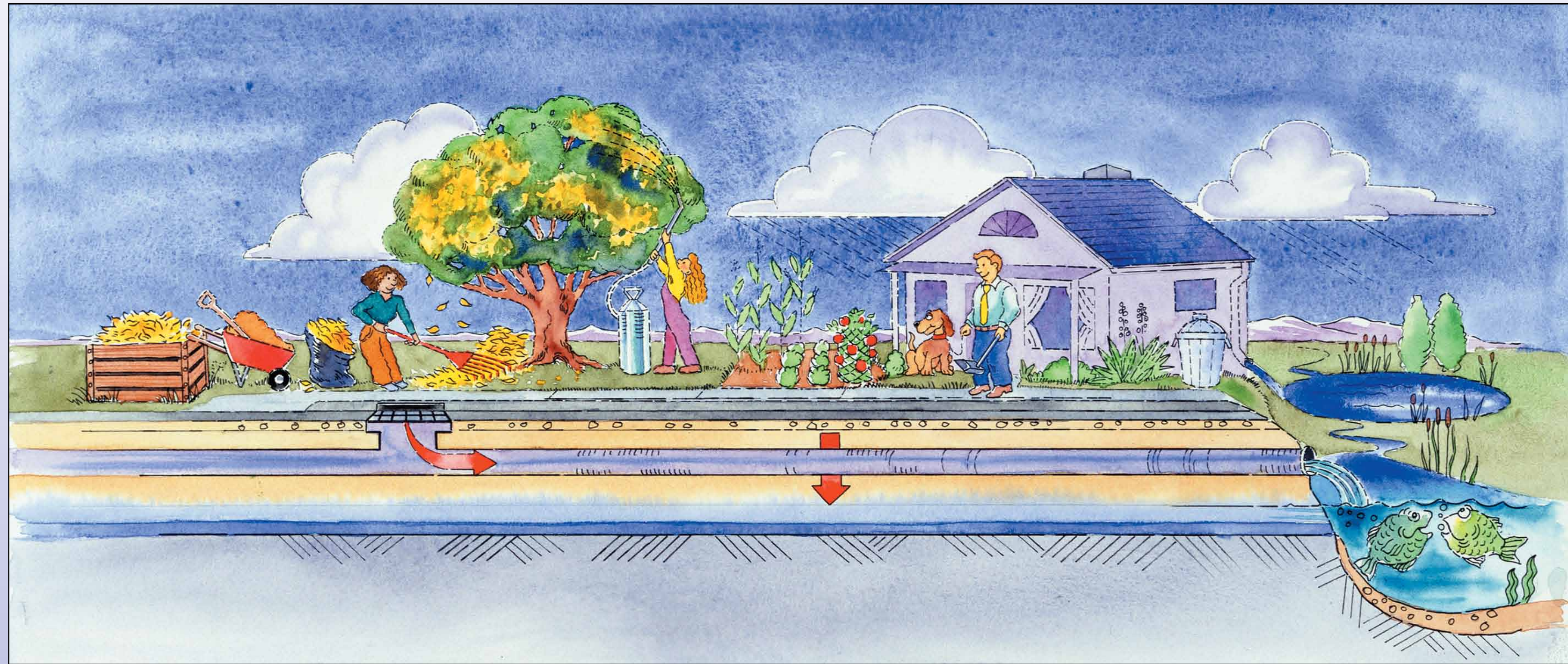
Today we have a separate sewer system for stormwater. You can learn more about Municipal Separate Stormwater Systems (MS4) by visiting several websites: [splashco.org](http://splashco.org), [onethingisclear.org](http://onethingisclear.org) and [cherrycreekbasin.org](http://cherrycreekbasin.org)



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# Watershed - Keep it clean



According to the U.S Environmental Protection Agency (EPA), nonpoint source pollution (NPS) is the leading remaining cause of water quality problems. NPS pollution comes from many different sources including simple everyday acts such as fertilizing the lawn, washing the car, changing the oil in your car, and walking the dog.

One of the most common nonpoint source pollutants is erosion. That's right. Dirt is a pollutant that can smother aquatic insects and damage fish. Please do what you can to reduce erosion by staying on the paths and keeping your animals on designated trails. Also, always pick up after your pet while walking on designated trails as pet waste carries bacteria and disease that is washed by rain or snow into rivers and streams if not properly disposed.

Your lawn can actually contribute to good water quality or create problems depending on how you manage irrigation and fertilization. By using both sparingly and carefully we can protect water quality.



Site History



Maps



Natural History



Watershed



Cultural History



Adventures

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## Journaling and Pictures:



"Dastardly Deeds and the Water Pollution Monster," by Nora Parren uses stop-motion animation to illustrate how fertilizers and other pollutants can affect water quality.

## Did You Know?

An effective lawn fertilization program begins in the fall, not the spring or summer. Fall fertilization promotes healthy root systems that establish healthy lawns.

# Watershed - Floods and Droughts

## Flash Floods

Have you heard of Flash Floods (A sudden surge of water through a creek channel caused by heavy rainfall)? Well, Cherry Creek is famous for Flash Floods. While the typical flow in Cherry Creek is around 5 cubic feet per second (cfs) in December, it can be as high as 5,000 cfs in July or August after a heavy rainstorm.

On August 3, 1933, when the Castlewood Canyon Dam broke, witnesses in Denver described a '20 foot wall of water' roaring over the banks of Cherry Creek.

Check out the U.S. Geological Survey website for records of flow rates for various creeks and rivers:

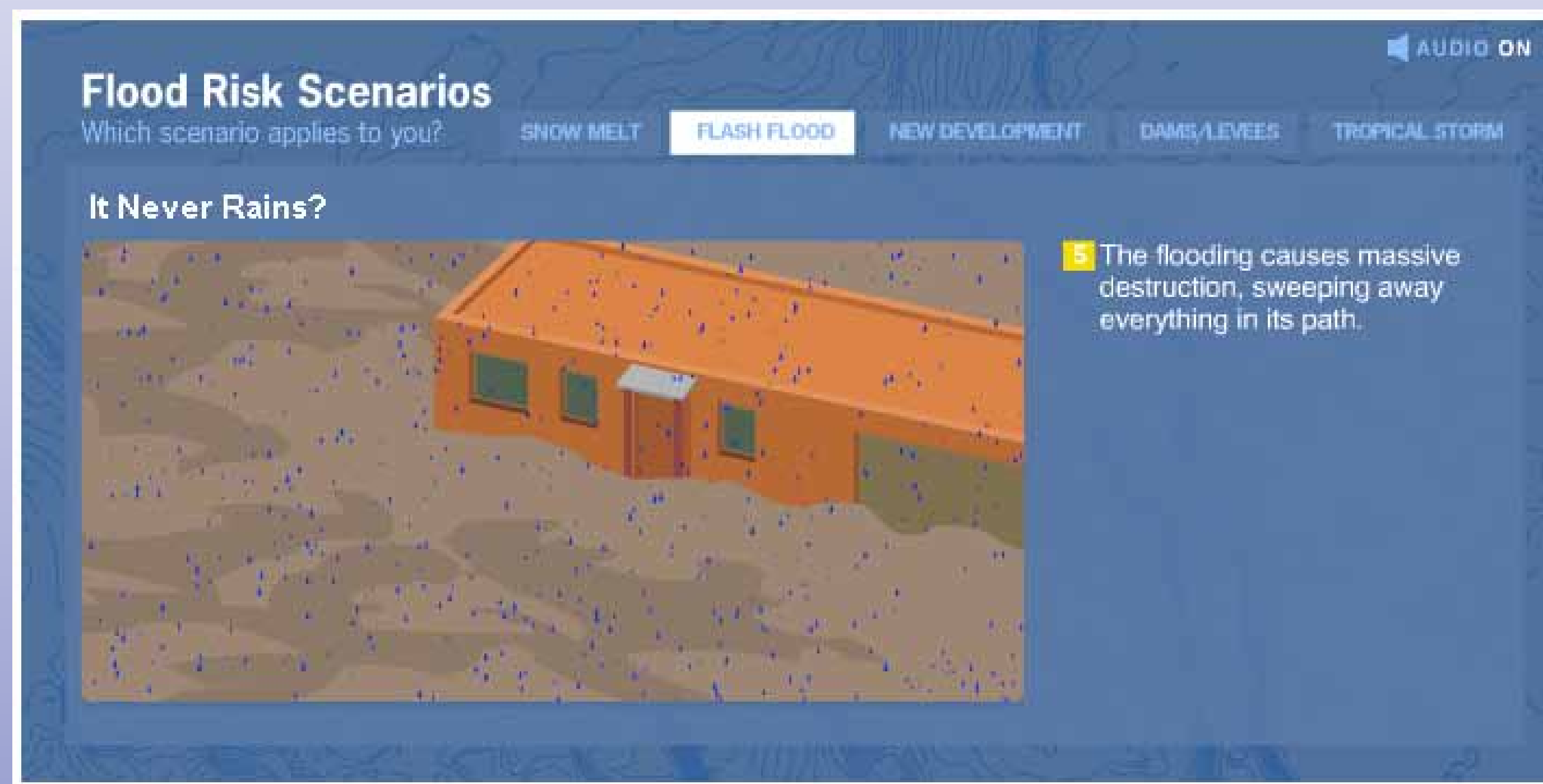


<http://waterdata.usgs.gov/nwis/uv?06712000>

## Flood of 1965

Anyone who lived in this area during the mid-1960's can recall exactly where they were when the "Flood of '65" hit. The most devastating flood in the history of Denver was the result of extremely heavy cloudbursts of rain near Castle Rock, over 14 inches fell within 3 hours and sent a wall of water as high as 20 feet down both branches of Plum Creek into the South Platte River. Chatfield Dam was completed in 1975 to protect against catastrophic flooding.

Video is worth a thousand words.



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## Journaling and Pictures:



Confluence of Cherry Creek and South Platte River during the flood of 1965.

## Did You Know?

The flow of water is measured in cubic feet per second (cfs). One cfs is equal to 30 to 40 garden hoses running at full capacity.

Additional Functionality: Video File (Flood)



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# Cultural History - Hunters and Traders

## The Arapaho

Arapahoe County is named for the **Arapaho** tribe who hunted bison in this area 200-300 years ago. They lived in teepees which were easy to pack and move as they followed the bison migration. Their lifestyle was dependent on bison and they used every bit of the large 'two-toed ungulates'. Bison meat and fat was their food. Hides were 'tanned' (an interesting process... look it up) and used for bedding and clothing. Raw hide, not 'tanned', was used to make buckets and shields, and rawhide strips were used to bind things together, like duct tape.

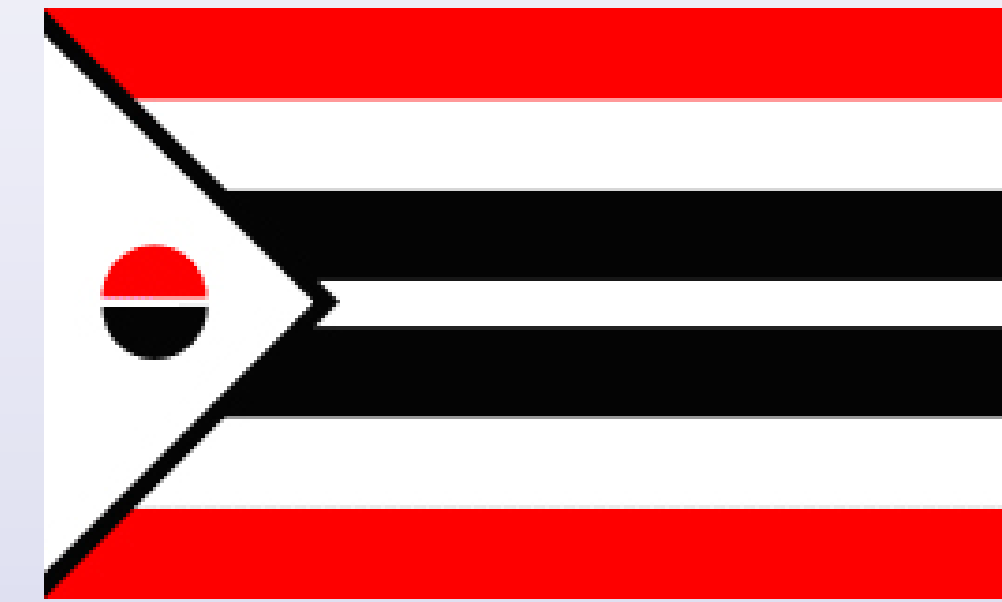
The Arapaho were also known as a trading tribe. They acquired useful items as they travelled through the area and met with other tribes, fur trappers and frontiersmen.

## The Cherokee

The **Cherokee** people's homeland in Georgia and North Carolina was also the home of the first 'gold rush' in the United States. As Cherokee were forced to leave the southeast, some made their way west and became part of the California Gold Rush of 1848 and the Colorado Gold Rush of 1858. The Cherokee Trail, which is the historic trail from Bent's Fort on the Arkansas River to Fort Bridger, Wyoming near the Green River, was named for the group that first found the route that brought you here today.

## Explorers

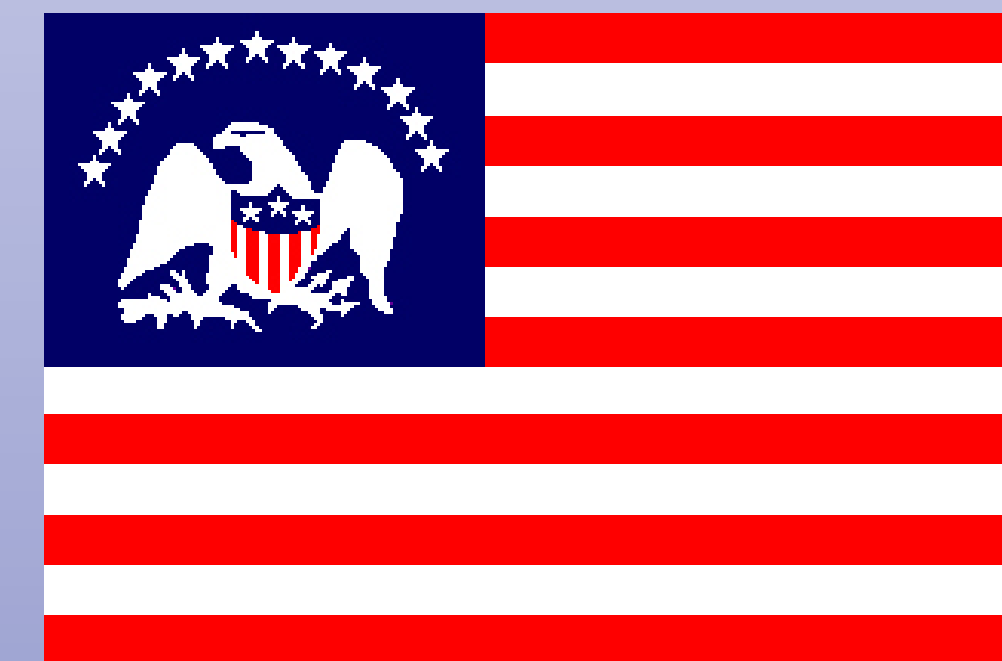
Following the Louisiana Purchase of 1803, **Zebulon Pike** launched an expedition that brought his team to present-day Colorado Springs. In the 1820's, **William Ashley** travelled along the S. Platte and then north into present-day Wyoming. In 1839 **E. Willard Smith**, a civil engineer and architect, left a diary of his travels between the Arkansas and S. Platte Rivers along what came to be known as the Cherokee Trail. The Cherokee Party of 1850 followed the landmarks mentioned in Smith's diary.



Arapaho Flag



Cherokee Flag



Indian Peace Flag

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## Journaling and Pictures:



A map of the Cherokee Trail as published in Lee Whiteley's book [The Cherokee Trail: Bent's Old Fort To Fort Bridger](#)

## Did You Know?

The Historic Cherokee Trail lay along the route of today's Interstate 25 and connected Bent's Old Fort, near present day La Junta to the Oregon Trail in Fort Bridger, Wyoming.



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# Cultural History - Settlers

## Early Settlers

Archeologists working at the Rueter-Hess Reservoir site, less than 6 miles away, recently discovered evidence of what is believed to be the home of prehistoric people who had lived in the area between 6,500 to 1,800 years ago. "The oldest artifacts predate Egypt's pyramids by more than 3,000 years and Plato's teachings in Greece by more than 6,000 years." (Denver Post, August 19, 2005). Pieces of pottery and a 2,000 year-old knife, with a blade still sharp, were found along with fire pits and a small clay figure in the shape of a dog. The dig also exposed what may be the first High Plains kiln found in North America.

## James Sample Parker



White men first explored the general area in the early part of the 19th century. Gold was discovered in Colorado in 1858, and the next year more than 100,000 people followed the trails here in search of their fortunes. The Rampart Station, a one-room building in the pines south of present-day Hilltop Road, was built by Alfred Butters around 1862. The building was sold to James Sample Parker, an ex-bullwhacker and station manager who had been living in Kiowa in 1874. Under Parker's ownership, the 20 Mile House grew and prospered, eventually becoming part of the lore and legend of the Town of Parker.

## Family Ties

Many of Parker's first rural families were of Scandinavian descent. Some established dairy farms in the area, while others raised cattle or horses. Dry land farming was experimental. A fortunate few began irrigating crops from ditches connected to Cherry Creek.

## 17 Mile House



The 17 Mile House has a long and significant history. When the 1859-1860 gold rush resulted in the large-scale settlement of Colorado, six way stations emerged along the Cherry Creek to accommodate travelers. These "mile" houses were located every 2-3 miles along the Cherokee/Smoky Hill Trails, all leading to and named based on the distance to the intersection of Colfax Avenue and Broadway in Denver. Upon arrival, travelers could get meals, spend the night, rest their animals and have minor repairs made to their coaches or wagons. Out of the original six "Mile Houses," only 17 Mile House and 4 Mile House exist in their entirety today.



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## Journaling and Pictures:



The Denver and New Orleans Railroad was the first standard gauge railroad to run between Denver and Pueblo. In its heyday, the Denver and New Orleans Railroad boasted 10 locomotives, 13 passenger cars and 200 freight cars. The line became the Colorado and Southern Railroad. Operations were totally discontinued after the flood of 1935 that washed out many of the trestles.

## Did You Know?

In 1878 Kansas-Pacific freight train No. 8, was washed away in a flood. The freight cars and contents were recovered but the locomotive engine was never found. For over 130 years the mystery has remained unsolved.



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# Cultural History - You and I

In 1850, practically no one lived along Cherry Creek. Today, over 250,000 people live within 2 miles of Cherry Creek. Concrete and asphalt cover close to 20% of the land surface, and the Cherokee Trail is crossed by hundreds of bridges and 47 major east-west roadways also cross Cherry Creek.

Cherry Creek State Park, the first State Park in Colorado, and Cherry Creek Shopping Center, Denver's first Shopping Center in built in 1953, attract more than a million people to the banks of Cherry Creek every year.

Bald Eagles and Mule Deer are a common sight for many who visit the trails and open space parks along Cherry Creek. What did you see on your visit to Cherry Creek?



September: Annual Run for the Watershed



July: Teacher Training Workshop



All Year: Youth Group Outings

## Events:

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## Journaling and Pictures:



Participants in the annual "Hawk Walk" which occurs the last Saturday in January, every year.

## Did You Know?

The Cherry Creek Stewardship Partners can arrange field trips and service projects for your church, school or social group. Check their website: [www.cherry-creek.org](http://www.cherry-creek.org) for a list of upcoming events or to learn more.



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