

# Appendix D

## **Historical Conditions and Human Disturbance History**

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### Upper Methow River Reach Assessment

*December 2015*

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# 1 Native Americans

Native Americans first arrived in the region 8,000 – 10,000 years ago, and originally stayed in the Methow Valley year-round. Early documents reveal inhabitants were members of three major bands of the Sinkaietk people (or Northern Okanagans). The territory of the Methow encompassed most of the drainage of the Methow River, though they moved throughout the valley during the seasons as they hunted, fished, and gathered (USBR 2008). During the extreme winters, they sheltered in large pit houses dug down several feet into the ground.



***Figure 1. Dwellings made of poles, rush mats and canvas were used by members of the Methow tribe. A photograph taken near Lake Wenatchee shows an example of similar styles of houses. Photo courtesy of Richard Hart and the Confederated Colville Tribes History Office and the Methow Grist Archive.***

Most of the historical home sites are located down towards the mouth of the Methow River in the lower valley. When the Hudson’s Bay Company started trading guns, ammunition and metal kettles for plush furs, the hunters and trappers became more interested in obtaining the plusher winter furs. That meant that winter hunting and trapping became more frequent and the trappers seasonally ventured further from the main villages, leading to more pit houses being built in the upper valley. An important village was located near today’s Winthrop, where the Chewuch River flows into the Methow. Two summer settlements were located on the upper Methow River, one near the present-day town of Mazama and one near Goat Wall (Hart 2005). When horses arrived in Okanogan County in the 1700s, the seasonal migration patterns of the Methow tribes were fundamentally altered. Since horses couldn’t eat when snow was on the ground in the valley, the tribes migrated to warmer climates to the south and east during the winter to allow for grazing, and to escape the harsh, cold winters of the Methow Valley (Portman 2002).



**Figure 2. Members of the Methow tribe stand near a canvas and rush mat covered house. The woman in the foreground is tending to curing hides. Photo Courtesy of the Shafer Museum and the Methow Grist Archive.**

Throughout this period, disturbance was relatively small-scale, and related only to using the floodplain and rivers as a basis for subsistence. However, there is some evidence of Native Americans logging huge old-growth – particularly cedars – to carve canoes. Massive stumps of trees believed to be around 500 years of age that were cut prior to Euro-American settlement in the valley have been found near Lost River. Even then, the size of those trees was rare and would have been a valuable commodity (USBR 2008). Additionally, some small fishing operations, using weirs, seine nets, spears, and basket traps, occurred throughout this time all along the Methow River and its tributaries.

Similar to other Native American tribes across the United States, the population of the Methow tribe was estimated to have been halved during the early- to mid-19th century, and then depleted by half again by 1900. By 1883, just over 300 Methow were in the valley, indicating that the population prior to European settlement may have been as high as 1,200 (Hart 2005). Under Executive Orders in 1878 and 1880, the Methow Valley was designated “Indian Land.” However, just a few years later in 1883 and 1886, the federal government opened the valley to European settlement and mining (USBR 2008).

## 2 Explorers, Fur Trappers, Traders and Miners

The first known occurrence of Anglo-Europeans visiting the basin was fur trappers in 1811. Western exploration for beaver pelts was heightened when hats utilizing beaver fur became desirable and fashionable. Large fur trading companies built up trading outposts on already established Native

American and trapper routes throughout the west, and the beginnings of white settlement in the Methow Valley occurred. Beaver was not the only fur that kept trappers in business throughout the Pacific Northwest and the Methow Valley; marten, lynx, weasel, mink, bobcat and cougar pelts were also a part of the fur trade. Native Americans, many of whom were trained by the original trappers and traders, supplied a large percentage of the pelts to the trading posts. By the mid-1800s, the fur trade had wiped out most of the species desired for their pelts, and some early residents transitioned from fur trapping to mining (Portman 2002).



***Figure 3. Downtown Winthrop during the early days when the streets were made of dirt. The buildings to the right, including the blacksmith shop, stood where Winthrop Motors and Glassworks now stand. Photo courtesy of the Shafer Museum and the Methow Grist Archive.***



**Figure 4. A stage coach boards passengers in Winthrop, date unknown. Courtesy of the Shafer Museum and the Methow Grist Archive.**

Many factors have contributed to habitat degradation in the Methow Basin. Although beaver trapping in the early 1800s may have had a small effect on riparian conditions, mining was probably the first major activity to affect riparian and stream conditions (Mullan et al. 1992). Placer mining at the mouth of the Methow River near Pateros began around 1860 by Chinese immigrants. Small mining activities continued in the Methow Basin throughout the 1870s. Hard rock mining, or the process of digging deep holes into sides of mountains, began in earnest in the late 1880s, when the first mineral discoveries in the middle Methow Valley came near Twisp. Local history suggests that a Methow Indian directed a white settler to a large ore deposit up War Creek on the Twisp River in 1886, which quickly created a rush to the Methow Valley (Portman 2002). By 1897 there were three mines listed in the Twisp Mining District – the Alder, Crescent, and Red Shirt mines.



***Figure 5. The first source of power for Winthrop came from diverted Methow River water that ran a generator, operated by the Upper Methow Valley Power and Light Company and located on the Methow River near the present-day East 20 Pizza. Photo courtesy Shafer Museum and the Methow Grist Archive.***

The mining surge in the Methow Valley peaked in the 1890s. Mining operations were carried on in the hills around Twisp, Methow, and above Winthrop for many years and some with considerable development. Goat Creek, near Mazama, had numerous productive mines, many of which were situated in very remote, rugged, and almost inaccessible areas. In 1893, a small pack trail between Robinson Creek and Slate Creek was enlarged, following the north side of the Methow Valley over a treacherous route (Lester 2013). Though somewhat more useable, this new road was still much narrower than the average wagon and had highly dangerous sections, such as Dead Horse Point, named after a pack train that slipped and fell down the thousand-foot-high cliffs.



*Figure 6. The Flying Cloud puddlejumper truck hauls lumber, probably towards the Azurite Mine, date unknown. In the early 1930s, three Model T trucks nicknamed puddlejumper were altered in Twisp. A vehicle was needed that could be driven from Robinson Creek, around Dead Horse Point and on to the Azurite Mine up and over the extremely narrow Hart's Pass. The front axle was narrowed by 12 inches and the rear axle replaced with one that allowed the trucks to gear down. An extra water tank, and an oil pump to lubricate the front bearing were also added. Ernie Cotton Collection, courtesy of the Shafer Museum and the Methow Grist Archive.*





**Figure 7. A crew delivering one of the three altered trucks to the Azurite mine, posing at Dead Horse Point for this photograph, circa 1930. Photo Courtesy of Lawrence Therriault and the Methow Grist Archive.**

Named Hart's Pass after the Colonel who ran the operation, this road is still in use today. Terminating roughly at timberline in the North Cascades near 6100 feet in elevation, it is the highest point in the State of Washington that one can drive to. Much of the mining development work in the Upper Methow Valley was limited by lack of transportation or inadequate transportation that resulted in high costs to remove and transport the minerals down to the markets. Nonetheless, near the turn of the century, mining interests near the headwaters of the Methow River and north into Slate Creek, Bonita Creek, Goat Creek, and Mill Creek increased dramatically.

As early as 1895, the Hart's Pass and Slate Creek area near the headwaters of the Methow River and high up in the Cascades was a booming gold mining district. In 1893, a prospector named Alex Barron discovered deposits up near the headwaters of the Methow River. A town, named after Barron, was built 30 miles northwest (as the crow flies) of Winthrop (Lester 2013). As more mines, such as the Eureka Mine and Mammoth Mine, were developed in the area, numerous other small settlements sprung up; the town of Robinson, near the confluence of Robinson Creek and the Methow River, and the settlement near Lost River along the Methow River are two such examples (Wolff et al. 2003, Smith et al. 2005). During its peak, there were 3,500 people working and living at the mines. A power plant was even constructed to provide electricity, in addition to the three hotels, general store, post office, blacksmith shop, sawmill, and saloon. Supplying these productive camps proved a boon for both the towns of Winthrop, Twisp, and Mazama, and for many local entrepreneurs (Portman 2002). Thirty-two miles northwest of Winthrop, in the valley of Mill Creek and further west than the Hart's Pass mining district, are the remains of the remote, barely-reachable Azurite Mine. This legendary mine began production in 1915, gradually building to a peak of activity between 1936 and 1939, and quickly fading away by the early 1940s. It produced copper,

silver and gold primarily, but due to the difficult terrain and long distance to ship freight, even after road improvements between Lost River and the mine, there were minimal profits to be made (Whiting 2013).



*Figure 8. Snow cat and sled on a trip to the Azurite mine. Date unknown. Photo courtesy of the Larry Therriault Collection and the Methow Grist Archive.*



*Figure 9. A tractor clearing deep snow along Hart's Pass. Date unknown, but probably during the war period of 1941-1945. Photo from the Frankie Waller Collection, courtesy of the Shafer Museum and the Methow Grist Archive.*

The American Smelting and Refining Company (ASARCO) leased the Azurite Mine in 1934 and dug deeper, developed the area, and assembled a crew. The winter of 1935 was an especially harsh one, and landslides destroyed many of the buildings at the Azurite Mine site (Portman 2002). Despite this, work continued throughout the bitterly cold winters. Driving or walking out from the mine site between the months of December to May was essentially impossible due to walls of snow, threatening avalanches, and difficult weather. A dog team was therefore the lifeline to the miners, bringing supplies, tools, and food in about four times a month, and in some cases a doctor up to the mine or a patient down into civilization (Portman 2002). By 1939, ASARCO terminated operations at the mine, after having failed to recoup their investments (Whiting 2013).



**Figure 10. Ed Kikendall and his dogs on a supply run to the Azurite Mine. Date unknown. From the Dick Webb Collection, courtesy of the Shafer Museum and the Methow Grist Archive.**

The historical methods of extracting minerals out of ore, soil or sediments were often detrimental to rivers at the time as well as after the mines had been closed due to contaminated runoff, waste and tailings. Due to the relatively low production of most mines in the valley, it can be surmised that effects to the Upper Methow and its tributaries were moderate and the ecosystem has since recovered (Mullan et al. 1992). However, mining likely did impact the Methow River and its tributaries by altering the hydrologic and sediment regime via the removal of instream gravels, diversion of water, and deposition of mining waste in the channel and floodplain.



**Figure 11.** *These men are using horses and a V-plow to clear the road near Mazama. Date unknown. Photo from the Dick Webb Collection, Courtesy of the Shafer Museum and the Methow Grist Archive.*

Extracting gold from the Methow's rocky hillslopes was not an easy task. The rugged terrain of the region made access difficult and hauling freight dangerous. Although there were few profitable mines in the region, the dream of striking gold led many early prospectors up the Methow River and its tributaries (Portman 2002). With these early miners and settlers, however, came the infrastructure that serviced homesteaders who followed. Cabins were built, bridges were erected, and towns popped up. Some miners and prospectors left the hills and took up raising livestock, planting crops, or harvesting timber. In addition, the increased accessibility to northern Washington in the early 1900s due to railroads and steamboats on the Columbia River transported people into the Methow Valley. This, in addition to the construction of a much safer road from Pateros to Winthrop up the lowlands of the valley compared to the narrow, rough mountain pass road that was utilized by travelers previously, made settlement in the Methow Valley a much easier prospect and brought even more homesteaders into the region (Portman 2002). Most of the land in the Methow Valley was settled by using the United States Congress Homestead Act of 1862 and the Homestead Entry Survey (HES) Act of 1906 (USBR 2008). The first homestead was noted in 1888 and by 1891, small villages began to crop up throughout the middle and upper Methow Valley, including near the present location of Winthrop (USBR 2008).

Human impacts to the valley increased during this period to accommodate the mining needs for transportation, the increased population needing goods and services, and the agricultural need for cleared, open land.

### 3 Timber Harvest, Livestock Grazing, and Other Land Use

Following the era of mining was a period of intense livestock grazing and agriculture. Agriculture and grazing were first documented in the region in 1889. Dairy cattle provided cream to local butter makers, who shipped their butter off to towns across the region in the early 1900s and which contributed considerably to the local economy (Portman 2002).



**Figure 12.** *The Winthrop creamery sat on the bank of the Methow River where the Methow Conservancy is now located. The August 7, 1913 edition of the Met-how Valley Journal writes, “In this comparatively small building is transacted a business that means much to the Upper Valley. The yearly output of butter is over one hundred thousand pounds, thereby distributing about twenty-five thousand dollars among the ranchers. The Met-how Valley butter is known throughout the state for its excellence. The main officers of the creamery, to whom much credit is due, are A. J. Haase, General Manager, and Newton Nickell, Buttermaster.” From the estates of Raymond M. and Gladys Badger and Warren F. and Lois Badger. Photo courtesy of the Shafer Museum and the Methow Grist Archive.*

Grazing pressure was highest from the late 1800s to the 1930s, lessening as allotment systems replaced the open range. Cattle and sheep grazing resulted in localized soil compaction, bank erosion, and loss of riparian understory seedlings and shrubs. Another notable human disturbance was the installation of water diversions for mining and small-scale agriculture operations throughout the region. Many of the early diversions were unscreened and resulted in direct fish mortalities, while the combination of multiple diversions withdrawing instream flows during low flow periods reduced already critical salmonid habitat.



*Figure 13. Loggers, likely men from Mazama, use four horses to pull a load of pine to the mill. Date unknown. Photo courtesy of the Northcott family and the Methow Grist Archive.*



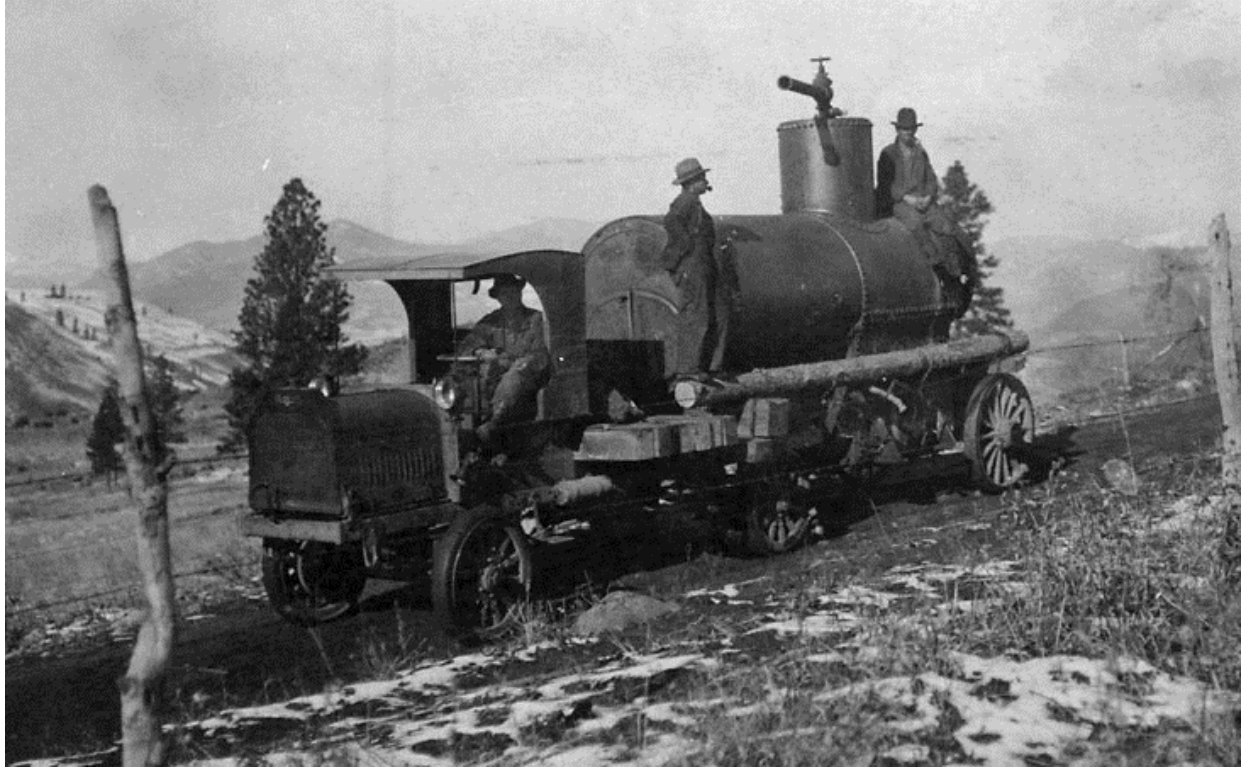
*Figure 14. A team of horses hauls large logs from the forest, likely near Mazama. From the Della Northcott Collection, courtesy of the Shafer Museum and the Methow Grist Archive.*

Timber harvest to open land for farming and grazing began in the 1880s, but the logging industry did not begin true harvesting practices until the 1920s. Selective harvest, or “high grading,” was the primary harvest method up until the mid-1950s (Portman 2002, USBR 2008). Since then, partial cutting and clear-cutting have been the predominant practices.



*Figure 15. An important local entrepreneur, Guy Waring had a sawmill at the north end of Winthrop. In the spring of 1898 it was capable of turning out 1,000 board feet of lumber per hour. Photo courtesy of the Methow Grist Archive and the Shafer Museum.*





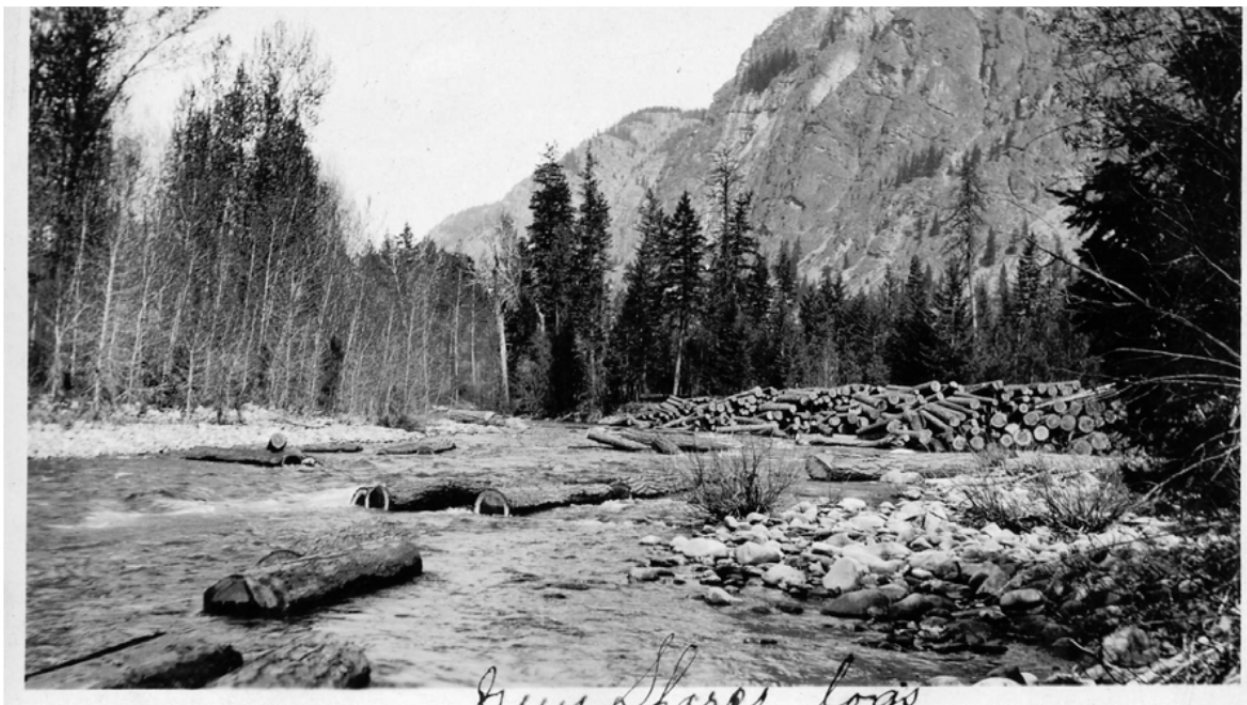
***Figure 16. In June, 1919 George Fender purchased a big, new three-and-a-half ton truck so he could haul finished lumber from the Methow down to Pateros. In July 1919, his Bear Creek mill had cut its last logs, and in August 1919 local news reported that he had moved his operation near Weeman Bridge. It may have been easier to move the mill to a new log pile than move the logs to the mill. This photograph may have captured the process of moving the boiler used to create steam to run the sawmill's blades and log carriage from the old mill site to the new site near Weeman Bridge, though it cannot be determined for sure. Photo courtesy of the Shafer Museum and the Methow Grist Archive.***

Timber harvesting in the region has played a considerable part in the changes to the hydraulic and sediment regime within the Methow River. Upland timber harvest and its associated practices have likely increased the amounts of slides and debris flows that the Methow River has experienced. Log drives that used the river to transport harvested lumber to mills likely scoured out spawning gravels (Mullan et al. 1992). Timber harvest along the valley floor led to the associated loss of the important riparian function that established vegetation serves, including flood moderation, regulation of inundation processes, shade, moderation of stream temperature fluctuations, and providing future sources of large wood material to the channel.

Past cleanouts of the channel have also had a significant impact on habitat. Following both the floods of 1948 and 1972, the Army Corps of Engineers removed natural large wood accumulations and channel substrate, as well as straightened portions of the channel, reducing available habitat and high flow refuge (USBR, 2008). Although large-scale snagging and riparian clearing is no longer occurring in the study area, the effects of this historical practice will continue to affect wood-loading for the foreseeable future.



*Figure 17. Ground photograph of log drive likely in the 1920s or 1930s on upper Methow River. Location is believed to be above Winthrop because the most commonly referenced log mills during this period were between 4 to 6 miles upstream of Winthrop. Photo courtesy of Shafer Museum.*



*Figure 18. Another log drive scene in the Upper Methow believed to be looking at Goat Wall near Mazama. Photo courtesy of Shafer Museum.*



**Figure 19. Debris pile and destroyed bridge along the Twisp River by the old creamery after the flood of 1948. Photo from the Wink Byrum Collection, courtesy of the Shafer Museum and the Methow Grist Archive.**

Flood mitigation practices of the mid- to late-1970s also included the construction of levees to prevent flooding on private property, which reduces floodplain connectivity and lateral channel migration. Riprap was also used intermittently throughout the study area as a method of bank stabilization for residential properties as well as roadway embankments and bridge abutments (USBR 2008). This armoring limits natural lateral channel migration and sediment sourcing from streambanks.

Fire suppression beginning in the early 1900s in the valley has resulted in altered fire disturbance regimes that continue today. The altered fire regime results in increased build-up of fuel loads between fires. Fires now occur further apart and the increased fuel loads have increased the risk of moderate to high intensity burns. This shifts the vegetative composition from more open stands of fire-tolerant species (primarily ponderosa pine) to higher density stands of less fire-tolerant species (primarily Douglas fir). The result is fewer large trees in the riparian zone that can be recruited into the river.

In 1972, the North Cascades Highway was completed and allowed travel through the previously quiet, largely uninhabited valley. A ski resort planned in the upper Methow Valley incited controversy and years of land development right issues (Portman 2002). Although the ski resort was never built, summer and winter recreational tourism is a large component of the business in the Methow Valley. Many vacation homes and rentals have been built in the valley, a lot of them during

the speculative ski resort period. Agriculture and cattle farming is another significant part of the economy in the valley. Today, extensive trails for hiking, cross-country skiing, and mountain biking wind through the upper Methow Valley, including within the riparian zones and floodplain areas.

The Methow River has a high proportion of pristine habitat in the upper portions of major tributaries. The primary habitat conditions in the Methow Basin that currently limit abundance, productivity, spatial structure, and diversity of salmon and steelhead (and bull trout and Pacific lamprey) are mostly found in the middle and lower mainstem and lower portions of major tributaries that have been affected by state highways, county roads, and housing and agricultural development – practices that have diminished the overall function of the stream channel and floodplain. This has impaired stream complexity, wood and gravel recruitment, floodwater retention, and water quality. Additionally, late summer subsurface flow and winter instream ice conditions often reduce migration, spawning, and rearing habitat for native salmonids. These flow conditions are largely natural in the Upper Methow (a result of watershed-specific weather and geomorphic conditions) but may be exacerbated by human disturbances and irrigation withdrawals.

Today, the study area is currently 24% public property and 76% private property within the low geomorphic surface (valley bottom), with the Okanogan National Forest accounting for a majority of the public property. Much of the private property has undergone vegetation clearing, floodplain grading, and residential development (Table 1). The low geomorphic surface within the study area has a road density of 1.88 mi/mi<sup>2</sup>.

**Table 1. Human alterations and development in the study area. The low geomorphic surface includes the contemporary floodplain and alluvial terraces.**

Metric	Value in the Low Geomorphic Surface
Road Density	1.88 mi/mi <sup>2</sup>
Public Land	24%
Private Land	76%
Portion of Channel with Levees & Bank Armoring	1%
Developed & Cleared Land	25.6%

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