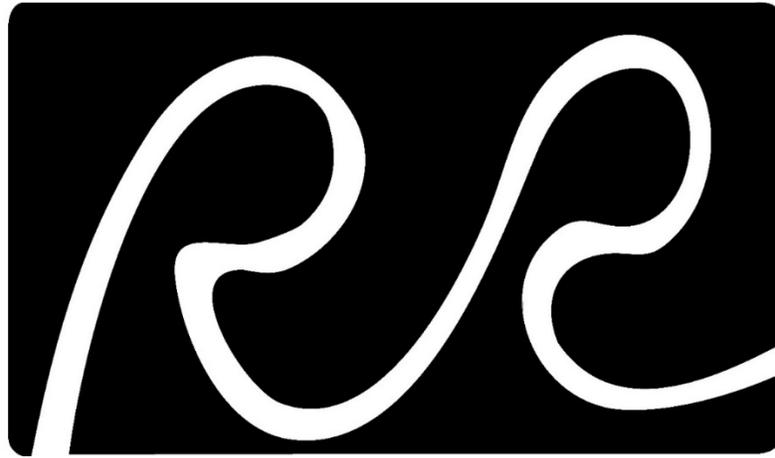
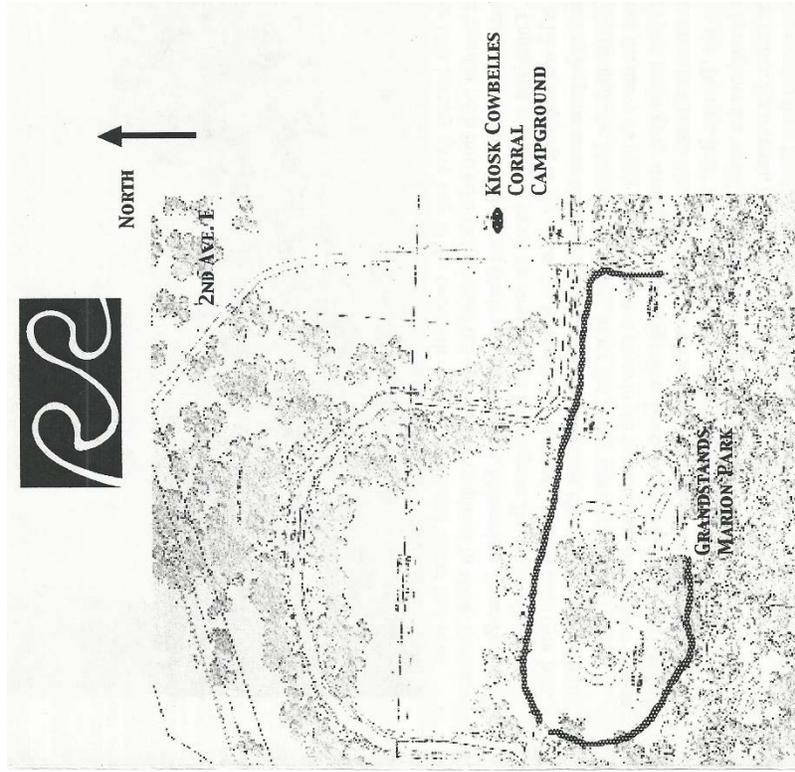
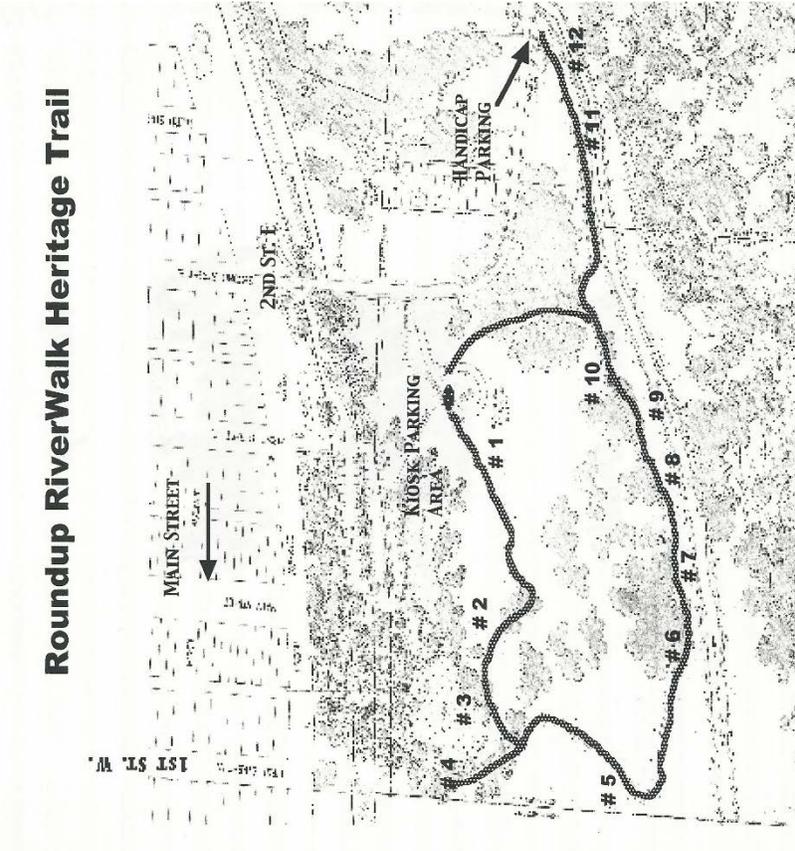


*Roundup*  
*RiverWalk*



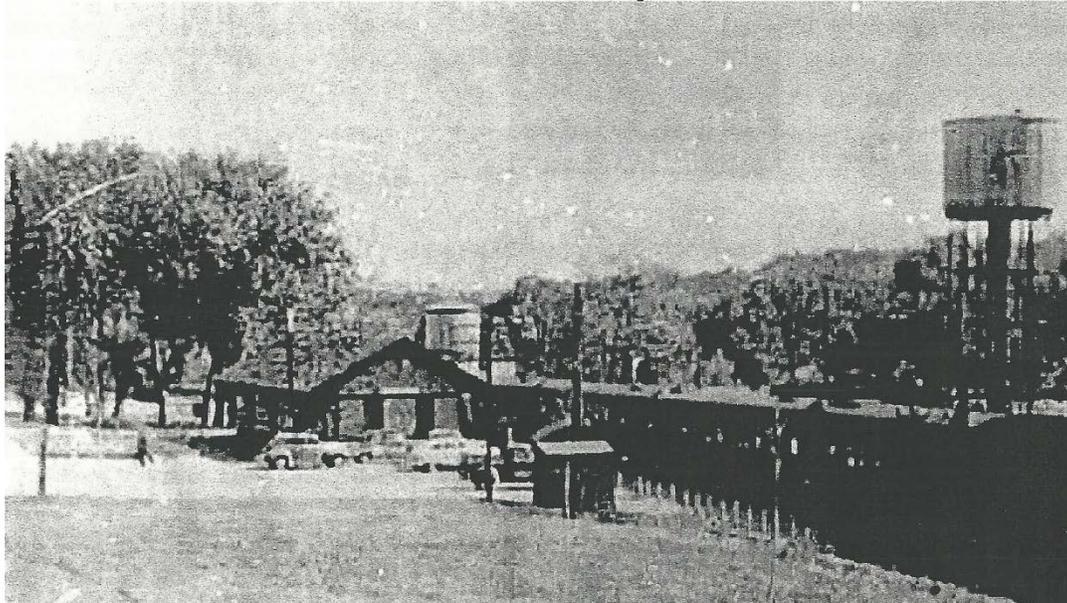
*Heritage Trail*

# Roundup RiverWalk Heritage Trail



## Kiosk

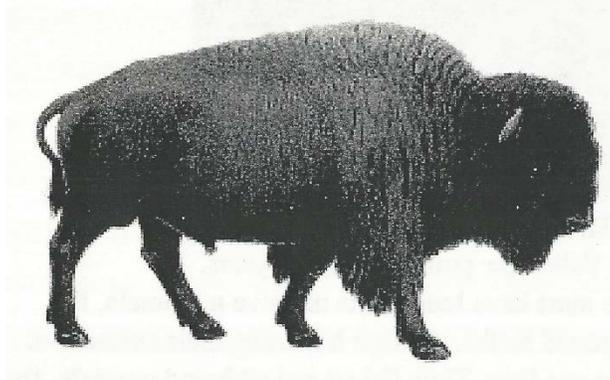
### The Old Depot



As the 19<sup>th</sup> century gave way to the 20<sup>th</sup> century, the United States had been stitched together with iron rails that spanned the continent. Completed in 1908, the last transcontinental railroad added to this fabric was the Chicago, Milwaukee, Saint Paul & Pacific. Conceived as a way to break the stranglehold RR magnate Jim Hill's rail empire had on Midwest shipping to the coast, the Milwaukee's directors planned their own line. After finding large reserves of high quality coal here at Roundup, the railroad moved from Miles City through the Musselshell Valley. Since the valley was already heavily developed, the move through the valley added costs to the construction that helped lead to the line's first bankruptcy shortly after its completion. Even so, completion of the line led to boom times in Central Montana. The road advertised the lands of the Musselshell Valley as the "Banana Belt" of the Northwest. Land hungry settlers poured in from nations throughout the world to join the Welsh, Scottish, and Slovenian miners hired to work the mines. As a result, station managers in Roundup displayed brochures in languages ranging from English to German, to Greek, to Italian and more. Roundup of the 1910's had a cosmopolitan air that would compete with any city in Montana or as some bragged the Northwest.

Highly engineered to the most modern specifications, the Milwaukee straightened the river 140 times between the Big Bend of the Musselshell and Harlowton. These construction decisions sped the river's course and led to major erosion and environmental problems still being dealt with today by the valley's current residents.

The Milwaukee was abandoned in 1983, when it could no longer compete with the Goliath Burlington Northern, but visitors can still see the roadbed and reflect upon the life that the railroad brought here in 1908.



## **#1 Bison Grazing History**

Before European settlement, it is estimated that there were 50 – 70 million bison in North America. The majority of the population roamed the middle of the continent - - the North American Great Plains stretching from Texas to the boreal forests of Western Canada. This vast open prairie grew grasses, sedges (grass-like plants), and forbs (broadleaf plants) as the dominant species; accounting for some 95% of the forage for grazing. Trees and shrubs were kept in check by periodic fires and intensive grazing by migrating bison.

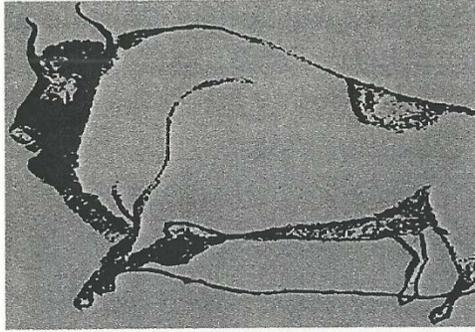
Bison were the first rotational grazers, using a two paddock seasonal grazing system consisting of a summer range and a winter range. The Bull Mountains offered shelter from winter storms and a native fescue grass good for winter range. The short grass prairies north and east of Roundup provided excellent summer grazing.

North American Plains Indians were big-game hunters and the buffalo were their primary source of food. Bison were used for clothing, shelter, tools and as religious icons.

With western settlement encroaching on Indian lands, the US government adopted a policy to exterminate the buffalo. This inevitably led to the demise of the Indian cultures, who relied on bison for every aspect of their lives.

A last herd of buffalo hunted in the Musselshell River drainage was in 1818. Thousands grazed the lower Musselshell all summer and several thousand wandered up river as far as Martinsdale that fall. Quite a number were shot by local sportsmen and herdsman killing bison for their winter meat supply.

**Have you seen wild buffalo grazing in Montana? Do you think it would be hard to kill a buffalo with a bow and arrow?**



## #2 Indigenous Peoples of the Musselshell Region

People have lived in the Musselshell Valley for probably 10,000 years.

As the last Ice Age waned, the people must have hunted the massive mammals, the mammoths and mastodons and giant ground sloths, perhaps hastening their extinction. Later the people hunted bison, elk, deer, and bear. They fished and gathered mussels, food plants, and medicinal herbs. Still later, they planted food crops. They built shelters, mostly temporary, for this was a country for roaming more than settling. They travel by foot and perhaps by boat, and only later on horseback.

The horse --- originally native to this continent but long extinct --- showed up again in the Northern Plains around the late 1700s. The horse transformed local cultures, making it easier to travel and to hunt, and creating a new form of wealth. Warriors from different tribes relished raiding each others' horses.

Before the horse came, in dry times that sometimes lasted for hundreds of years, this country would empty out of people and the animals they hunted. In wetter times people and animals would return. Some of the early tribes in this area were the Shoshone, Hidatsa, Minnatari, Crow, Blackfeet, Cree, Gros Ventre, and Assiniboine. Later, tribes driven from the Great Lakes by settlers, included the Lakota and Dakota (or Sioux) and the Cheyenne.

The Musselshell River functioned as an informal border between the territories of two major tribes, the Crow to the south and the Blackfeet to the north.

This was prime buffalo country. The Bull Mountains were named because they provided superb winter habitat for bison: shelter in the pines, grazing in the meadows. Bison provided the main source of food, as well as clothing and shelter materials for Plains Indian tribes. Tribes to the west, like the Salish, Kootenai, and Nez Perce; would come over the mountains when they wanted to vary their diet of salmon to "make meat". But the U.S. government made it official policy to exterminate the bison and to restrict the wandering native tribes to reservations. Montana has seven Indian reservations.

The bison were never entirely killed off, and have staged a resurgence. So have the native peoples, who have replaced the horse with the automobile, and still roam this big open country, especially to powwows in summer and to basketball tournaments in winter.

**Have you visited a Montana reservation? Have you attended a powwow?**



### **#3 A Sea of Grass**

The decimation of the bison, which once ruled the plains by the millions, opened an empire of grass to aspiring stockgrowers. Here was opportunity to prosper on the bounty of the public domain, rich grass and abundant water, free for the grazing.

The Musselshell Cattlemen's Association was one of the largest roundups in the state, gathering vast herds of cattle from up and down the Musselshell River for a hundred and fifty miles, south to the Yellowstone, east to the Big Bend of the Musselshell, and north to the Snowies. At its peak, 75 cowboys with 400 horses rode the roundup for a dozen cattle companies for fall shipment to market. The natural corral formed between the Musselshell River and rolling hills to the north, where the City of Roundup now sits, was one of many gathering spots for the Musselshell Association in the early 1880's.

Overgrazing and scarce water brought a close to open range grazing. To protect grass and water supplies, cattle ranchers put up barbed wire fences. To pay for the fencing, they sold cattle which flooded the market and led to low prices by 1885. The summer of 1886 was marked by severe drought. No grass, a falling cattle market, and the need to protect the new weaker breeds of meatier cows preceded the deadly winter of 1886-87. When spring finally arrived in 1887, from 60% to 95% of the cattle on the range were dead. This disaster brought the end of the open range cattle era.

**Why are brands important to cattlemen?**



#### **#4 Fencing the West**

The 19th century culture of cowboys, misfits and loners, soldiers from the Civil War and young adventurers, bumped up against a 20<sup>th</sup> century culture of settlers, immigrants, miners, farmers, and ranchers in the fencing of the West.

Widespread use of barbed wire changed life on the Great Plains. Land and water once open to all was fenced off by ranchers and homesteaders. Cattlemen, increasingly cut off from what they regarded as common-use resources waged battle against the property-owning farmers. But gradually, there was a discernible shift in who controlled the land and thus from the late 19th century, cattle were mostly kept on enclosed ranches and in much smaller quantities. Two inventions made this possible.

Barbed wire, invented by JF Glidden in 1874, meant that large areas could be fenced cheaply. Cattle were enclosed on ranches and no longer roamed the open plains. As a result fewer cowboys were needed and the long drive became a thing of the past.

The other invention was the wind-driven pump. Strong winds that blew across the plains were an ideal source of energy to drive windmills, which pumped up underground water, making it possible to ranch away from sites along rivers and streams.

#### **#5 The Cottonwood Gallery**

Nearly all Montana rivers have headwaters in the mountains, so flooding often occurs with snowmelt in late spring or early summer. The Musselshell River is no exception, where highwater can be expected in May and early June. Our recent prolonged drought has altered this regime temporarily. The Musselshell floodplain, except at higher elevations where willows dominate, is characterized by extensive native cottonwood galleries that result from this flooding cycle. Cottonwoods and the closely related willows have tiny seeds with little stored food. In order to survive, seedlings of this woody plants must germinate in moist soil, free of taller, shade-producing plants.



Spring floods deposit soil on point bars and low terraces, creating habitat for the germination and growth of native cottonwoods and willows. Cottonwoods shed their wind-borne, cotton-like seeds in early summer, timed to the retreat of flood water and the appearance of this moist, open habitat.

**Look at the different galleries of cottonwoods. Do they appear to be of similar age?**

**Understanding how cottonwoods germinate, where do you think the river used to flow?**

## **#6 Birds and Riparian Areas**

A riparian area is the interface between water and the uplands. Important ecological functions such as nutrient cycling, sediment capture, and stream temperature regulation are affected by riparian vegetation. Riparian areas cover less than 2% of our state, but provide nesting and feeding habitat for more than 50% of the 245 bird species that breed in Montana. Montana's riparian areas also provide important wintering habitat, and are migration corridors that serve as rest stops for birds. Trees, shrubs, and grasses provide a variety of vertical and horizontal structures in which different bird species place their nests and which they use as perches for hunting and singing. The more diverse and varied the cover, the more diverse the habitat available to insects, birds, and mammals.



**From where you are standing can you observe the layers of cover? Can you identify some birds and what layer of cover they spend most of their time in?**

## #7 A History of Beaver

Montana's first boom and bust economic venture had as much to do with vanity as it did with money. North America's largest rodent, the beaver, supplied the fur that hatters used to create the top hats worn by U. S. men from the early 1800's to about 1840.



Mountain men like John Colter and George Drouillard who had accompanied Lewis and Clark as members of the Corps of Discovery returned to Montana's streams to harvest these plews of rich fur for the vanity of the city dwelling men of the East. Just about 100 miles southeast of here at the confluence of the Big Horn River and the Yellowstone River, Manuel Lisa of the American Fur Company erected the first "permanent" European-style buildings, called Fort Manuel Lisa, to provide the fur company's trappers with a supply center and create a trade center among the Crows.

So jealous of its trapping territory were the owners and managers of Britain's infamous (or famous depending upon your point of view) Hudson Bay Company, that they arranged ambushes and "accidents" for many of the men of Lisa's employ. George Drouillard, who was instrumental in the success of the Lewis and Clark Expedition with his hunting and tracking skills, died in a Blackfeet ambush near Three Forks the summer of 1810.

By the mid-1840's, the fickle world of fashion had changed to oriental silk top hats and the peerless engineer of the mountain streams was granted a reprieve to do what he does best! Dam it!!

**Do you see evidence of beaver from where you are standing?**



## #8 An Ecology of Beaver

The beaver's ability to change landscape is second only to man's. A keystone species because of its ability to create habitat, beaver's dams provide rich ecosystems that support a myriad of other species including fish, turtles, waterfowl, eagles, osprey, big game animals, and insects. The wetlands they help to create are the cradle of life along the rivers and streams of Montana.

Beaver can grow to over 40 pounds in weight with one reported male here along the Musselshell weighing in at 64 pounds. Beaver mate for life at age three and their young stay in the family lodge until the age of two, when they strike out looking for territory of their own.

Beaver diet includes water lily tubers, clover, apples, leaves, and the green bark (cambium layer) from aspen and other fast growing trees. Check out the trees that they have made use of along this trail. They have felled cottonwood, willow, chokecherry, and even Russian olive all along the river here.

Besides eating the cambium of the young trees that they harvest, the beaver also use the trees and branches to build their signature dams. The dams create the deeper water needed for the protective moats around their lodges, where they store food, so they can survive the harsher winters of our northern climates. The dams also slow the rivers and help to slow erosion. More importantly, as the rivers are slowed, silt is deposited behind the dams, which are eventually filled, creating new rich bottomlands along the streams.

From furs for fashion to creating your favorite hunting or fishing spots, beaver provide essential services even though they may be knocking down a little shade. Just remember they help dam it. **Can you see the beaver slide? It looks like a slide into the water.**



### **# 9 Number One Coal Mine & Bull Mountain Geology**

The Milwaukee Railroad chose to build up the Musselshell Valley for a number of reasons, two of which were available water and abundant high quality sub-bituminous coal to supply their steam engines.

The Number One coal mine opened in 1907, directly across the river from the new town of Roundup, but it lasted only about a year. The reason was not a lack of coal but an excess of water. Coal seams in eastern Montana are the primary aquifer, the stratum where underground water collects, and as the coal came out of the Number One mine more water kept filling it. Pumping out this mine was too troublesome and costly, so it closed, to be replaced by the Number Two Mine (at Klein) and the Number Three Mine (just west of Roundup), along with a number of smaller mines.

Across the river, the concrete foundations of the Number One mine works (where a tram conveyed coal across the river to the railroad) remain as visible signs of this first large-scale mine in the area.

How did coal form here? From the sandstone cliffs south of the river to the sandy-soiled plains and pine ridges stretching east and north, this entire landscape was once under the sea -- or rather, under a succession of seas. Coal forms when ancient forests decompose, are drowned by rising ocean waters, buried by sediments carried into the oceans, and compacted into layers of concentrated sunlight. When the ocean retreats, the land emerges to grow more forests, which decay and are drowned, buried and compacted, over and over. So beneath this landscape, veins or seams of coal alternate with layers of sediment.

Since a sedimentary landscape erodes rather easily, why are we not standing on a flat, featureless plain? Why do the Bull Mountains rise immediately south of us?

The answer is coal and fire. As wind and water erode the landscape, coal seams often are exposed to air and light. If there is a forest -- as today there is a pine forest covering the Bull Mountains -- lightning strikes periodically ignite that forest and these fires in turn can ignite exposed coal seams. Coal seam fires then smolder, slowly transforming the coal into hard red rock called scoria. This fire-hardened rock resists the erosion of water and wind, so what holds the Bull Mountains together -- along with similar hills throughout southeastern Montana -- are ancient burnt-out coal seams.

### **Ice Ages in the Musselshell Valley Area**

We stand on the North American tectonic plate, which is speeding along at approximately one inch per year in the general direction of Yellowstone National Park. Someday this valley could be part of a massive volcanic mountain range, riding over the same "hot spot" which manifests in the geysers and thermal pools of the present Park. Little evidence of volcanic activity greets the eye here, but the surface of the Earth in this area offers a mystery.

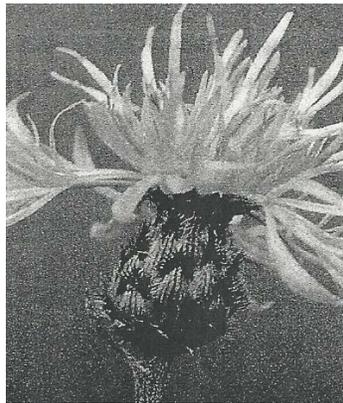
On the high plains stretching from the Musselshell Valley northwest to the Big Snowy Mountains there are high ridges -- called benches -- and on the top of these benches are layers of hard rocks. These are not soft sandstone rocks, but metamorphic rocks formed under pressure during mountain building. How did they get there?

Since the sky does not rain rocks, they must have been carried here. But how? Presumably these rocks were delivered by the great cold rivers that were formed as glaciers melted in nearby mountains and surged down over the plains. The last Ice Age ended about 10,000 years ago, so presumably the top layer of these metamorphic rocks on sandstone ridges were fairly recently (in geologic time) part of mountains 30, 40, 50 miles away.

## # 10 Introduced Species

Man has altered the native riparian area with introduced species. A Canadian Frenchman is said to have brought the Russian olive to the mid and lower section of the Musselshell in the latter 1800's. It is still valued by some landowners on the lower end of the Musselshell as good wildlife and livestock cover, but is more often regarded a noxious weed as it proliferates along the river.

Asparagus was brought into the area by early homesteaders and is still enjoyed by asparagus pickers in the spring.



**Spotted Knapweed**

Thirty-two alien weed species infest over 6.5 million acres of rangeland in Montana and they are advancing at an alarming rate. Two of Montana's worst noxious weeds are found in this area: spotted knapweed and leafy spurge. The impacts of weeds cost farmers over \$100 million annually in crop production losses and expenses. Reduction in livestock forage by spotted knapweed alone costs Montanans \$14 million each year. Weed seeds spread easily along the river, a factor that helped knapweed spread from one county to every county in the state in 75 years.

Saltcedar, a shrub imported from Eurasia, is invading the area, threatening the water supply in the river. Dense stands, such as the one approximately a mile downstream, has the potential to use over 9 acre-feet or 14,520 cubic yards of water for every acre of infestation. A mature saltcedar plant can gulp 200 gallons of water in a day.

Cheatgrass, also a native of Eurasia, readily infests unoccupied or disturbed soil, and is regarded as a fire hazard in its dried state in late summer.

Landowner groups and agencies are working to manage noxious weeds and restore healthy native riparian habitats along the Musselshell River.

## **# 11 Controlling the River**

The natural meandering of the Musselshell River was drastically altered in the early 1900's when the Milwaukee Railroad was constructed along the valley floor. Running a straight line up the valley, the Railroad cut over 140 meanders, either by shortening or separating them from the main stream course.

Over the next 90 years highway construction, expanded irrigation development, channel straightening, channel down cutting, and grazing pressure continued to alter the river's natural ability to disperse the powerful erosive energy of spring floods. Eroding banks prompted landowners to protect their cropland by using old car bodies, tires, and in recent years, riprap as you can see at this location. Unfortunately, these measures have resulted in a "band-aid" approach that has repercussions downstream. The deflected energy will continue to carve from sandy banks and down cut as the river tries to establish a natural meander.

The Army Corps of Engineers is currently proposing a stream bank mitigation program in Montana that will discourage "hard armor" such as riprap, and will encourage "soft fixes" to help stabilize riverbanks, such as rootwads, etc . Unfortunately, the sandy banks of the Musselshell River crumble like sugar, and in the end, the river will persist until it finds its way back to its natural state.

## **#12 Marion Park, County Fairgrounds**

Marion Park is named in honor of Marion Newton, wife of J. W. Newton, the first mayor of Roundup. Arriving in 1886, the Newtons were early pioneers in the Lower Musselshell Valley. Newton headquartered his ranch a little over one mile east of here as a cattle and sheep operation. With the arrival of the Milwaukee Railroad in 1908, Newton saw opportunity and seized it. His family businesses serving New Roundup included Newton Hardware, Newton Lumber Co., Citizens Bank, a dance hall, an icehouse, and a meat market. No one was a bigger booster of the Roundup area. When the time came to establish a Fairgrounds, Newton donated the area you see across the river with the stipulation that the park be named after his beloved wife, Marion. Livestock barns, a grandstand, a caretaker's house, and a beautiful round pavilion once graced what many believe to be the most beautiful fairgrounds setting in Montana. Agricultural fairs and rodeos that rivaled those of Great Falls and Billings took place here beginning as early as 1916. Of the original buildings on the site only one livestock barn still stands, but the grounds remain a wonderful testament to a family's vision for Roundup and the Musselshell Valley.

## **RiverWalk Trail Information**

The Roundup RiverWalk Heritage Trail began as a venture in 2000. It is a project of the Roundup Arts and Culture Committee of the Musselshell Valley Community Foundation.

The Arts & Culture Trails Committee consisting of Dale Alger, Bill Milton, Tim Schaff, Elizabeth and Wilbur Wood wrote the initial grants for the Trail and have spear-headed its progress. Funding has come from the Montana Community Foundation, the Montana Arts Council, and the Montana Fish Wildlife and Parks Recreation Trails Program.

With support and encouragement from the City of Roundup and Musselshell County, the trail is gradually coming to fruition. Many people have donated time, labor and materials to help build the trail. A few of the key players are Monty Sealey, Central Montana RC&D; Gary Thomas, recently retired Roundup Director of Public Works; Fred Winkler, contractor, who surfaced the trail; Steve Tyrrell, Integrated Ag Services, who fenced the park area; Jerry Frazer, who worked with Dave Roberts and John Eike at Baking Systems Inc. to manufacture the trail markers; Carl Schulz, who built the information kiosks; County Extension Agent John Pfister, who helped map the trail; and landscape architect Ted Wirth, who helped with mapping and designed the amphitheater. The Roundup RiverWalk logo was generously created by Greg Wilhelmi. Thank you.

This pamphlet was written and produced by Dale Alger, Bill Milton, Tim Schaff, Alice Wolff, Elizabeth Wood, and Wilbur Wood. -- June 2005 (ii)