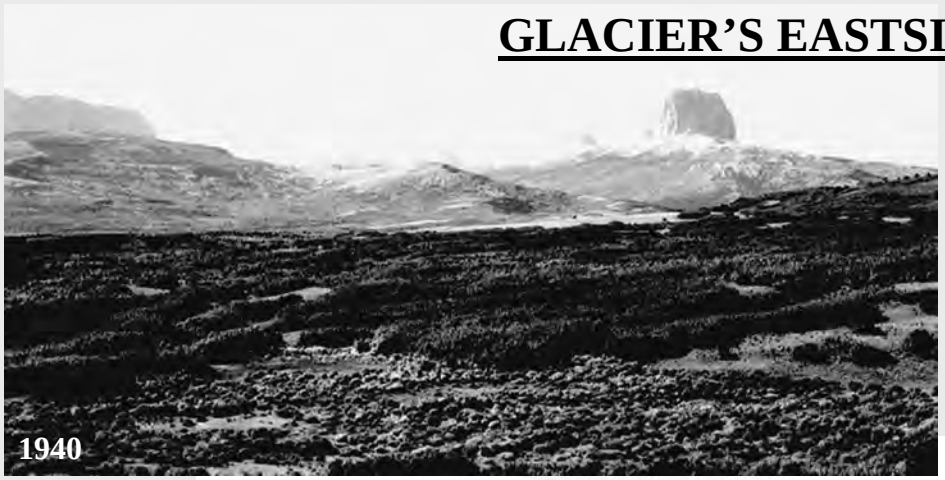
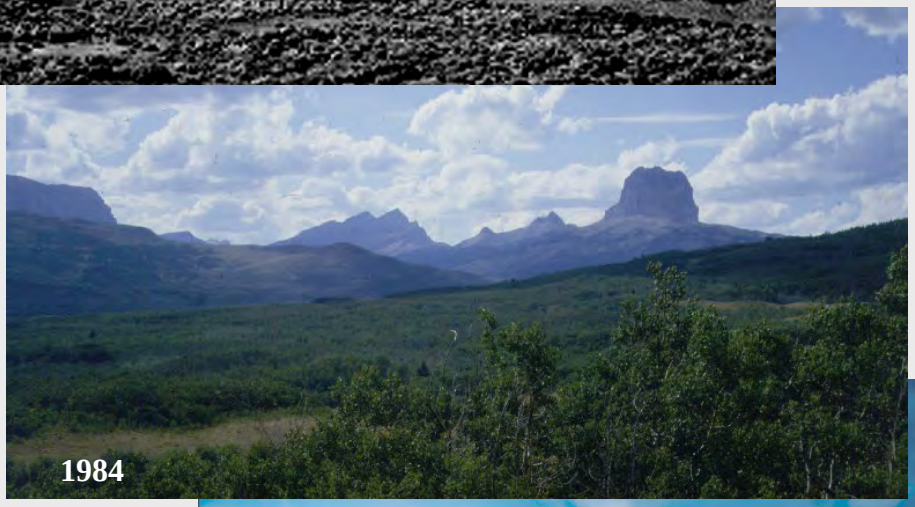
Glacier National Park

National Park Service
U.S. Department of the Interior

GLACIER'S EASTSIDE GRASSLANDS: PHOTOGRAPHIC COMPARISONS OVER TIME









by
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2006

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Finally, thanks to all the "old-time" photographers who are cited in the text. We hope they enjoyed taking their photos as much as we did taking ours.

INTRODUCTION

How These Photos Came to Be

The catalyst for this project was a comprehensive ecological evaluation of the grassland communities on the east side of Glacier National Park below 6500 feet (Shea et al. 2004). This three-year study (1999-2001) included inventories of mammals and birds, along with observations of ungulate use, reptiles, and amphibians present in these unique prairie and meadow ecosystems.

At the outset of the project, it was discovered that very little historical data on species composition of the grasslands was available in park files or archives. We determined that the best way available to show changes in the grasslands over time would be to conduct repeat photography using historic photographs. So Glacier National Park (GNP) Archives were scoured for appropriate old photographs to use for past and present comparative photography. A total of 54 photo pairs are included here, from the Belly River, Many Glacier, St. Mary, Cut Bank, and Two Medicine Valleys spanning the years between approximately 1890 and 1977. Each set is annotated with identification numbers, photographers, dates, exact locations, and descriptive narratives. Differences in times of the season are also noted. Some exact dates and even a few photographers' names have been lost over the years. Compared to some National Parks such as Yellowstone (Meagher and Houston 1998) the early photographic record in Glacier is fairly scant, though a couple of the originals date back over a century.

Since fire has had and continues to have an important influence on eastside grasslands, references to past fires are provided with several photo pairs that demonstrate effects. The sources for that fire history are Barrett's two studies (1993, 1997) covering the Missouri and Hudson Bay drainages within the Park. Fire dates are geo-referenced to photo locations by use of the GNP geographic data for forest stand age, which was digitized subsequent to Barrett's work.

Cameras and lenses were usually different, of course, from those used in the originals. We used an Olympus OM-2 camera and Kodachrome 64 film, with 35 mm and 50 mm Zuiko lenses. A Global Positioning System pinpointed photo sites on the ground. Each photo set was digitally scanned, cropped, sized and aligned using image processing software.

Some of the original photo points were far off the beaten path, well away from trails and roads. This added to the challenge and satisfaction of finding the original sites, and of reopening a picture window into the past. One would hope that at times those early photographers were drawn to these unique sites for the same reasons we were – perhaps to watch a grizzly chasing ground squirrels, to follow fresh wolf sign, to listen to the hills echo with elk bugles in the fall, or just to marvel at these special scenes and places.

EASTSIDE GRASSLANDS

Some Vital Components

Grasslands and prairies are scattered all along the eastside of GNP, particularly in the Belly River, Many Glacier, Boulder Creek, St. Mary, Cut Bank, and Two Medicine valleys, and north and east of Marias Pass. In a few instances, they are small continuous extensions from the drier short-grass Great Plains to the east, though differing in plant composition as one nears the higher and moister mountains. Common native bunchgrass species in the Park include Idaho

fescue (*Festuca idahoensis*), rough fescue (*Festuca campestris*), bluebunch wheatgrass (*Elymus spicatus*), bearded wheatgrass (*Elymus trachycaulus*), prairie junegrass (*Koeleria micrantha*), timber oatgrass (*Danthonia intermedia*), and Columbia needle grass (*Stipa nelsonii*). Less common natives include California brome (*Bromus carinatus*), spike-oat (*Helictotrichon hookeri*), mat muhly (*Muhlenbergia richardsonis*), ticklegrass (*Agrostis scabra*), Richardson's needlegrass (*Stipa richardsonii*), spike trisetum (*Trisetum spicatum*), pinegrass (*Calamagrostis rubescens*), bluejoint (*Calamagrostis canadensis*), and several native sedges (*Carex spp.*). Also common are several exotic grasses, particularly timothy (*Phleum pratense*), smooth brome (*Bromus inermis*), and Kentucky bluegrass (*Poa pratensis*). Typical native shrubs include shrubby cinquefoil (*Pentaphylloides floribunda*) and serviceberry (*Amelanchier alnifolia*) in lower elevations, and kinnikinnick (*Arctostaphylos uva-ursi*) in higher sites.

Many eastside prairies grade into and intermingle with quaking aspen (*Populus tremuloides*) parklands, creating rich irregular wildlife habitat ecotones. Lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), and black cottonwood (*Populus balsamifera*) often mix in within these aspen groves.

The Eastside Grasslands Ecology Project emphasized grassland communities between 4500 and 6500 feet elevation. Underlying soils are typically gravelly, sandy, alluvial fans, or high river terraces or rocky soils of glacial origin. Thus, most meadows are on well-drained relatively flat to moderate slopes, with a west or southerly exposure, being shaped and modified by such factors as slope, elevation, aspect, moisture, soil type, exotic plants, grazing history, and especially fire history (Barrett 1993, 1997).

Rainfall amounts and snow depths decrease sharply as one moves away from the mountains (Finklin 1986). Eastside climate conditions include frequent westerly and southwesterly winds, which are exceptionally strong during the winters. Windswept slopes blown free of snow are particularly important to wintering ungulates. These desiccating winds dry out the grasslands year-around and have a strong influence on eastside fire frequency .

Wildlife Treasures

The patchwork vegetation patterns and intermingling of grasslands and mixed hardwoods and conifers provide wonderful feeding and shelter habitat for many wildlife species. Mammals observed in the adjacent woodlands include white-tailed and mule deer, elk, moose, bighorn sheep, black and grizzly bear, wolf, red fox, weasel, snowshoe hare, and chipmunks. Columbian ground squirrels, northern pocket gophers, voles, and western jumping and deer mice are often hunted by bear, coyote, fox, and badger in the prairies themselves. Extensive diggings by the plentiful gophers and ground squirrels sometimes hasten the spread of exotic forbs in the newly turned disturbed soil (Tyser and Key 1988). Elk, moose, deer, and snowshoe hare help limit the encroachment of brush and aspen by browsing on the bark and twigs, especially during winter.

Until about the 1850's, mountain bison were common in the Park prairies (DeSanto 1971). Bison were noted by Hugh Monroe along upper St. Mary Lake in 1815 (Schultz 1918). In 1895, Vernon Bailey saw the remains of many old buffalo trails in the Belly River country, leading from the higher river terrace grasslands down to the river bottoms (Bailey 1918). Bison bones and the remains of Native American hunting camps are still found far up all the Park eastside valleys (Reeves 1995).

Some bird species are very closely associated with prairie type habitats. Meadowlarks and savannah, Brewer's, LeConte's and clay-colored sparrows all nest here, and many species

such as warblers, vireos, flycatchers, and woodpeckers nest in adjacent woodlands and brush. Birds of prey, such as red-tailed hawk, kestrel, and prairie falcon often patrol these areas as well.

The Human Influence

Fire history and patterns changed dramatically after Glacier was established in 1910. Historically, Native Americans and natural events regularly burned the prairies before the days of fire suppression (Barrett 1993, 1997). Subsequently, the frequency of fire declined, although some fairly significant areas burned on the eastside in 1910, 1919 and 1936. From the 1930's to the late 1980's, climate was also a likely factor in reduced fire risk. Through the 1990's to present, however, hot and dry conditions during summer have been common, and there has been a recent increase in large fire occurrence, but mostly on the west side and north of GNP.

Much grazing of domestic livestock (sheep, cattle, horses) occurred in the early days of the Park, by Park concessionaires, by livestock trespass, and by Park-sponsored activities. Trespass and the consequent spread of exotic plants continue at present. Pre-Park mining and oil exploration activities and later construction of dams, roads, hotels, chalets, trails, and campgrounds have all negatively impacted eastside prairies and meadows as well.

Summary

With all of these factors in mind, the grassland photo pairs have been loosely grouped into those which show relatively undisturbed wildlife habitat (27 pairs), and those which show minor to major human modifications (20 pairs). Such factors as conifer, brush, and exotic plant changes are discussed in both groups.

In summary, the presence of fire is probably the most important factor in prairie maintenance, limiting conifer and brush encroachment. Prescribed fires would help perpetuate these fire-dependent communities.

Grazing by domestic livestock has greatly modified some lower elevation grasslands by introducing non-native plants. Aggressive exotics can sometimes out-compete the natives and thus impact important wildlife habitat.

The Many Glacier and Two Medicine valleys in particular are the most impacted by dam, road, and building construction. Much vital bottomland riparian wildlife habitat is gone forever. Humans and wildlife, of course, all find the lower elevation grasslands attractive and so the conflict arises and continues. As one goes higher in elevation and away from roads, the grasslands are less disturbed by human activities, and fewer non-native plants are present. Tyser and Worley (1992) found similar results, as richness and frequency of alien species declined with distance from roads. Along backcountry trails, however, they recorded high numbers of alien plants that did not decline with distance from trails, suggesting introductions attributed to grazing.

At present, one can only imagine a band of mountain bison grazing amidst a native aspen parkland, golden in an Indian summer afternoon. Numerous good remnants of the original prairies and grasslands do still exist, however, mostly tucked away in the backcountry of the Park. These must be maintained through aggressive exotic plant control, the use of fire, the Park's native plant program, and particularly by eliminating domestic livestock trespass and any new construction.

Figure 1. Glacier National Park (white boundary) separated into east and west sides by the Continental Divide (black line). Some of the place names identified in historic photographs are listed below. Photo points are located in enlarged Figures 2-6, outlined by dashed rectangles.

1 - Belly River
2 - Chief Mountain
3 - Cosley Lake
4 - Wynn Mountain
5 - Cracker Flat
6 - Apikuni Falls
7 - Lake Sherburne
8 - Many Glacier
9 - Swiftcurrent Ridge
A - Windy Flat
B - Sun Point
C - Rising Sun
D - Two Dog Flats
E - St. Mary Flats
F - St. Mary Lake
G - Lower St. Mary Lake
H - Red Eagle Meadow
I - Milk River Ridge
J - Cut Bank Ridge
K - Kupunkamint
L - Cut Bank Valley
M - Spot Mountain
N - Looking Glass Ridge
O - Spot Mountain Meadow
P - Lower Two Medicine Lake
Q - Rising Wolf
R - Two Medicine Ranger Station
S - Pray Lake
T - Double Mountain

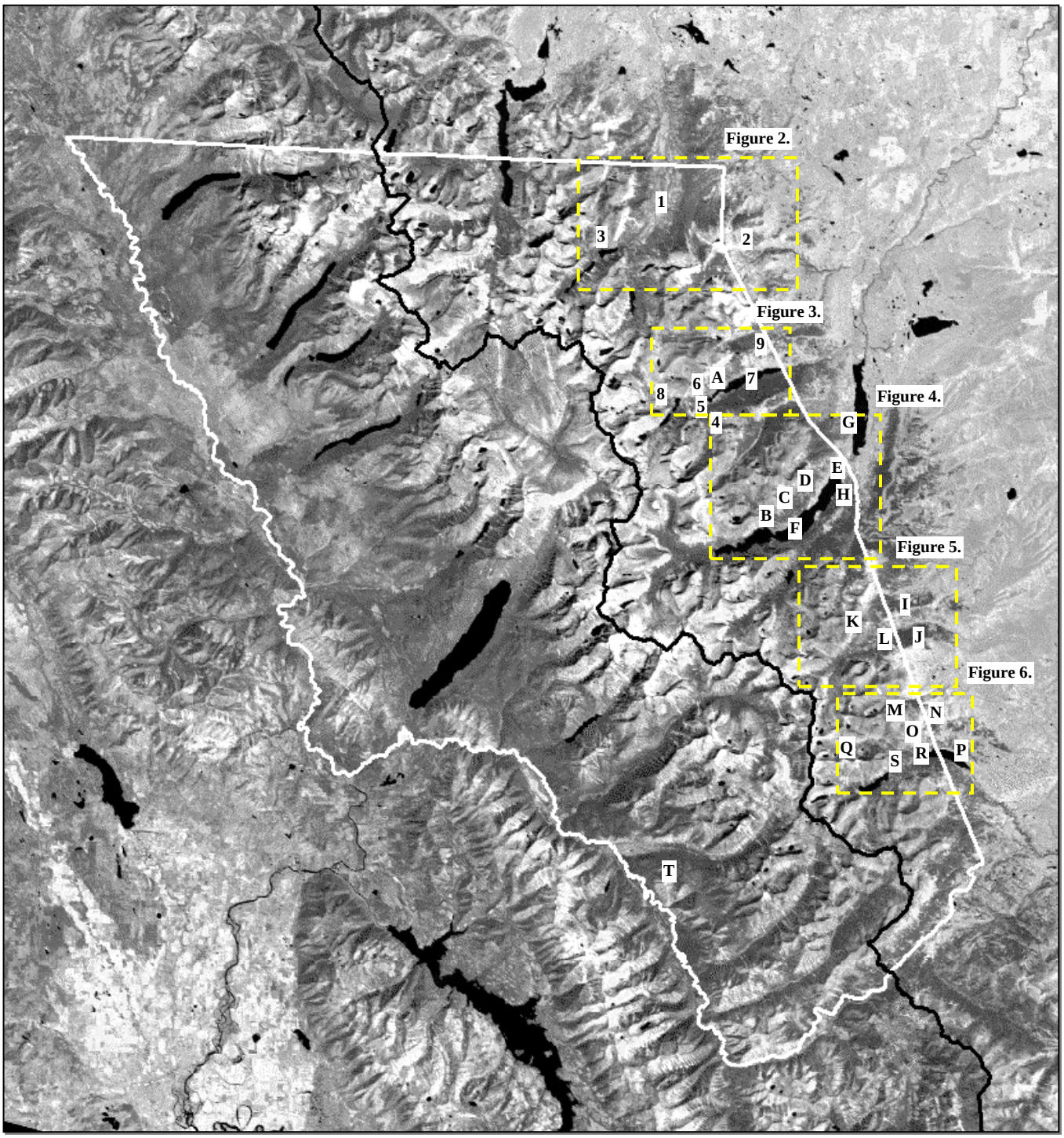

Figure 2.
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Figure 3.
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Figure 4.
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Figure 5.
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Figure 6.
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Figure 2. Belly River and Chief Mountain photo points indexed to page numbers.



Figure 3. Many Glacier area photo points indexed to page numbers.

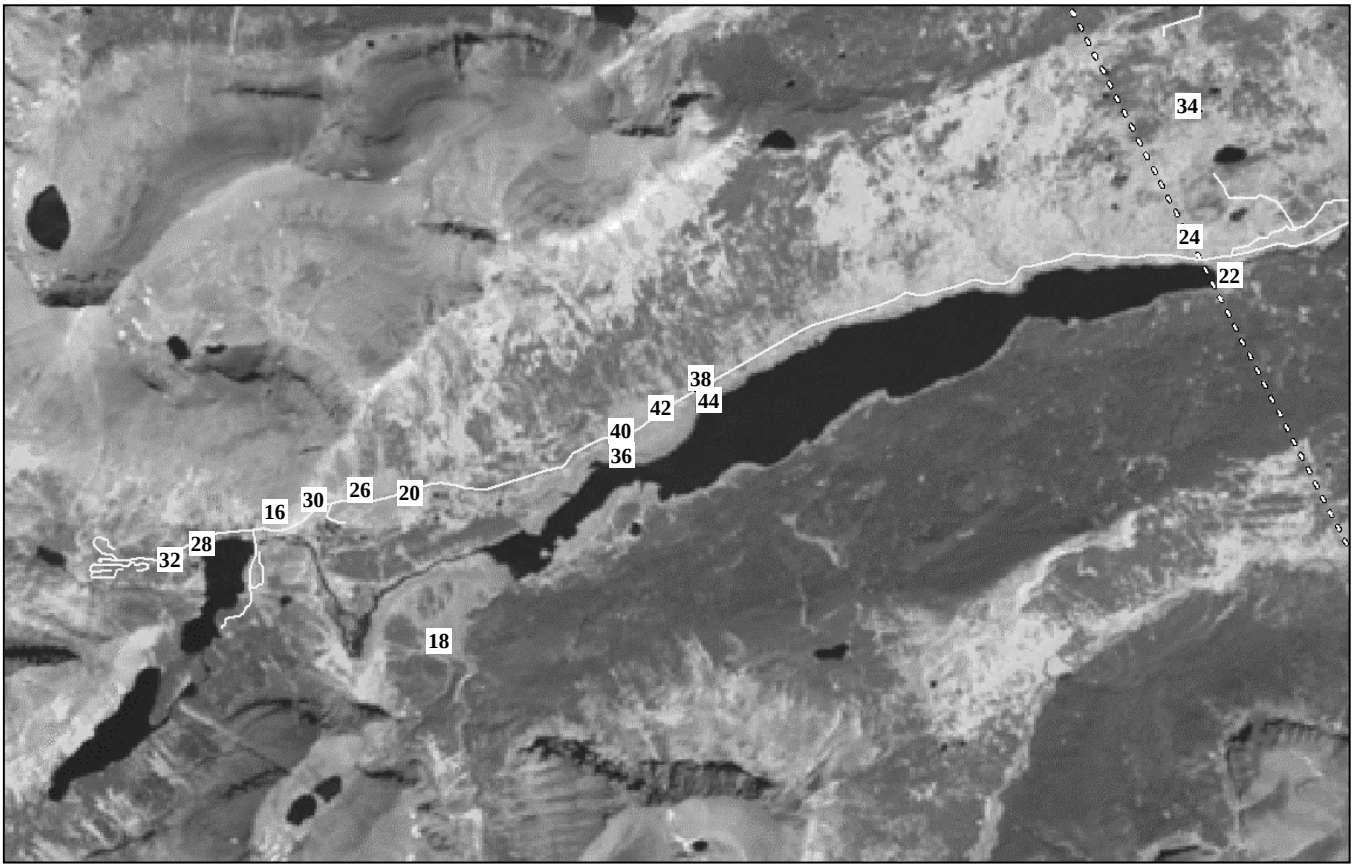


Figure 4. Saint Mary area photo points indexed to page numbers.



Figure 5. Cut Bank area photo points indexed to page numbers.



Figure 6. Two Medicine area photo points indexed to page numbers.



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Belly River to Many Glacier

Belly River Veldt

Photos:

July, 1963	J. Mohlhenrich	S3961.1963
Sept. 7, 2000	Dave Shea	S3961_S000927

Photo Point:

UTM: 302.8 E 5425.9 N Zone 12 Elevation - 4640 ’

Location Description:

Photo taken in Glacier National Park in the large meadow on east side of Belly River, four miles from the trailhead, and west of the trail to Belly River Ranger Station. Meadow is also known as “the veldt”. View is toward the SE with Cosley Ridge to the left, snowy Cathedral Peak in the background, and Bear Mt. on the right.

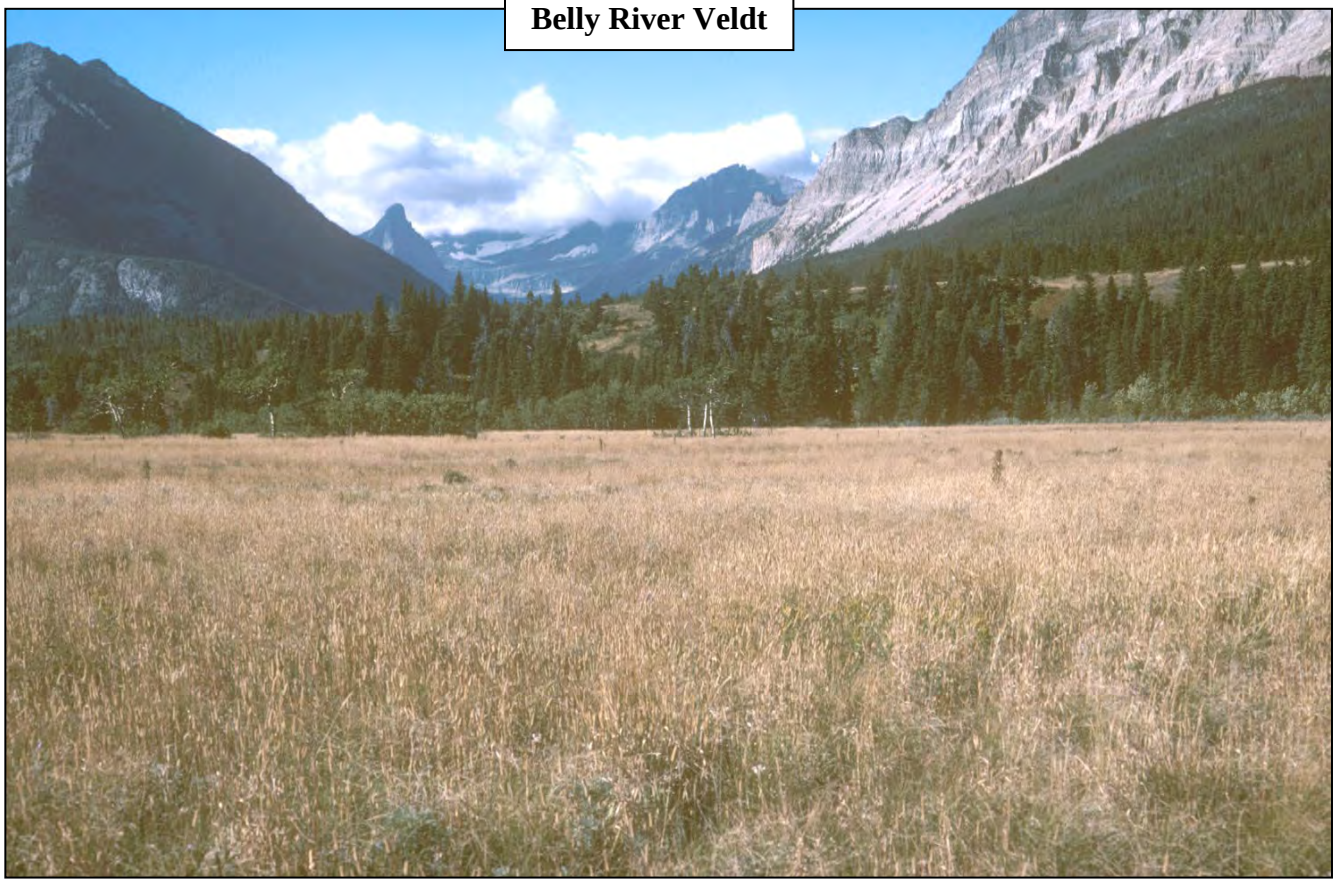
Narrative:

The vegetative stage indicates early July as the time of the 1963 photo. Many native forbs are present in the early photo on what was once a native fescue bunchgrass prairie. Grazing by Park and concession stock in the 1920’s and 30’s established numerous non-native plants. Timothy was actually seeded in parts of the valley, and the Sept. 2000 photo shows a large expanse of this exotic in the foreground. A present Park trail crosses this meadow, as does a long-abandoned wagon road. Significant conifer growth in the middle ground is evident in the 37 years between photos. Expansion of the deciduous growth along the conifer edge is also significant.

Coyote, bear, deer, elk, and moose are common, and woodland bison and Native Americans also roamed here. Interestingly, no Columbian ground squirrels are found in this huge prairie, though northern pocket gophers are common. In the late 1970’s, a small colony of the rare (in Glacier) 13-lined ground squirrel was present, but is now gone. Timber wolves occasionally drift through from Canada, and for many years coyote pups were reared in a den in the old river terrace slope in the middle ground. The “International elk herd” passes through in spring and fall, and the hills echo with elk bugles during the rut.



Belly River Veldt



Belly River, Three Mile Meadow

Photos:

June, 1976	Dave Shea	Shea7606-11
September 7, 2000	Dave Shea	Shea7606-11.2000

Photo Point:

UTM: 303.8 E 5426.8 N Zone 12 Elevation - 4675'

Location Description:

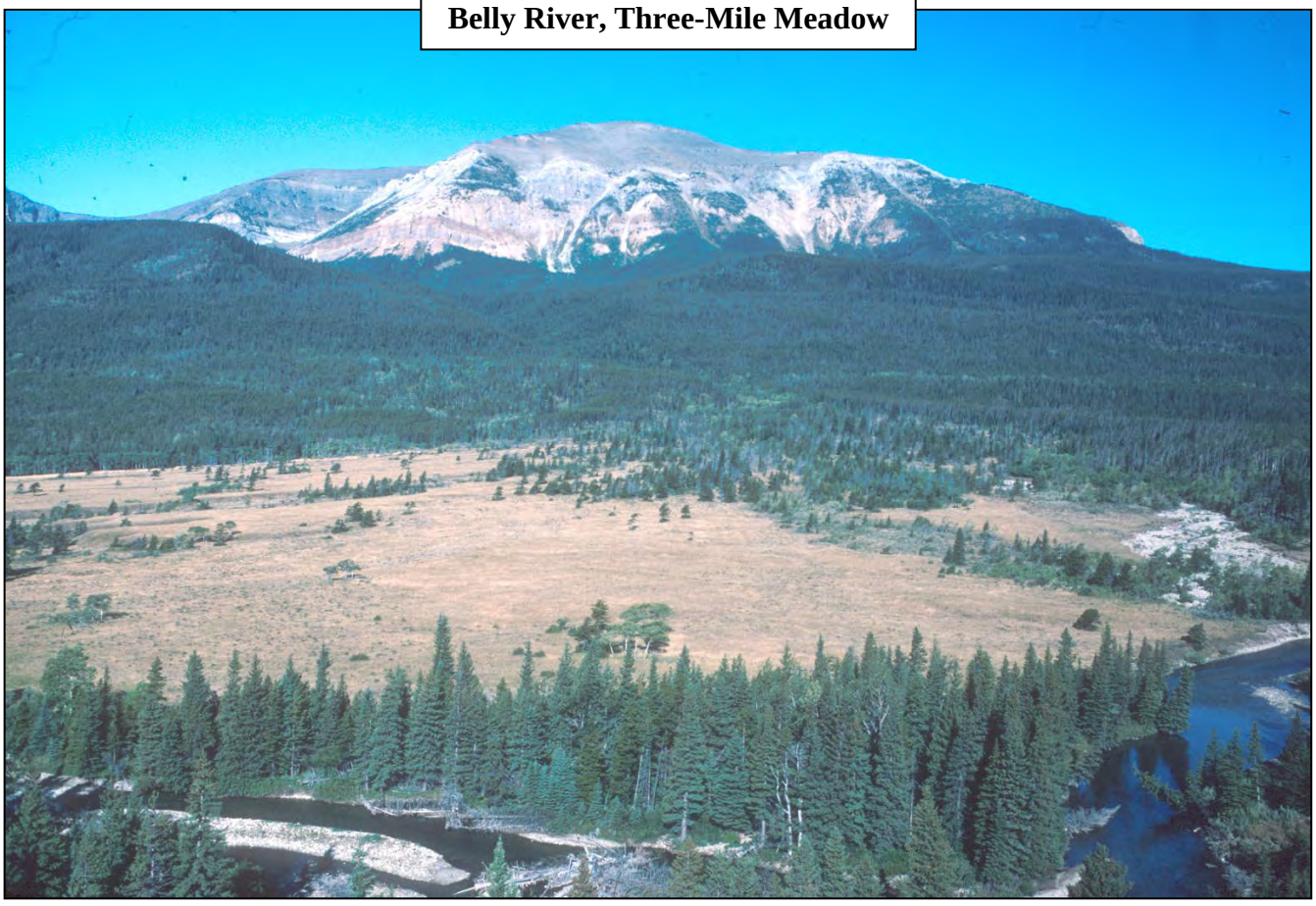
Photo taken in Glacier National Park from the high river terrace just above (east of) the trail to Belly River Ranger Station, and about 0.2 mile south of the former Three Mile Campground. View is to the WNW with the Belly River in the foreground, Three Mile Meadow, and Sentinel Mountain in the background.

Narrative:

Three Mile Meadow is a large alluvial fan deposit formed by the creek draining the east slopes of Sentinel Mountain. This is basically a native fescue bunchgrass prairie dotted with aspens and shrubs such as shrubby cinquefoil and serviceberry. Most of the viewshed is within the area burned between 1859 and 1889. Even in this isolated meadow, non-native timothy is growing in the more moist swales, a result of concessioner horse grazing in the 1920's and 30's. A seldom-used Park trail crosses the meadow, as does a long-abandoned wagon road. The 1976 photo was taken in June before the aspen had leafed out. Though the interval between photos was only 24 years, the gradual conifer growth is evident. Coyote, deer, elk, moose, and bear frequent this area. An "International elk herd" which winters in Canada's Waterton Park and summers in Belly River headwaters, passes through this prairie each spring and fall. This was also a favorite summering area for woodland bison until 150 years ago or so, and consequently Native Americans frequented the valley as well.



Belly River, Three-Mile Meadow



Chief Mountain

Photos:

September 13, 1940	George A. Grant	Grant F.1320.1940
June 2, 2000	Dave Shea	G1320.2000

Photo Point:

UTM: 316.9 E	5425.0 N	Zone 12	Elevation - 5050’

Location Description:

Photos were taken from just west of the Chief Mountain International Highway, about 5.5 miles east of Glacier National Park on the Blackfeet Indian Reservation. View is west toward Yellow, Gable, and Chief Mountains (left to right).

Narrative:

Very much aspen growth is evident in the 60 years between photos, with a reduction of the willow flats in the foreground. There is also significant conifer growth on the foothill slopes. Cattle graze this area in the summer, and in the 1950’s and 60’s, large bands of domestic sheep were pastured here. It is good habitat for deer, elk, moose, and bears. Most of this forested area has not burned since the mid-1700’s.



Chief Mountain



Cosley Lake

Photos:

Sept.10, 1975	Dave Shea	Shea 7511-10
July 20, 2000	Dave Shea	Shea 7511-10.2000

Photo Point:

UTM: 298.3 E	5422.7 N	Zone 12	Elevation - 4900’

Location Description:

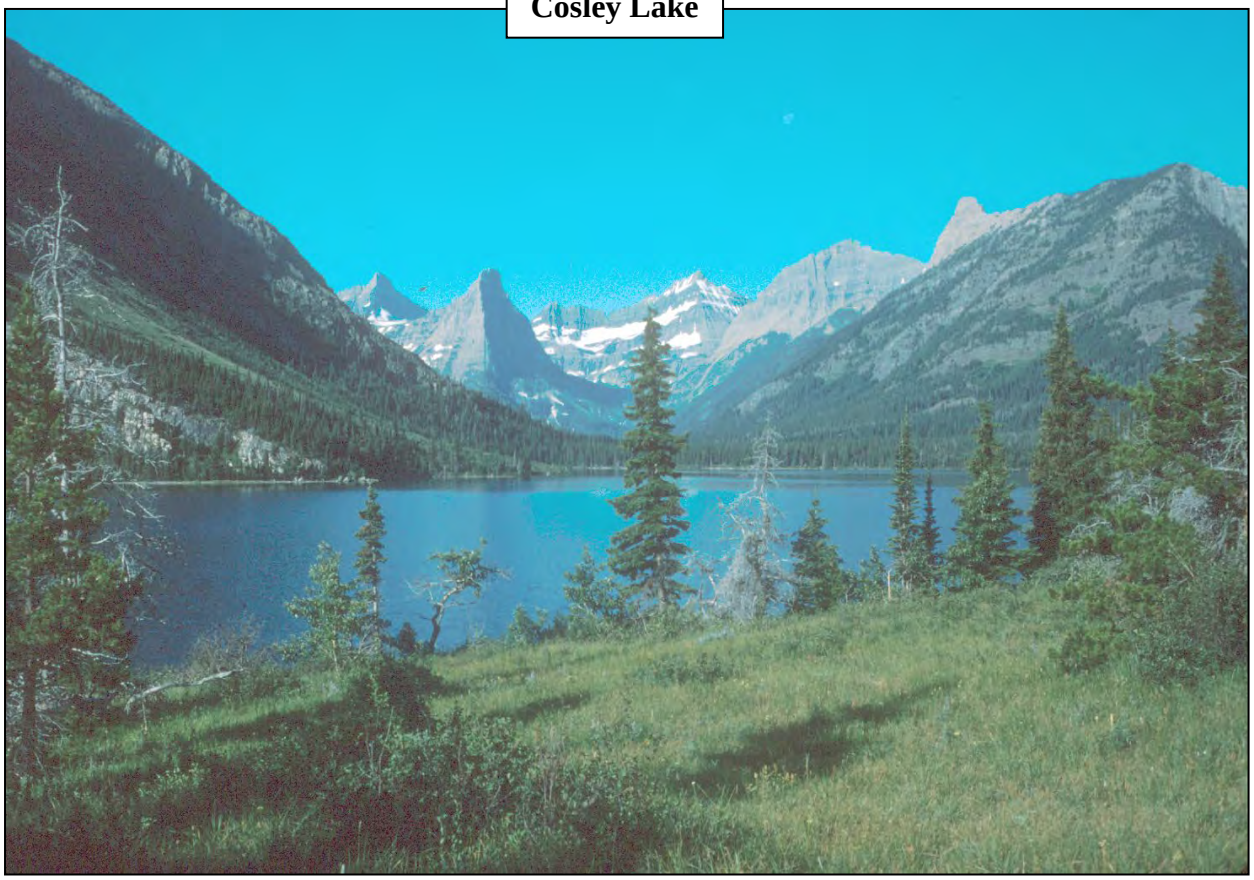
Photo taken on the north shore of Cosley Lake in Glacier National Park at the site of the former "Bar X6" (–X6) Cosley Lake Tent Camp, about 0.4 mile west of the outlet and just east of the present Park Service backcountry campground. View is SW toward Cosley Ridge on the left, Mt. Kipp, Pyramid Peak, Cathedral Peak, Stoney Indian and Whitecrow Mountain on the right.

Narrative:

In the 25 years between photos, the pine beetles have killed several lodgepole pines, and the lakeshore cottonwoods are slowly dying. Vigorous subalpine fir growth is evident, as is some advancement of serviceberries in the foreground.



Cosley Lake



Cosley Lake Outlet

Photos:

1914	R.E. Marble	H1768.1914
July 20, 2000	Dave Shea	H1768b.2000

Photo Point:

UTM: 298.8 E	5422.8 N	Zone 12	Elevation - 4875’

Location Description:

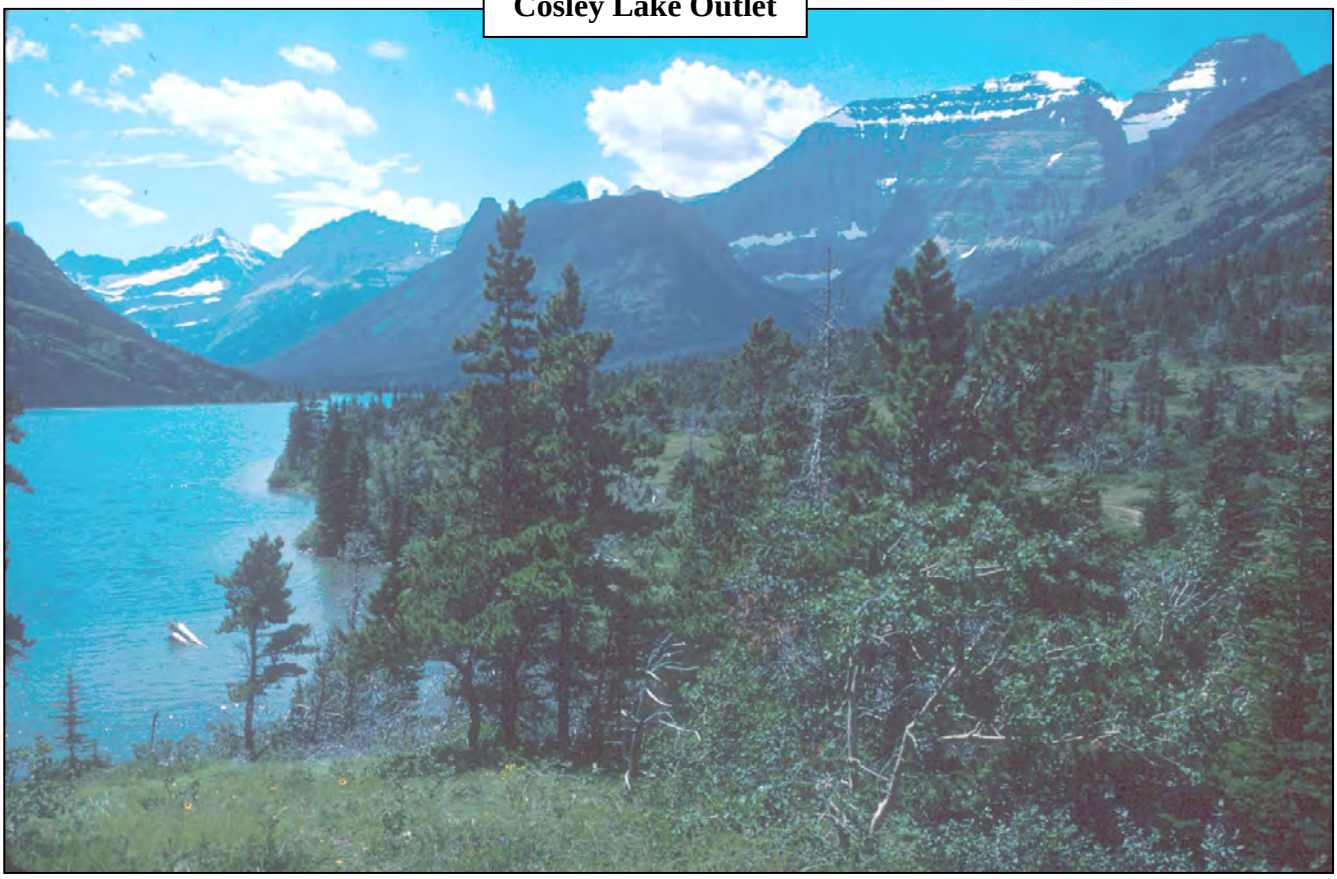
Photo taken just NE of the outlet of Cosley Lake in Glacier National Park. View is SW toward snowy Cathedral Peak to the left, Whitecrow Mountain, and Mt. Cleveland on the right.

Narrative:

The large gentle slope in the middle and right is a gravelly alluvial fan covered by native fescue bunchgrass. The middle ground, occupied by small conifers in 1914, burned sometime in period from 1834 to 1859. No fires have occurred in the 86 years between photos, and lodgepole pine, limber pine (*Pinus flexilis*), subalpine fir, aspen, and serviceberry have flourished. The 1914 photo was taken just four years after the Park was established. The trail to Belly River Ranger Station is visible in the bottom right in both photos. From about 1920 to 1938, large numbers of concessionaire horses grazed this flat every summer, from the nearby "Bar X6" (–X6) Cosley Lake Tent Camp. This is all good deer, elk, moose, and bear country with bighorn sheep and mountain goats on the higher slopes.



Cosley Lake Outlet



Cosley Lake Tent Camp

Photos:

1920	R.E. Marble	H8212.1920
July 20, 2000	Dave Shea	H8212_S000720.2000

Photo Point:

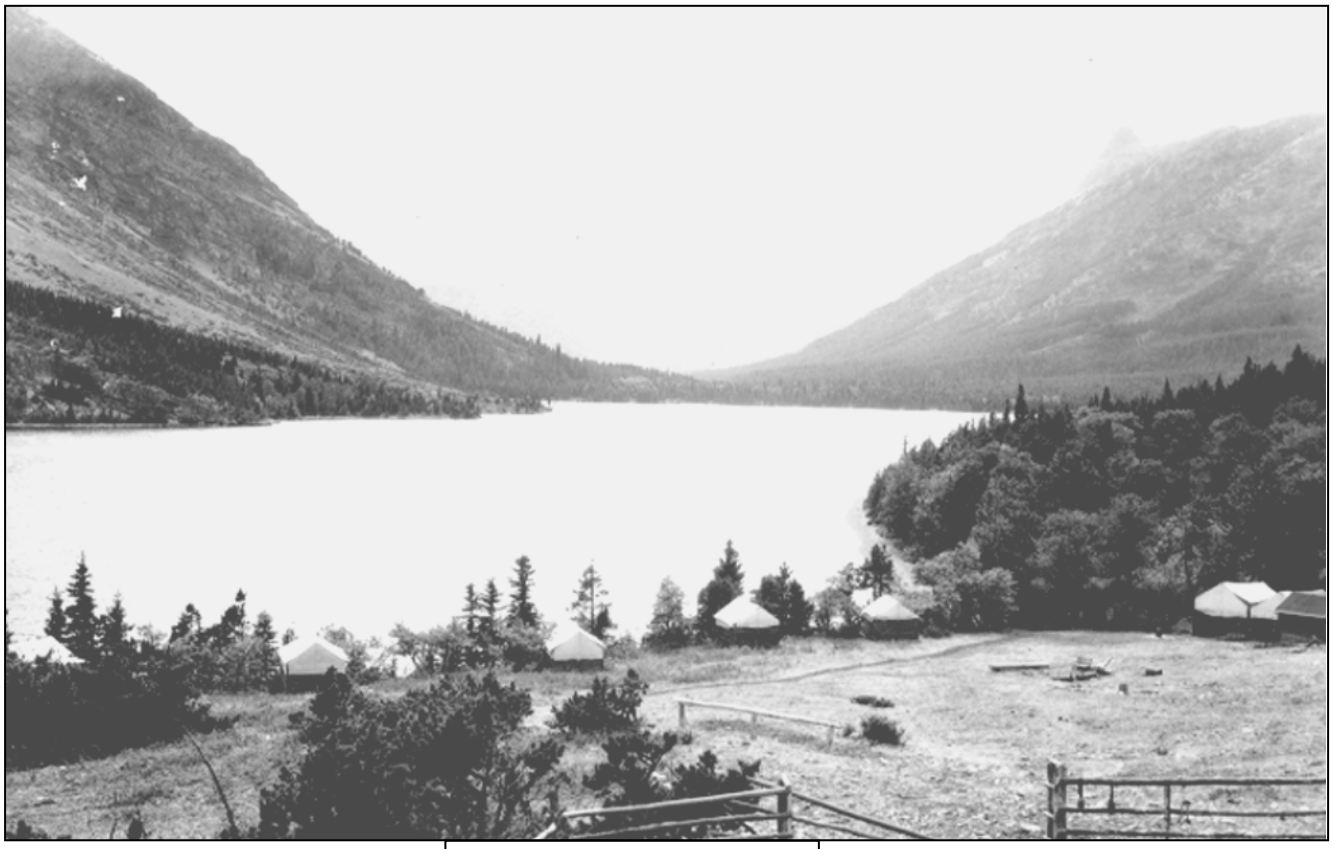
UTM: 298.3 E 5422.7 N Zone 12 Elevation - 4900’

Location Description:

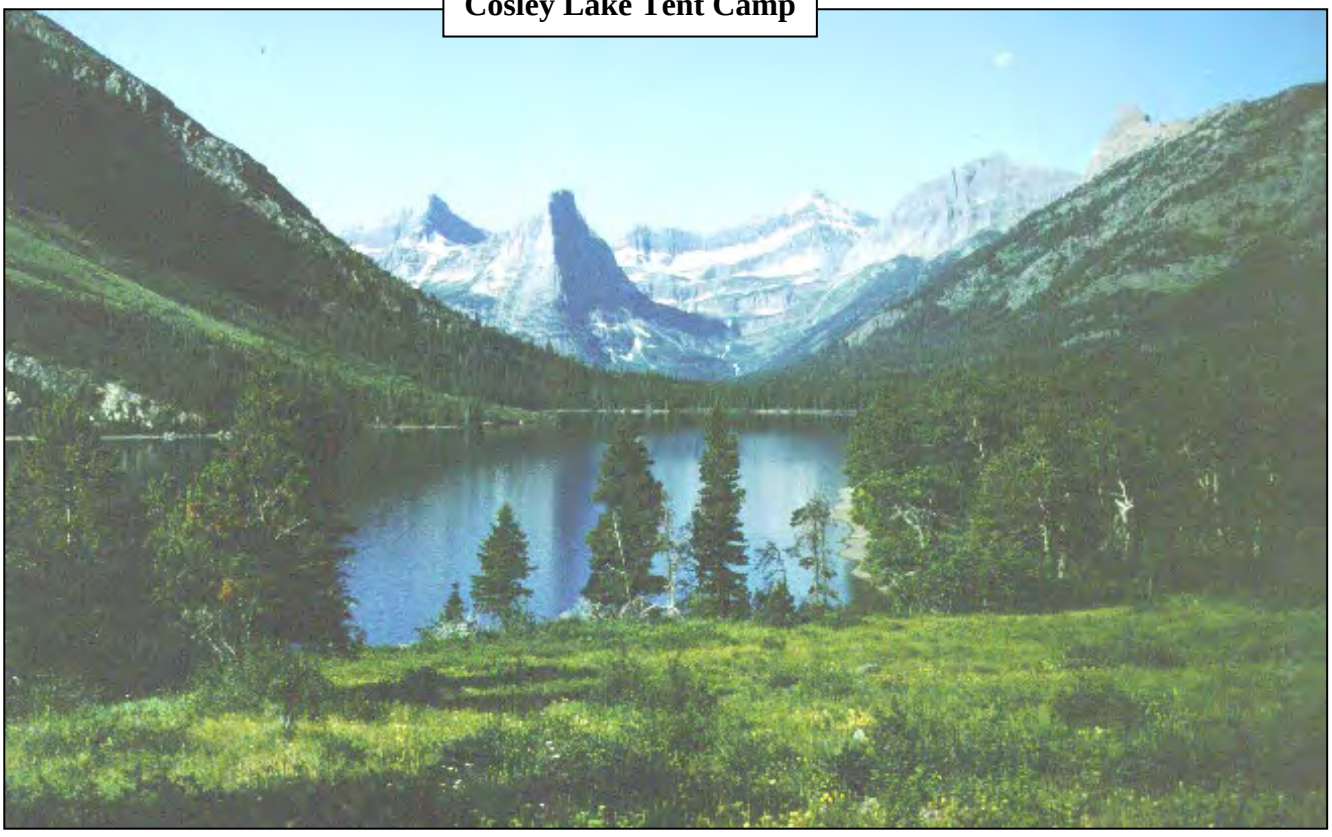
Photo taken on the north shore of Cosley Lake in Glacier National Park at the site of the former "Bar X6" (–X6) Cosley Lake Tent Camp, about 0.4 mile west of the outlet and just east of the present Park Service backcountry campground. View is SW toward Cosley Ridge on the left, Mt. Kipp, Pyramid Peak, Cathedral Peak, Stoney Indian and Whitecrow Mountain on the right.

Narrative:

From about 1920 to 1938 this native fescue bunchgrass meadow was the site of the –X6 Cosley Lake Tent Camp. In the 80 years between photos, black cottonwood (*Populus balsamifera*), lodgepole pine, and serviceberry have flourished in the absence of fire. Both photos were taken from within the old corral site where a few exotic plants and disturbed areas are still present. In the earlier photo five guest tents line the lakeshore, and the kitchen and adjoining dining tents and the wooden commissary are to the right. Despite years of hard use by humans and livestock the area has recovered nicely. Historically, Native Americans also made frequent summer camps in this area. This remains fine deer, elk, moose, and bear habitat, with bighorn sheep and mountain goats in the higher elevations.



Cosley Lake Tent Camp



Cosley Lake Horse Camp Corral

Photos:

August, 1977	Dave Shea	Shea7709-19
July 20, 2000	Dave Shea	Shea7709-19.2000

Photo Point:

UTM: 298.3 E	5422.6 N	Zone 12	Elevation - 4850’

Location Description:

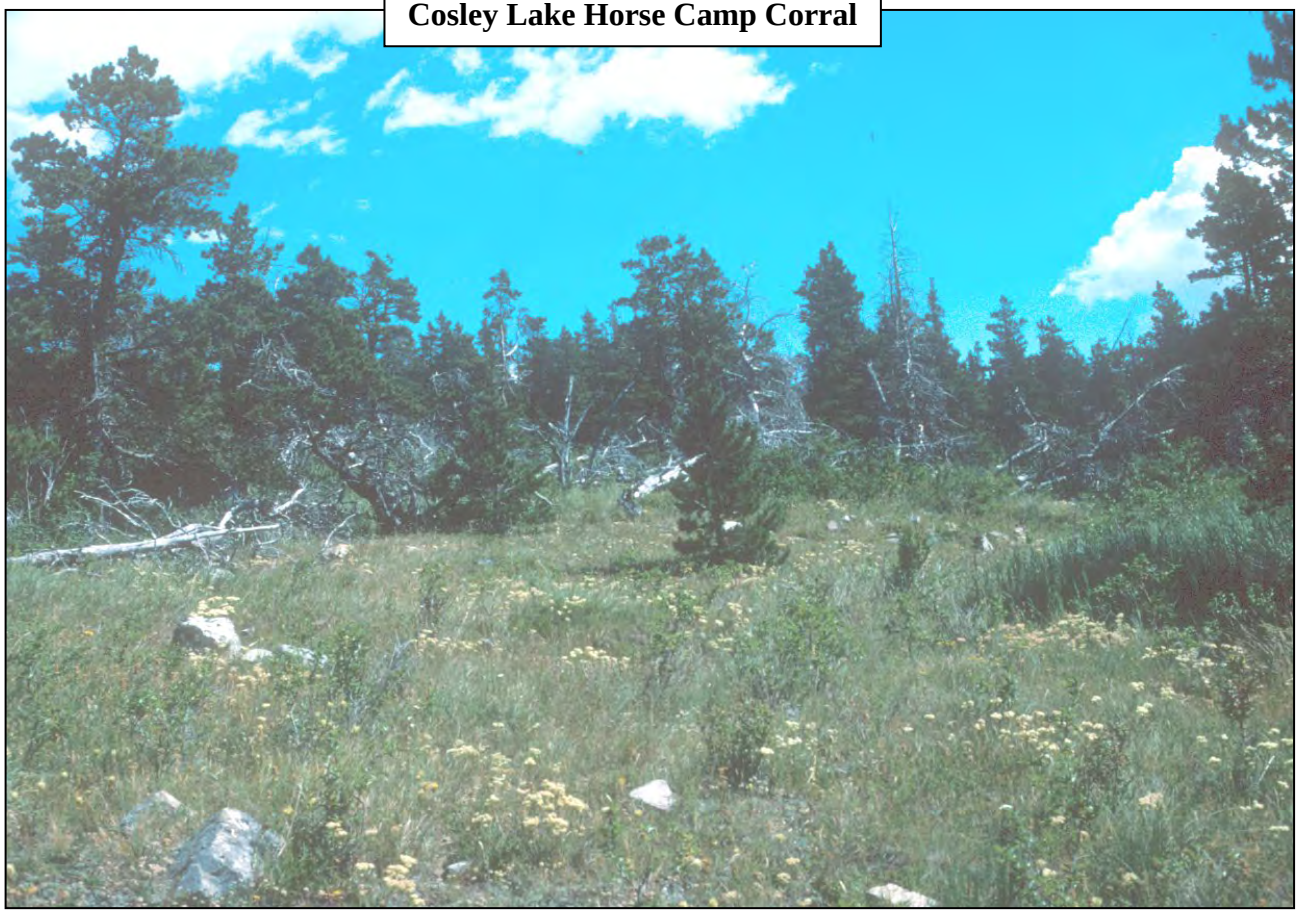
Photos were taken on the north side of Cosley Lake in Glacier National Park, in the meadow 0.1 mile east of the Cosley Lake Campground. This is just north of the Park trail, at the site of the former concessioner horse corral. View is toward the northeast.

Narrative:

This is the site of the horse-holding corral at the "Bar X6" (–X6) Cosley Lake Tent Camp. The camp was in use from about 1920 -1938 as part of the North Circle route. Small bits of barbed wire remain in the trees and several exotic plant species are present. In the 23 years between photos, several of the lodgepole pines have been killed by mountain pine beetles, and native forbs and shrubs have become established in the corral area. Foreground rocks are continually shifted about by foraging black and grizzly bears.



Cosley Lake Horse Camp Corral



Mount Altyn to Wynn Mountain

Photos:

1930	Hileman	H1599.1930
H1599.2000	Dave Shea	H1599.2000

Photo Point:

UTM:	305.2 E	5408.7 N	Zone 12	Elevation - 5800’

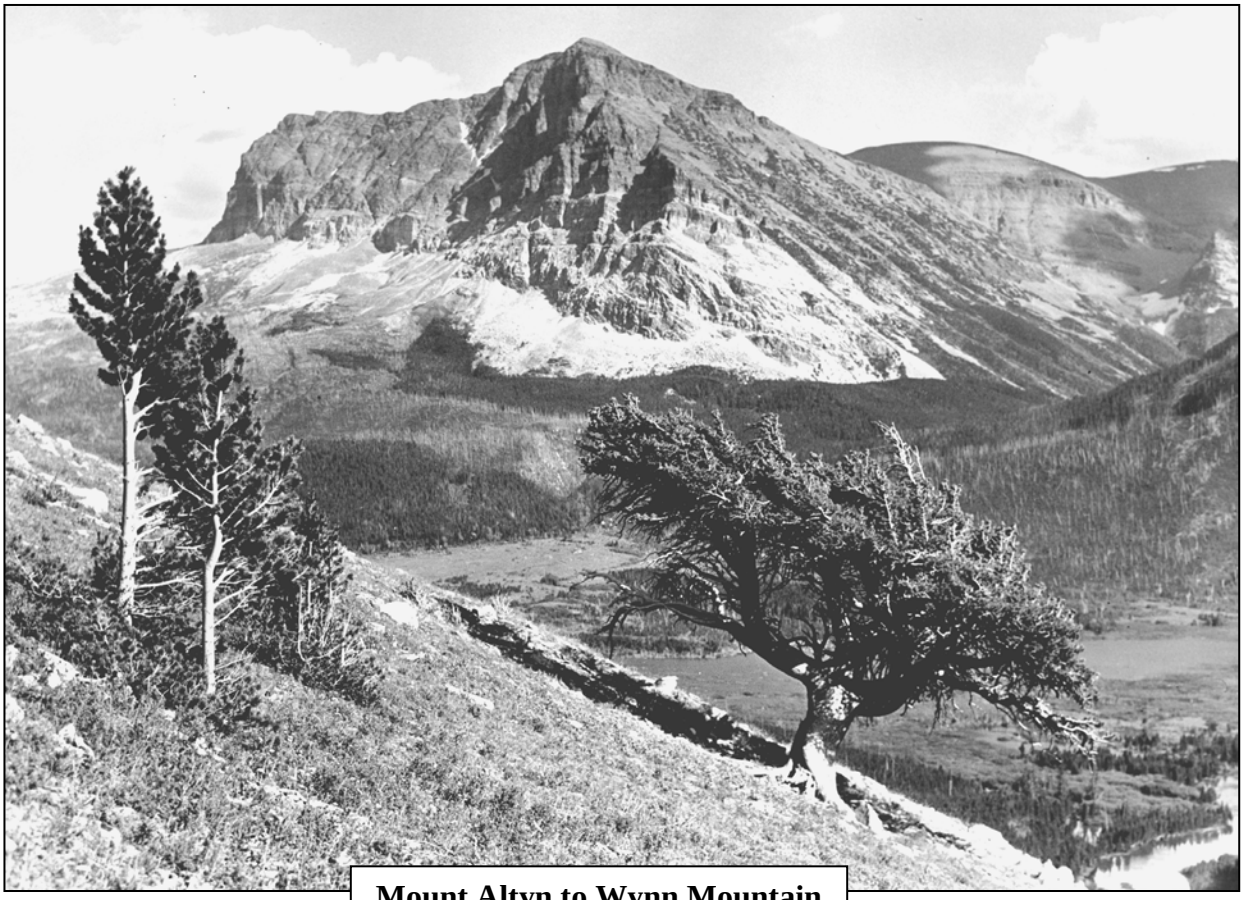
Location Description:

Photo point is on the SE slope of Altyn Peak, approximately ¼ mile above the Many Glacier Road in Glacier National Park. View is SE toward the summit of Wynn Mountain.

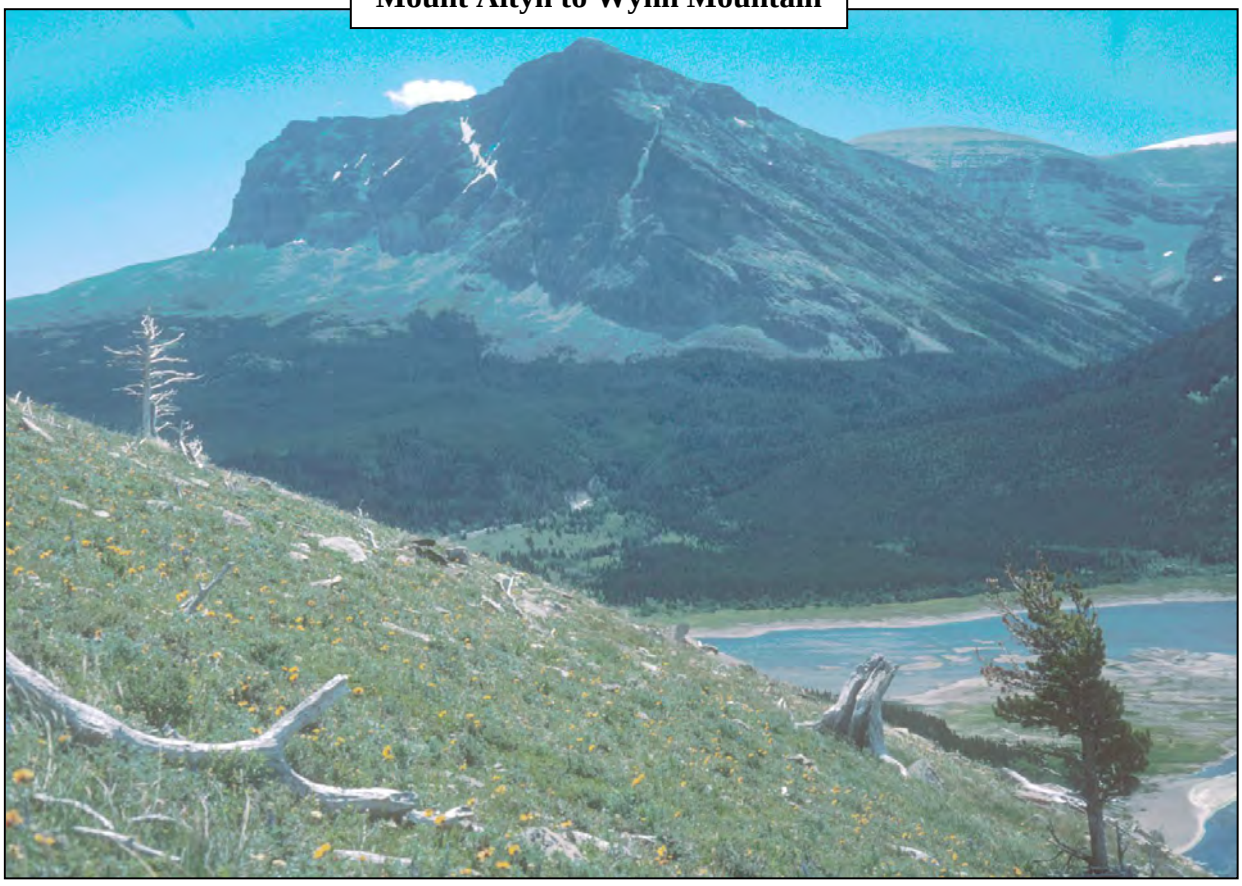
Narrative:

The foreground slope burned 6 years after the 1930 photo in the Heavens Peak fire. A stump and conical rock at its base are all that remain of the large limber pine in the right foreground. Portions of Swiftcurrent Creek and Sherburne Reservoir appear in the lower right.

Many snags from the 1910 burn are apparent on the lower slopes of Wynn in the 1930 picture. Snags and downed woody debris in 2000 are evidence of the loss of whitebark pine due to blister rust. The open prairie at the base of Wynn Mountain and just left of the large pine is Cracker Flat. In the 70 years between photos much aspen and conifer encroachment has occurred in the absence of fire, and on the lower mountain slopes as well. Altyn Peak is fine bighorn sheep and mountain goat habitat; and deer, elk, moose, and bears frequent the valley floor.



Mount Altyn to Wynn Mountain



Wynn Mountain from Cracker Flat

Photos:

1936	Hileman	H1641.1936
July 5, 2000	Dave Shea	H1641.2000

Photo Point:

UTM: 306.9 E 5407.3 N Zone 12 Elevation - 4875’

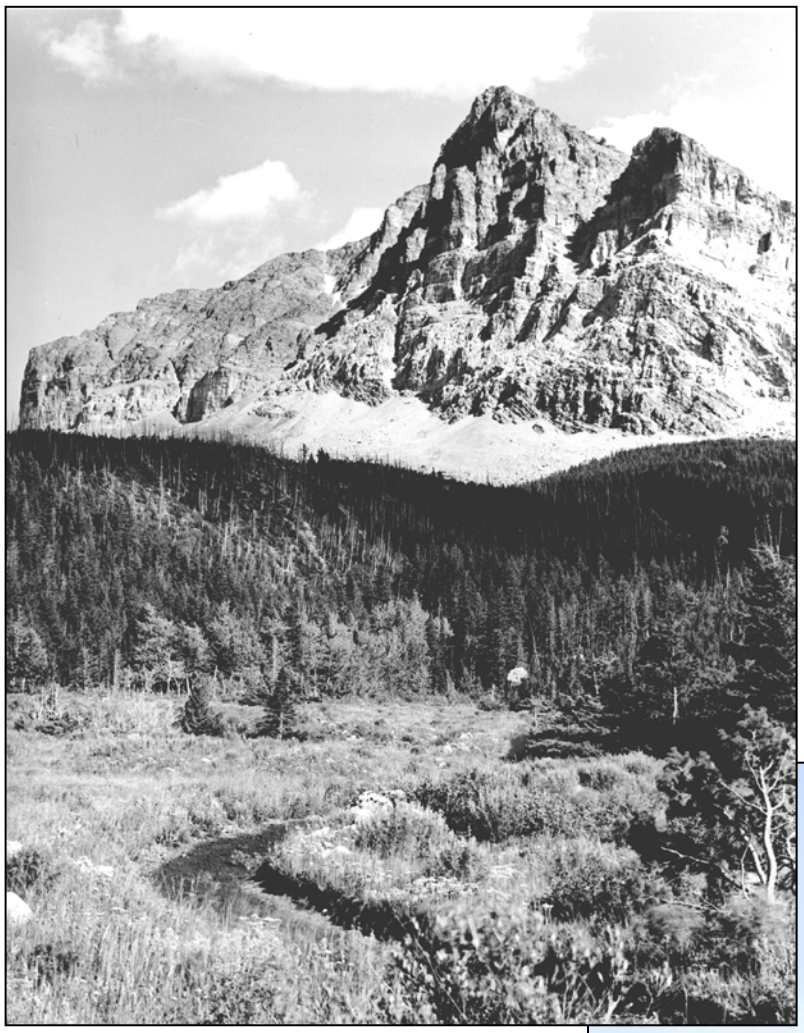
Location Description:

Photo point is in the SE corner of Cracker Flat, just east of the concessioner horse trail in Glacier National Park. View is to the SE toward the summit of Wynn Mountain.

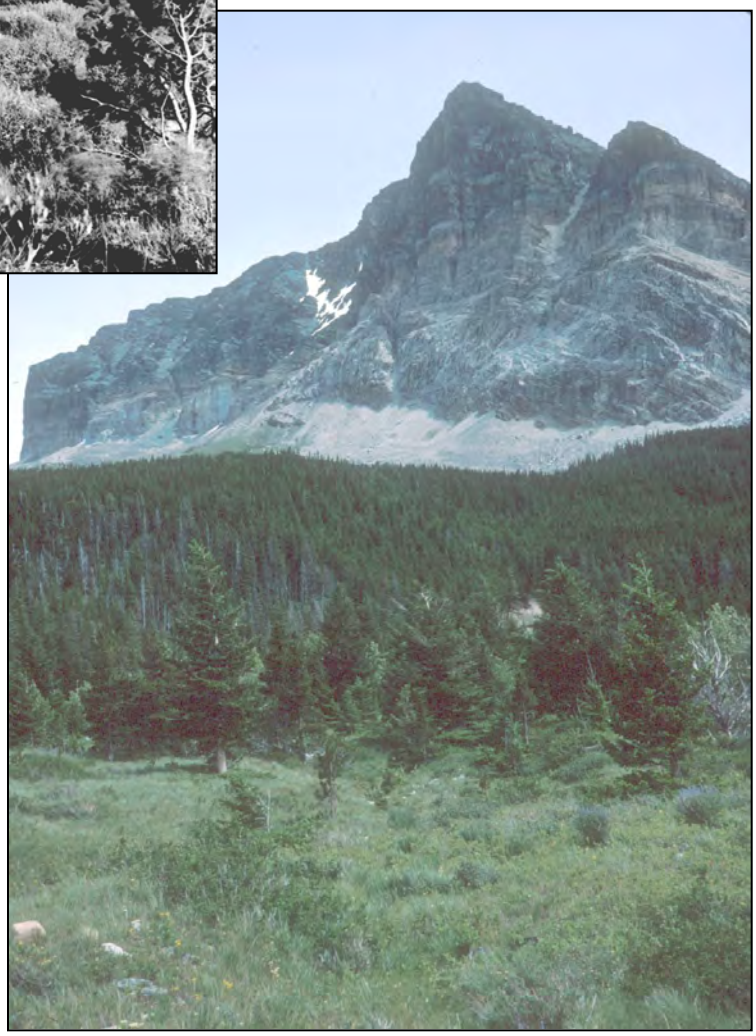
Narrative:

The recent photo was taken slightly to the east of the original, to avoid obscuring vegetation. In the 64 years between photos Cracker Flat has gradually filled in with conifers, aspens, and shrubs such as snowberry (*Symphoricarpos albus*) and shrubby cinquefoil. A great deal of human activity took place along the north edge of the flat at the pre-Park mining town of Altyn. A concessioner horse trail now loops through this native fescue bunchgrass prairie. Exotic plants are present along the trail, and flourish along the reservoir edge. This is good deer, elk, moose, and bear summer and fall habitat. The numerous snags on the ridge in the early photo are from the 1910 burn.

A burn mosaic converges in this area, including fires from 1774, 1889, 1910, and 1936. Small-crowned dense trees in the middle ground are regeneration from the 1936 fire.



Wynn Mountain from Cracker Flat



Apikuni Falls Trailhead

Photos:

July 4, 1933	George A. Grant	G11484.1933
June 10, 2000	Dave Shea	G11484.2000

Photo Point:

UTM: 306.6 E 5408.9 N Zone 12 Elevation - 4890’

Location Description:

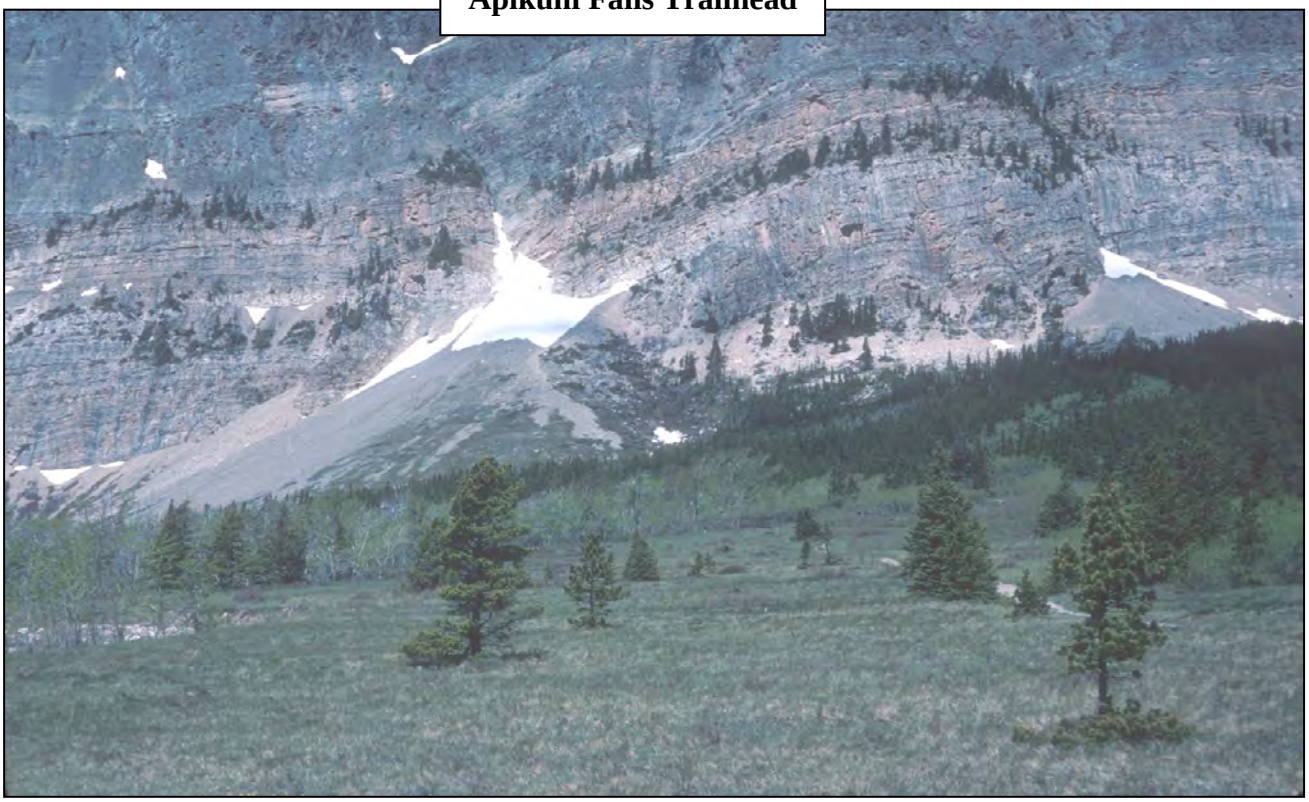
Taken from Many Glacier Road in Glacier National Park, immediately west of the Apikuni Falls trailhead in Apikuni Flat. View is NW toward Altyn Peak and the NW edge of the Flat.

Narrative:

During the 1930’s this was the location of a Civilian Conservation Corp (CCC) camp, one of two in the valley. Old tent platforms are still dimly visible along the trail. Concessioner horses were grazed here, and it was later the site of a concessioner tent camp. The road on the right in the 1933 photo is now the foot trail to Apikuni Falls. Considering past use, the native fescue bunchgrass meadow is in good shape. Apikuni Creek changed course in 1964 and has eroded part of the flat to the left. In the 67 years between photos, vegetation on the high sheer mountainside has changed little. Much encroachment is evident around the edges by aspen, black cottonwood, subalpine fir, and lodgepole pine. Small lodgepoles are now numerous on the flat, likely due to the exclusion of fire. Little change is evident in trees on the rocky cliffs, however. Deer, elk, bighorn sheep, moose, and bears frequent this area. Some members of the Corps in the early photo do not appear to be fully enjoying their situation.



Apikuni Falls Trailhead



Lake Sherburne Dam Construction

Photos:

1917	Unknown	Kara_Reid1.1917
June 23, 2000	Dave Shea	Kara_Reid1.2000S

Photo Point:

UTM: 315.2 E 5411.2 N Zone 12 Elevation - 4800’

Location Description:

Photo point is 0.2 miles east of the present Sherburne Dam just east of the Park Boundary and south of Swiftcurrent Creek. View is to the WNW with the east end of Apikuni Mountain on the left, and Yellow Mountain beyond Swiftcurrent Ridge on the right.

Narrative:

The Bureau of Reclamation began construction on the Lake Sherburne Dam in 1914 as part of the Milk River Project to store water for irrigation. It was completed in 1921. The 1917 photo shows the massive ground disturbance, numerous hillside buildings, and the newly laid cement spillway. This spillway was removed in 1960 as it proved to be too unstable. The concrete panel wall along the crest of the dam was added in the early 1980’s. This dam backs up water five miles into the Park, inundating two former lakes and miles of prime valley-bottom wildlife habitat. Local rancher and Park employee, Kara Reid, salvaged this 1917 photo from the wall of an old outhouse which was being torn down.



Lake Sherburne Dam Construction



Lake Sherburne

Photos:

1917	Unknown	Kara_Reid2.1917
June 20, 2000	Dave Shea	Kara_Reid2b.S000925

Photo Point:

UTM: 314.7 E	5411.6 N	Zone 12	Elevation - 5010’

Location Description:

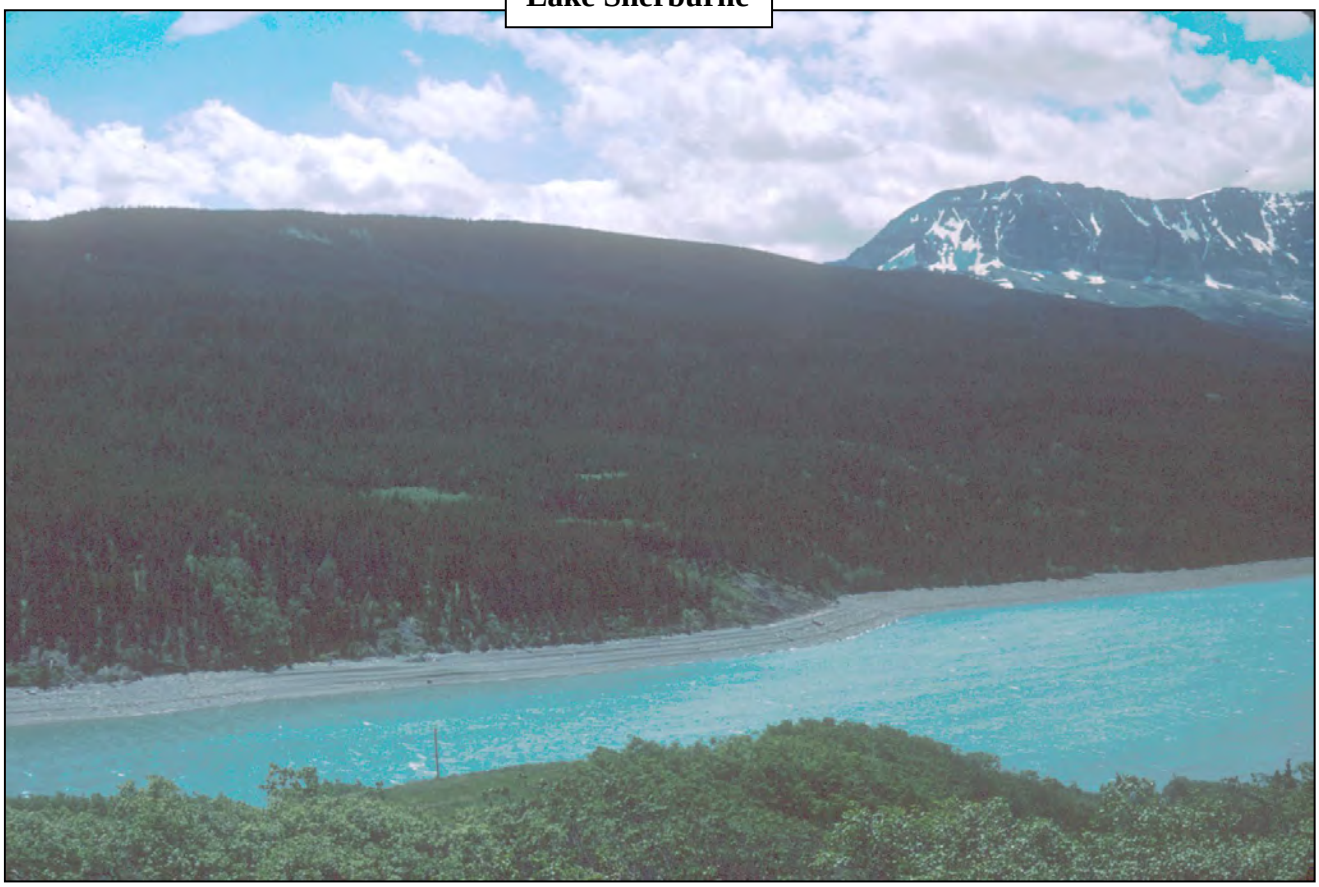
Photo point is 0.2 miles north of the Many Glacier Road and 0.1 mile east of the Park Boundary on the Blackfeet Reservation. Sherburne Dam is ¼ mile to the SW. View is SW into Glacier Park across the reservoir to Boulder Ridge and the NE summit ridge of Wynn Mountain on the right.

Narrative:

The early view is a rare photo of the lower of two original lakes in the Many Glacier valley before the Sherburne Dam was completed in 1921. There is much evidence of recent fire on the Boulder Ridge slopes in the early photo. The top of Boulder Ridge last burned in 1910, and the lower slopes and lakeshore in 1889. In the 83 years between photos much conifer growth has occurred all over the ridge, and aspens now nearly cover the foreground meadows. Boulder Ridge is excellent elk and bear habitat; and bighorn sheep and mountain goats frequent Wynn Mountain in the summer. Local rancher and Park employee, Kara Reid, salvaged this 1917 photo from the wall of an old outhouse, which was being torn down.



Lake Sherburne



Many Glacier Gravesite

Photos:

July 24, 1924	Morton J. Elrod	G13912.1924
June 10, 2000	Dave Shea	G13912.2000

Photo Point:

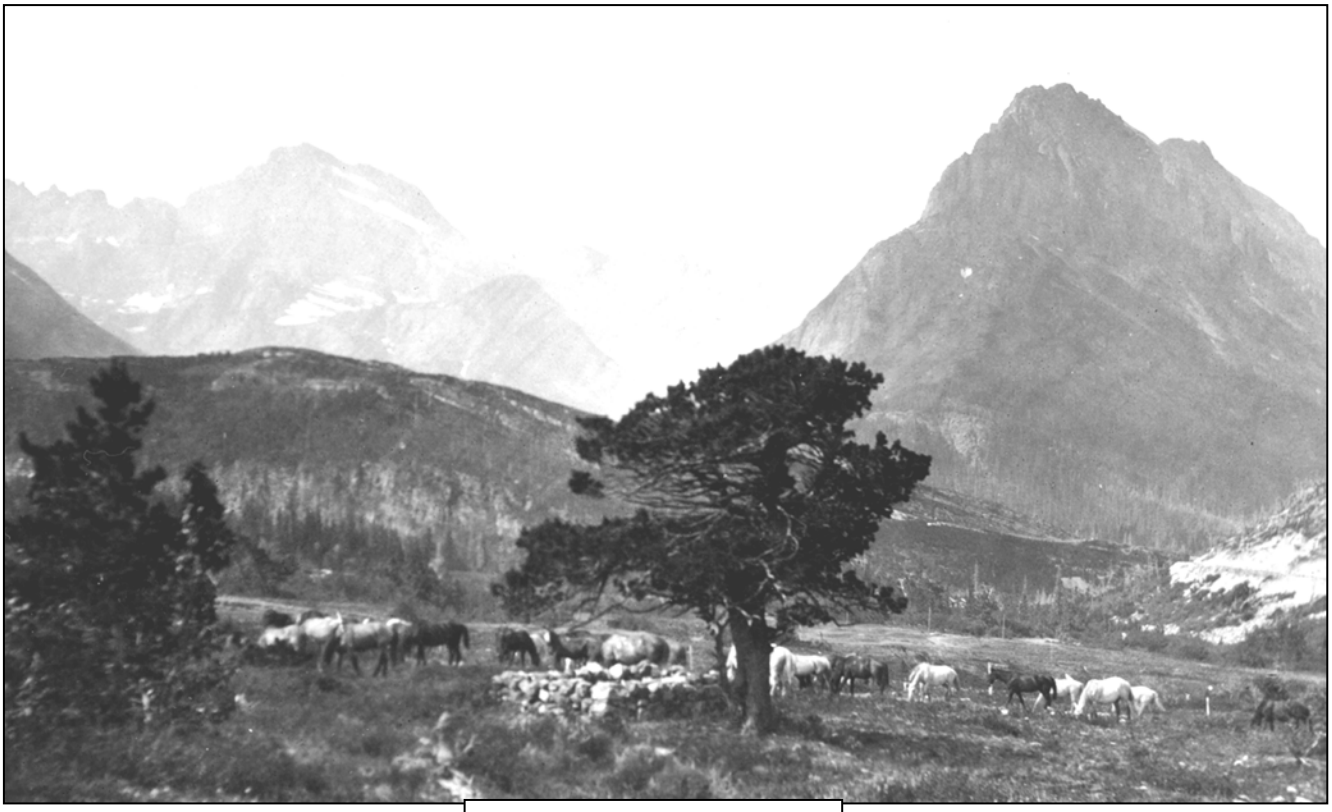
UTM: 306.1 E 5408.9 N Zone 12 Elevation - 4890’

Location Description:

Taken from just north of the Many Glacier Road in Glacier National Park at the old gravesite on Apikuni Flat. View is SW toward Grinnell Point on the right, and Mount Gould and the Garden Wall (Continental Divide) in the left background.

Narrative:

The square formation of rocks under the foreground limber pine mark the grave of a woman who died in the old mining town of Altyn in the late 1890’s (Drivers’ Manual, 1940). During the 1920’s and 30’s, Apikuni Flat was fenced and heavily grazed by horses owned by concessioner W.N. Noffsinger’s Glacier Park Saddle Horse Company. The original native fescue bunchgrass meadows in the area have been significantly disturbed by overgrazing, road building, and other human activities. This area is regularly used by deer, elk, moose, bighorn sheep, and bears. In the 76 years between photos much aspen and black cottonwood growth has occurred and the foreground limber pine is now nearly dead.



Many Glacier Gravesite



Many Glacier Hotel

Photos:

July 29, 1932	George A. Grant	G11356.1932
July 5, 2000	Dave Shea	G11356.2000

Photo Point:

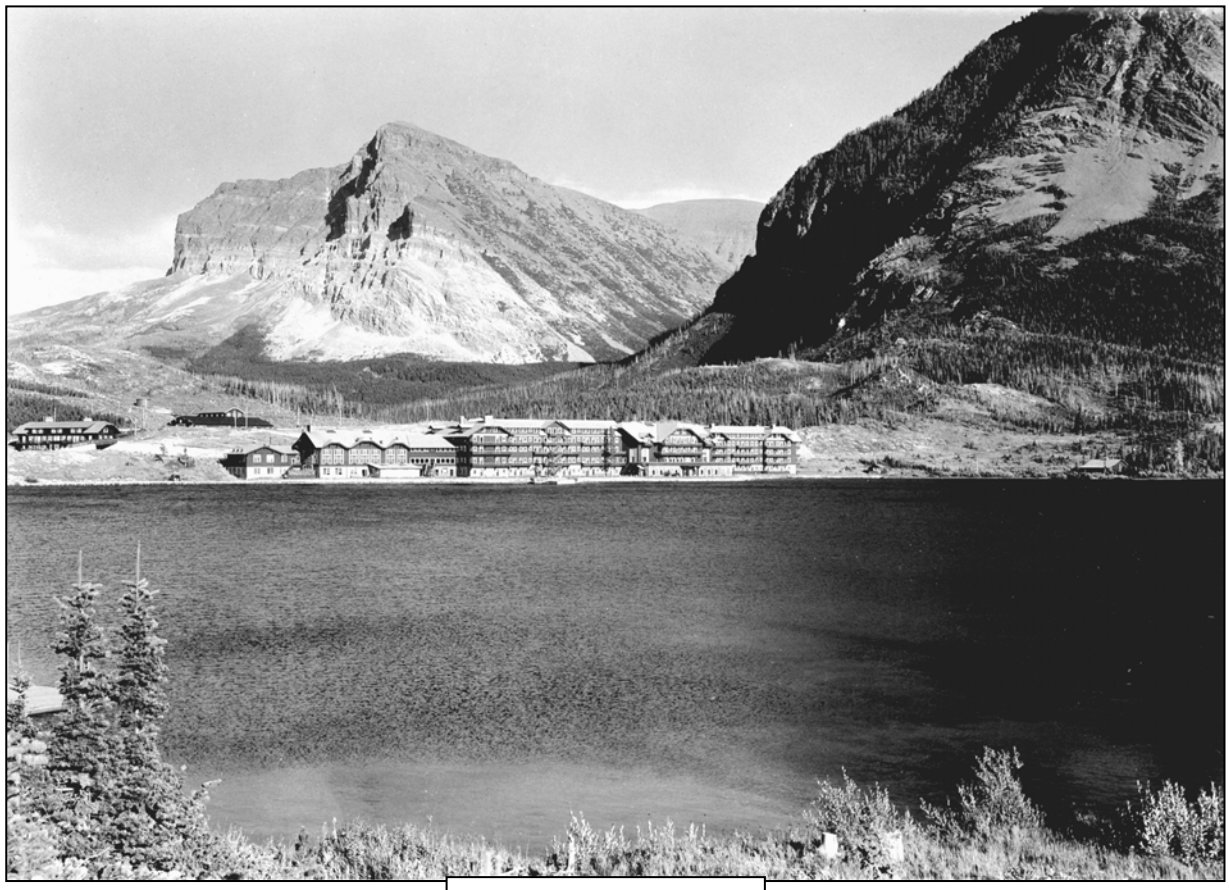
UTM: 304.5 E 5408.3 N Zone 12 Elevation - 4885’

Location Description:

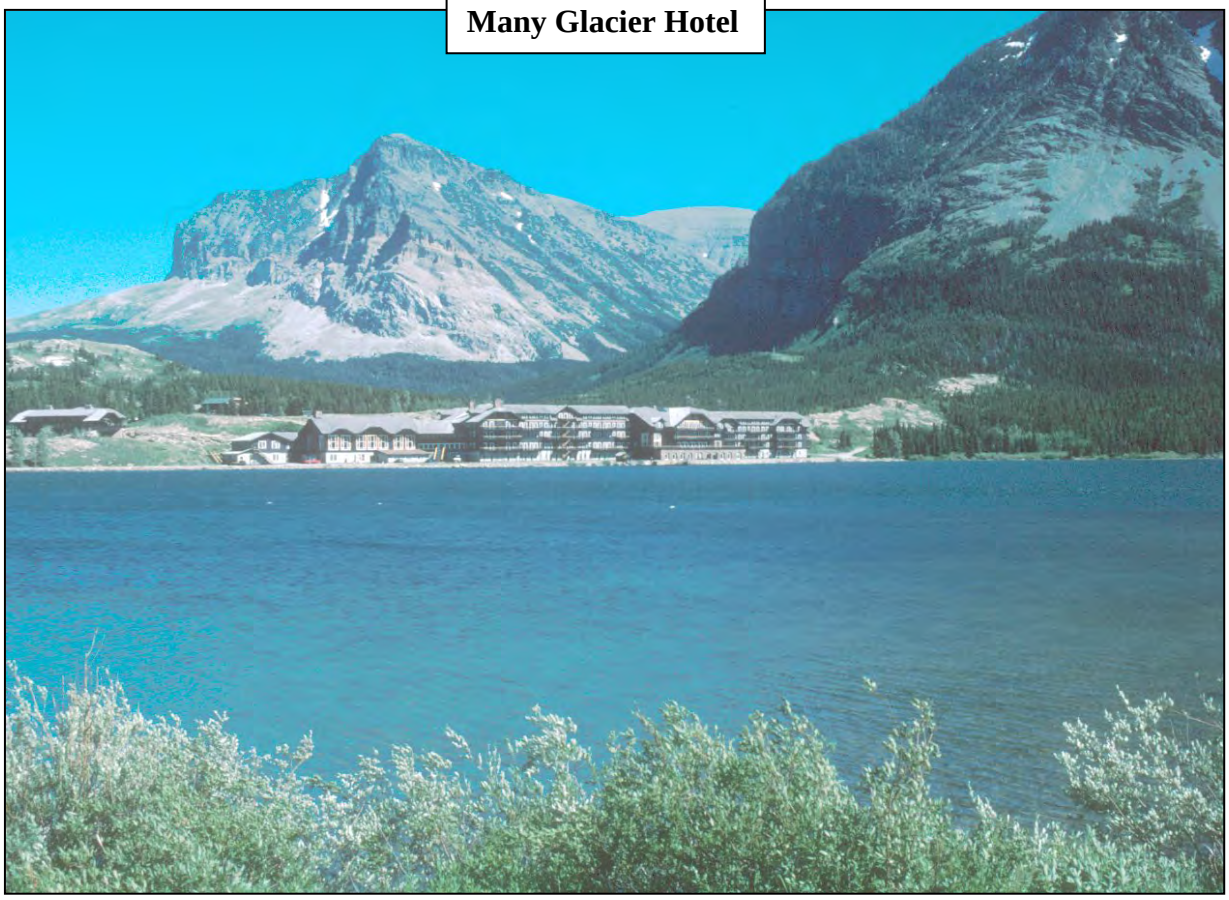
Photo point is at the present day boat ramp at the NW corner of Swiftcurrent Lake in Glacier National Park. View is SE across Swiftcurrent Lake toward Wynn Mountain behind the Many Glacier Hotel, and Allen Mountain on the right.

Narrative:

Many Glacier Hotel was constructed by the Great Northern Railway, and began operating on July 4, 1915. The 1936 Heaven’s Peak fire burned the surrounding forest but the hotel was spared. Snags from an earlier fire, probably 1910, are evident in the 1932 photograph. In the 68 years between photos much conifer growth has occurred on the lower slopes. The years of hard use have resulted in much soil erosion, the establishment of acres of exotic plants, and major disruption of wildlife and habitat.



Many Glacier Hotel



Many Glacier Meadow

Photos:

1933	George A. Grant	G11477.1933
June 10, 2000	Dave Shea	G11477.2000

Photo Point:

UTM: 305.6 E	5408.8 N	Zone 12	Elevation - 4860’

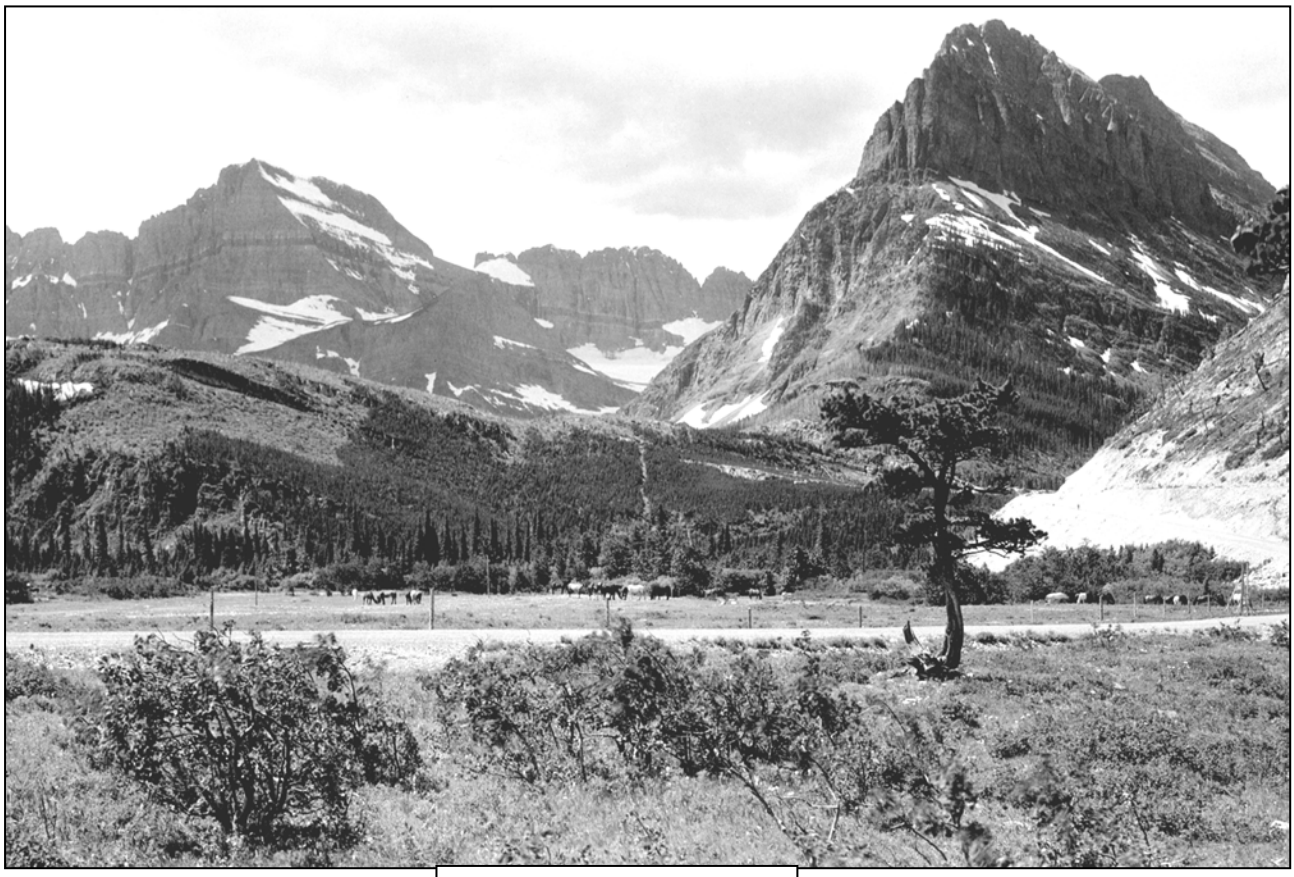
Location Description:

Taken from just north of the Many Glacier Road in Glacier National Park just east of Sheep Curve and Altyn Peak. View is SW toward Apikuni Flat, Grinnell Point on the right and Mount Gould and the Garden Wall (Continental Divide) in the left background. The tree in the right foreground is the same in both photos.

Narrative:

Gem, Salamander, and Grinnell Glaciers are all visible behind the left shoulder of Grinnell Point. In 1933 Grinnell and Salamander Glaciers were still joined together. During the 1920’s and 30’s Apikuni Flats was fenced and heavily grazed by horses owned by concessioner W.N. Noffsinger’s Glacier Park Saddle Horse Company. Grazing, road building across the flats, sewage lagoons, and stock operations have resulted in modifications of the original native fescue bunchgrass prairies. The flats are no longer grazed at present and are heavily used by deer, elk, bighorn sheep, moose, and black and grizzly bears.

In the 67 years between photos much aspen and black cottonwood growth is evident, and there are more conifers on the middle foreground ridges. Portions of Apikuni Flat burned in 1889, and the southern part in 1934, one year after the early photo.



Many Glacier Meadow



Old Many Glacier Campground

Photos:

July 4, 1933	George A. Grant	Grant B.1933
September 14, 2001	Dave Shea	Grant B.2001

Photo Point:

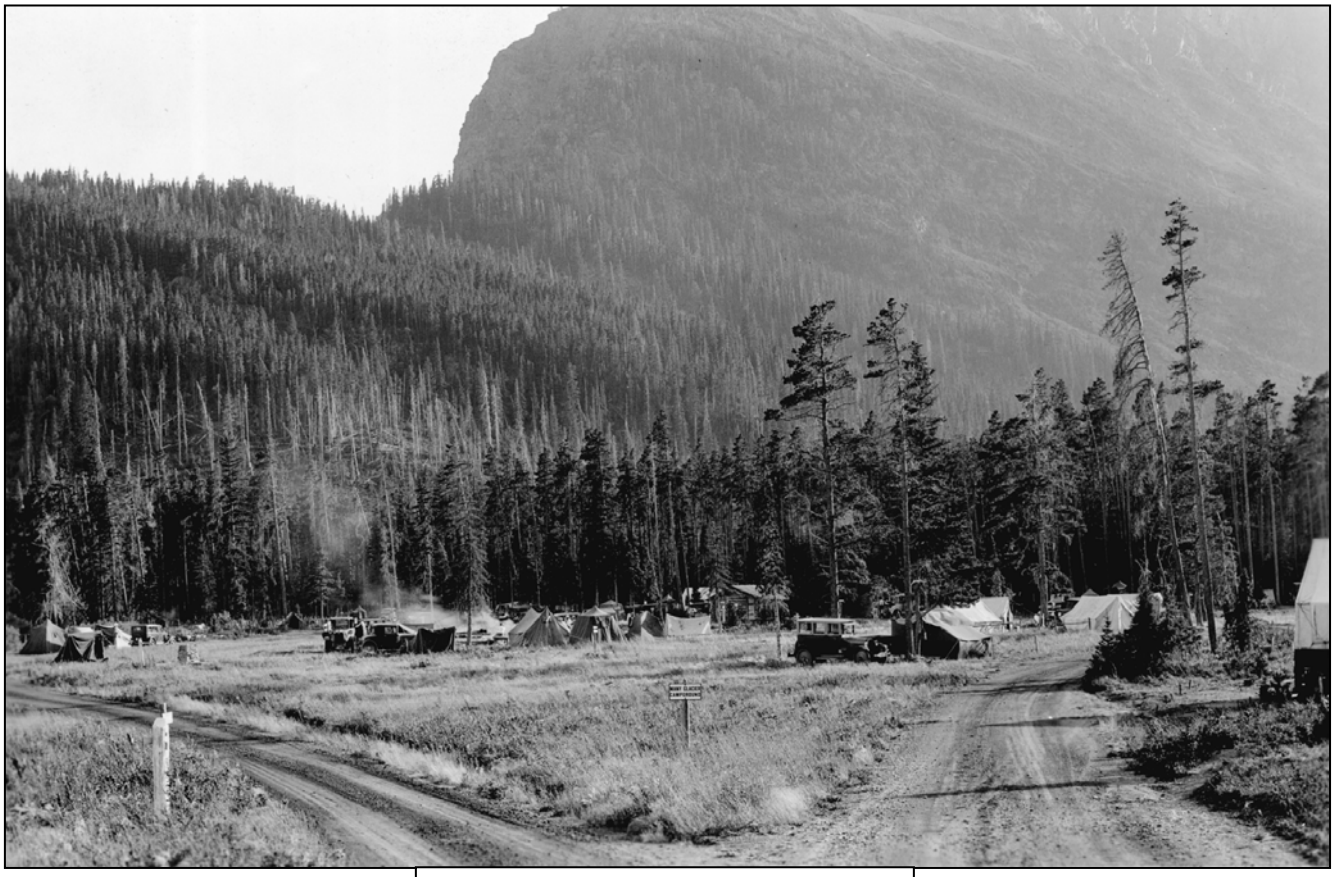
UTM:	304.1 E	5408.2 N	Zone 12	Elevation - 4895’

Location Description:

Photo point is at the east junction of the Many Glacier Road and the Grinnell trailhead picnic area in Glacier National Park. View is toward the SW, with Grinnell Point in the background.

Narrative:

Three years after the 1933 photo, the area burned in the 1936 Heaven’s Peak fire. The flat was originally a native fescue bunchgrass prairie, now much invaded by exotics. What was the Campground is now the picnic area at the Grinnell Glacier trailhead. The original Many Glacier Ranger Station was located several hundred feet behind the photo point. All the facilities were built in the heart of prime wildlife habitat. Deer, elk, moose, bighorn sheep, and bears still frequent the area.



Old Many Glacier Campground



Swiftcurrent Ridge

Photos:

1900	Unknown	H3140.1900
June 4, 2000	Dave Shea	H3140.2000

Photo Point:

UTM: 314.7 E 5413.0 N Zone 12 Elevation - 5400’

Location Description:

Taken on the south slope of Swiftcurrent Ridge on the Blackfeet Indian Reservation, about 0.4 mile east of the Glacier Park Boundary. View is toward the SW with Wynn Mountain and Mount Allen on the left. Grinnell Glacier and Mountain are in the distant middle, and Altyn Peak and Apikuni Mountain are on the right. The lower right was taken about 1/8 mile north of the historic photo point, in order to avoid vegetation that today obscures the view, and to show the conifer growth on the middle distance ridge.

Narrative:

The middle distance slope in the 1900 photo is now almost completely covered by conifers. Lodgepole and aspen groves flourished during the 100 years between photos, due mainly to the absence of fire. The foreground and middle distance slope last burned in the middle and late 1800’s. The 1900 photo predates the Park by 10 years, when Grinnell and Salamander Glaciers were still joined.

Now, Swiftcurrent Ridge is annually grazed by domestic cattle, and exotic plants are common. The whole area remains excellent deer, elk, moose, black and grizzly bear habitat.





Swiftcurrent Ridge



Windy Flat

Photos:

July, 1956	Unknown	G10750.1956
September 14, 2001	Dave Shea	G10750.2001

Photo Point:

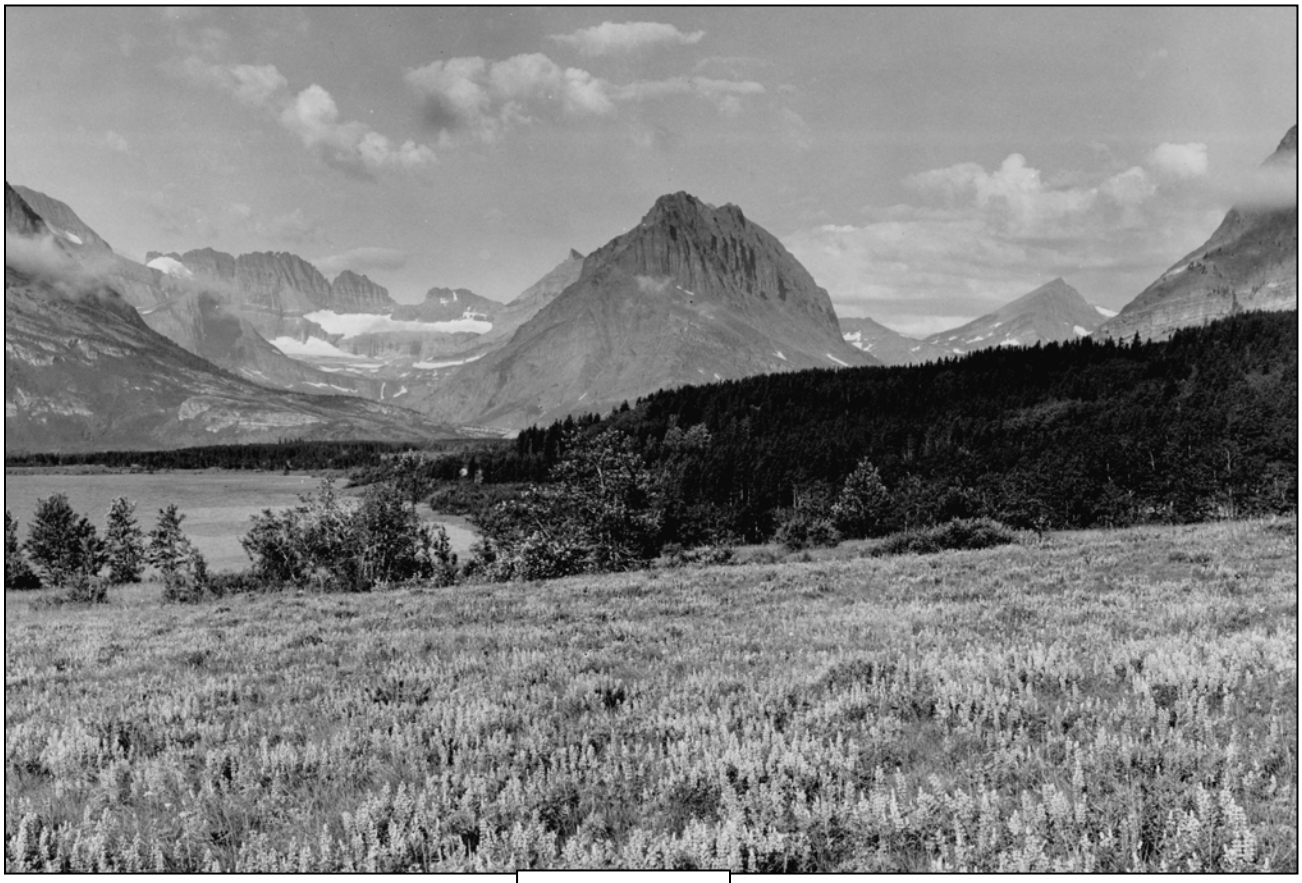
UTM: 308.8 E	5409.4 N	Zone 12	Elevation - 4820’

Location Description:

These photos were taken in the SW corner of Windy Flat in Glacier National Park, just east of Windy Creek and south of Many Glacier Road. View is to the WSW with Allen Mountain on the left, Grinnell Glacier and the Garden Wall, Grinnell Point in the center and Swiftcurrent Mountain and Altyn Peak on the right.

Narrative:

The blooming lupines and blanketflower (*Gaillardia aristata*) indicate the 1956 photo was taken in late July. In the 45 years between photos much aspen and cottonwood growth has occurred in the absence of fire. Snowberry and shrubby cinquefoil are now more common on the prairie flats. Most of the area as far back as the distant slopes burned in 1889. The area around the Many Glacier Hotel (distant center, out of view) also burned in 1936. A Park Service road traverses this meadow and some domestic stock grazing has occurred. Consequently spotted knapweed (*Centaurea maculosa*), mullein (*Verbascum thapsus*), and leafy spurge (*Euphorbia esula*) now grow along the road edges and watercourses of this native fescue bunchgrass prairie. This is good deer, elk, moose, and bear habitat, but the bison are now gone.



Windy Flat



Windy Flat #2

Photos:

1968	Unknown	S2392.1968
May 25, 2000	Dave Shea	S2392.2000

Photo Point:

UTM: 308.8 E	5409.45 N	Zone 12	Elevation - 4820’

Location Description:

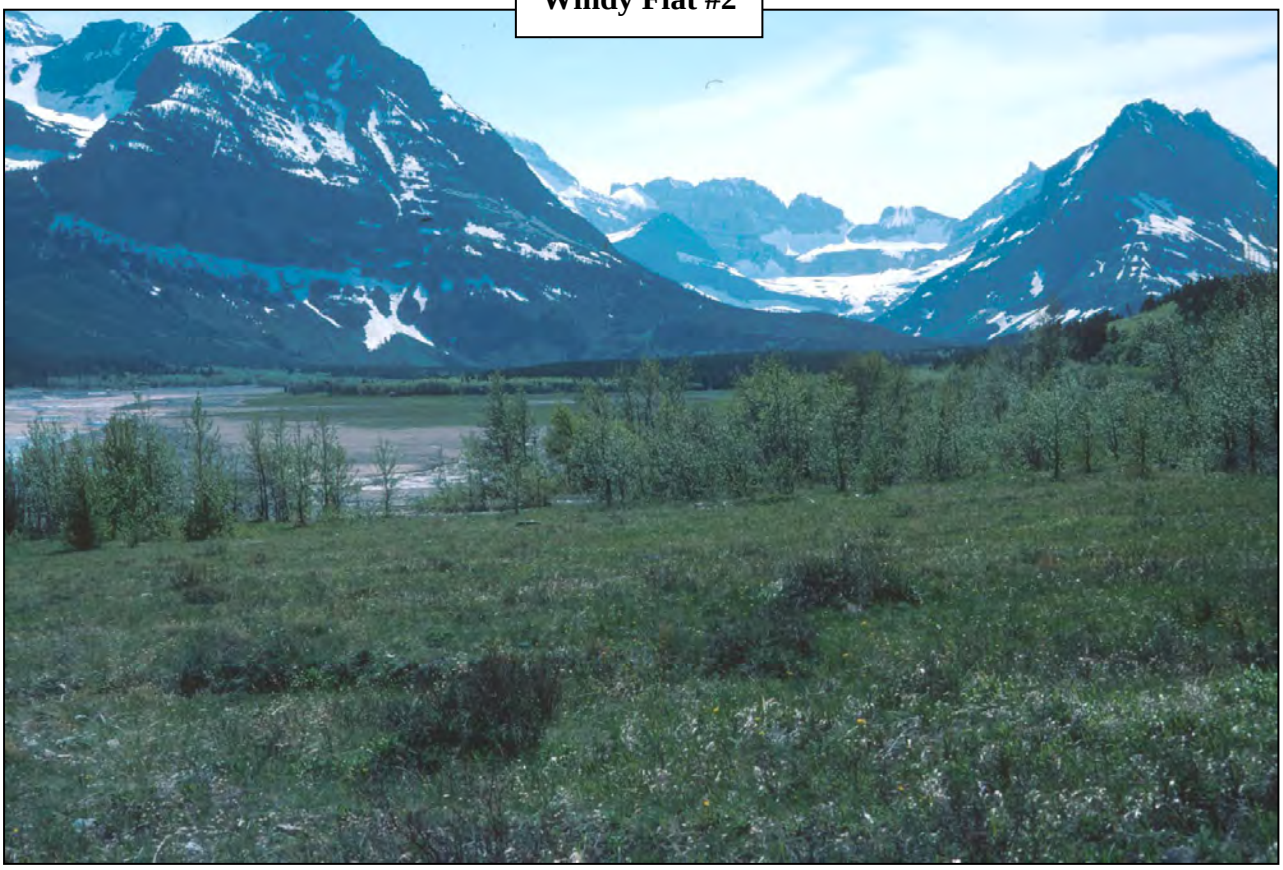
Photos were taken in Glacier National Park in the SW corner of Windy Flat, just east of Windy Creek and south of the Many Glacier Road. View is toward the SW with Grinnell Point on the right, the Garden Wall and Grinnell Glacier in the background, and Allen Mountain on the left. The body of water is the Lake Sherburne reservoir.

Narrative:

The profusion of blanketflower in the foreground and the filled reservoir indicates a late July date for the top photo. Treed areas burned in 1889, with some slopes in the far background also burning in 1936. Much aspen and cottonwood growth around the meadow edges has occurred in the 32 years between photos. Shrubs such as snowberry and shrubby cinquefoil are more common in the meadow itself. Deer, elk, moose, and bear frequent this area and coyotes often patrol for the abundant pocket gophers and Columbian ground squirrels.



Windy Flat #2



Lower Windy Flat

Photos:

1930	Hileman	H9348.1930
June 10, 2000	Dave Shea	H9348.2000

Photo Point:

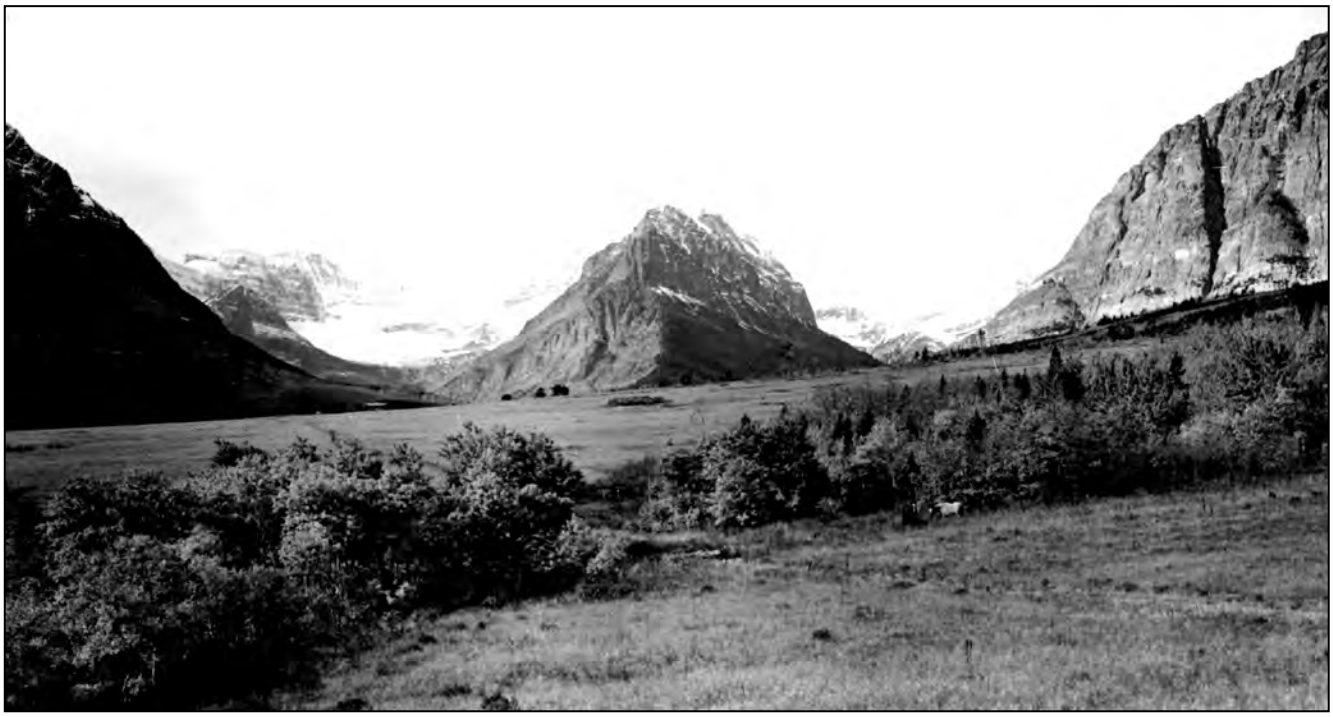
UTM: 309.6 E	5410.0 N	Zone 12	Elevation - 4800’

Location Description:

Photo point is 0.2 mile east of Windy Flat, and 0.1 mile south of the Many Glacier Road in Glacier National Park along the shore of Lake Sherburne. View is WSW across Windy Flat to Allen Mountain on the left, Grinnell Point, and Altyn Peak on the right.

Narrative:

This photo point is slightly further east than G11482 and the original was taken three years earlier. In 1930 this native fescue bunchgrass meadow was still being used as pasture for Park and concession stock. Note the two horses in the foreground and the structure (probably a barn) at the far edge of the flat in the 1930 photo. In the 70 years between shots much ice has melted from Grinnell Glacier, and the Sherburne Reservoir has eroded much shoreline. The area remains good deer, elk, moose, and bear range, however, and coyotes frequent the flats hunting for the abundant Columbian ground squirrels.



Lower Windy Flat



Windy Flat 4B

Photos:

May 17, 1963	C.R. Wasem	W4B.1963
June 10, 2000	Dave Shea	W4B.2000

Photo Point:

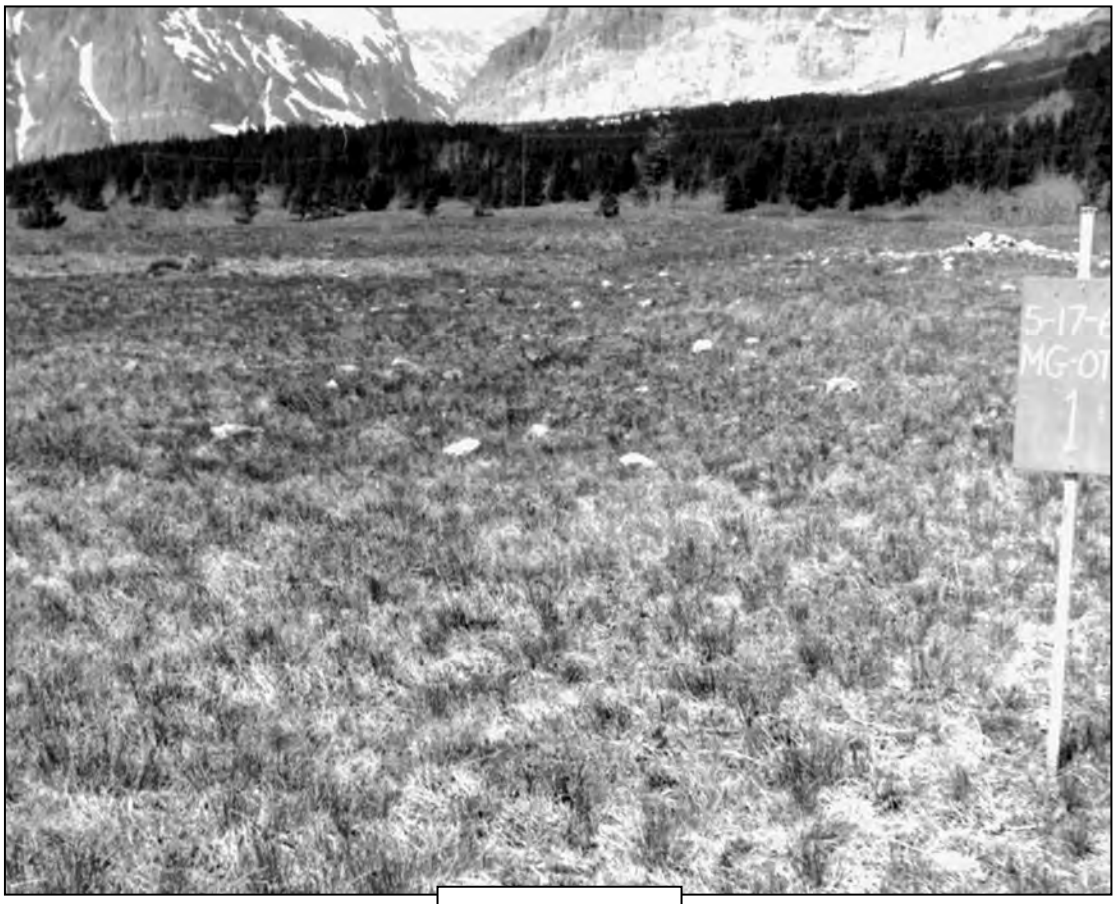
UTM:	309.2 E	5409.8 N	Zone 12	Elevation - 4845’

Location Description:

Photos were taken in Glacier National Park on the east edge of Windy Flat, just north of the Many Glacier Road. View is toward the NW up the Windy Creek Canyon and the cliffs of Appekunny Mountain.

Narrative:

This is an excellent native fescue bunchgrass prairie on the large Windy Creek alluvial fan. Former Wildlife Biologist C.R.Wasem established a vegetation ground cover transect here in 1963 (Wasem,1964). Surveys along this transect 37 years later were consistent with the original reading of nearly 100% ground cover. Power lines evident in the early photo are now underground. Aspen, Douglas fir (*Psuedotsuga menziesii*) and lodgepole pine are slowly encroaching on the meadow edges. The area burned in 1889. Few exotic plants are present despite some early grazing by concessionaire horses. This is excellent deer, elk, moose, bear, and Columbian ground squirrel habitat, and in September the canyons echo with bugling elk.



Windy Flat 4B



Windy Flat CCC Camp

Photos:

July 4, 1933	George A.Grant	G11482.1933
June 10, 2000	Dave Shea	G11482.2000

Photo Point:

UTM: 309.7 E 5409.9 N Zone 12 Elevation - 4800’

Location Description:

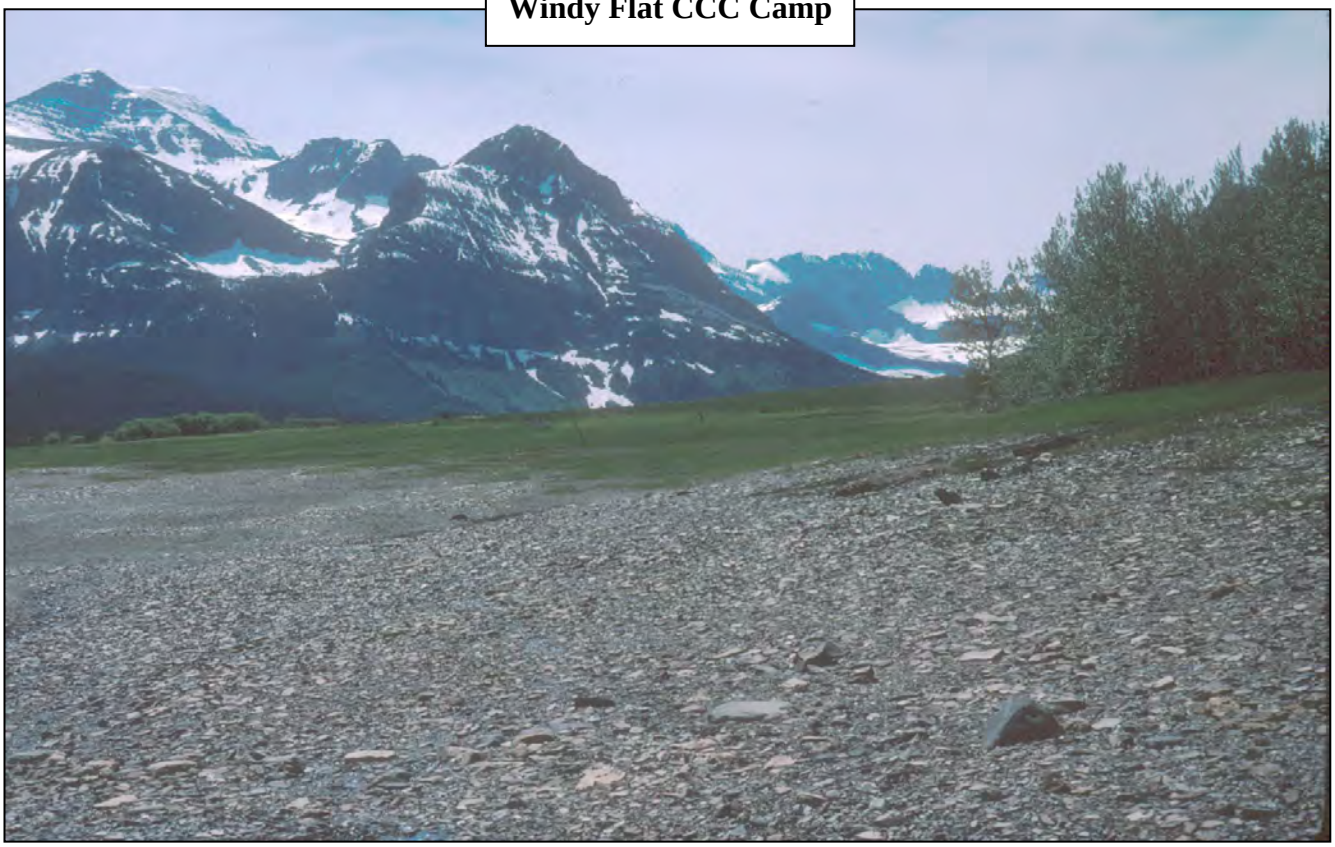
Photo point is about 0.2 mile east of the east edge of Windy Flat, and 300 ft. below the Many Glacier Road in Glacier National Park. View is SW toward the CCC Camp (Civilian Conservation Corps) on the SE edge of Windy Flat, with Allen Mountain in the left background, and Grinnell Glacier and Point to the right. The nearly full Sherburne Reservoir is evident in the early photo.

Narrative:

The snowfields and full reservoir indicate an early July date for the 1933 photo. Notice that the upper and lower sections of Grinnell and Salamander Glaciers are still joined. All of Windy Flat was originally a native fescue bunchgrass prairie. At present the entire seasonally inundated zone is covered by acres of quackgrass (*Elymus repens*) and other exotic plants. Deer, elk, moose, coyotes, and bears often pass through here. Some evidence of the larger CCC structures still remains.



Windy Flat CCC Camp



St. Mary to Two Medicine

Sun Point Chalets

Photos:

Early 1920's	Hileman	H7657.1920
June 6, 2001	Dave Shea	H7657.2001

Photo Point:

UTM: 310.3 E	5394.6 N	Zone 12	Elevation - 4550'

Location Description:

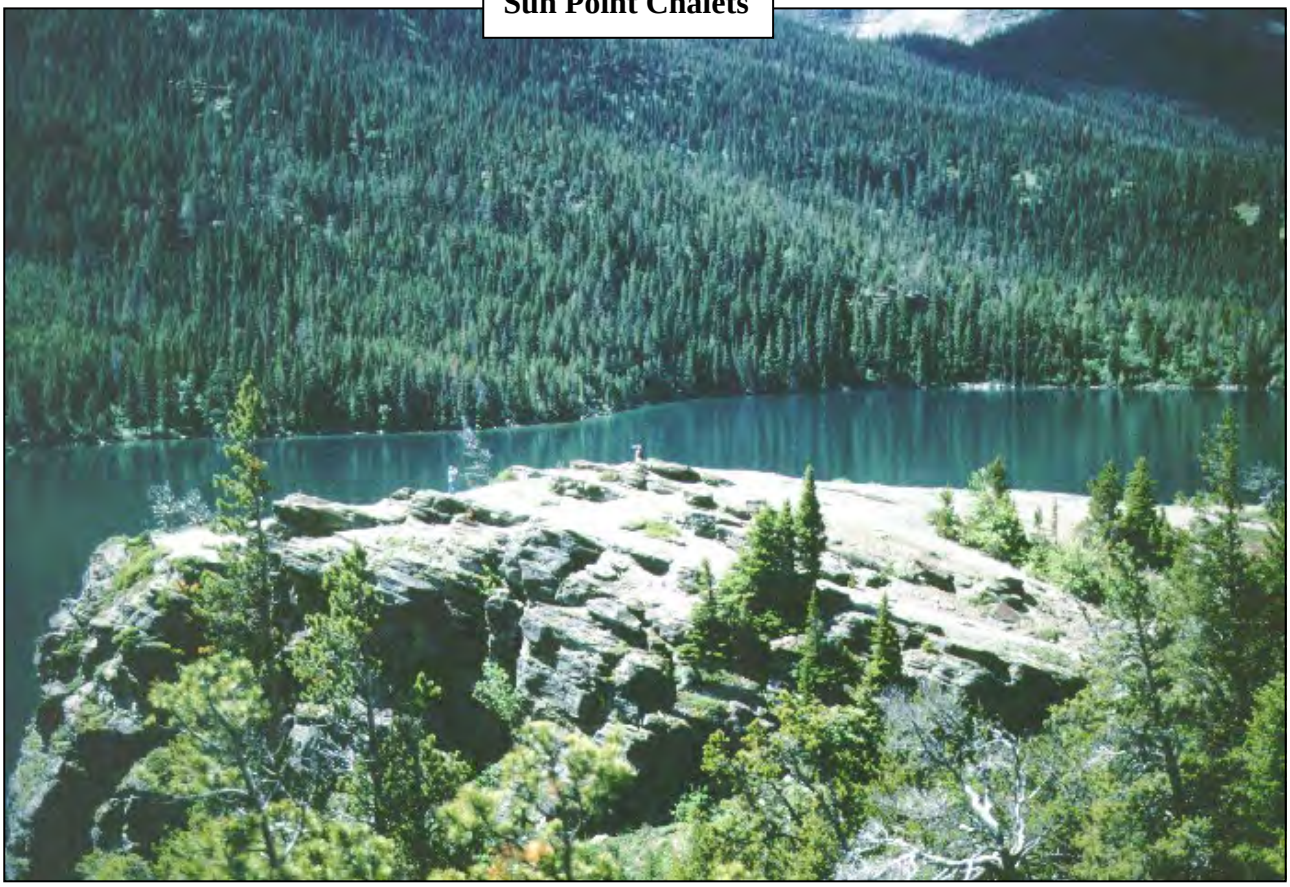
Photo point is on the east side of Going-to-the-Sun Point in Glacier National Park, approximately 0.1 mile north of the former Sun Point Chalet site. View is SW across St. Mary Lake toward Little Chief and Citadel Mountains.

Narrative:

The Sun Point Chalets were opened for use in 1912 by the Great Northern Railway and removed in 1949. Little evidence now remains on the point of the extensive works and activities that took place there. In the 81 years between photos more conifers cover the far slopes, but the scene is basically the same. Areas of shorter trees on the slopes opposite the lake burned in 1910.



Sun Point Chalets



Rising Sun

Photos:

June 1928	Unknown	G15590.1928
June 1, 2000	Dave Shea	G15590.2000

Photo Point:

UTM: 314.1 E	5395.6 N	Zone 12	Elevation - 4650’

Location Description:

Taken from the top of the massive Altyn limestone ridge just SW of Rising Sun in Glacier National Park. View is NE across the Rose Creek alluvial fan, with St. Mary Lake, Red Eagle Creek delta, and St. Mary Ridge in the distance.

Narrative:

As a point of reference, the entire Going-to-the-Sun Road was dedicated in 1933, just five years after the historic photo. The Glacier Park Hotel Company concessionaire began construction on the visitor use complex in 1940 (Buckholtz, 1976). Human activities, including grazing of concessionaire horses, have greatly modified the area. The black cottonwood and aspen groves along the lakeshore have flourished in the 72 years between photos, and Douglas fir and lodgepole are gradually occupying the meadows. This is excellent spring and fall deer and elk range. Snags evident in the 1928 photo are probably from a fire in 1885.



Rising Sun



Triple Divide Pullout

Photos:

June 11, 1940	D. Hanson	H4494.1940
June 1, 2000	Dave Shea	H4494.2000

Photo Point:

UTM: 317.0 E	5398.0 N	Zone 12	Elevation - 4520’

Location Description:

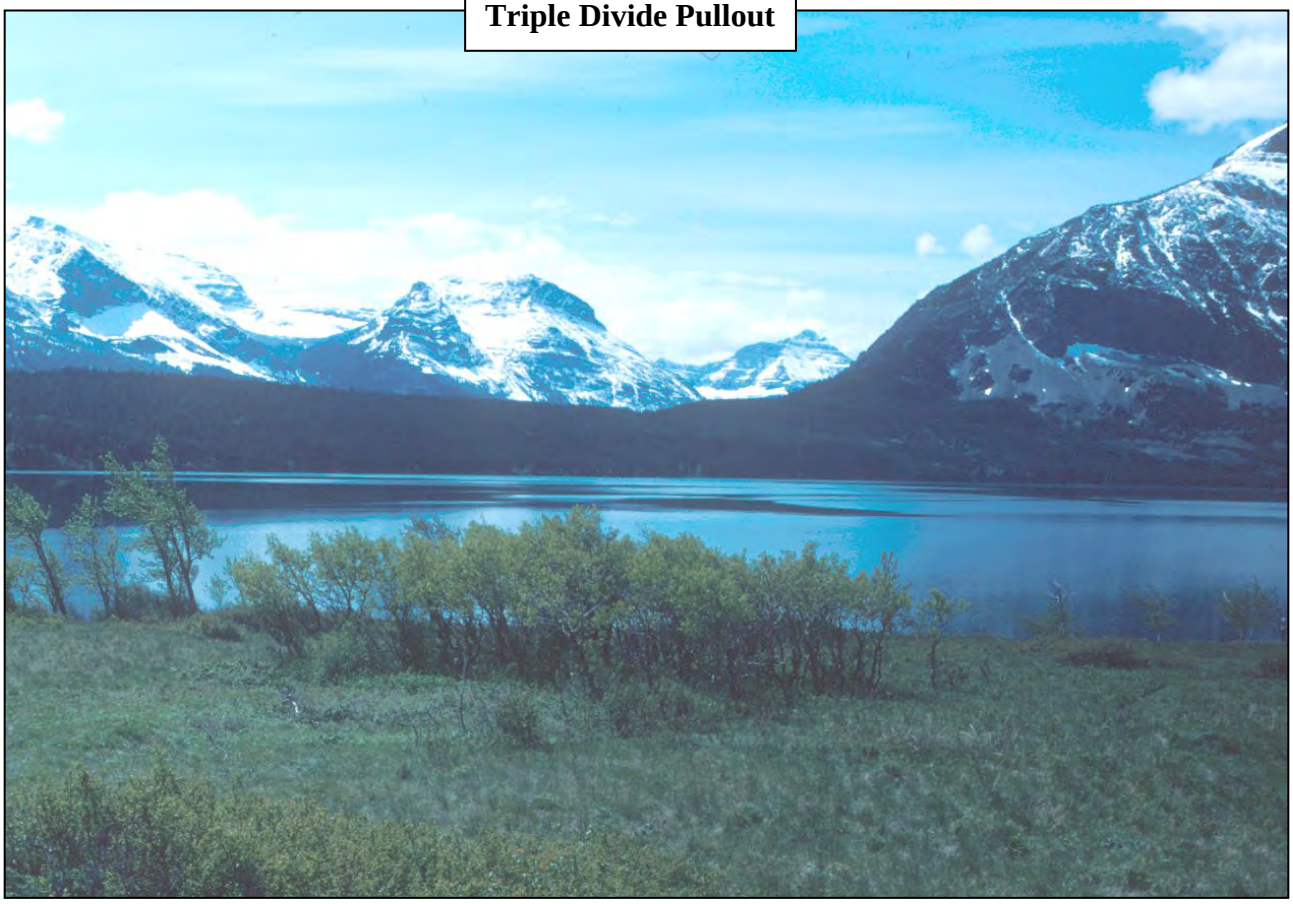
Taken from the SE side of Going-to-the-Sun Road at the Triple Divide Peak Overlook pullout, just west of Two Dog Creek in Glacier National Park. View is SSW toward Curly Bear and Kakitos Mountains on the left, Triple Divide Peak and Norris Mountain in the middle far-distance, and Red Eagle Mountain on the right.

Narrative:

Mountain slope conifer cover shows only a slight increase in the 60 years between photos. Aspen, black cottonwood, and snowberry have significantly encroached in the foreground native fescue bunchgrass prairie. This meadow and all of the adjacent Two Dog Flats were grazed heavily by concessionaire domestic stock. Exotic plants are common, especially along roadsides. This is important deer and elk range, as is evidenced by the "high-lined" aspens in the middle foreground. The coniferous forests across the lake last burned in the late 1800’s.



Triple Divide Pullout



Two Dog Flat #1 (Upper)

Photos:

August, 1962	C. R. Wasem	S3981.1962
June 1, 2000	Dave Shea	S3981.2000

Photo Point:

UTM: 318.0 E	5400.4 N	Zone 12	Elevation - 4960’

Location Description:

Photo point is in the NW portion of the large meadow above and to the west of the northernmost Two Dog Flat in Glacier National Park. View is to the east across St. Mary Lake.

Narrative:

In only 38 years between photos very significant aspen and conifer encroachment has occurred on this SE facing slope. Fire exclusion has modified this important elk spring and fall range. Native fescue bunchgrasses dominate the drier slope tops, but some timothy has moved into the swales.



Two Dog Flats #1 (Upper)



Two Dog Flats #2

Photos:

July, 1965	John Palmer	H9061.1965
June 19, 2001	Dave Shea	H9061.2001

Photo Point:

UTM: 318.2 E 5399.5 N Zone 12 Elevation - 4550’

Location Description:

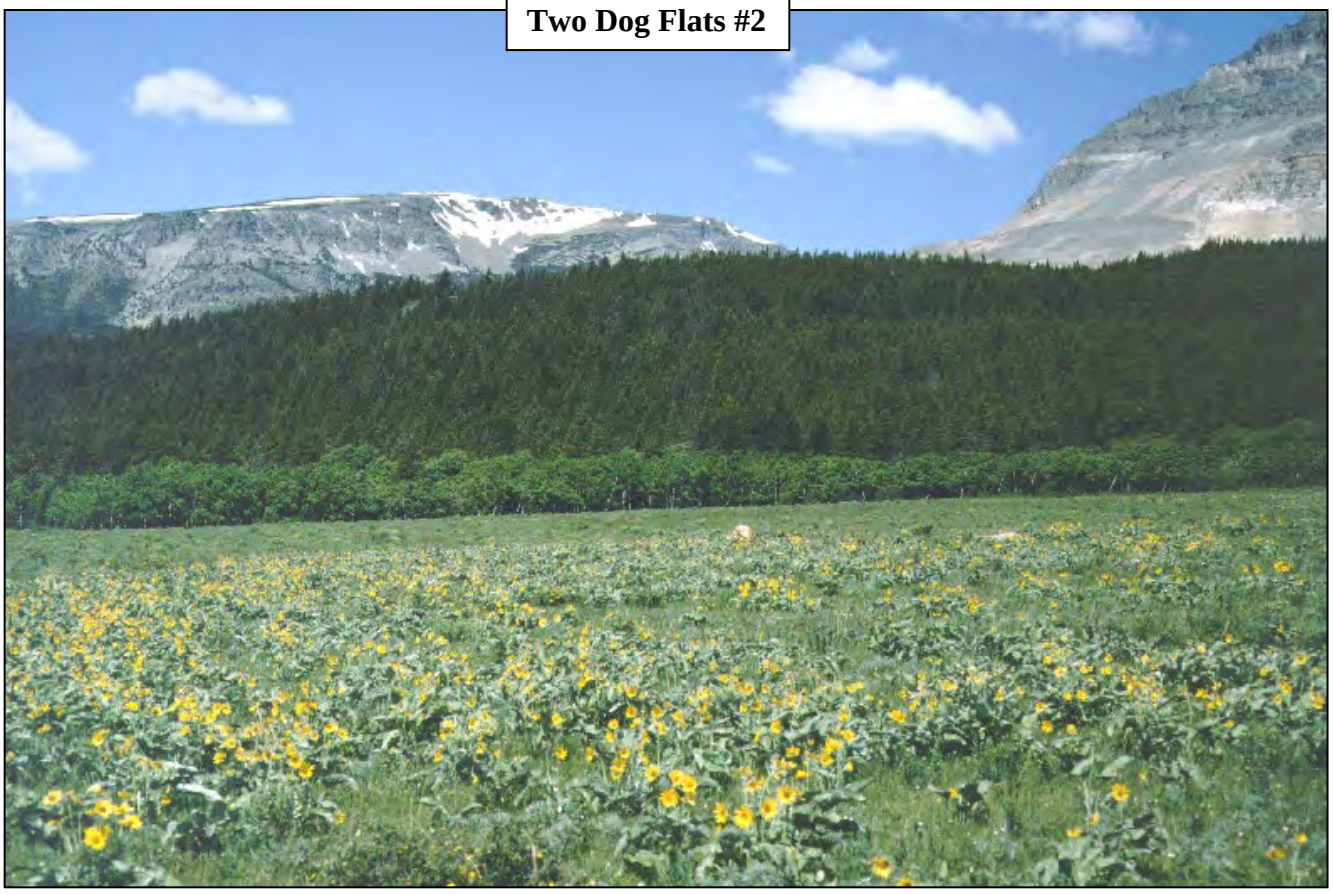
Photo point is on the SE slope of the middle Two Dog Flat in Glacier National Park, 0.1 mile above Going-to-the-Sun Road. View is west toward Otokomi Mountain, and the south end of Singleshot on the right.

Narrative:

The native fescue bunchgrass prairie has changed little in the 36 years between photos. Balsamroot (*Balsamorhiza sagittata*), lupine (*Lupinus* spp.), gaillardia, and yellow penstemon (*Penstemon confertus*) are the dominant forbs in these July views. The most obvious change is the vigorous growth of lodgepole pine now covering the middle foreground slopes. This flat was historically grazed and hayed. Timothy now grows in the more moist swales, and knapweed occurs near the edge of Going-to-the-Sun Road. Bison formerly grazed here and the area is still very important spring and fall elk range.



Two Dog Flats #2



Two Dog Flats #3

Photos:

1968	John A. Tyers	S2020.1968
June 19, 2001	Dave Shea	S2020.2001

Photo Point:

UTM: 317.8 E 5398.9 N Zone 12 Elevation - 4960’

Location Description:

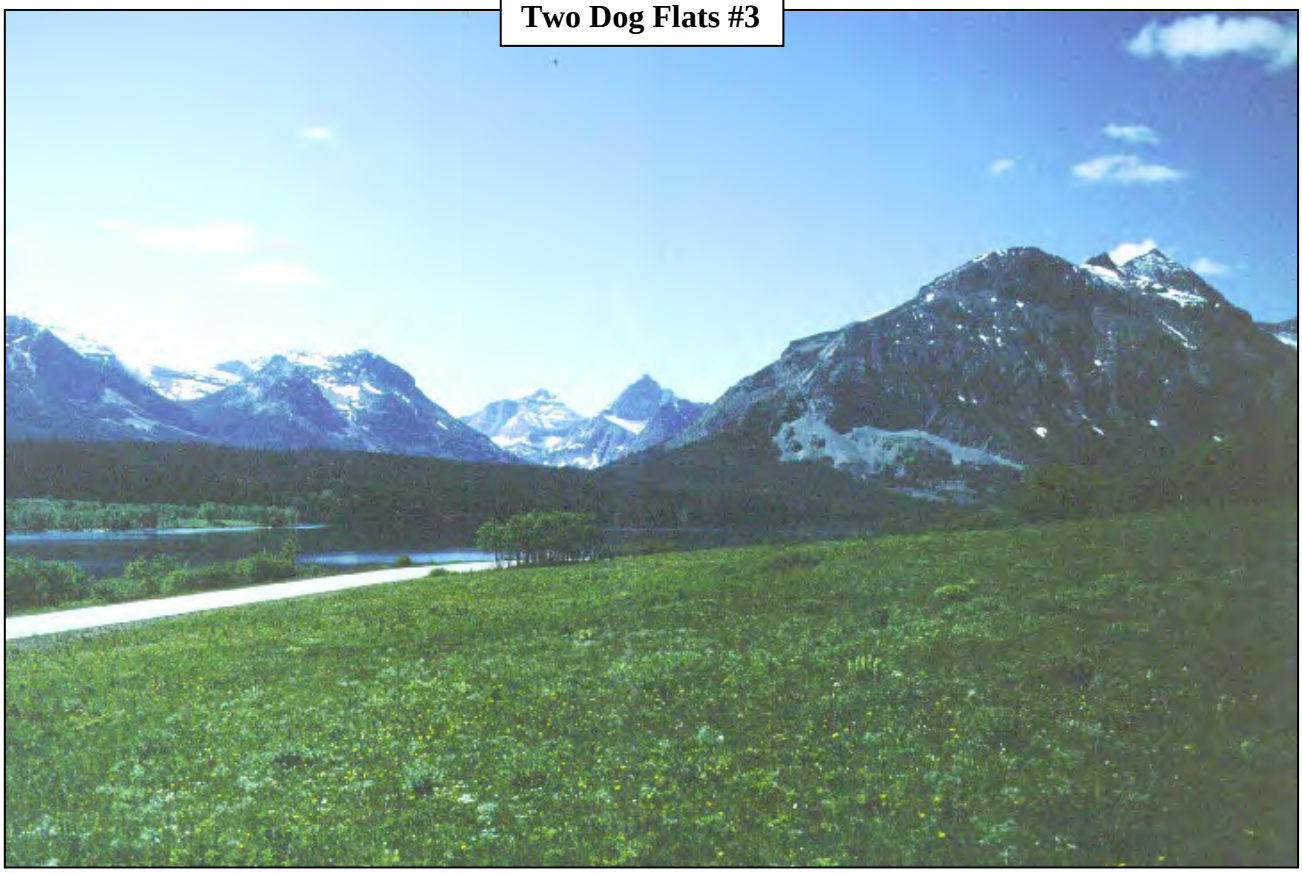
Photo point is in Glacier National Park on the north edge of Two Dog Flat #3, approximately 0.1 mile northwest of Going-to-the-Sun Road. View is south southwest toward Red Eagle Mountain on the right and Curly Bear Mountain on the left.

Narrative:

Vegetation in the 1968 photo indicates a July date. Today, this is a healthy native fescue bunchgrass prairie, but exotic plants occur frequently along the Going-to-the-Sun Road, and timothy has invaded the more moist swales. All of the Two Dog Flats were hayed and grazed by domestic livestock in early years of the Park. Vigorous aspen growth has occurred in the 33 years between photos. This is excellent deer and elk spring and fall range.



Two Dog Flats #3



St. Mary Flats Cabin Site

Photos:

October, 1952	D.H.Robinson	H6266.1952
June 6, 2001	Dave Shea	H6266.2001

Photo Point:

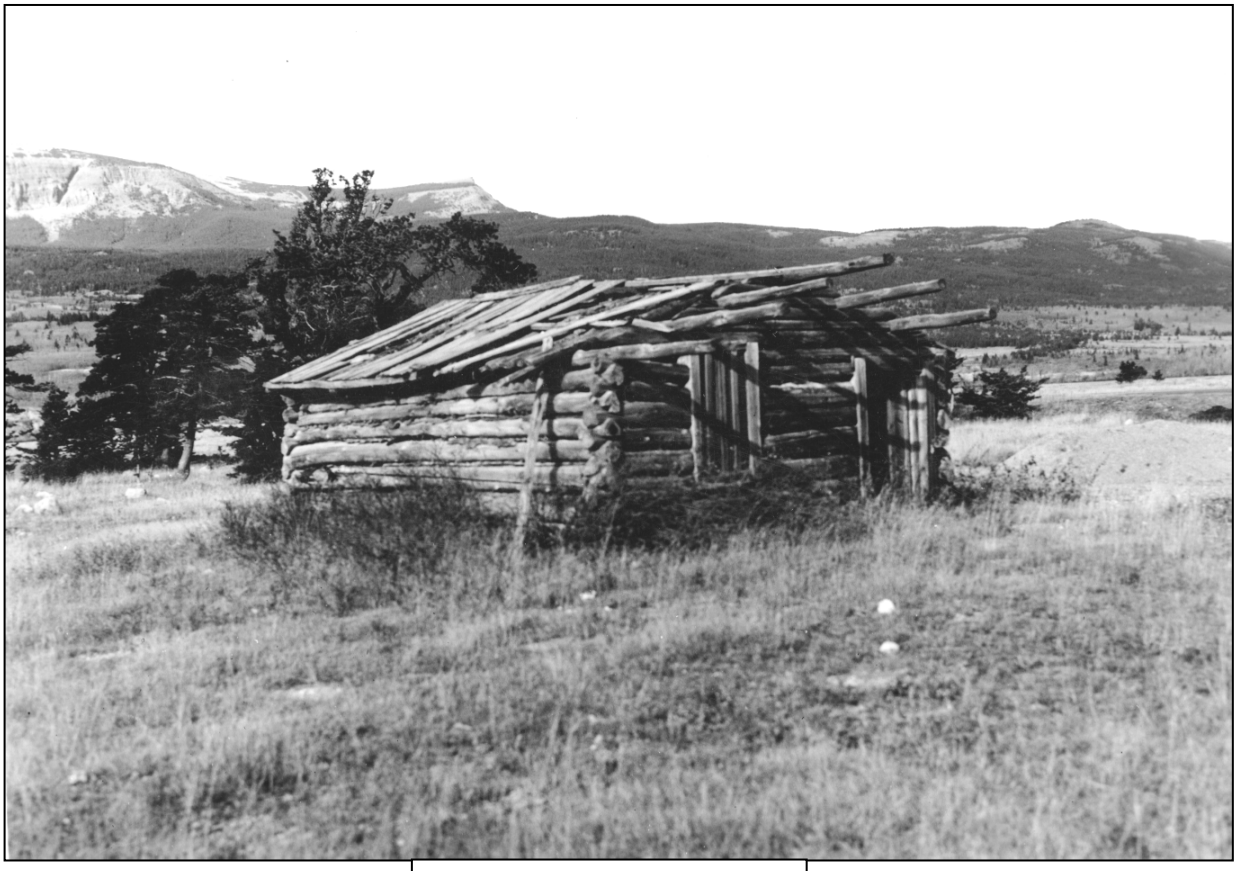
UTM: 321.2 E	5401.3 N	Zone 12	Elevation - 4560’

Location Description:

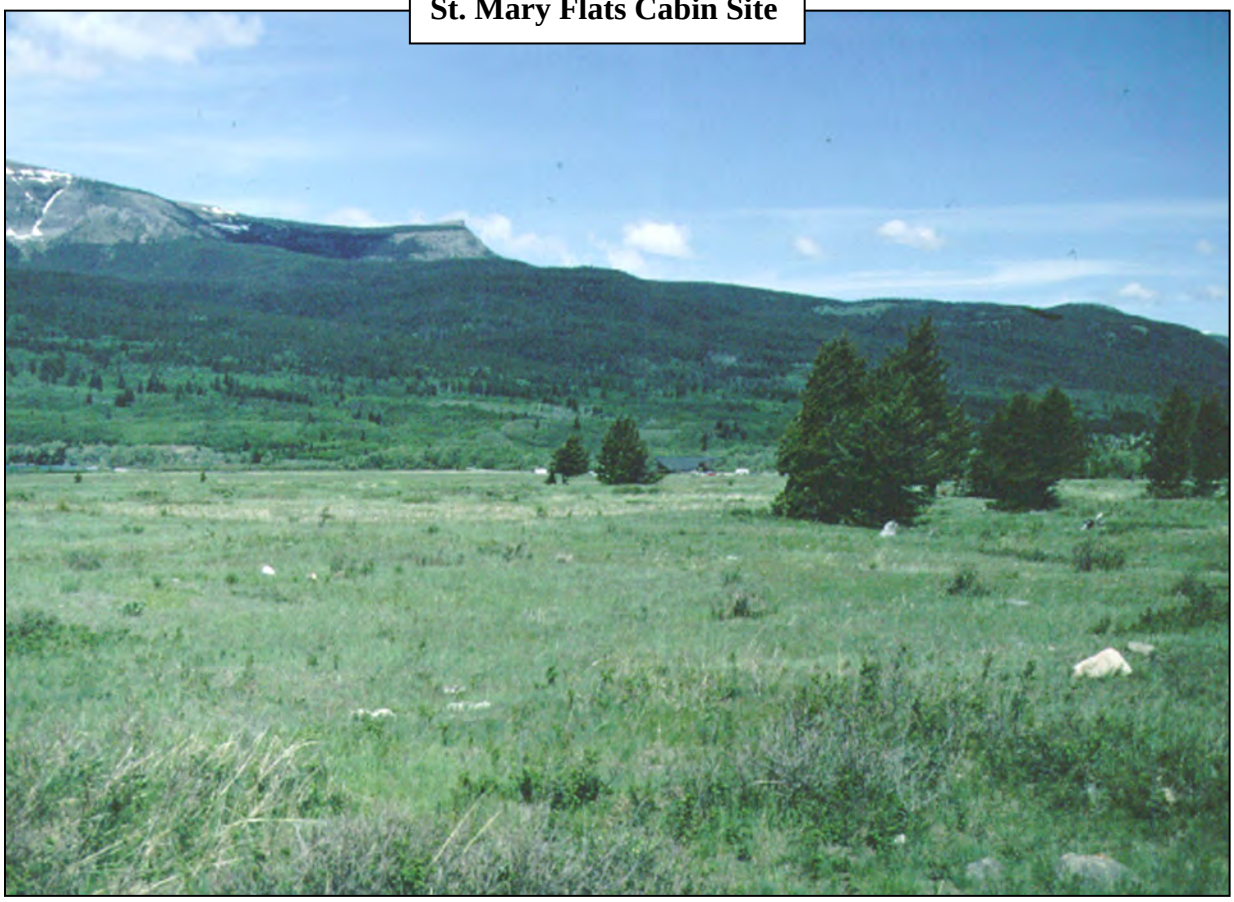
Photo point is on the east end of St Mary Flat in Glacier National Park, about 50 feet north of the entrance road to the Ranger Station complex, and 0.15 mile east of the 1913 Ranger Station road junction. View is NW across St. Mary Flat and the foot of St. Mary Lake to East Flattop and Napi Point in the left background.

Narrative:

Much activity took place on St. Mary Flats before Glacier National Park was established. A small town called Old St. Mary existed near the present sewage lagoons. The native fescue bunchgrass meadows were grazed, irrigated, and hayed as well. Foreground vegetation has remained much the same over the 49 years between photos. Conifer and aspen encroachment is significant in the meadows on the far slope to the right.



St. Mary Flats Cabin Site



St. Mary Flats Campground

Photos:

July 14, 1958	Ed Olmstead	H7151.1958
June 6, 2001	Dave Shea	H7151.2001

Photo Point:

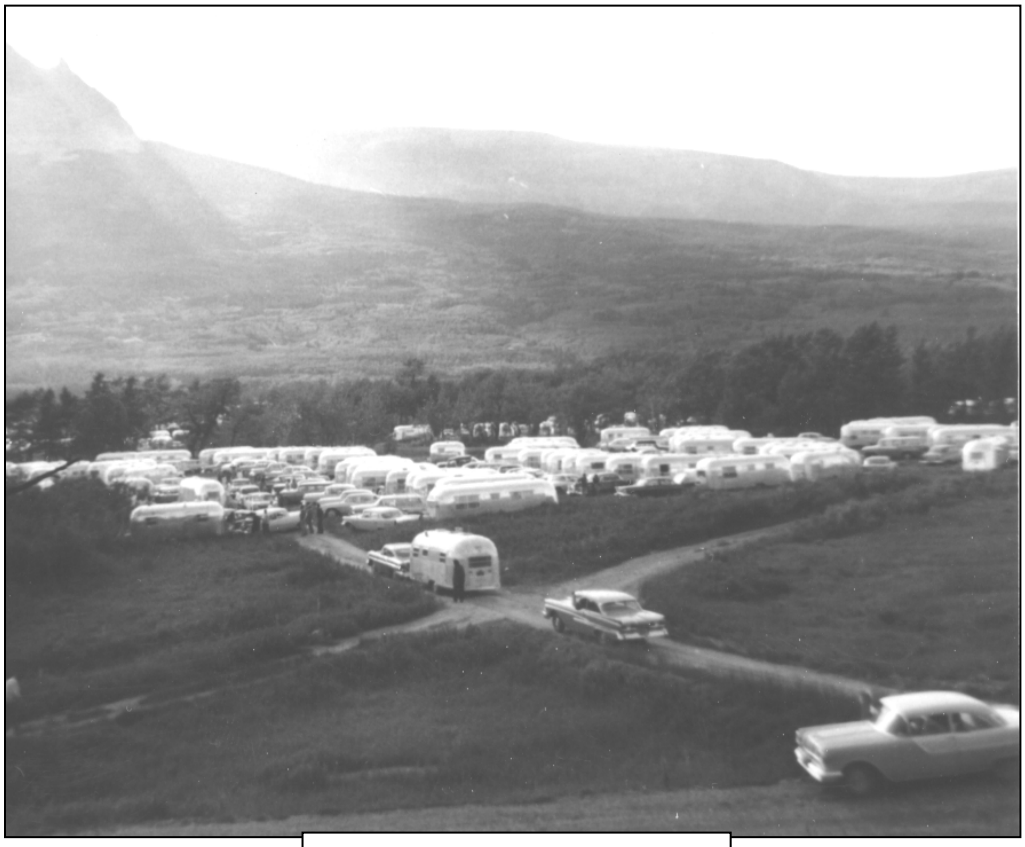
UTM: 320.7 E	5400.75 N	Zone 12	Elevation - 4540’

Location Description:

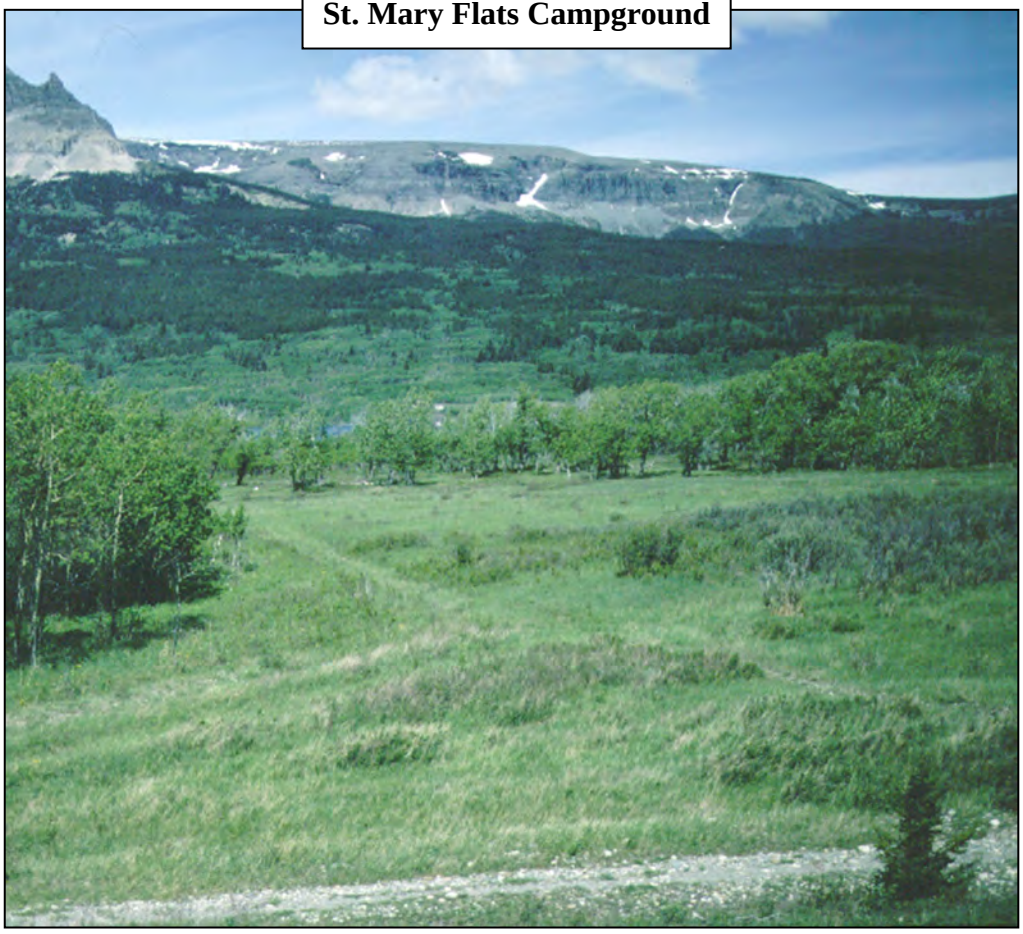
Photo point is just above the Red Eagle Lake trail in Glacier National Park, approximately ¼ mile south of the 1913 Ranger Station. View is NE across the south end of St. Mary Flat to Singleshot Mountain and Napi Rock on the left and East Flattop Mountain to the right.

Narrative:

This portion of St. Mary Flat received very heavy use as an auto campground until the early 1960’s. The historic photo was apparently an Airstream Trailer convention. In the 43 years between photos the old roadbeds are healing, but much exotic vegetation remains, particularly spotted knapweed and quackgrass. The site was originally a native fescue bunchgrass meadow interspersed with aspen and cottonwood groves.



St. Mary Flats Campground



St. Mary Flats (Rothfuss)

Photos:

September, 1972	Edwin L. Rothfuss	S2019.1972
June 10, 2000	Dave Shea	S2019.2000

Photo Point:

UTM:	320.7 E	5402.1 N	Zone 12	Elevation - 4530’

Location Description:

Photo point is in Glacier National Park in the northeast portion of St. Mary Flats and west of the Going-to-the-Sun Road and Ranger Station road junction. View is southwest across the Flats to Red Eagle Mountain on the left, Mahtotopa, Little Chief, and Citadel Mountains in the distance, and Otokomi Mountain on the right. Portions of Two Dog Flats are visible in the middle distance. See also photos W7T, H 7151, and H 6266.

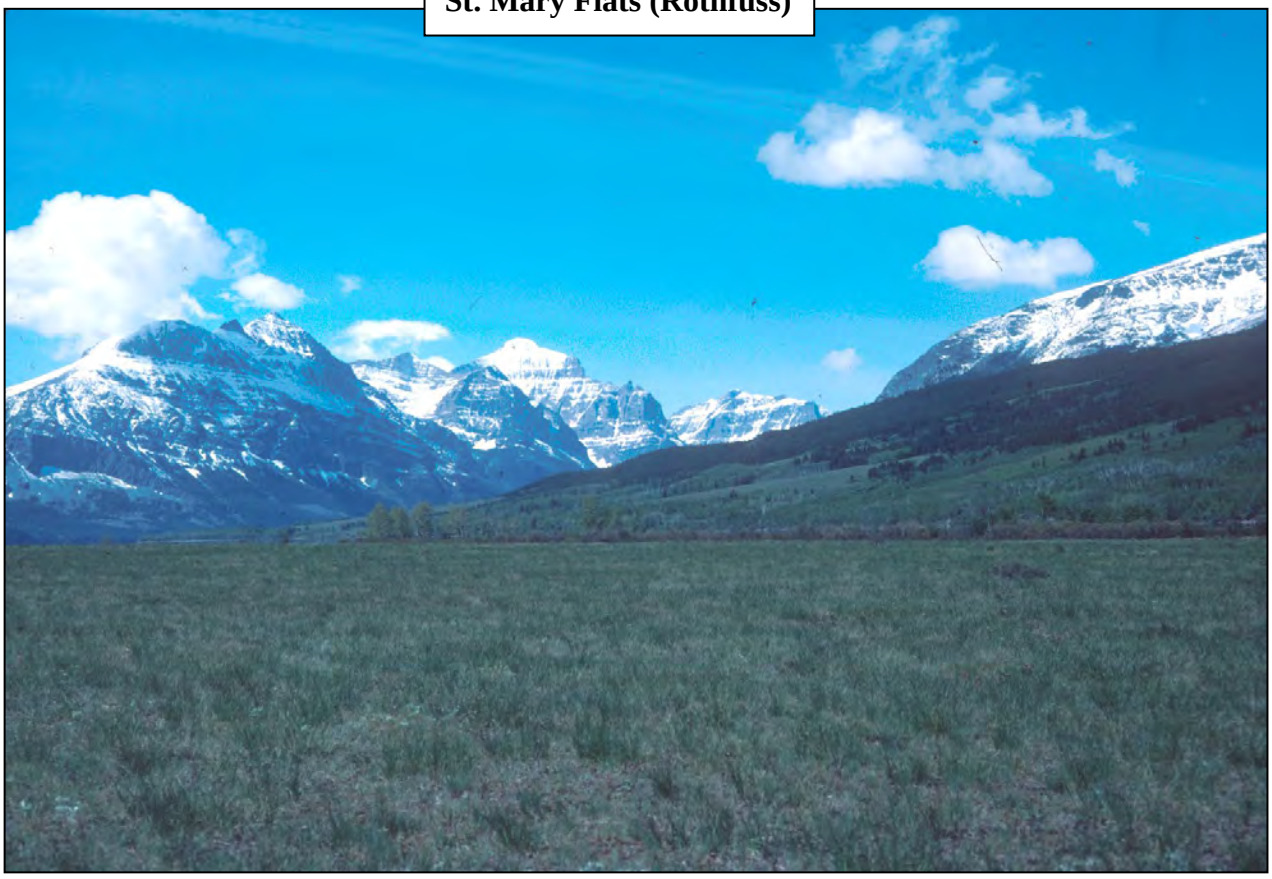
Narrative:

Vegetation and snow conditions indicate a late September date for the 1972 photo. This vast native fescue bunchgrass prairie on the gravelly flats at the outlet of St. Mary Lake was the site of much early activity. Native Americans hunted bison and elk here, and bighorn sheep and mountain goats on the nearby foothills and peaks. During the early 1900’s the flat was irrigated, hayed, and grazed by domestic livestock. Some segments of a drainage ditch remain, and old roads leading to a former Park Service campground are still evident at the south end of the flats. A small pre-Park townsite named Old St. Mary was present along the east edge. St. Mary Chalets on the lakeshore at the far south end was removed in 1944. The historic 1913 Ranger Station is on the southeast edge and the old road (now a trail) up Red Eagle Valley passes by. As a result of all these disturbances much exotic vegetation is now present where use was concentrated, as well as along all roadsides.

During the 28 years between photos some willow and cottonwood growth is evident along the prairie edges. Most of the grasslands away from disturbed sites are in good condition, providing vital late winter and spring elk range. Coyotes and badgers are common, preying on the abundant Columbian ground squirrels and northern pocket gophers.



St. Mary Flats (Rothfuss)



St. Mary Flats

Photos:

May 10, 1963	C. R. Wasem	W7T.1963
June 10, 2000	Dave Shea	W7T.2000

Photo Point:

UTM: 321.0 E 5401.4 N Zone 12 Elevation - 4530’

Location Description:

Photos taken on the east edge of St. Mary Flats in Glacier National Park, just west of the road to the historic St. Mary Ranger Station, and just north of the junction to the present Ranger Station complex. View is to the WSW across St. Mary Flats and the foot of St. Mary Lake, toward the lower slopes of Singleshot Mountain.

Narrative:

This is a large native fescue bunchgrass prairie on the gravelly flats near the outlet of St. Mary Lake. It was irrigated, hayed, and grazed by domestic livestock during the early 1900’s. Portions of small drainage ditches remain, and a Park Service campground was in use on the south end of the prairie until the late 1950’s (see photo H7151.1958). Much exotic vegetation is present along old roadsides and other disturbed areas. This photo view is along a vegetation ground cover transect established by Wildlife Biologist Ranger C.R.Wasem in 1963 (Wasem, 1964). The early photo appears to be particularly lush with rough fescue, but interestingly ground cover 37 years later is nearly the same, approaching 100%. This meadow is important late winter and spring elk range. Coyotes and badgers are common, preying on the abundant Columbian ground squirrels and northern pocket gophers.



St. Mary Flats



St. Mary Lake Outlet

Photos:

Circa 1890	Unknown	G4382.1890
June 10, 2000	Dave Shea	G4382.2000

Photo Point:

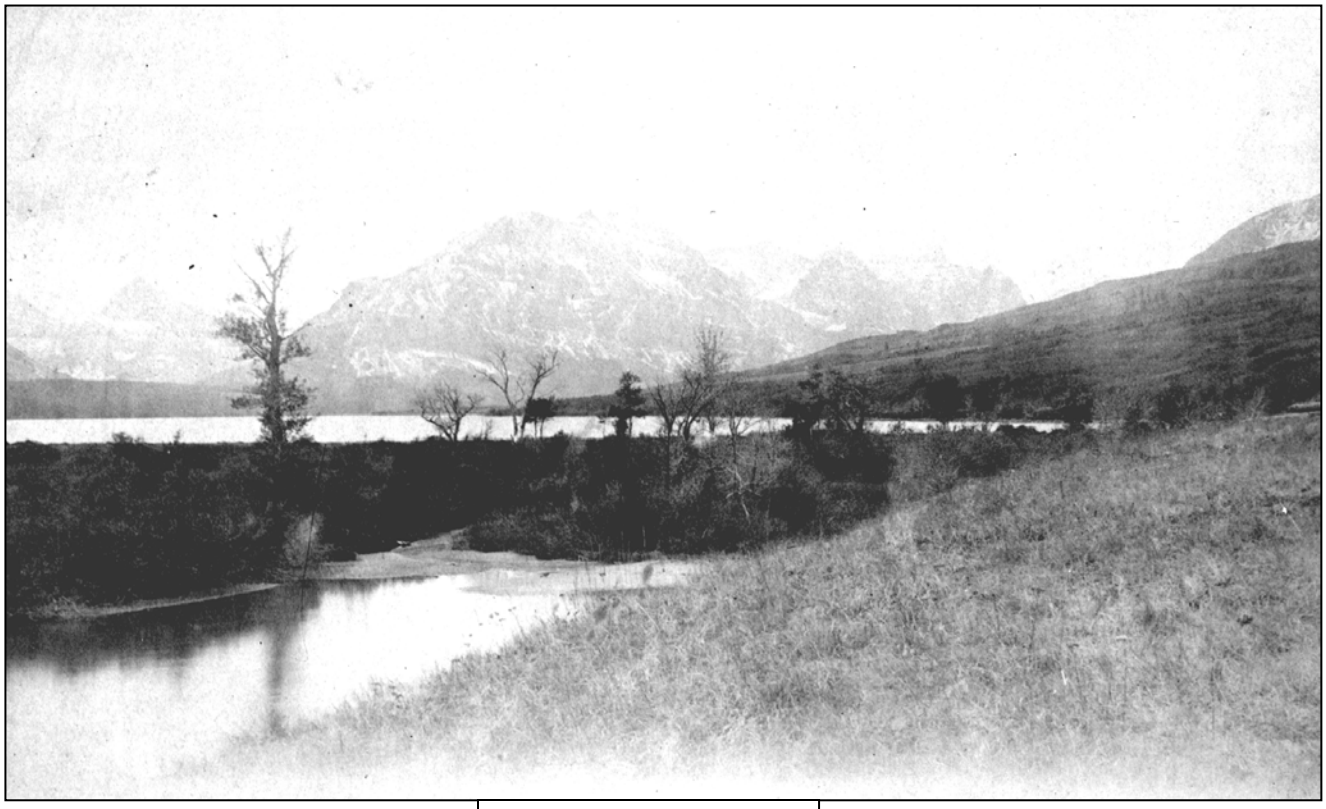
UTM: 320.4 E	5402.3 N	Zone 12	Elevation - 4510’

Location Description:

Taken from the north side of St. Mary River, just below the Going-to-the-Sun Road Bridge near the St. Mary Lake outlet in Glacier National Park. View is SW toward Split Mountain on the left, and Red Eagle Mountain, and Otokomi Mountain on the far right.

Narrative:

The rock span in the foreground in the 2000 photo is the bridge on Going-to-the-Sun Road over the St. Mary River. The 1890 photo predates the Park by 20 years. The northernmost Two Dog Flat is visible in the middle distance and much perimeter conifer growth has occurred. Black cottonwood and aspen are now numerous near the Lake outlet. The native fescue bunchgrass slope in the foreground grades off to a flat on the right, a campsite often used historically by Native Americans (Reeves, 1995), and now the site of St. Mary Campground. The entire area is fine deer, elk, moose, and bear habitat. Most of this area last burned in the late 1800’s.



St. Mary Lake Outlet



East Shore of Lower St. Mary Lake

Photos:

July 31, 1932	George A. Grant	G11346.1932
June 1, 2000	Dave Shea	G11346b.2000

Photo Point:

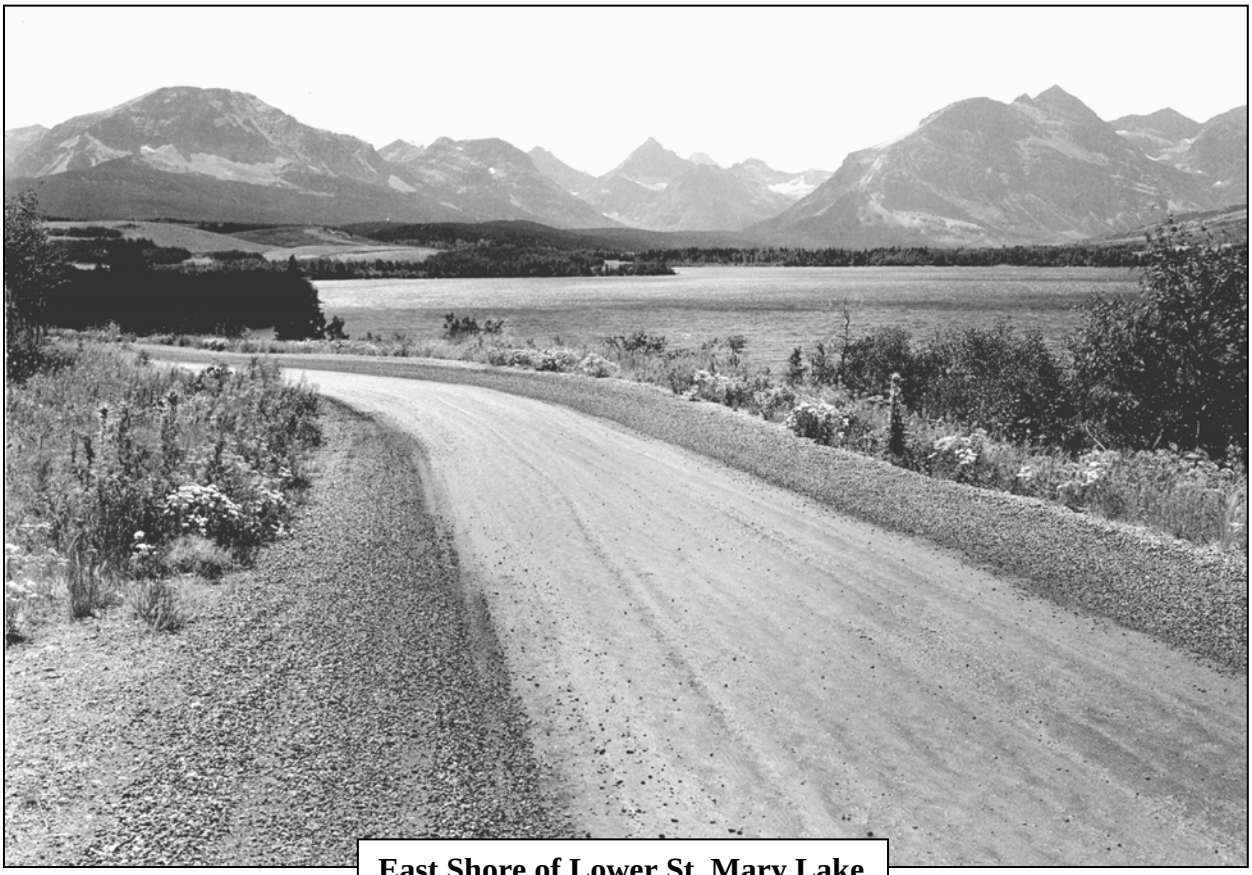
UTM: 322.7 E	5405.3 N	Zone 12	Elevation - 4510’

Location Description:

Taken from east shore of Lower St. Mary Lake on the Blackfeet Indian Reservation, 2.4 miles north of the junction of Highway 89 and Going-to-the-Sun Road. View is SSW toward Curly Bear and Red Eagle Mountains and up Red Eagle Valley in Glacier National Park.

Narrative:

The 1932 photo shows the original road along Lower St. Mary Lake, located between the present highway and the Lake. The old road was mostly abandoned after construction of the current highway. In the 68 years between photos the lush growth of aspens and black cottonwoods is obvious. Deer, elk, and black bears are common in the area.



East Shore of Lower St. Mary Lake



SE Shore of Lower St. Mary Lake

Photos:

July 31, 1922	George A. Grant	G11349.1932
June 1, 2000	Dave Shea	G11349.2000

Photo Point:

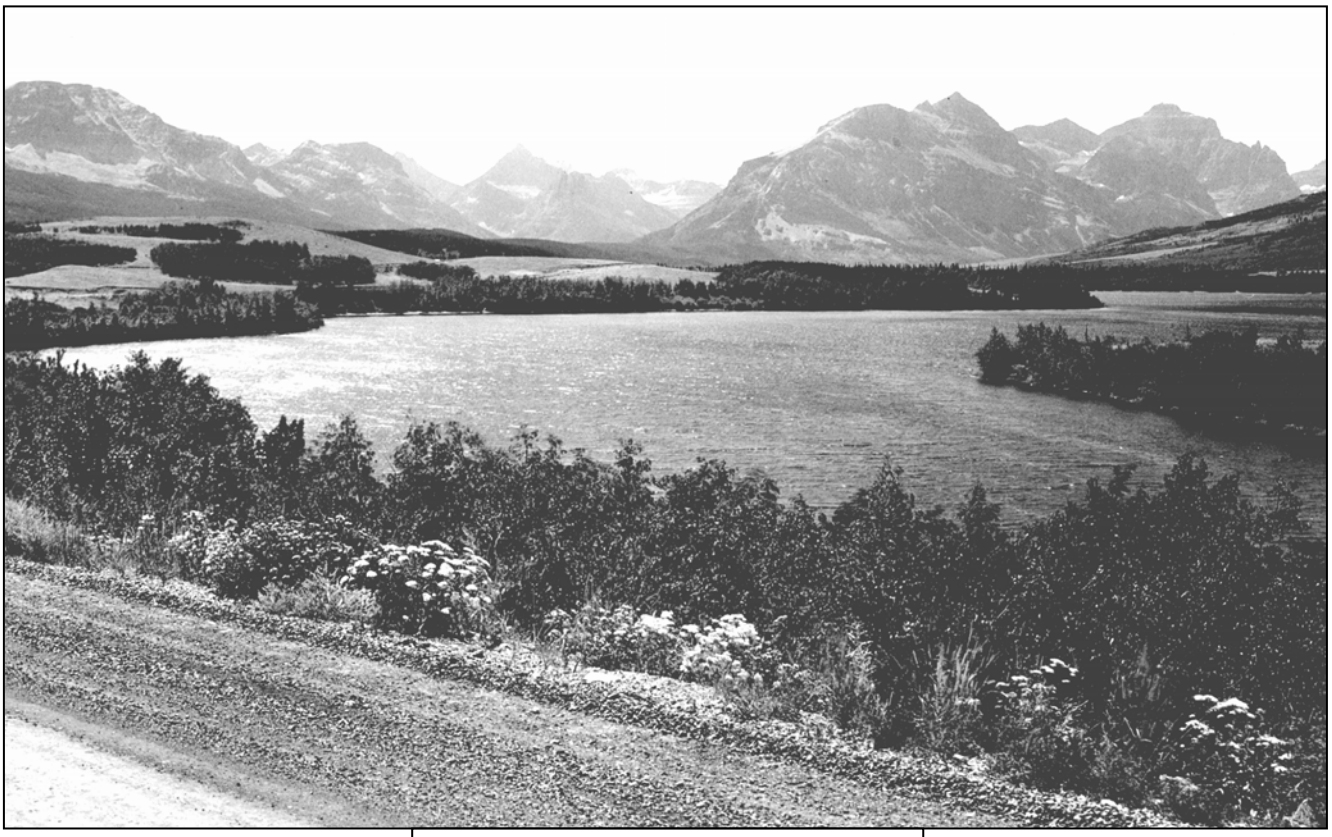
UTM: 322.7 E 5404.7 N Zone 12 Elevation - 4510’

Location Description:

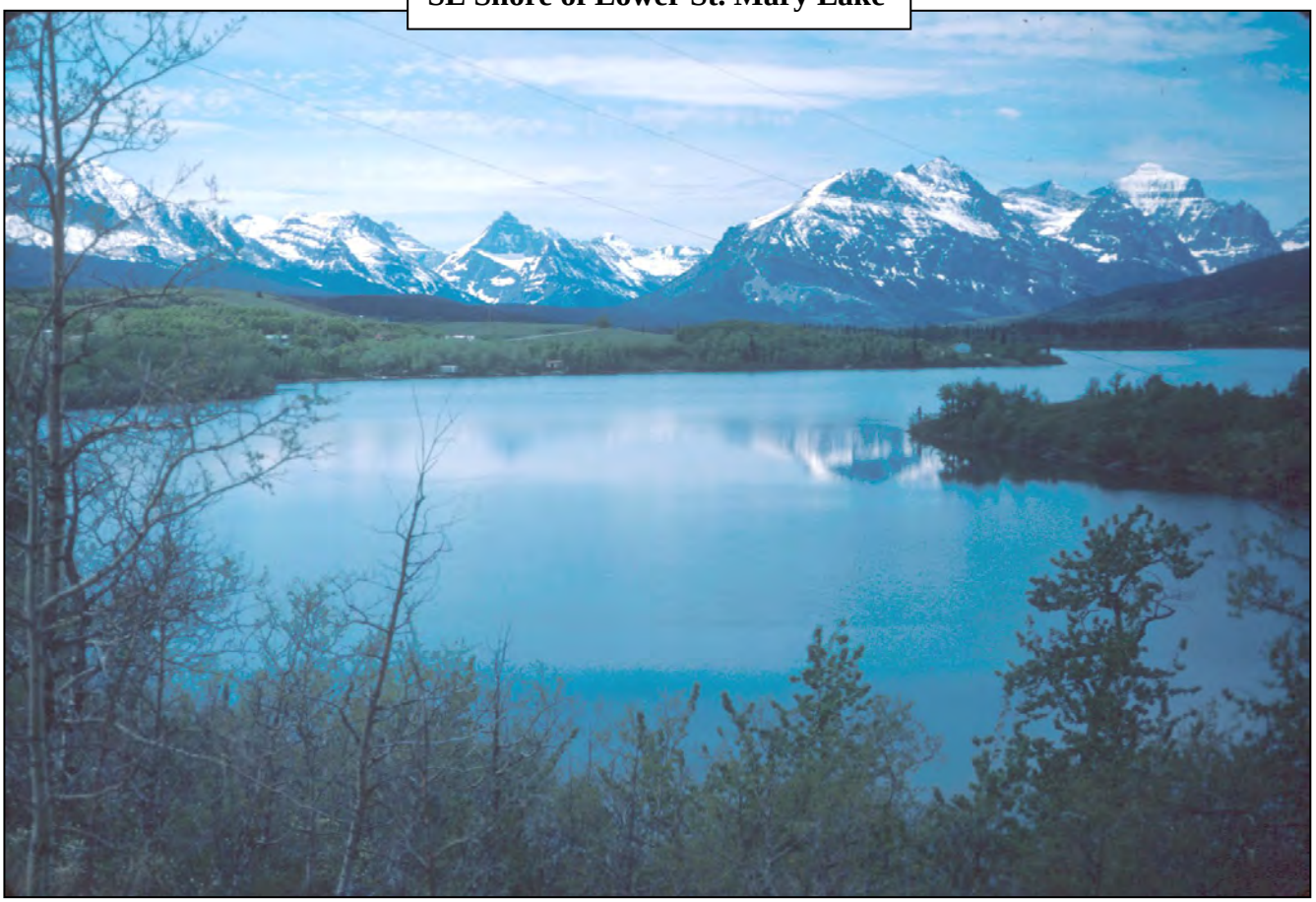
Taken from the SE shore of Lower St. Mary Lake approximately 1.2 miles south of Thunderbird Island on the Blackfeet Indian Reservation. View is SSW toward Curly Bear and Red Eagle Mountains in Glacier National Park with the tip of the prominent lakeshore point in the middle right.

Narrative:

The 1922 photo was taken on the old original road . The 2000 photo was taken on the present highway, in this case, the same position as the original road. Portions of the old roadbed, still in use by local residents, may be seen in the distance. In the 78 years between photos there is more human presence in the form of power lines and structures. Some encroachment by aspen and lodgepole pine is evident in both the prairie hills in the middle background and on Two Dog Flats in Glacier National Park in the far right background. Elk heavily utilize Two Dog Flats.



SE Shore of Lower St. Mary Lake



Fishing Camp at Lower St. Mary Lake and Napi Point

Photos:

September 12, 1940	George A. Grant	G11500.1940
June 19, 2001	Dave Shea	G11500.2001

Photo Point:

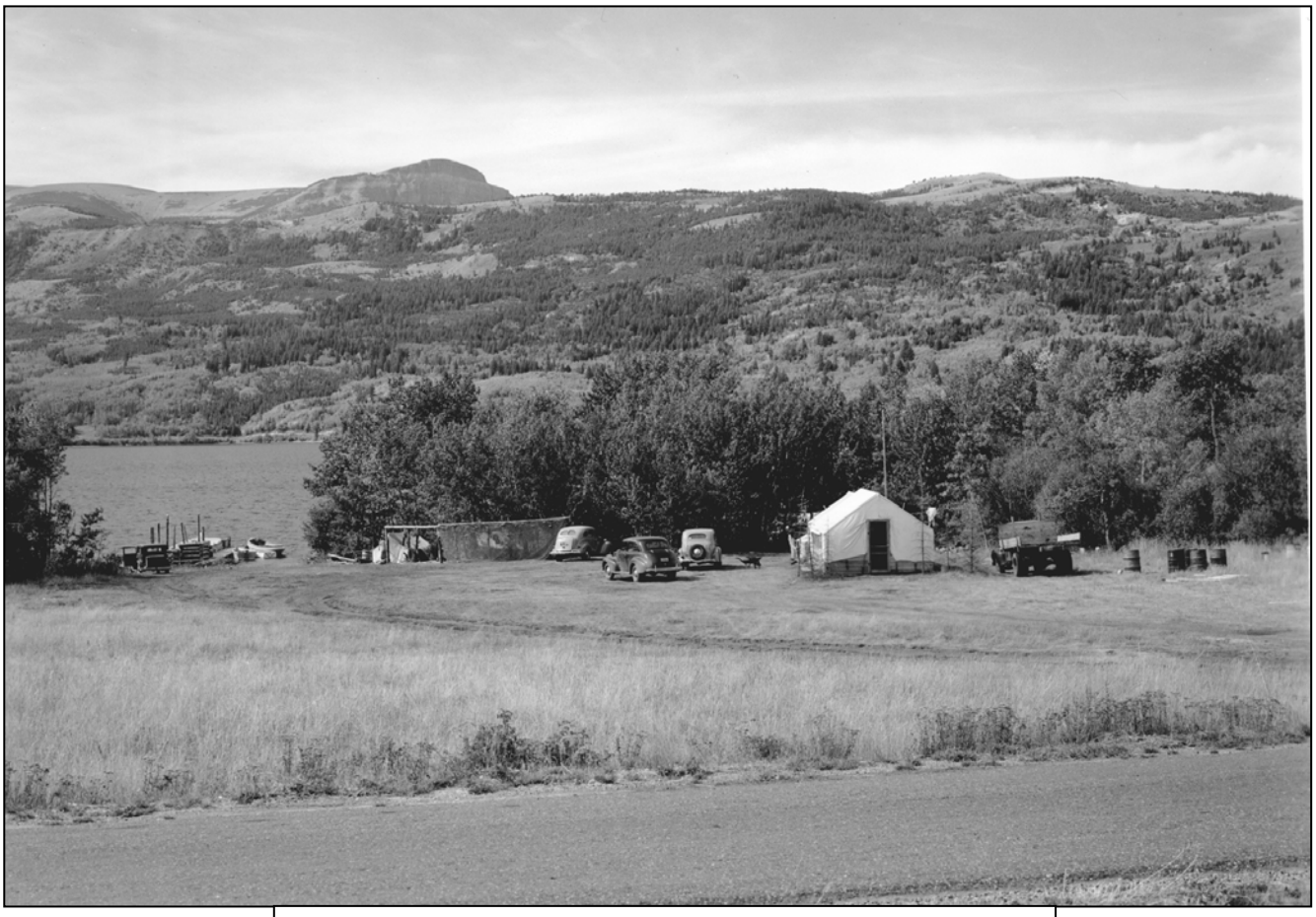
UTM: 323.1 E 5407.1 N Zone 12 Elevation - 4490’

Location Description:

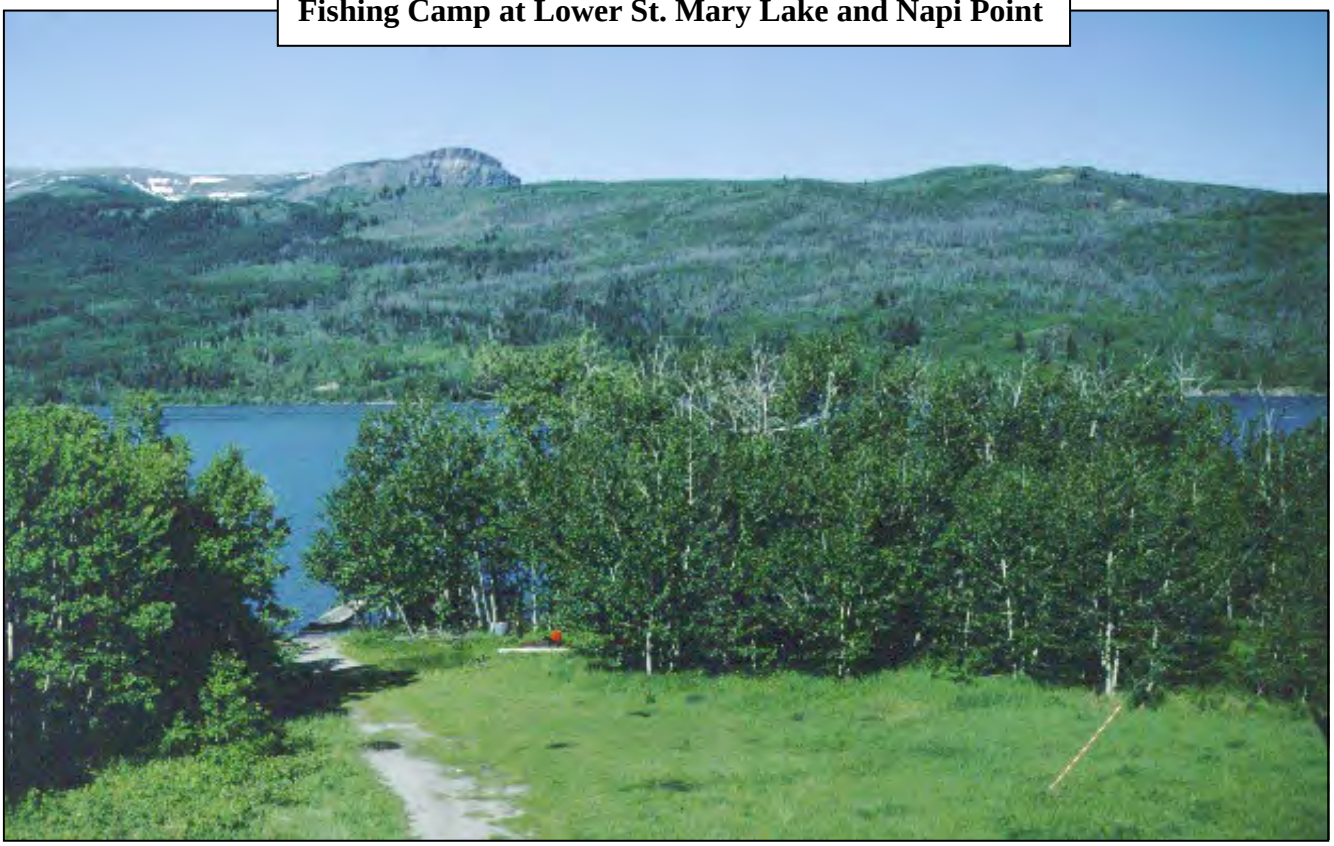
Photo point is on the west edge of Highway 89 on the east side of Lower St. Mary Lake on the Blackfeet Indian Reservation. This point is approximately 0.3 miles NW of Thunderbird Island. View is to the west across the lake toward the Boulder Creek – St. Mary River divide with East Flattop Mountain and Napi Point in the left distance.

Narrative:

The 1984 Napi Point fire burned much of the ridge above the Lake creating fine deer & elk habitat. The 2001 photo shows the 16-year recovery after burning. In the unburned portion on the left and far right, much conifer growth has occurred in the 61 years between photos.



Fishing Camp at Lower St. Mary Lake and Napi Point



Former Red Eagle Lookout Meadow

Photos:

May 17, 1963	C. R. Wasem	W5T.1963
June 28, 2000	Dave Shea	W5T.2000

Photo Point:

UTM: 320.3 E	5398.6 N	Zone 12	Elevation - 4840’

Location Description:

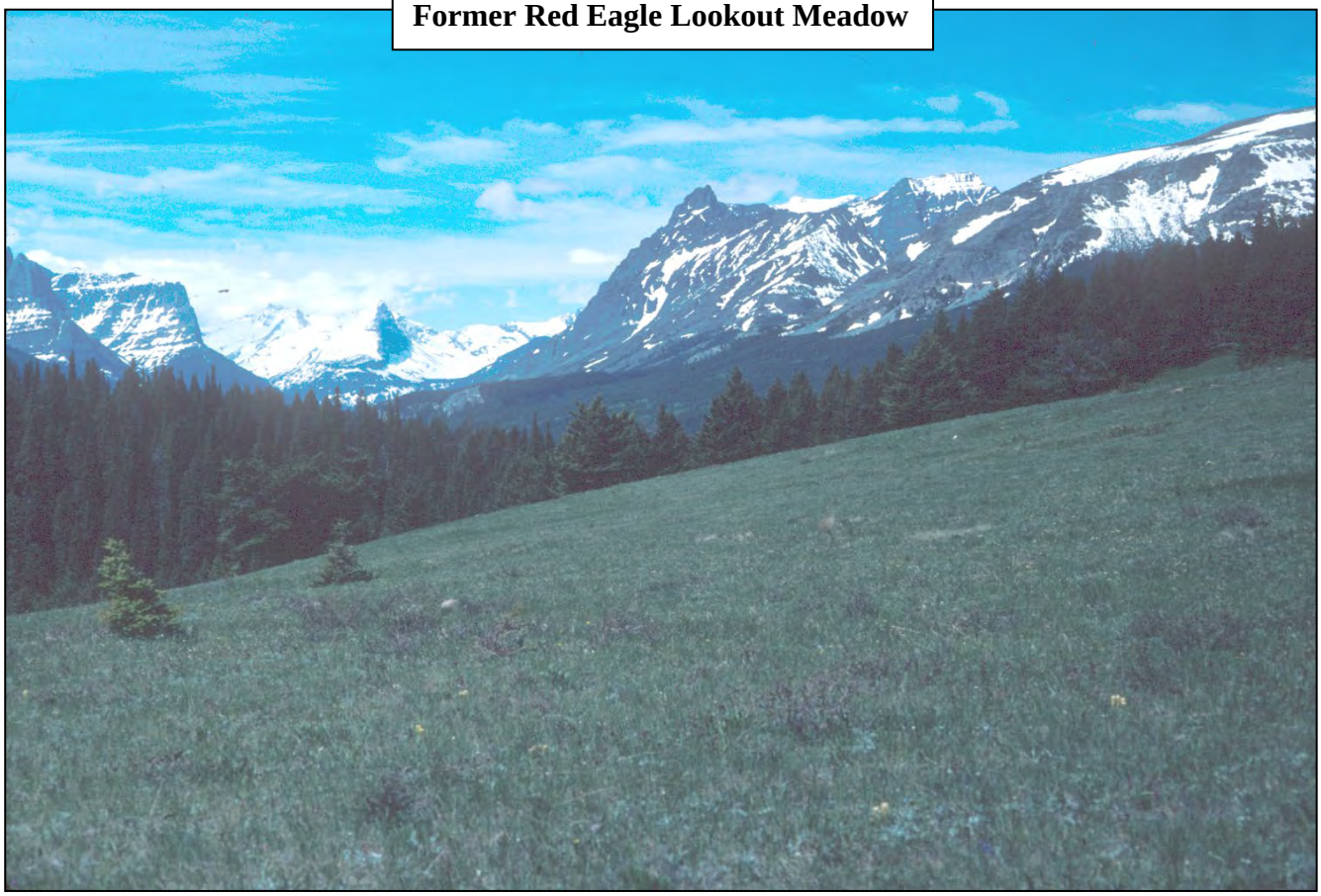
Photos taken in Glacier National Park 0.1 mile west of the Red Eagle Lake trail, in the meadow which was the site of the former Red Eagle Lookout, approximately 1.7 miles by trail from the 1913 St Mary Ranger Station trailhead. View is west toward Otokomi Mountain on the right, Goat Mountain in the center, and Fusillade and Citadel Mountains to the left.

Narrative:

This native fescue meadow has a history of grazing by concessionaire and Park livestock, and a dirt road ran upslope in the middle ground to the former Lookout site. Despite these disturbances native vegetation prevails except around the Lookout site. A vegetation transect established along the far slope by Wildlife Biologist C.R. Wasem in 1963 (Wasem, 1964) showed excellent ground cover (nearly 100%) when it was resampled 37 years later. Deer, elk, and bear frequent this area and it is important late winter and spring elk range.



Former Red Eagle Lookout Meadow



Milk River Ridge East of Park #1

Photos:

1926	Unknown	G15605.1926
May 26, 2000	Dave Shea	G15605.2000

Photo Point:

UTM:	329.8 E	5389.8 N	Zone 12	Elevation - 5650’

Location Description:

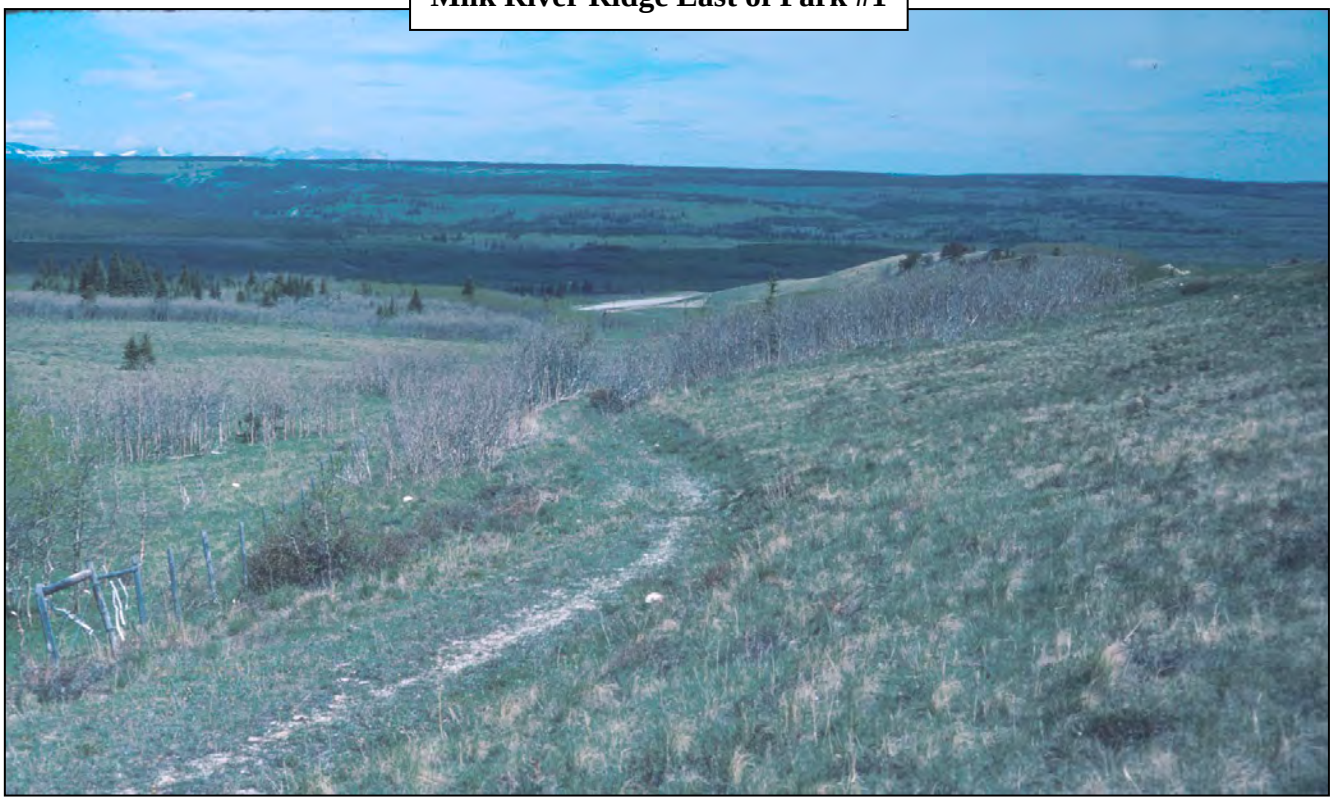
Taken from the north side of Milk River Ridge on the Blackfeet Indian Reservation, just west of Highway 89 and approximately 3.2 miles east of the Park. View is NW toward the headwaters of Milk River and Hudson Bay Divide.

Narrative:

This is the original road paralleling the east front of the mountains, located just below present Highway 89. In the 74 years between photos there has been considerable aspen and conifer growth. Domestic cattle heavily graze these native fescue bunchgrass prairies annually. Bison grazed them historically. The area is good deer, elk, moose, and bear range. Leaves are not yet on the aspen in the lower, early spring photo. Most of these vast aspen and conifer stands last burned in 1778 and 1842.



Milk River Ridge East of Park #1



Milk River Ridge East of Park #2

Photos:

Circa 1914	R. E. Marble	H1709.1914
May 26, 2000	Dave Shea	H1709.2000

Photo Point:

UTM:	329.7 E	5389.5 N	Zone 12	Elevation - 5650’

Location Description:

Photo point is just above Highway 89 on the Blackfeet Reservation just south of the highest point on Milk River Ridge, about three miles East of the Park boundary. View is SE toward Milk River Ridge on the left and the peaks of Lewis and Clark National Forest in the right distance.

Narrative:

Milk River Ridge is formed of hummocky loose glacial debris. In the 84 years between photos extensive conifer and aspen growth has occurred. Many of the ridgetop trees are whitebark pine, and the meadows are native fescue bunchgrass. Domestic cattle graze here every summer, and this is also good deer, elk, and bear habitat. The photo point is on the original dirt road just above Highway 89. Both roads pass through the gap in Milk River Ridge formed by glacial ice.



Milk River Ridge East of Park #2



Cut Bank Chalet Site

Photos:

circa 1935	Hileman	H7682
May 26, 2000	Dave Shea	H7682.2000S_c

Photo Point:

UTM:	322.4 E	5384.9 N	Zone 12	Elevation - 5160’

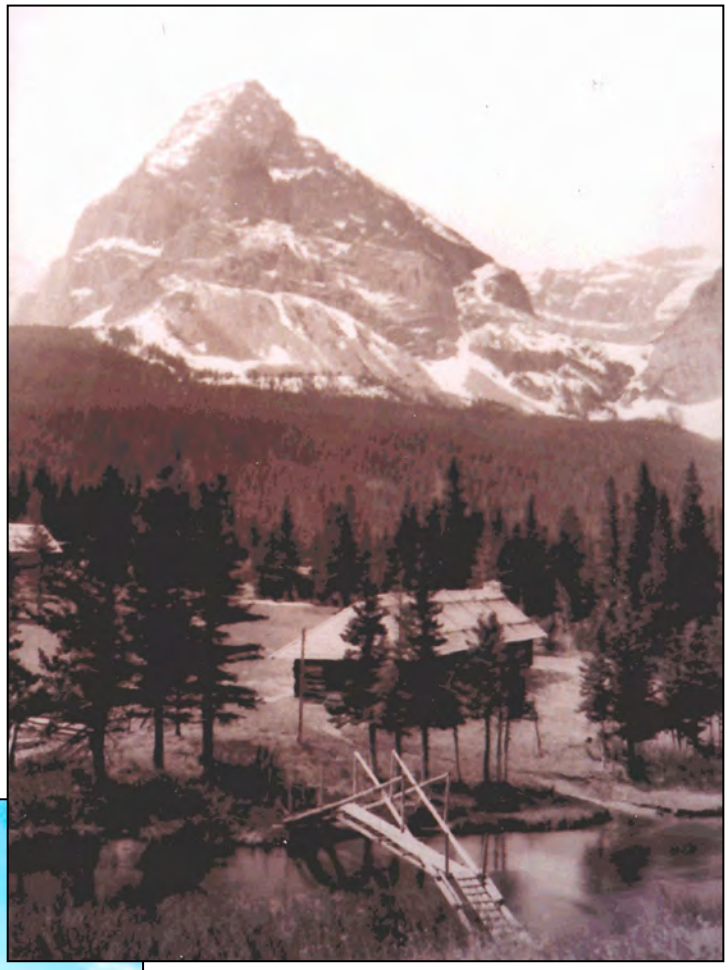
Location Description:

Photo point is in Glacier National Park, 1.0 mile up the Cut Bank Valley trail from the trailhead near the campground, on the north side of the creek and slightly above the trail. View is SSW toward Bad Marriage Mountain.

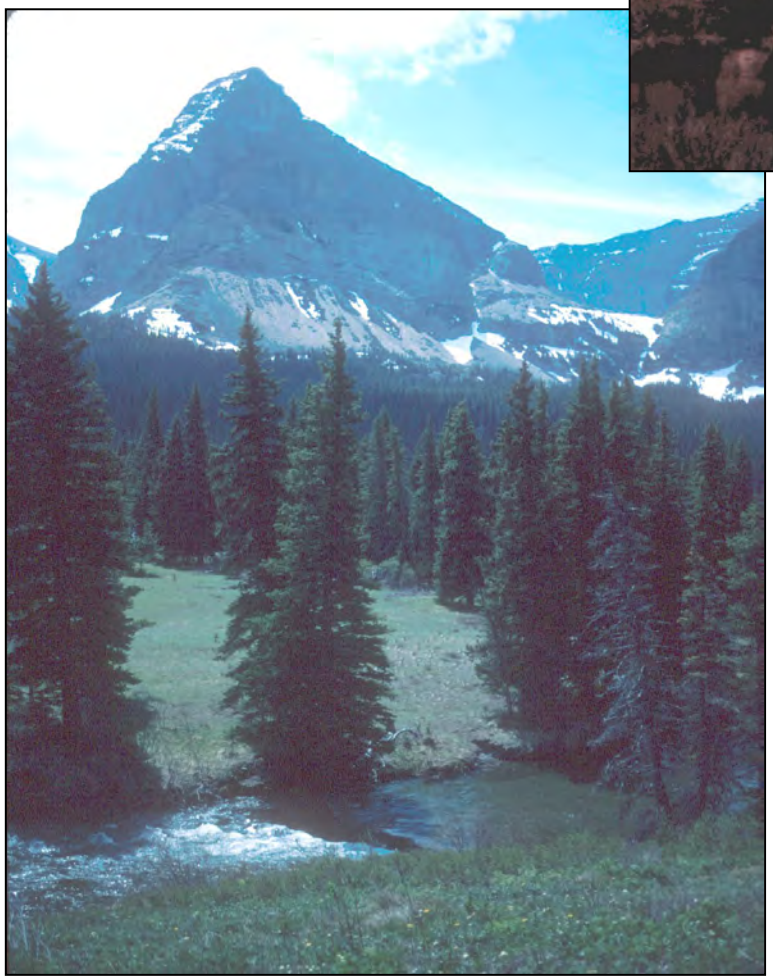
Narrative:

This was the site of a great deal of activity in the early days of the Park. The Great Northern Railroad built Cut Bank Chalet in 1911, a midway point between the Two Medicine and St. Mary Chalets. Motor vehicles could reach the chalet on a road extending from the present campground, and it also received heavy use by W. N. Hoffsinger’s Park Saddle Horse Company. Most of these tourist facilities fell into disrepair during World War II, and Cut Bank Chalet was torn down by 1949 (Buckholtz, 1976). Remnants of the old road, foot-bridge abutments, and horse ford still remain. A few building foundation stones are also still present, as is a great deal of exotic vegetation in the immediate area.

Vigorous conifer growth is evident in the approximately 65 years between photos. The last major fires in this area occurred in the late 1700’s and mid-1800’s. Such creek bottom bunchgrass meadows are good habitat for deer, moose, bear, and ground squirrels. Bighorn sheep roam the nearby foothills.



Cut Bank Chalet Site



Cut Bank Ridge and Ranger Station

Photos:

October 3, 1935 (1430 hours)	McLaughlin	G12978.1935
August 17, 2000	Dave Shea	G12978.2000

Photo Point:

UTM:	326.1 E	5384.6 N	Zone 12	Elevation - 6300’

Location Description:

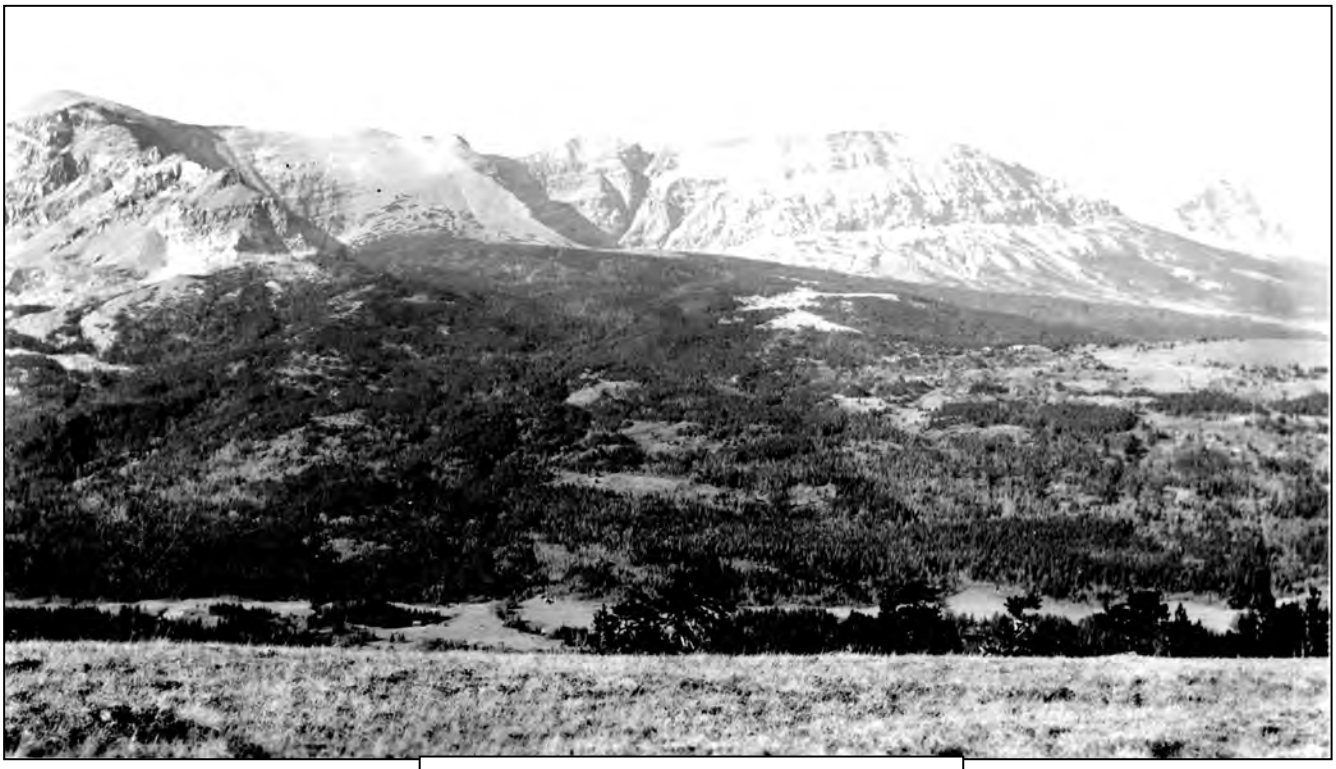
Taken slightly down from the crest of Cut Bank Ridge on north side, approximately 0.1 mile west of the Park boundary swath in Glacier National Park. View is NW toward Kupunkamint Mountain on the left, White Calf Mountain in the middle, and Divide Mountain in the distant right. Cut Bank Ranger Station and barn are visible in the Cut Bank Creek valley, and Milk River Ridge rises behind. The boundary swath may be faintly seen in the lower right.

Narrative:

Considerable encroachment by conifers and aspen is evident in the 65 years between photos, in both the valley bottoms and upper slopes. The large limber pine in the middle foreground is now nearly dead. On the other hand, the fine native fescue high mountain meadow system near the Milk River ridgetop and in line with White Calf Mountain remains little changed and in good condition.

The Cut Bank valley was a favorite haunt of the Blackfeet Indians. A much-used historic trail wound up the valley and over the Continental Divide at Cut Bank Pass and down into Nyack Creek on the west side.

These photos show a wide expanse of excellent wildlife habitat, much used by white-tailed and mule deer, elk, moose, bighorn sheep, black and grizzly bears. Much summer trespass grazing by domestic sheep, cattle, and horses occurred in the area and continues today, particularly on Cut Bank Ridge in the foreground. The last fires in the area burned in 1842 and 1846.



Cut Bank Ridge and Ranger Station



Cut Bank to Kupunkamint

Photos:

1969	John A. Tyers	S1925.1968
September 14, 2001	Dave Shea	S1925.2001

Photo Point:

UTM: 324.3 E	5385.7 N	Zone 12	Elevation - 5130’

Location Description:

Photo point is near the SE edge of the large meadow just west of Cut Bank Campground in Glacier National Park. View is to the NW across the meadow toward Kupunkamint Mountain.

Narrative:

A Park Service trail traverses this native fescue bunchgrass meadow as does the road to Cut Bank Campground. Some domestic livestock grazing has occurred here and a few exotics are present along the trail and roadsides. No significant changes have occurred in the 32 years between photos. Columbian ground squirrels and pocket gophers are common here, as are coyote, badger, deer, moose, bear, and formerly bison.



Cut Bank to Kupunkamint



Cut Bank Valley #1

Photos:

July 17, 1932	George A.Grant	Grant G.76.1932
May 26, 2000	Dave Shea	G76.2000

Photo Point:

UTM: 327.3 E 5387.1 N Zone 12 Elevation - 5090’

Location Description:

Taken just to the south of the Cut Bank Ranger Station Road, 1.1 miles east of the Park boundary on the Blackfeet Indian Reservation. View is WSW toward Bad Marriage Mountain on the left, Razoredge Mountain in the distant center, and Mount James on the right.

Narrative:

Much aspen and subalpine fir growth has occurred in the 68 years between photos. This is historically buffalo range, and domestic cattle now graze the valley every summer. Exotic plant species dominate these meadows. Deer, elk, moose, bighorn sheep, and bear are all common in the area. This Cut Bank Valley was a favorite haunt of the Blackfeet Indians. A much-used historic trail wound up the valley and over the Continental Divide at Cut Bank Pass and down into Nyack Creek on the west side. The last major fires in this drainage occurred in the late 1700’s and mid-1800’s.



Cut Bank Valley #1



Cut Bank Valley #2

Photos:

1932	George A. Grant	Grant G.79.1932
August 25, 2000	Dave Shea	G79a.2000

Photo Point:

UTM: 324.3 E 5385.7 N Zone 12 Elevation - 5150’

Location Description:

Taken just south of the Cut Bank Pass trail, in the large meadow just west of Cut Bank Campground in Glacier National Park. View is WSW to Bad Marriage and Razoredge Mountains, and Mount James on the far right.

Narrative:

The creek bottom willow flats look much the same as 68 years ago. Coniferous forest of lodgepole, Engelmann spruce (*Picea engelmannii*), and subalpine fir has flourished with the exclusion of fire. The native fescue bunchgrass meadow in the foreground remains in good condition, though occasionally grazed by trespass livestock. The meadow is also crossed by a Park Service trail, formerly a road to the historic Cut Bank Chalet, a mile further up the valley. This area was a favorite haunt of the Blackfeet Indians. A much-used historic trail wound up the valley and over the Continental Divide at Cut Bank Pass, and down into Nyack Creek on the west side. Deer, elk, moose, bighorn sheep, and bear are common. The last major fires in this drainage occurred in the late 1700’s and mid-1800’s.



Cut Bank Valley #2



Cut Bank Valley #3

Photos:

October 10, 1935 (1000 hours)	McLaughlin	G12961.1935
June 8, 2001	Dave Shea	G12978.2000

Photo Point:

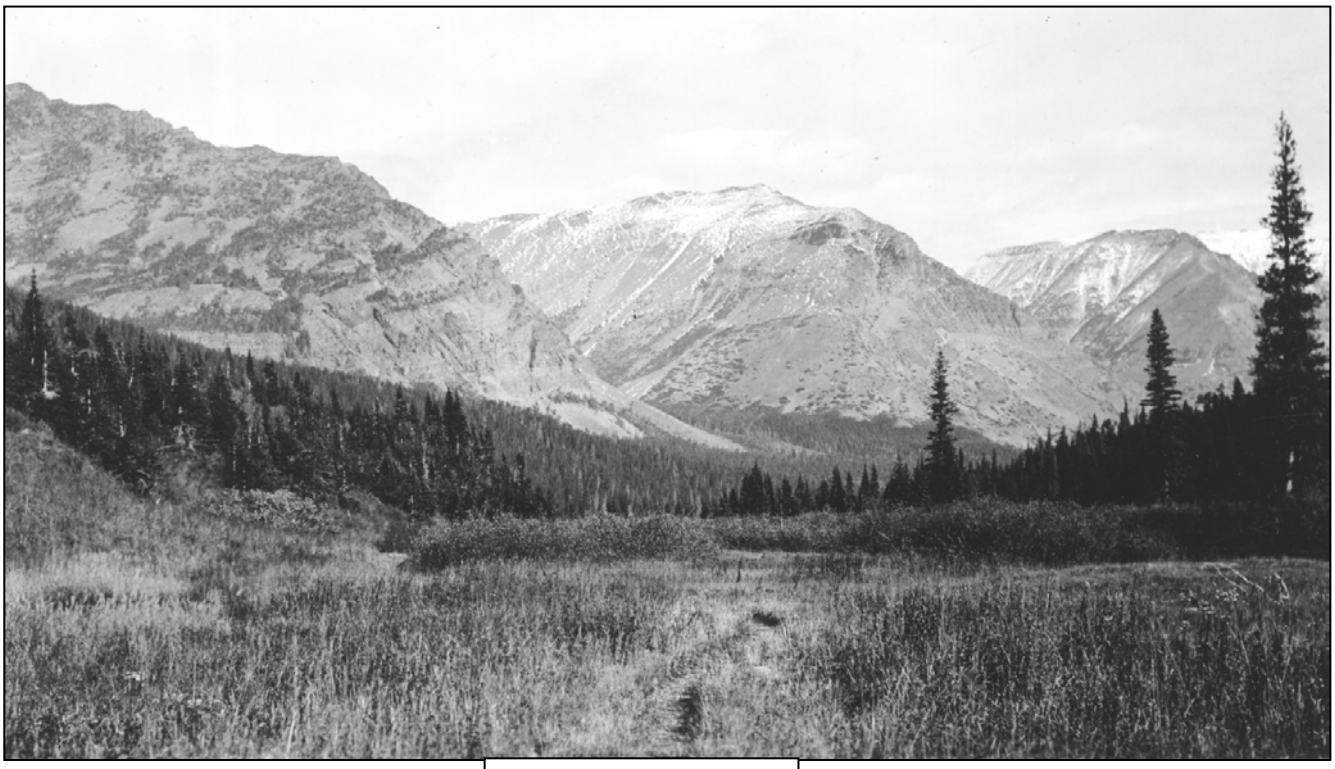
UTM: 319.0 E 5382.0 N Zone 12 Elevation - 5360’

Location Description:

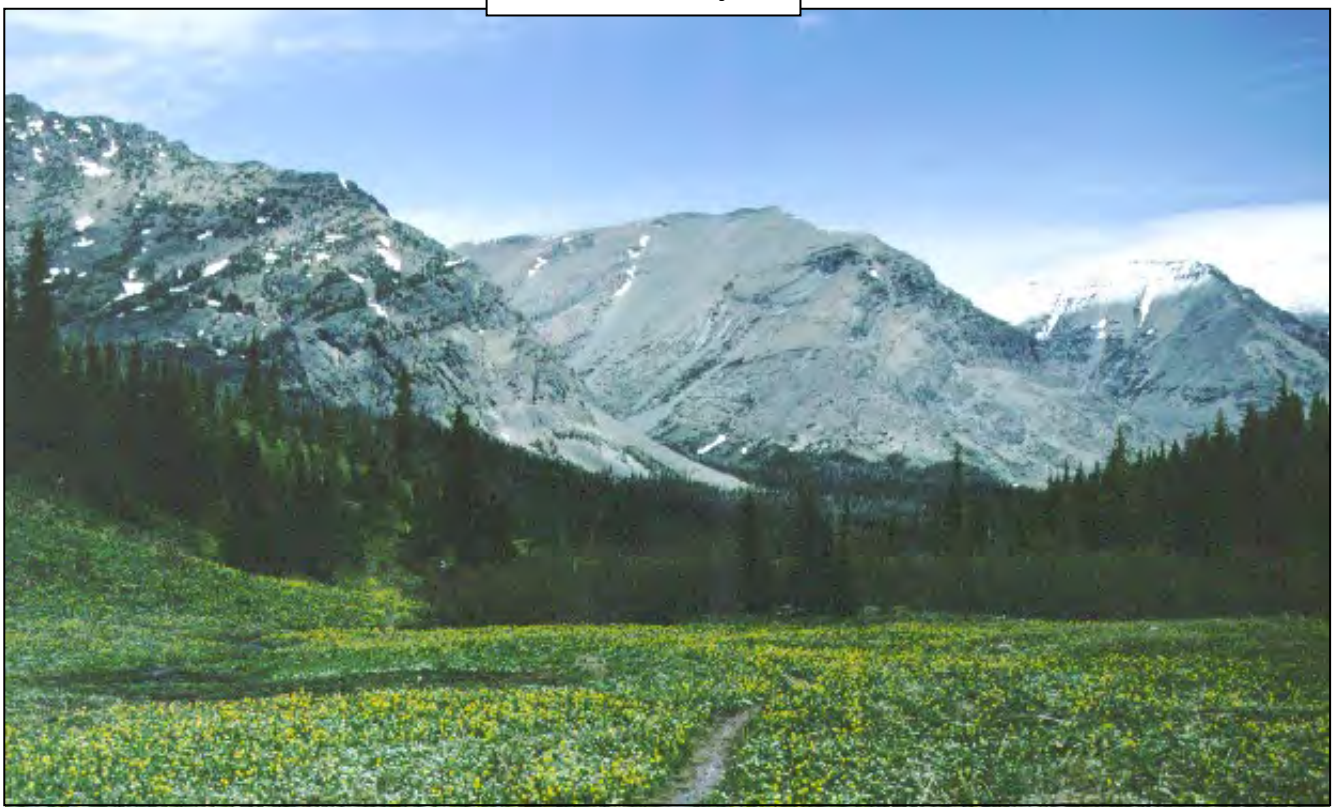
Photo point is along the Cut Bank Pass Trail about 0.5 mile south of Atlantic Falls, beneath the east slopes of Medicine Grizzly Peak. View is north toward Mount James on the left, Amphitheater Mountain in the center, and Kupunkamint Mountain to the right.

Narrative:

This high moist meadow is covered by glacier lilies (*Erythronium grandiflorum*) and spring beauties (*Claytonia lanceolata*) in early June. Fresh coyote, deer, elk and grizzly sign, and a moose antler were all nearby when the recent photo was taken. With the exception of more conifer growth in the middle ground and less brush on the meadow edges, little change is evident in the 66 years between photos. This is the historic trail leading over Cut Bank Pass and to the west side of the Continental Divide.



Cut Bank Valley #3



Spot Mountain from Looking Glass Ridge

Photos:

July 25, 1936 (0930 hours)	Saylor	G13185.1936
June 9, 2000	Dave Shea	G13185.2000

Photo Point:

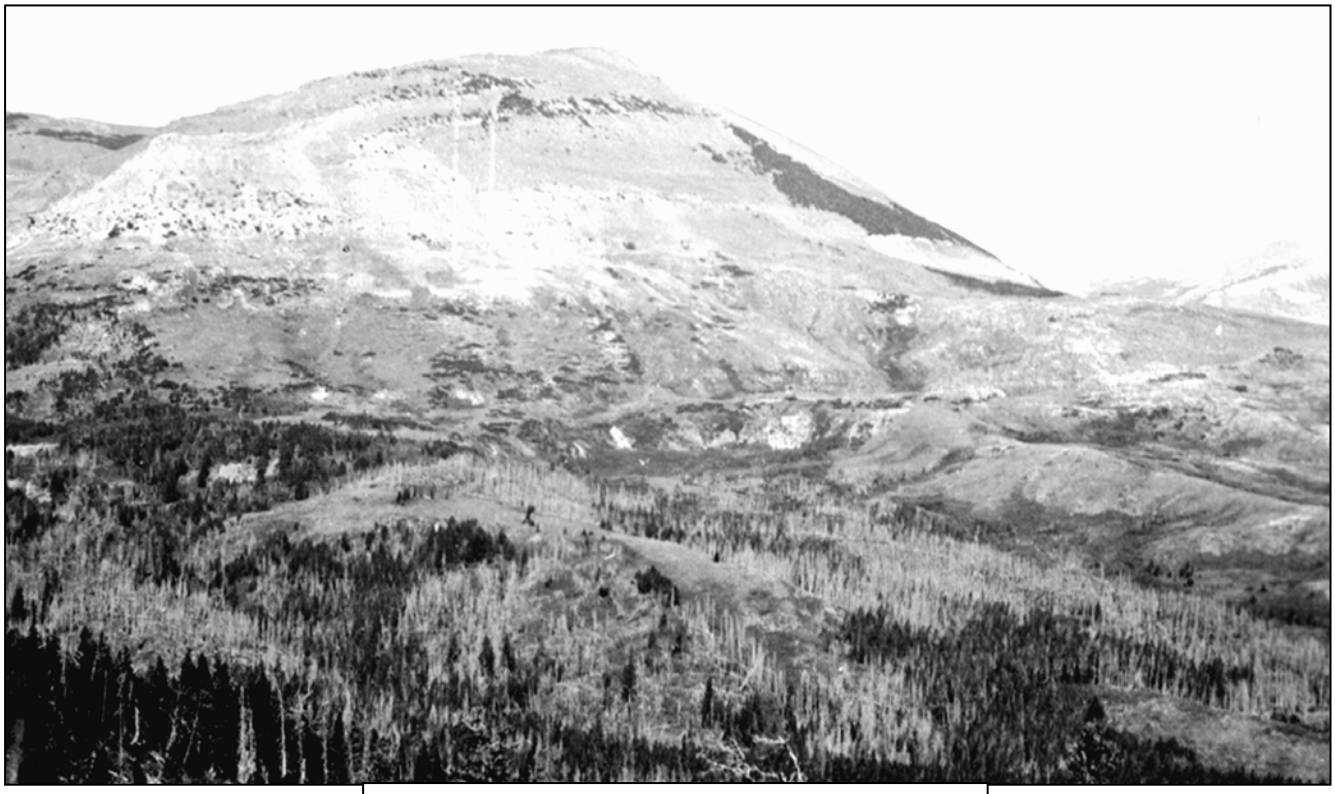
UTM: 329.6 E 5377.4 N Zone 12 Elevation - 5960’

Location Description:

Photo point is at the west edge of Highway 49 at Looking Glass Hill, approximately 250 feet north of the dirt road junction to the former BIA Looking Glass Lookout. This is on the Blackfeet Indian Reservation approximately 0.45 mile east of the Park boundary. View is WNW into Glacier National Park to the eastern summit of Spot Mountain.

Narrative:

Very many snags are present in the 1936 photo, a result of a large 1919 burn. In the 64 years between photos the aspen and conifer stands on the lower slopes have all regenerated. The dark patches of subalpine fir on the upper portion of Spot Mountain are virtually unchanged, however. The grassy slopes are native fescue bunchgrasses and sedges. This is excellent bighorn sheep, mountain goat, and bear country. Domestic cattle annually graze here, and the old Park Service boundary trail from Cut Bank to Two Medicine traversed the lower slopes.



Spot Mountain from Looking Glass Ridge



Spot Mountain Meadow to Lower Two Medicine Lake

Photos:

May, 1963	C. R. Wasem	WLS1.1963
June 29, 2000	Dave Shea	WLS1.2000

Photo Point:

UTM: 327.1 E	5375.6 N	Zone 12	Elevation - 5285’

Location Description:

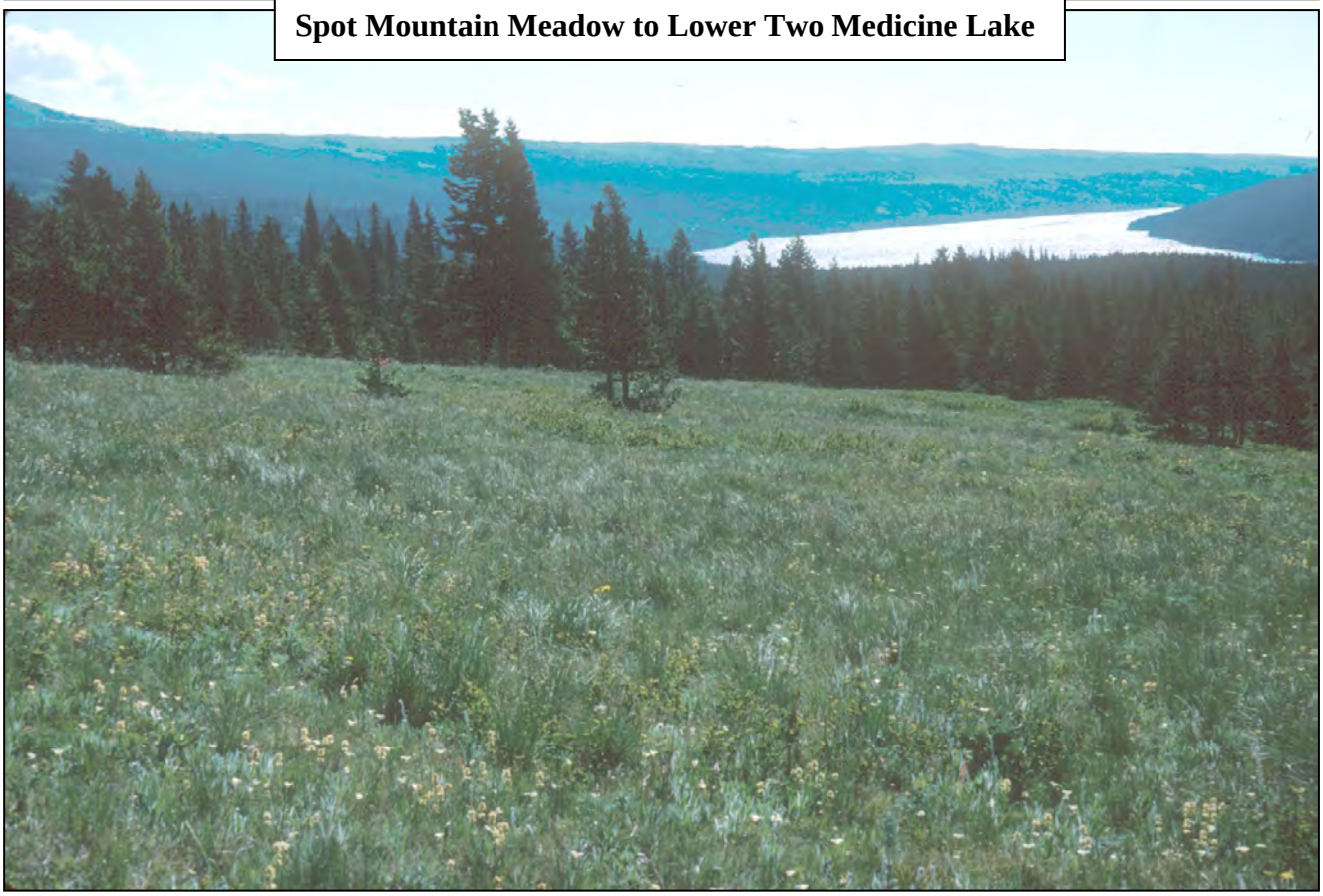
Photo point is in the meadow on the south side of Spot Mountain in Glacier National Park, 0.7 mile NW of the Two Medicine Entrance Station and just north of the Dry Fork Trail. View is to the ESE with Two Medicine Ridge in the left distance, Lower Two Medicine Lake Reservoir, and the north slope of Scenic Point on the far right.

Narrative:

The photo points are slightly different to avoid obscuring vegetation. Many downed snags from the 1919 fire are evident in the 1963 view. Very little downed woody material in 1963 remained when the site was visited in 2000, but some rocks could be relocated. This is the same meadow as WLS2. The cluster of larger conifers on the meadow edge and just to the left of center is visible in both photos. The now abandoned Boundary Trail passes those trees and the nail in a sign visible in the 1963 photo is still imbedded in one of the trees.



Spot Mountain Meadow to Lower Two Medicine Lake



Spot Mountain Meadow to Rising Wolf

Photos:

May 2, 1963	C. R. Wasem	WLS2.1963
June 29, 2000	Dave Shea	WLS2.2000

Photo Point:

UTM:	327.1 E	5375.6 N	Zone 12	Elevation - 5320’

Location Description:

Photo point is in the meadow on the south side of Spot Mountain in Glacier National Park, 0.7 mile NW of the Two Medicine Entrance Station and just north of the Dry Fork Trail. View is west with Rising Wolf in the left distance and the south shoulder of Spot Mountain above the meadow.

Narrative:

This native fescue bunchgrass meadow burned in 1919, and several snags on the ground are evident in the 1963 photo. All snags are now gone and in the 37 years between photos much lodgepole regeneration has occurred. A Park Service trail traverses the area, and some domestic livestock trespass occurs. This is good deer, elk, bighorn sheep, and bear habitat.



Spot Mountain Meadow to Rising Wolf



Spot Mountain Meadow

Photos:

May 16, 1963	C. R. Wasem	W3B.1963
June 12, 1999	Dave Shea	W3B.1999

Photo Point:

UTM: 327.1 E	5375.6 N	Zone 12	Elevation - 5285’

Location Description:

Photos taken in Glacier National Park in a meadow on south side of Spot Mountain, 0.7 mile NW of the Two Medicine Entrance Station, and just north of the Dry Fork Trail. View is SE toward the head of Lower Two Medicine Lake and the lower NE slopes of Scenic Point.

Narrative:

Much woody debris is evident in the 1963 photo, a result of a 1919 burn. Thirty-seven years later it is gone, and lodgepole pine are encroaching into the meadow edges. Native fescue bunchgrass dominates the prairie and despite some livestock trespass from the east, very few exotics are present. This is good deer, elk, and moose country, and occasionally bighorn sheep in winter.



Spot Mountain Meadow



Two Medicine Ranger Station #1

Photos:

October, 1959	C. R. Wasem	Wasem5902
June 3, 2000	Dave Shea	Wasem 5902.2000

Photo Point:

UTM: 328.1 E	5374.8 N	Zone 12	Elevation - 4900’

Location Description:

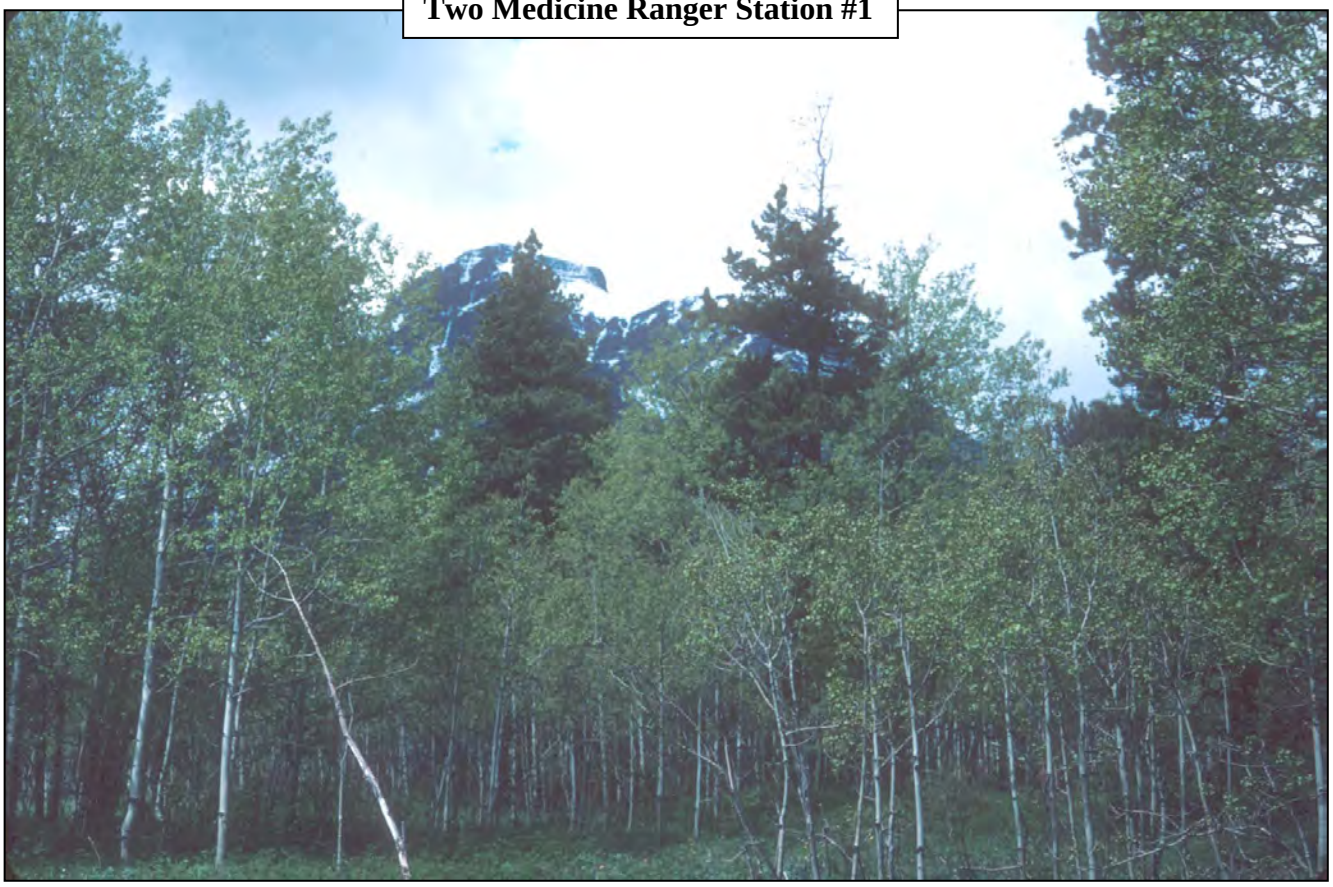
Photos taken in Glacier National Park 0.1 mile SE of the Two Medicine Entrance Station, at the former site of the Two Medicine Ranger Station. View is west toward Rising Wolf Mountain.

Narrative:

Two Medicine Ranger Station was one of the original stations on the east side of the Park, until abandoned in the mid 1960’s. It was torn down in 1970 and now virtually no trace remains of the buildings or corral area. The rapid growth of aspen saplings and the aging of lodgepole pine are clearly evident.



Two Medicine Ranger Station #1



Two Medicine Ranger Station #2

Photos:

August, 1959	C. R. Wasem	Wasem5901
June 10, 2000	Dave Shea	Wasem 5901.2000

Photo Point:

UTM: 328.15 E 5374.95 N Zone 12 Elevation - 4900’

Location Description:

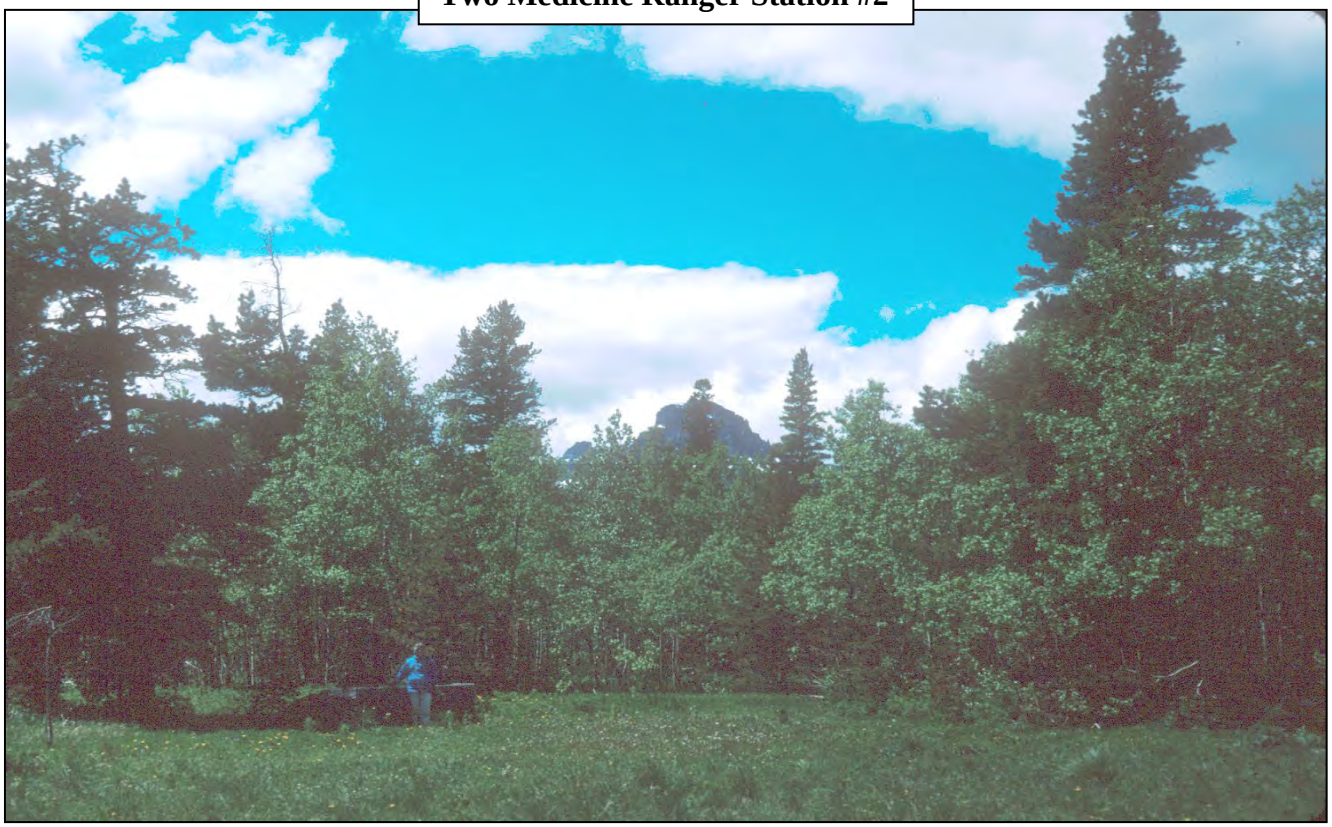
Photo point is 0.1 mile SE of the Two Medicine Entrance Station in Glacier National Park, at the former site of the Two Medicine Ranger Station. View is SW toward Sinopah Mountain.

Narrative:

The lodgepole to the left of the flagpole in the photo above is the one with a dead top in the lower photo. The horse ramp in the foreground is a recent addition. Rapid aspen and conifer growth has occurred over the 41 years between photos.



Two Medicine Ranger Station #2



Pray Lake

Photos:

1939	Hileman	H1022.1939
June 10, 2000	Dave Shea	H1022.2000

Photo Point:

UTM:	325.3 E	5373.4 N	Zone 12	Elevation - 5165’

Location Description:

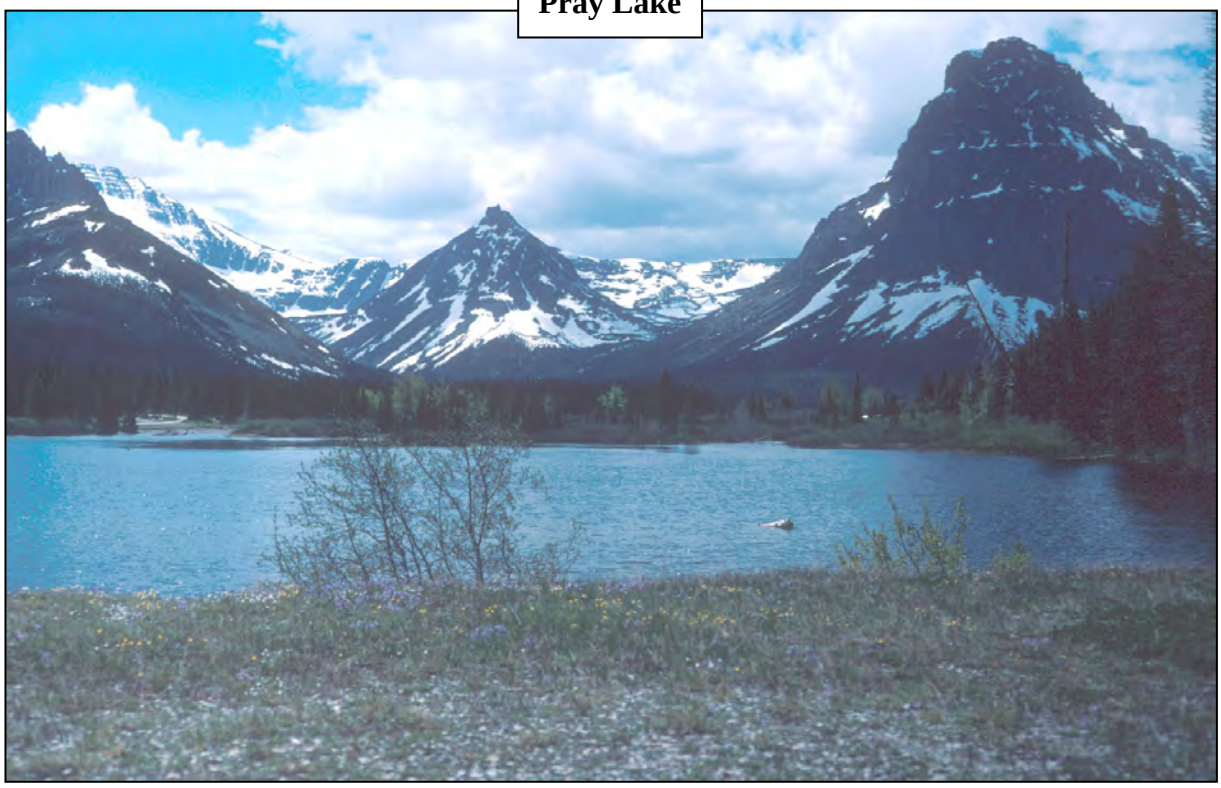
Taken from NE shore of Pray Lake in Glacier National Park, just southeast of the outlet. View is SW overlooking Pray Lake, with Painted Tepee Mountain in the left center and Sinopah Mountain on the right.

Narrative:

Lakeside vegetation remains much the same in the 61 years between photos. The large lodgepole in the far right foreground in the early photo is now but a stump. The foreground flat has received extensive human use and much exotic vegetation is present. Historically, it was a favorite summer campsite for Native Americans, and was later used as a Park Service campground. The last large stand-replacing fires in the area occurred in 1715, 1761 and 1875.



Pray Lake



Pray Lake Inlet

Photos:

1914	R. E. Marble	H1655.1914
June 21, 2001	Dave Shea	H1655.2001

Photo Point:

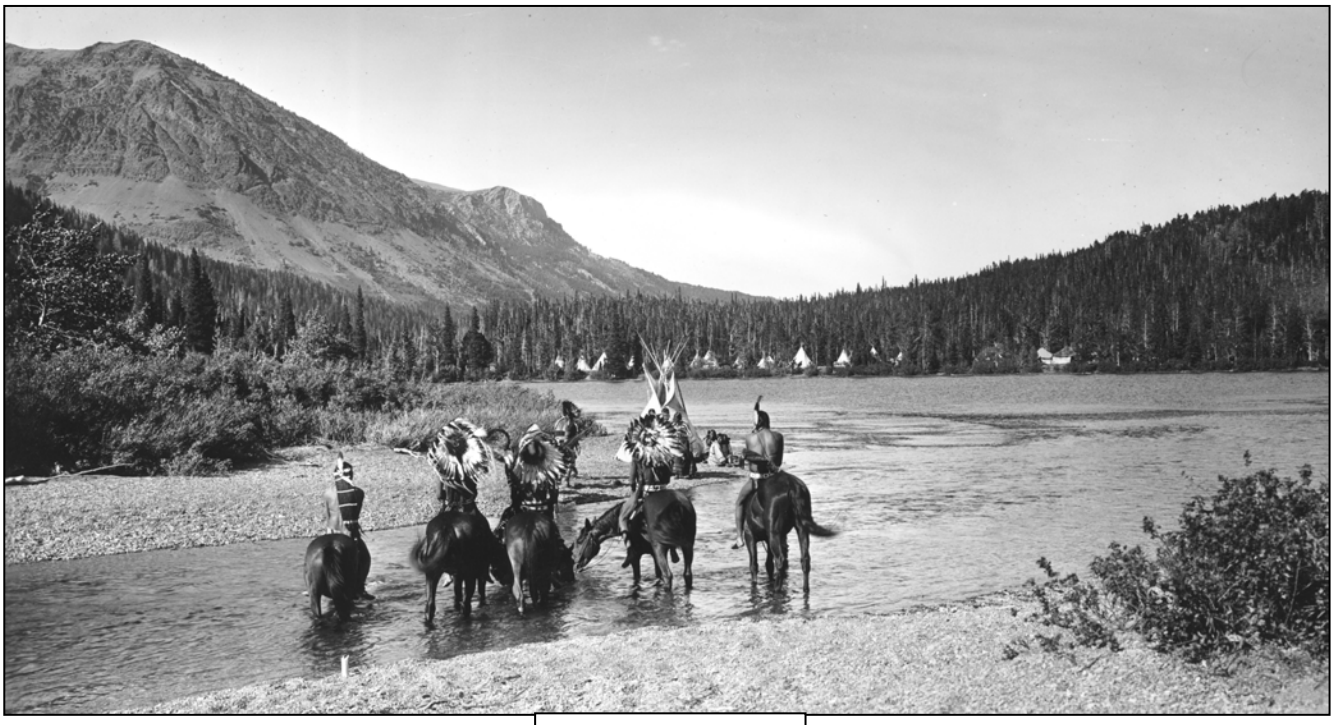
UTM: 325.15 E 5373.1 N Zone 12 Elevation - 5165’

Location Description:

Photo point is at the south end of Pray Lake in Glacier National Park, just east of the inlet. View is NNE toward Spot Mountain.

Narrative:

After the Park was established in 1910, the Great Northern Railway encouraged the local Blackfeet to camp and pose for early tourists. The tepee camp at the far end of the lake was an historic gathering place for Native Americans, and is the site of the present Park Service Two Medicine campground. In the 87 years between photos, the vegetation patterns remain much the same. Numerous high water events have widened the inlet and eroded the near shoreline. This is still good bighorn sheep, mountain goat, deer, elk, and bear country.



Pray Lake Inlet



Double Mountain

Photos:

September 1963	C. R. Wasem	W1T.1963
May 17, 2001	Dave Shea	W1T.2001

Photo Point:

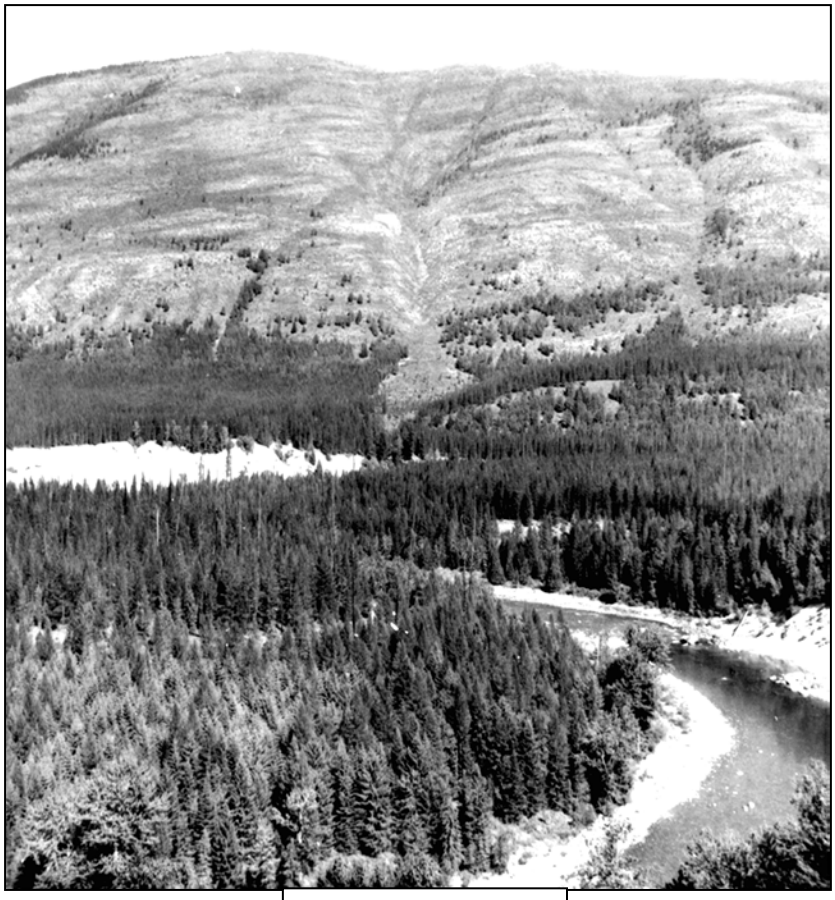
UTM:	301.4 E	5361.1 N	Zone 12	Elevation - 3670’

Location Description:

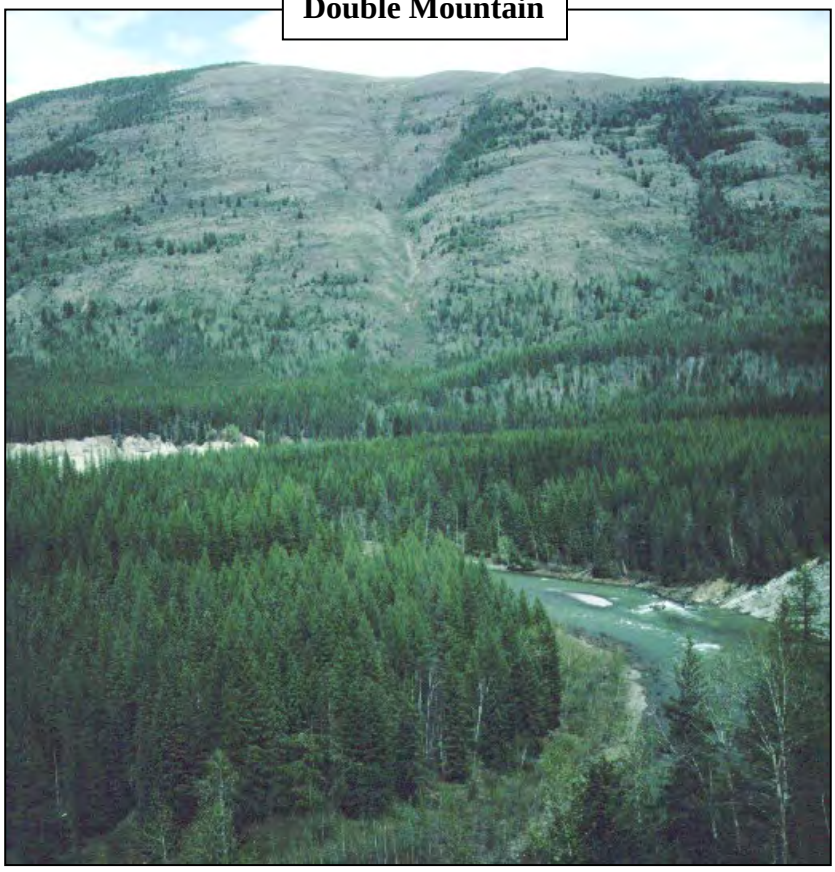
Photo point is at the north end of the railroad tunnel on the east side of the tracks looking NE across the Middle Fork of the Flathead River to Double Mountain in Glacier National Park. The tunnel is east and downslope from Highway 2, and just above the mouth of Tunnel Creek off of Great Northern Mountain.

Narrative:

This site is actually on the west side of the Continental Divide, but changes over the last four decades are no less interesting. Vegetation growth has been slow on the dry SW facing slopes of Double Mountain, since the area burned in 1910. In the 38 years between photos some aspen, paper birch (*Betula papyifera*), and conifers have crept up the draws. The riverbottom conifers on the floodplain are flourishing, despite at least three major floods between photos. Only a few taller conifers in small patches along the river survived the 1910 fire. Snow on Double Mountain melts off early making this fine deer, elk, and bear habitat in late winter and spring.



Double Mountain



Appendix 1. Scientific names of plants mentioned in document text. List is not comprehensive of all species found in pictured meadows.

balsamroot, arrowleaf	(*Balsamorhiza sagittata*)
bearded wheatgrass	(*Elymus trachycaulus*)
black cottonwood/cottonwood	(*Populus balsamifera*)
blanketflower	(*Gaillardia aristata*)
bluebunch wheatgrass	(*Elymus spicatus*)
bluejoint	(*Calamagrostis canadensis*)
California brome	(*Bromus carinatus*)
Columbia needlegrass	(*Stipa nelsonii*)
Douglas fir	(*Psuedotsuga menziesii*)
Engelmann spruce	(*Picea engelmannii*)
glacier lily	(*Erythronium grandiflorum*)
Idaho fescue	(*Festuca idahoensis*)
Kentucky bluegrass	(*Poa pratensis*)
kinnikinnick	(*Arctostaphylos uva-ursi*)
leafy spurge	(*Euphorbia esula*)
limber pine	(*Pinus flexilis*)
lodgepole pine/lodgepole	(*Pinus contorta*)
lupine, silky	(*Lupinus sericeus*)
mat muhly	(*Muhlenbergia richardsonis*)
mullein	(*Verbascum thapsus*)
paper birch	(*Betula papyrifera*)
pinegrass	(*Calamagrostis rubescens*)
prairie junegrass	(*Koeleria micrantha*)
quackgrass	(*Elymus repens*)
quaking aspen/aspen	(*Populus tremuloides*)
Richardson's needlegrass	(*Stipa richardsonii*)
rough fescue	(*Festuca campestris*)
sedge	(*Carex* spp.)
serviceberry	(*Amelanchier alnifolia*)
shrubby cinquefoil	(*Pentaphylloides floribunda*)
smooth brome	(*Bromus inermis*)
snowberry	(*Symphoricarpos albus*)
spike trisetum	(*Trisetum spicatum*)
spike-oat	(*Helictotrichon hookeri*)
spotted knapweed/knapweed	(*Centaurea maculosa*)
spring beauty, alpine	(*Claytonia lanceolata*)
subalpine fir	(*Abies lasiocarpa*)
ticklegrass	(*Agrostis scabra*)
timber oatgrass	(*Danthonia intermedia*)
timothy	(*Phleum pratense*)
willow	(*Salix* spp.)
yellow penstemon	(*Penstemon confertus*)

Glacier National Park
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