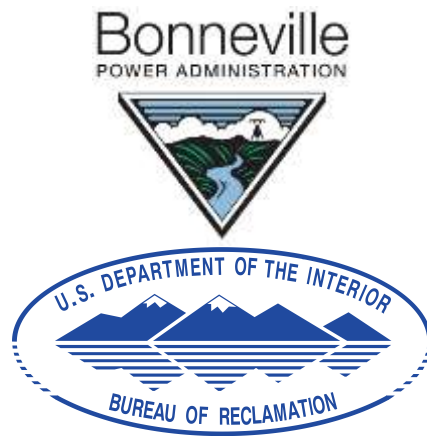


# Historic Logging Uses and Timber Management at Hungry Horse Reservoir

Produced for  
Bonneville Power Administration  
and  
U.S. Bureau of Reclamation



Under BPA Contract #77395

Submitted by:  
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HISTORICAL  
RESEARCH  
ASSOCIATES, INC.





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# Preface<sup>1</sup>

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Historical Research Associates, Inc. (HRA), prepared the following report covering the history of logging uses and timber management at Hungry Horse Reservoir under contract with Bonneville Power Administration, on behalf of the Federal Columbia River Power System’s (FCRPS) Cultural Resource Program. The report is intended to provide the federal agencies responsible for managing cultural resources at the reservoir with information to enable them to manage those resources under the terms of the National Historic Preservation Act. In addition to providing an in-depth historic context, the report is also intended to add to the overall historical record of this unique aspect of regional history.

HRA is appreciative of the individuals, organizations, and government agencies whose support and assistance made the preparation of this report possible. In particular, Greg Anderson, FCRPS Cultural Resource Project Manager, who provided the oversight and administrative direction that enabled this project to function smoothly; Bureau of Reclamation archaeologist Derek Beery who also oversaw this project and who, along with his colleagues at Reclamation, provided research advice, images, and files; Forest Service archaeologist Mike Flowers and the staff at the Flathead National Forest Supervisor’s Office and Hungry Horse Ranger District, who opened their offices and file drawers to facilitate research; and the many archivists and local subject authorities who helped fill crucial knowledge gaps and provided context and perspective to make this report complete.

Logging in the vicinity of Hungry Horse Reservoir can be traced back more than a century, and this report covers roughly 75 years of that history. Within this time frame, the report centers on the timber harvesting and clearing operations that took place within the reservoir’s flowage area from 1947–1952 and how reservoir developments facilitated subsequent logging operations in that portion of the Flathead National Forest through the 1960s. The reservoir logging and clearing project involved coordination among government agencies, clearing contractors, and more than a dozen logging companies. All told, the combined labor force sometimes exceeded 500 people working in the woods on a given day.

The Hungry Horse Project carried both short- and long-term implications for the region’s timber supply and helped establish the management direction for the South Fork’s timber resource in the decades that followed. The following report attempts to not only inform the reader of the contextual history of Hungry Horse area logging, but capture the scope of the project, while leaving

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<sup>1</sup> “Ball Clearing” sketch reproduced from U.S. Bureau of Reclamation, Engineer’s Notes, undated [circa 1950], Hungry Horse Dam and Visitor Center, Hungry Horse, Montana.

today's land management agencies better informed of the locations where these activities took place and the context for the cultural resources that may be encountered there.

The narrative that follows is based on research completed by HRA historians at the National Archives in Seattle, which maintains the Records of the U.S. Forest Service for Region 1; the National Archives in Denver, which maintains the Records of the Bureau of Reclamation; the Flathead National Forest Supervisor's Office in Kalispell; the Hungry Horse Ranger District in Hungry Horse; the Bureau of Reclamation Hungry Horse Dam and Visitor Center; the Montana Historical Society in Helena; the University of Montana's Mike and Maureen Mansfield Library's Archives and Special Collections in Missoula; the ImagineIF libraries in Columbia Falls and Kalispell; the Missoula Public Library; and microfilm records of the *Hungry Horse News*. HRA also consulted a variety of online records and secondary source materials that are listed in the bibliography near the end of this report.

While this report required extensive research in numerous archival repositories, future research could shed additional light on certain aspects of historic logging uses and timber management at Hungry Horse Reservoir. Specifically, HRA recommends that the federal agencies responsible for management of the cultural resources at Hungry Horse Reservoir consider collecting oral histories from informants who may have worked on logging and road building projects near the reservoir, as well as federal employees who may have been involved in timber sales in the area. Several individuals consulted on this report provided useful information and valuable perspective that supplemented the documentary record, and it can be presumed that additional informant testimony would prove equally valuable. Furthermore, HRA recommends that future research be undertaken to prepare a companion to the most recent history of the Flathead National Forest, *Trails of the Past: Historical Overview of the Flathead National Forest, Montana 1800 – 1960* by Kathryn L. McKay, which would provide valuable context for forest management activities that have taken place along Hungry Horse Reservoir over the past 60 years.

HRA takes sole responsibility for any statements of policy or legal interpretation made by the author. Such statements are not necessarily binding upon Bonneville Power Administration or the Bureau of Reclamation and do not necessarily represent the opinions of those entities.

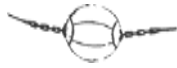


# Timeline

Year	Event
1891	<ul style="list-style-type: none"> <li>• Forest Reserve Act</li> </ul>
1897	<ul style="list-style-type: none"> <li>• Lewis and Clark Forest Reserve established</li> <li>• Forest Reserve Act</li> </ul>
1905	<ul style="list-style-type: none"> <li>• U.S. Forest Service established</li> </ul>
1907	<ul style="list-style-type: none"> <li>• Forest Reserves become National Forests</li> </ul>
1921	<ul style="list-style-type: none"> <li>• South Fork of the Flathead River identified as a potential dam site</li> </ul>
1944	<ul style="list-style-type: none"> <li>• Hungry Horse Dam authorized</li> </ul>
1947	<ul style="list-style-type: none"> <li>• Flowage area clearing operations begins</li> </ul>
1952	<ul style="list-style-type: none"> <li>• Flowage clearing complete</li> <li>• Tugboat <i>Ida M.</i> put into service towing logs on Hungry Horse Reservoir</li> <li>• Forest Road #38 completed on east side of Hungry Horse Reservoir</li> </ul>
1954	<ul style="list-style-type: none"> <li>• Forest Road #895 completed on west side of Hungry Horse Reservoir</li> </ul>
1960	<ul style="list-style-type: none"> <li>• Multiple-Use Sustained Yield Management Act</li> </ul>







# Abbreviations

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AAC	Allowable Annual Cut
BOR	Bureau of Reclamation
CCC	Civilian Conservation Corps
FCRPS	Federal Columbia River Power System
HHRD	Hungry Horse Ranger District
FNF	Flathead National Forest
HRA	Historical Research Associates, Inc.
NARA	National Archives and Records Administration
RG	Record Group
USFS	U.S. Forest Service
USGS	U.S. Geological Survey





# Introduction

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Located in Northwest Montana’s South Fork of the Flathead River valley, Hungry Horse Dam—once the fourth highest dam in the world—holds back nearly 3.5 million acre-feet of water when its reservoir is filled to capacity. The reservoir spans 23,800 surface acres and reaches a maximum depth of approximately 500 feet. Before the reservoir inundated the South Fork valley, an old growth forest interspersed with a mosaic of burned-over lands covered the area with larch, spruce, fir, and pine.<sup>2</sup>

The South Fork landscape figured prominently into the lifeways of the region’s Native people, including the Salish (Seli’š), Pend d’Oreille (Qlispe’), Kootenai (Ksanka).<sup>3</sup> Non-Indians entered the area during the first half of the nineteenth century, originally visiting the South Fork as fur trappers and prospectors. Settlement had increased in the region by the end of the nineteenth century and, in 1897, the federal government established a forest reserve that included the South Fork.<sup>4</sup> Despite the growing population, transportation challenges and the economics of the time meant that no major timber harvests occurred in the South Fork well into the twentieth century.<sup>5</sup> Instead, federal management there focused largely on resource protection until the advent of the Hungry Horse Project in the 1940s, which marked a transition for the South Fork from a relatively untouched reserve into a commercially productive forest. Overall, the historic logging uses and timber management there, from the 1897 establishment of the Lewis and Clark Forest Reserve through the 1960s, reflects many of the local and national trends associated with the timber industry.

The South Fork has long been recognized for its abundant natural resources, but its value as a reservoir site became widely understood only after the U.S. Geological Survey identified it as a

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<sup>2</sup> U.S. Forest Service and U.S. Bureau of Reclamation, “Management Plan, Hungry Horse Reservoir, Montana,” 4, May 1969, File 2740 Memos of Understanding, BOR HH Reservoir Files, Flathead National Forest Supervisor’s Office, Kalispell, Montana [hereafter FNF]; Bureau of Reclamation, “Hungry Horse Dam,” 1949, 21-4, Series III, Box 21, Mike Mansfield Papers, Archives and Special Collections, Mansfield Library, University of Montana, Missoula [hereafter Mansfield Papers-UM].

<sup>3</sup> Brian Herbel, Michael Falkner, and James Grant, *Hungry Horse Project FY 14, Pedestrian Archaeological Field Survey*, Historical Research Associates Inc., Missoula, Montana, Produced for Bonneville Power Administration and Bureau of Reclamation, Portland, Oregon, June 2015, 11-12.

<sup>4</sup> Grover Cleveland, “Proclamation 396—Withdrawal of Lands for the Lewis and Clark Forest Reserve, Montana,” February 22, 1897, Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=70862>; Forest Reserve Act, March 3, 1891, 26 Stat. 1095; H. B. Ayers, U.S. Geological Survey, “Lewis and Clarke Forest Reserve, Montana” (Washington, DC: Government Printing Office, 1900), 73; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 48.

<sup>5</sup> Department of the Interior, Hungry Horse Dam, 1949, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-4, Series III, Box 21, Mansfield Papers-UM.

favorable location for water storage and power production. When work on the Hungry Horse Project started in the late 1940s, the South Fork became a major source of timber for the region, a distinction it has held for more than half a century. In planning for the Hungry Horse Dam, Bureau of Reclamation (BOR) engineers identified the “flowage area” to be cleared to allow for a visibly appealing and practically functional reservoir pool, since the clearing of the timber would reduce debris that could threaten the dam’s hydropower turbines. To complete the job, loggers harvested roughly 90,000,000 board feet of timber growing in the area in its entirety, over a just a few years, to make way for clearing crews that leveled any remaining small-diameter trees or snags.

The logging and clearing effort put hundreds of workers in the woods, filled area mill ponds and freight cars, and hastened innovation as contractors raced both deadlines and the uncertain Montana climate, which loomed as a threat in every season with floods, fires, and snowfall that could halt operations for months at a time. The temperature extremes recorded at Hungry Horse in 1950, in the midst of the project, illustrate the volatile weather there. That summer it reached a high of 93 degrees Fahrenheit compared to a winter low of -40 degrees—a 133-degree swing.<sup>6</sup>

As the clearing contractors burned their last debris piles, marking an end to that phase of the project, the U.S. Forest Service (USFS) was already utilizing newly built forest roads along the reservoir’s shoreline to offer timber sales that targeted a spruce beetle outbreak, including discrete salvage operations and the implementation of large-scale silvicultural control of infected stands. Other harvests reflected Hungry Horse Reservoir’s place as a recreational destination during an era when multiple use came into favor on the national forests. The USFS offered sales to improve recreational facilities, while prescribing many more to merely keep up with the forest’s annual cut and ensure that local mills remained supplied. Logging companies throughout the period took advantage of the reservoir for booming and towing logs by tugboat, sometimes hauling them dozens of miles by water to a landing near the dam. The South Fork remains a regular source of Flathead National Forest timber sales more 75 years after the first major harvests took place there, and logging trucks are still a common sight along the reservoir’s roads.

The pages that follow divide the history of logging in the vicinity of Hungry Horse Reservoir into three periods: pre-reservoir logging, flowage logging and clearing, and post-reservoir logging. Collectively, this report chronicles the transition of the South Fork valley from an untapped forest reserve into a commercially productive forest, including discussion of the economic, social, and practical considerations that brought the timber industry into the drainage and figured prominently in its history.

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<sup>6</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950.



# Chapter 1. The South Fork Forest

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## Overview

The South Fork is one of three forks of the Flathead River, each originating deep in the Northwest Montana wilderness surrounding Glacier National Park. The forks merge into their main stem before winding through Bad Rock Canyon, the town of Columbia Falls, and eventually Flathead Lake—the largest natural freshwater lake west of the Mississippi River. In 1897, the President of the United States set aside the lands encompassing the South Fork as a forest reserve. The executive action came during the formative days of Northwest Montana’s timber industry. Just a handful of sawmills operated in the Flathead region around 1890, but a decade later, that number had increased to nearly 40 mills with an annual output of some 70 million board feet, including railroad ties.<sup>7</sup> Yet even with such mill capacity, for the next 45 years the federal government sold almost none of the more than one billion board feet of timber located within the South Fork drainage. Finally, in the 1940s, a combination of increased demand and technological advances made harvesting such a remote forest cost effective and propelled the timber industry into the South Fork.

## Forest Reserve

In 1891, Congress passed the Forest Reserve Act, which authorized the President to set aside forests from settlement. The act prohibited mining, grazing, timber harvesting, and road building on the reserves. Irrigation interests looked to the forest reserves to protect watersheds and ensure a reliable water supply for their crops. Thus, many of the lands considered as forest reserves encompassed headwaters of major rivers.<sup>8</sup> In 1897, President Grover Cleveland exercised his authority under the Forest Reserve Act in the waning days of his presidency by designating 13 new forest reserves, including the Lewis and Clark Forest Reserve. The Lewis and Clark included the portion of today’s Flathead National Forest surrounding Hungry Horse Reservoir.<sup>9</sup>

In 1897, a second Forest Reserve Act, sometimes known as the Organic Act, delegated the Secretary of the Interior responsibility for forest reserve protection and administration. The new law

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<sup>7</sup> Henry Elwood, *Kalispell, Montana and the Upper Flathead Valley* (Kalispell, MT: Thomas Printing, Inc., 1980), 156–58.

<sup>8</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 47–48.

<sup>9</sup> Grover Cleveland, “Proclamation 396—Withdrawal of Lands for the Lewis and Clark Forest Reserve, Montana,” February 22, 1897, Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=70862>; Forest Reserve Act, March 3, 1891, 26 Stat. 1095; H. B. Ayers, U.S. Geological Survey, “Lewis and Clarke Forest Reserve, Montana” (Washington, DC: Government Printing Office, 1900), 73; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 48.

also guided federal forest management for more than half a century—until Congress replaced it with the 1960 Multiple-Use Sustained-Yield Management Act. The 1897 Act stressed the need to maintain the forests as a mechanism to preserve water flows for irrigators while providing a “continuous supply of timber for the use and necessities of the people of the United States.”<sup>10</sup> In 1905, President Theodore Roosevelt transferred the forest reserves from the Department of the Interior to the Department of Agriculture and, shortly thereafter, the agency’s bureau of forestry became the U.S. Forest Service. Two years after that, in 1907, the forest reserves became the national forests.<sup>11</sup>

The Flathead National Forest, which includes the South Fork drainage, is an important social, cultural, and economic asset to surrounding communities. Yet through much of its history, little timber harvesting occurred in the South Fork, despite it being one of the Flathead’s most extensively timbered areas. Native people frequented the area from time immemorial and established camps in many of the park-like areas along the river. Forest composition in these areas could be attributed to their presence, which they manipulated through low-intensity burning to improve pasture and create meadows favorable to wildlife. While frequenting the South Fork primarily for its fish, wildlife, and plant resources, the tribes also utilized forest resources there for such things as shelter, fuel, and tools.<sup>12</sup> Non-Indian impacts on the valley’s timber remained light well into the twentieth century. Cutting was limited to timber permits and personal use by prospectors or intermittent homesteaders who left their mark on the valley only through the occasional mine adit or place name.<sup>13</sup>

In 1900, the U.S. Geological Survey (USGS) published the results of an intensive study into the Lewis and Clark Forest Reserve, which at the time encompassed the South Fork of the Flathead. According to report’s author, H. B. Ayres, “There has been no cutting on this tract, except for cabins and camp use.”<sup>14</sup> The lack of attention by logging interests is attributable, in part, to isolation, as the logging companies had limited means of getting the timber to a market. Northwest Montana logging operations typically depended on rivers to provide for transportation.<sup>15</sup> But the physical

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<sup>10</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 51; Organic Act, June 4, 1897, 30 Stat. 34.

<sup>11</sup> Harold K. Steen, *The U.S. Forest Service, A History* (Seattle: University of Washington Press, 1976), 74.

<sup>12</sup> Brian Herbel, Michael Falkner, and James Grant, Historical Research Associates, “Hungry Horse Project FY 14, Pedestrian Archaeological Field Survey,” Produced for Bonneville Power Administration and Bureau of Reclamation, June 2015, 10-12.

<sup>13</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 31, 176–77.

<sup>14</sup> H. B. Ayers, U.S. Geological Survey, *Lewis and Clarke Forest Reserve, Montana* (Washington, DC: Government Printing Office, 1900), 73.

<sup>15</sup> Darris Flanagan, *Skid Trails: Glory Days of Montana Logging* (Stevensville, MT: Stoneydale Press Publishing Company, 2003), 95.

characteristics of the South Fork, including a particularly challenging canyon known as the Devil's Elbow, discouraged the practice:

Were it not for several bad canyons, the river would be drivable for at least 80 miles above its mouth. It is possible that these canyons can be improved so as to permit log driving, but the expense would be great. Elsewhere on the river driving would often be difficult because of the wide bed of the river and the frequent gravel bars. A railroad along the river could be built with easy grade, but the expense would be considerable owing to frequent cut banks and ravines, and it is questionable whether the timber interests alone would warrant the construction of such a road.<sup>16</sup>



Figure 1 Hungry Horse dam site, 1944.  
Source: Records of the BOR, National Archives, Denver.

The USGS reported that a lack of demand for timber reduced the commercial value of South Fork forests, and only a handful of people occupied the valley on a seasonal basis who would have

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<sup>16</sup> H. B. Ayers, U.S. Geological Survey, *Levis and Clarke Forest Reserve, Montana* (Washington, DC: Government Printing Office, 1900), 73.

cut trees there. “There are about a half dozen cabins in the valley,” Ayers wrote, “but these are not occupied all the year. They belong to prospectors, who use them only while doing their assessment work.”<sup>17</sup> Several private entities filed claims for lands in the South Fork drainage, but none had claims in the lower South Fork area that ultimately became inundated by Hungry Horse Reservoir. Those that did file claims in the upper South Fork eventually abandoned them. According to Kathryn McKay, in her history of the Flathead National Forest, “As with much of the South Fork, long winters and distance to market over a rough trail made farming and stock raising uneconomical.”<sup>18</sup>



Figure 2 The South Fork of the Flathead River.  
Source: BOR Project History, 1945, National Archives, Denver.

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<sup>17</sup> H. B. Ayers, U.S. Geological Survey, *Lewis and Clarke Forest Reserve, Montana* (Washington, DC: Government Printing Office, 1900), 73.

<sup>18</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 233.



## Early Logging in the Flathead Region

The absence of major logging operations in the South Fork stood in contrast to the extensive cutting that took place in the Flathead River Canyon area proper. Beginning in 1891, when the Great Northern Railroad laid its track through that canyon, adjacent timber provided ties, bridges, and other structural materials for the rail line. Rather than open the area to the logging industry, the railroad cutting did the opposite. Crews quickly cut over the easily accessible timber, prompting lumber companies that sprang up around the turn of the century to avoid the canyon and choose instead to locate mills where timber could be harvested nearby. By the 1920s, however, the canyon area's proximity to the railroad outweighed the lack of nearby trees, and the first mills began operating there.<sup>19</sup>

The presence of mills along the Flathead River Canyon had no impact on the demand for South Fork timber, which remained difficult to access with little infrastructure and no viable transportation options in the days before logging trucks. Demand remained low despite a massive volume of merchantable timber in the drainage. The Forest Service's first major timber survey there revealed an estimated volume of over one billion board feet up the South Fork. Rather than develop the infrastructure to open such reserves to cutting, the USFS followed a policy of bypassing sales in such areas unless the agency sought to support an existing industry, logically access the timber through existing improvements, or undertake salvage of rapidly deteriorating material.<sup>20</sup>

## The South Fork Forest

The lack of South Fork timber sales in the early twentieth century coincided with a lack of major harvests elsewhere on the Flathead National Forest. One major exception occurred on National Forest lands in the Swan Valley in the 1910s, but most timber harvests in the region took place on vast tracts of private lands owned by mills. When interest in national forest timber sales finally increased, initial sale activity concentrated on areas other than the South Fork.<sup>21</sup>

Without timber sale activity, USFS management in the South Fork valley focused largely on resource protection that it accomplished through a variety of administrative arrangements. When forest needs changed, so did the location of its administrative sites. In 1908, the USFS established the Hungry Horse Ranger District that included the entire area within the future Hungry Horse

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<sup>19</sup> Patrick Hefferan and Sarah Dakin, eds., *The History of the Canyon Area* (Coram, MT: The Canyon Citizen Initiated Zoning Group, 1994), 25.

<sup>20</sup> Elers Koch, to Mr. Wolfe, February 27, 1931, File: S-Sales-Flathead 1920-1931, Box 89, Records Related to Timber Sales, 1907-1961, Division of Timber Management, Records of the Forest Service, Region 1, Record Group 95 [hereafter RG 95], National Archives and Records Administration, Seattle, Washington [hereafter NARA-Seattle].

<sup>21</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 182.

Reservoir. The Elk Park Ranger District replaced the Hungry Horse Ranger District in 1924. The USFS headquartered the district out of a site that the reservoir would later inundate commonly known as “Elk Park packers’ camp.” The Elk Park location is typical of USFS administrative sites for being chosen for its proximity to adequate supplies of water, fuel, and pasture.<sup>22</sup> In 1929, the Spotted Bear Ranger District assumed oversight of the Elk Park District and all lands within its jurisdiction fell to the oversight of the Coram District. The USFS abandoned the Elk Park District altogether in 1934, a move that reflected an agency policy of abandoning isolated administrative sites in favor of more centrally located district headquarters.<sup>23</sup> Corresponding with the district transfer, a Civilian Conservation Corps (CCC) camp that had operated along the Desert Mountain Road near Coram relocated to Elk Park and took the name “Bridgehead” after a pack bridge that CCC enrollees built over the river. Among the CCC accomplishments during their time in the South Fork was the construction of the first west side road up the drainage. The CCC occupied Elk Park for several summers.<sup>24</sup>

## Forest Fires

Wildfire is an integral part of the forest ecosystem in the Northern Rockies and the South Fork forest is composed of many species that are adapted to, or dependent on, wildfire. Prior to federal forest management there, the South Fork forest frequently experienced low-intensity burns. Lightning often ignited the fires, but people intentionally set many others. Both traditional accounts and the historical record speak to the regular application of fire in the South Fork by Native Americans. The first non-Indians that entered the South Fork undoubtedly experienced a forest that had been intentionally shaped by humans for thousands of years. Indeed, fire provided an important tool for the Salish, Pend d’Oreille, and Kootenai to improve pasture and manipulate movement of game. But it also encouraged regrowth of plants that they prized for food and medicine.<sup>25</sup> Telling of the forest’s composition, in 1907, Forest Ranger Jack Clack considered trails a “luxury,” rather than a necessity needed to travel through the South Fork forest, which echoes other accounts suggesting

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<sup>22</sup> Alfred C. Arvidson, “History of the Hungry Horse Ranger District,” March 1967, FNF Historical Docs of Interest, Forest Resource Summaries, Room 154, Hungry Horse Ranger District, U.S. Forest Service, Hungry Horse, Montana [hereafter HHRD]; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 77–79.

<sup>23</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 77–82.

<sup>24</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 262.

<sup>25</sup> Germaine White, “The Gift of Fire,” *Advances in Fire Practice* (Tucson, Arizona: Wildland Fire Lessons Learned Center, Spring 2007), accessed online, [www.wildfirelessons.net](http://www.wildfirelessons.net), July 2018; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 129–130.

that much of the forest lacked the thick undergrowth prevalent in unburned areas.<sup>26</sup> Elders from the Confederated Salish and Kootenai Tribes (CSKT) have described the many open meadows that once existed along the South Fork, a fact that appears in their place names. One South Fork location above Spotted Bear is known in Salish as “lqwłqwlexw,” which describes an area “with many clearings, a series of prairies in one place.”<sup>27</sup>

USFS forest management contrasted with that of the Native people whose traditional homelands the national forests occupied. By 1910, the USFS had adopted an industrial-focused timber management policy that considered timber a commodity. When put into practice, the policy meant withholding timber from harvest so as not to compete with private supplies, selling only to meet shortages, and protecting timber from damage to preserve its commercial value.<sup>28</sup> The agency also resisted the idea that fire benefitted the forest, a policy that stood at odds with studies published by 1920 that showed the positive influence it had on forest ecology.<sup>29</sup>

Logging companies expressed little interest in South Fork timber sales during the first decades of the twentieth century. Yet, the Forest Service made protecting timber a priority through the development of an expansive fire detection and suppression program. To that end, USFS crews built a network of lookouts and administrative sites throughout the drainage. According to a 1915 fire report, three lookouts covered the “[t]he timber belt of the Lower South Fork” at the time, with one located on a spur of Mount Baptiste, directly above what became Hungry Horse Reservoir.<sup>30</sup> Forest supervisors tasked the rangers staffing the lookouts with detecting fires, while forest guards served as “emergency fire fighters and were also responsible for the maintenance of the telephone line and trail.” Fire protection efforts appeared adequate, except in severely dry years, during which the report recommended that “an emergency fire fighting force be put into this country, so that enough men can be thrown on each fire as it starts to secure prompt extinction.”<sup>31</sup>

As the report suggests, the USFS considered trails and telephone lines to be essential aspects of forest protection. Forest Inspector Elers Koch had advocated for telephone lines up the South Fork as early as 1906. He also called for improving trails and noted that, by 1907, the government had

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<sup>26</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 104.

<sup>27</sup> Germaine White, “The Gift of Fire,” *Advances in Fire Practice* (Tucson, Arizona: Wildland Fire Lessons Learned Center, Spring 2007), accessed online, [www.wildfirelessons.net](http://www.wildfirelessons.net), July 2018.

<sup>28</sup> Harold K. Steen, *The U.S. Forest Service, A History* (Seattle: University of Washington Press, 1976), 113.

<sup>29</sup> Harold K. Steen, *The U.S. Forest Service, A History* (Seattle: University of Washington Press, 1976), 136.

<sup>30</sup> “Report on Felix [C]reek [F]ire,” Received January 14, 1915, 2, File: 1914 Fires Flathead, Box 50, Historical Collection, ca. 1905–1990, RG 95, NARA-Seattle.

<sup>31</sup> “Report on Felix [C]reek [F]ire,” Received January 14, 1915, 2–3, 14, File: 1914 Fires Flathead, Box 50, Historical Collection, ca. 1905–1990, RG 95, NARA-Seattle.

completed the South Fork trail traversing the entire Lewis and Clark Forest Reserve from North to South. That trail building effort involved cutting a path through the timber up to ten feet wide.<sup>32</sup> By 1920, the USFS had built trails accessing most drainages on the national forest. It had also completed the forest's first dependable telephone system connecting backcountry facilities with ranger district headquarters. The telephone system utilized No. 9 galvanized wire strung between trees that the rangers had cleared of branches twenty feet up. They fastened the wire to ceramic insulators attached to tree trunks. Once the rangers eliminated slack from the line, they cut trees and any branches that threatened to damage it.<sup>33</sup>

The Forest Service response to the 1914 Felix Creek Fire illustrates how it handled wildfire in the South Fork. On the evening of July 24, 1914, fire lookouts on Mount Aeneas reported a fire that ignited in a mixture of larch, fir, and spruce covering an area one-quarter mile by one-eighth of a mile. That night, forest rangers organized initial response crews. For 36 hours following the report, the fire grew very little thanks to a light rain. The moisture slowed the fire and proved fortuitous for firefighters who lost a full day on the initial attack cutting their way to its point of origin. All told, a full "sixty hours elapsed after the first men were ordered before the actual fire fighting started." Firefighters established their main fire camp in the vicinity of Coal Bank, located at the confluence of Coal Creek and the South Fork, and through a combination of favorable weather and an adequate response, contained the fire at just 60 acres burned.<sup>34</sup>

The report called the 1914 fire season "unusually severe," with 11 fires burning just under 400 acres in the South Fork.<sup>35</sup> But in the years that followed, much larger fires appeared at irregular intervals, making 1914 appear comparatively mild. In 1919, a pair of fires—the 19,000-acre Sullivan Fire and 2,500-acre Kah Mountain Fire—burned within the drainage. In 1926, the Lost Johnny Fire started on the west side of the present reservoir and burned east over the divide to the Middle Fork of the Flathead while consuming 2,560 acres. Just three years later, the Sullivan Creek Fire, also on the west side of the South Fork drainage, burned 35,000 acres.<sup>36</sup>

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<sup>32</sup> Janene Caywood, "Flathead National Forest Backcountry Administrative Facilities," National Register of Historic Places Registration Form, CRCS, Missoula, Montana, December 17, 2014, 63, 68.

<sup>33</sup> Janene Caywood, "Flathead National Forest Backcountry Administrative Facilities," National Register of Historic Places Registration Form, CRCS, Missoula, Montana, December 17, 2014, 50, 70–71.

<sup>34</sup> "Report on Felix [C]reek [F]ire," Received January 14, 1915, 10–25, File: 1914 Fires Flathead, Box 50, Historical Collection, ca. 1905–1990, RG 95, NARA-Seattle.

<sup>35</sup> "Report on Felix [C]reek [F]ire," 26, Received January 14, 1915, 26, File: 1914 Fires Flathead, Box 50, Historical Collection, ca. 1905–1990, RG 95, NARA-Seattle.

<sup>36</sup> Charlie Shaw, *The Flathead Story* (Kalispell, MT: U.S. Forest Service, 1967), 87; Alfred C. Arvidson, "History of the Hungry Horse Ranger District," March 1967, FNF Historical Docs of Interest, Forest Resource Summaries, Room 154, HHRD.

The 1929 Sullivan Creek Fire proved noteworthy in having occurred during the first season when airplanes aided USFS fire response. On one flight over the fire, the USFS Northern Region Fire Chief Howard Flint used the aerial perspective to determine that crews needed to take drastic action to save the Spotted Bear Ranger Station. He wrote the warning “Save Spotted Bear Ranger Station at all costs” on a piece of paper and directed his pilot to fly low enough to drop it to the firefighters on the ground. The note eventually reached his fire control officer, who read it and refocused efforts by placing 500 firefighters in defense of the buildings. The effort proved effective, and Spotted Bear Ranger Station survived the fire unscathed.<sup>37</sup>

### ***Feasibility of South Fork Timber Sales***

By 1931, the USFS had received occasional inquiries into the availability of South Fork timber, so the Flathead National Forest considered investigating the stands on the ground to determine their quality. Yet USFS officials questioned the feasibility of offering timber sales there when considerable volumes of private timber remained available.<sup>38</sup> While the South Fork supported robust stands, including an extensive volume of white pine, transportation viability also presented an obstacle to any potential sale. Hans Larson, working on behalf of the J. Neils Lumber Company, sought to overcome such difficulty by improving the river to make log driving possible. He estimated that such an improvement would cost around \$10,000 and inquired with the Forest Service whether the company would own any improvements it made to the river.<sup>39</sup> “If driving is the logical method of transporting the logs to market,” Forest Supervisor K. Wolfe explained, “the timber could be sold in relatively small chances and the logs manufactured at several of the now existing mills.” Railroading, on the other hand, required the sale of “large blocks and probably none of the existing mills except Somers and J. Neils could finance the deal.”<sup>40</sup>

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<sup>37</sup> A. Richard Guth and Stan B. Cohen, *A Pictorial History of the U.S. Forest Service Northern Region, 1891–1945* (Missoula, MT: Pictorial Histories Publishing Company, 1991), 82.

<sup>38</sup> Elers Koch, to Mr. Wolfe, February 27, 1931, File: S-Sales-Flathead 1920-1931, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>39</sup> Forest Supervisor to Regional Forester, February 25, 1931, File: S-Sales-Flathead 1920-1931, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>40</sup> Forest Supervisor to Regional Forester, March 2, 1931, File: S-Sales-Flathead 1920-1931, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.



Figure 3 South Fork of the Flathead River at the Hungry Horse dam site.  
Source: Records of the BOR, National Archives, Denver.

Nothing came from the J. Neils inquiry, and it is unclear if Larson received a favorable response, but it speaks to the limitations of log transportation at the time. Besides river driving and logging railroads, log hauling continued to be done by horses until the first logging trucks came into use in the Flathead in the 1920s. But even then, the practice remained uncommon. J. Neils debuted its first logging trucks in the 1930s, but truck hauling rarely occurred in the region until after World War II.<sup>41</sup>

As circumstance would have it, logging trucks came into their own as a major hauling improvement just as other factors combined to make Northwest Montana timber particularly

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<sup>41</sup> Charlie Shaw, *The Flathead Story* (Kalispell, MT: U.S Forest Service, 1964), 124; Kathryn L. McKay, *Trail of the Past: Historical Overview of the Flathead National Forest, Montana, 1800–1960* (Kalispell, MT: U.S. Forest Service, 1994), 207; Henry Elwood, *Kalispell, Montana and the Upper Flathead Valley* (Kalispell, MT: Thomas Printing, Inc., 1980), 160; Darris Flanagan, *Skid Trails: Glory Days of Montana Logging* (Stevensville, MT: Stoneydale Press Publishing Company, 2003), 145.

attractive. When the United States entered World War II, industrial mobilization created demand for raw materials. Lumber prices climbed, and commercial logging became possible in previously unfeasible areas like the South Fork. Both Stoltze Land & Lumber Company and J. Neils Lumber Company expressed interest in purchasing South Fork white pine, one of the area's principal high-value tree species.<sup>42</sup> Additionally, the decimation of pine forests in the upper Midwest led lumber companies there to investigate the possibility of relocating to Montana. Several eventually did and strengthened the industry in the Flathead region by adding to an already growing demand for timber.<sup>43</sup>

Besides triggering a flurry of timber harvest activity, the war hastened congressional approval of the Hungry Horse Project, which appeared imminent well before it became law in 1944. The project had received strong support ever since the government had identified the South Fork as a potential reservoir site.<sup>44</sup> By the mid-1930s, local interests pointed to the need to put people to work as an additional reason to make beneficial use of any trees cut from the future reservoir area.<sup>45</sup>

In anticipation of the Hungry Horse Project, the USFS finally offered the first major South Fork timber sales in 1942. The offering included around 47 million board feet within the proposed reservoir composed of sizable stands of both white pine and spruce, but it received no bids.<sup>46</sup> Nevertheless, foresters went on to prepare a series of sales around Abbott and Emery Creeks. Six miles of new timber access road designed to traverse the future reservoir's high-water mark made the sales possible and allowed for the harvest of 10 million board feet from the area in 1945. With that, the era of commercial timber production in the South Fork drainage got underway.<sup>47</sup>

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<sup>42</sup> Elers Koch, Assistant Regional Forester, Memorandum for Supervisor, February 26, 1940, File: S-Sales-Flathead-Policy-1940-1948, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>43</sup> J. C. Urquhart, by S. H. Larson, Acting, to Jack Mylrea, May 8, 1944, File: S-Sales-Flathead-1920-1931, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; A. G. Lindh, Assistant Regional Forester, Memorandum for the Files, June 14, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 206–7.

<sup>44</sup> "Proposed Measures of Relief, [no page number], File: Hungry Horse Project, III, 18-4, Box 18, Series III, Mansfield Papers-UM.

<sup>45</sup> H. J. Kelly to Senator B. K. Wheeler, July 1, 1935, File: 302.26 Montana Surveys & Investigations Hungry Horse Project 1920–1943, General Correspondence Files, 1930–1945, Records of the Bureau of Reclamation, Entry 7, Box 571, RG 115, National Archives and Records Administration, Denver, Colorado [hereafter NARA-Denver].

<sup>46</sup> Philip Neff, Logging Engineer, to Fred Thieme, August 21, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>47</sup> J. C. Urquhart, by S. H. Larson, Acting, to Jack Mylrea, May 8, 1944, File: S-Sales-Flathead-1920-1931, Box 89, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; A. G. Lindh, Assistant Regional Forester, Memorandum for the Files, June 14, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-

The first major South Fork timber sales and a notable increase in timber harvesting on the Flathead National Forest, in general, coincided with a national upswing in logging on national forests. South Fork sales also overlapped with federal government efforts to manage forests under a program of sustained yield. In 1944, Congress passed the Cooperative Sustained Yield Act to “promote the stability of forest industries, of employment, of communities and of taxable forest wealth through continuous supplies of timber.”<sup>48</sup> In its purest form, the management approach meant that foresters surveyed the forests and assigned them an allowable annual cut (AAC), which is the optimum quantity of timber that can be removed from a forest in a given year without harming overall forest health. But in practice, sustained yield management on the national forests assumed an industrial focus, with the AAC providing a mechanism to ensure that the national forests maintained a certain level of harvest to keep mills supplied.<sup>49</sup>

The South Fork became one of the targets for the increased harvest. In 1947, South Fork timber cut in the Emery Creek and Hungry Horse Creek areas supplied logs to both the F. H. Stoltze Land & Lumber Company’s Halfmoon mill and the Plum Creek mill.<sup>50</sup> By late summer, the Emery Creek area accounted for half of the Flathead National Forest’s AAC of 40 million board feet.<sup>51</sup> The Flathead National Forest sold another block totaling 8 million board feet in the Emery Creek area to Plum Creek in October 1947.<sup>52</sup>

By early 1948, the South Fork had become the Flathead region’s timber basket. According to the *Hungry Horse News*, “Since the spring of 1945, more than 24 million board feet have been cut up Emery creek, a tributary of Hungry Horse Creek and the Flathead’s South Fork.”<sup>53</sup> Overall, the Flathead National Forest’s timber harvest had increased substantially from a pre-World War II annual harvest of around 6 million board feet, to over 54 million board feet in 1947. At the time, the USFS had 22 million board feet under contract and another 22 million set to be advertised. Once

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Seattle; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 187.

<sup>48</sup> “Cooperative Sustained Yield Management Act of 1944,” 58 Stat. 132 (1944).

<sup>49</sup> “Cooperative Sustained Yield Management Act of 1944,” 58 Stat. 132 (1944); Harold K. Steen, *The U.S. Forest Service, A History* (Seattle: University of Washington Press, 1976), 251.

<sup>50</sup> “Half Moon Mill Starts April 28,” *Hungry Horse News*, April 18, 1947. Plum Creek Lumber Company, an affiliate of the D. C. Dunham Lumber Company, had recently relocated to Columbia Falls with some of its employees from Bemidji, Minnesota. D. C. Dunham, the proprietor of his namesake company, named his new Columbia Falls operation after a stream near his company’s original headquarters. 19 Minnesota families relocated to Columbia Falls to work for Plum Creek, with many building homes in a section of town that became known as “Little Bemidji.” See “Plum Creek Employs 53; Plan Box Factory” and “Plum Creek Payroll - \$3,400,” *Hungry Horse News*, September 26, 1947.

<sup>51</sup> “Will Call Bids on Emory [sic] Creek Logs,” *Hungry Horse News*, September 26, 1947.

<sup>52</sup> “Plum Creek Awarded Emory [sic] Creek Sale,” *Hungry Horse News*, August 29, 1947.

<sup>53</sup> “Emery Basin Supplies Timber,” *Hungry Horse News*, January 9, 1948.



complete, the Forest Service planned to shift timber harvests to the west side of the South Fork where more extensive stands existed.<sup>54</sup>

That spring, BOR prepared to move forward with clearing the Hungry Horse Reservoir's flowage area. The nearly 25,000 acres scheduled for inundation included more than 75 million board feet of timber—a figure that depended on the eventual height of the dam—which the Forest Service allowed to take precedence over its ongoing timber sales program by relieving logging companies of certain contractual requirements, so they could shift their workforce to the reservoir area. The *Hungry Horse News* reported that any pause in national forest harvesting would be temporary, and once crews cleared the reservoir, there would be an abundant supply up the South Fork ready and accessible for harvest: "Eighty percent of the timber reserve up the South Fork is on the west side of the South Fork and will become available as the dam and an access road are completed."<sup>55</sup>

## Summary

For nearly half a century after it became part of a forest reserve, very little timber cutting occurred along the South Fork of the Flathead River. However, the onset of World War II combined with other factors to create demand for national forest timber. The war also hastened plans for Hungry Horse Reservoir. In anticipation of the project, the USFS offered the first major timber sales in the South Fork drainage, quickly making it a focal point for logging activity in the region.

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<sup>54</sup> "Flathead Timber Cut Increases Nine-Fold," *Hungry Horse News*, February 27, 1948; "Emery Basin Supplies Timber," *Hungry Horse News*, January 9, 1948.

<sup>55</sup> "Emery Basin Supplies Timber," *Hungry Horse News*, January 9, 1948; "Flathead Timber Cut Increases Nine-Fold," *Hungry Horse News*, February 27, 1948.





## Chapter 2. The Hungry Horse Project

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### Overview

The USGS considered the South Fork of the Flathead River for a reservoir site as early as 1921.<sup>56</sup> By 1924, geologists had identified the preferred dam site five miles upstream from the South Fork's confluence with the main stem of the Flathead River, and the U.S. Army Corps of Engineers reported on its feasibility as early as 1934. Yet it was not until World War II and the associated demands that the war placed on hydropower generation that the Hungry Horse Project gained traction. The Bureau of Reclamation project would increase water storage in the Columbia River system, thereby benefitting the power plants at the Grand Coulee and Bonneville Dams, among others. It would also provide local flood control, serve Columbia River basin irrigators, and include hydropower facilities of its own. Congress approved Hungry Horse as “an emergency war project,” which allowed planning to begin in earnest.<sup>57</sup>

From a logging standpoint, the project required a major mobilization to ensure that the roughly 90 million board feet of timber covering the nearly 25,000 acres in the reservoir's path could be harvested and funneled into the regional economy ahead of the reservoir's rising waters. To make that happen, BOR and the USFS cooperated to prepare sales and provide favorable conditions for more than a dozen logging, clearing, and milling contractors who worked on the project. Over a span of just five years, the contractors harvested timber and cleared the remaining debris from the often-steep terrain utilizing innovative tools and machinery developed specifically for the challenges presented by the project.

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<sup>56</sup> U.S. Bureau of Reclamation, *Hungry Horse Dam and Powerplant: Technical Record of Design and Construction* (Denver: Bureau of Reclamation, 1958), 1.

<sup>57</sup> U.S. Bureau of Reclamation, *Hungry Horse Dam and Powerplant: Technical Record of Design and Construction* (Denver: Bureau of Reclamation, 1958), 1–2; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 88; Claude R. Wickard, Secretary, Department of Agriculture, to Compton I. White, January 22, 1944, in *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation*, 78<sup>th</sup> Cong., 2d sess., February 1, 3, 4, 1944. (Washington: GPO, 1944), 1–2.



Figure 4 Hungry Horse dam site.  
Source: Records of the BOR, National Archives, Denver.

## From Potential to Project

By the 1940s, the South Fork's potential as a dam site had been well documented.<sup>58</sup> However, the project made no substantial headway until proponents tied it to the war effort. As support for the development gained momentum, the Forest Service began offering South Fork timber sales in anticipation of the project and took a firm position that any timber within the proposed flowage area should be utilized, national forest infrastructure replaced, and forest access maintained should the South Fork valley be inundated. In 1943, Regional Forester Evan W. Kelley explained that “commercial timber within the reservoir area should be sold to local mills to the extent they can

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<sup>58</sup> For example, federal officials conducted a hearing in Missoula on the proposed Hungry Horse Dam in 1938 to “be built to alleviate flood conditions, to furnish storage and power for pumping irrigation water, to produce power, for local and regional consumption, and to increase power at sites downstream by regulating the flow of water released from the storage.” At that time, the total marketable timber in the flowage area up to the 3,540-foot elevation level was estimated at 180,950,000 board feet. See “Proposed Measures of Relief,” [no page number], File: Hungry Horse Project, III, 18-4, Box 18, Series III, Mansfield Papers-UM.

absorb this volume during the construction period. The balance of the timber should be logged and sawed into lumber through Government financing and stored until the market can absorb it.”<sup>59</sup>

In February 1944, the U.S. House Committee on Irrigation and Reclamation conducted hearings on a bill that moved the Hungry Horse Dam project forward as an emergency war project. Testifying on behalf of the Flathead Valley Citizens Committee, Donald C. Treloar stressed the view that the Hungry Horse proposal carried few negative implications for local industry. He predicted that the value of any timber in the flowage area—which he anticipated to be a smaller area than was ultimately inundated—available for salvage would be a negligible \$274,000. “It is a very small amount of timber,” Treloar asserted. He pointed out that the forest’s composition was well-suited for the development: “Of the floodage back from the dam site there is about 3 1/2 miles that is timbered, and the balance of the 29 miles of the storage is burned over,” Treloar explained, “You could not have burned it out by hand any better to fit this situation than it has been burned out by God Almighty.”<sup>60</sup>

George R. Phillips, with the Department of Agriculture, provided a more measured assessment of the timber resource that the project would impact, which also aligned closely with the Forest Service objective to “grow, sell and have harvested timber crops from national forests in such a way as will make the greatest contributions to public welfare.”<sup>61</sup> Phillips testified that of the roughly 16,000 acres expected to be inundated, around 6,000 acres was “covered only with small trees—what the foresters call reproduction growth.” That, he asserted, “is what you gentlemen have been referring to as burned over.” The remainder held a considerable volume of merchantable timber, “estimated at 93,000,000 board-feet in total.” He concurred with Treloar’s \$274,000 value figure but noted that the “timber could be harvested and fed into market or stock piled at such time as it became desirable to clear the site and construct the dam.”<sup>62</sup>

According to Representative Compton I. White, Chairman of the House Committee on Irrigation and Reclamation:

The land to be inundated by the reservoir site is entirely within the national forest, has no agricultural value, and a very limited value in the future production of timber, as evidenced by the statement from

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<sup>59</sup> Evan W. Kelley, Regional Forester, to Chief, Forest Service, December 28, 1943, 6, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>60</sup> House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 57.

<sup>61</sup> David A. Clary, *Timber and the Forest Service: Development of Western Resources*, (Lawrence: University of Kansas Press, 1986) 123; House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 69.

<sup>62</sup> House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 69.

the Department of Agriculture, which places the value of only \$73,000 on the land for the purpose of growing new timber. The evidence further shows that this comprises chiefly burnt-over land and that the timber has little commercial value. The Department of Agriculture estimates that value at \$274,000, but that does not mean a loss, since this timber can be cut and salvaged at the time the reservoir site is cleared and either sold to the sawmills in the vicinity or stockpiled for future sale. Its proximity to the railroad—approximately 4 miles—and the present demand for lumber assure ready marketability at maximum prices.<sup>63</sup>

While the timber lost to the flowage might have been of limited value when viewed in light of the overall project budget, Phillips stressed that the project should include provision for access roads being built along the reservoir “in order to protect this upstream area from fire and in order to enable it to continue to grow timber, which is so important to the economic life of the region.” In other words, he explained, “you are only going to flood 16,000 acres that would be in the reservoir site, but in doing that you would close about a million acres above there unless new roads and telephone lines are constructed.”<sup>64</sup>

White acknowledged Phillips’ concern for the loss of access and facilities and recommended that provision be made in the bill to replace such things as “trails, roads, shelters, and telephone lines, which would become inundated.”<sup>65</sup> While the final bill lacked any such provision, the agencies involved expressed their support for replacement of any lost facilities. On June 5, 1944, President Harry S Truman signed the measure into law.<sup>66</sup>

With the Hungry Horse Project having cleared all legislative hurdles, the Flathead Valley Citizen’s Committee wasted little time in calling for congressional funding to get timber harvesting underway. In a December 1944 letter to Montana Senator James Murray, A. F. Winkler wrote on behalf of that organization, “In order that this project may be prosecuted vigorously following the war, it is necessary that these preliminary things be taken care of so that the project can be in a position for a contract for construction. The salvage of the timber that has commercial value within the proposed flooded area should be taken care of now while there is a large demand for war purposes of this resource.”<sup>67</sup> Nearly a year later, with the project remaining at a standstill, Winkler furthered his calls for congressional funding to allow the Hungry Horse work to proceed, stressing the importance of the lumber industry to the local economy. Winkler emphasized his point by

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<sup>63</sup> House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 71–72.

<sup>64</sup> House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 69–70.

<sup>65</sup> House. *Hungry Horse Dam Project: Hearings before the Committee on Irrigation and Reclamation on H.R. 3570*, 78<sup>th</sup> Cong., 2d sess., February 1–4, 1944 (Washington: U.S. Government Printing Office, 1944), 72.

<sup>66</sup> Act of June 5, 1944, 58 Stat. 270.

<sup>67</sup> Flathead Valley Citizen’s Committee, by A. F. Winkler, to James Murray, Senator, December 15, 1944, File: Hungry Horse Project III 18-6, Box 18, Series III, Mansfield Papers-UM.

noting that the Somers mill operated with a \$1 million payroll, the Libby mill at \$1.75 million, and another 52 smaller operators at more than \$1 million combined.<sup>68</sup>

The USFS held firm on its position that the flowage area timber should be fed into the local market, and at least one official with the agency expressed concern that if it didn't take steps to encourage such use of the timber, then it would likely go to waste.<sup>69</sup> "Clearly," wrote Assistant Regional Forester Axel Lindh, "the timber in this flowage area can add to the security of local mills or prolong the life of other mills" and "none of the usable material should be allowed to remain to be cleared and burned in the construction of the dam." He outlined a plan that called for orderly marketing and construction of a logging road system. He also made clear that it was up to the Forest Service to act fast, because the BOR—with its different administrative focus—might be less concerned with making use of the timber. "It will be out of our hands to determine how much timber can be saved and how much will be burned up." From a financial standpoint, Flathead County stood to benefit if it were removed as national forest timber by receiving a percentage of the stumpage. "Undoubtedly, the utilization of this timber is important enough that the Forest Service should take every possible step to assure that it will be taken into consideration in the plans for the dam."<sup>70</sup>

The USFS support for making use of the flowage timber, as well as for forest infrastructure replacement and improvement, appeared at all levels of the agency. Assistant Chief of the Forest Service C. M. Granger outlined the various steps that would need to be taken to get roads surveyed, timber cruised, and more.<sup>71</sup> The USFS also prepared a memorandum outlining its interests with respect to post-reservoir jurisdiction, extent of facility replacement, use of the water body for log transportation, and cooperative fire protection. The Forest Service even offered to "supervise the salvage of usable wood in a coordinated program with clearing."<sup>72</sup>

On October 22, 1945, BOR Commissioner H. W. Bashore wrote Representative Mike Mansfield requesting an appropriation to start work on the project. The request included funding to clear

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<sup>68</sup> A. F. Winkler, President, Flathead Valley Citizen's Committee, to Mike Mansfield, Senator, September 27, 1945, File: Hungry Horse Project III 18-6, Box 18, Series III, Mansfield Papers-UM.

<sup>69</sup> W. H. Ibenthal, Assistant Regional Forester, to J. C. Urquhart, Forest Supervisor, May 22, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>70</sup> A. G. Lindh, Assistant Regional Forester, Memorandum for the Files, June 14, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>71</sup> C. M. Granger to Harry W. Bashore, Commissioner, July 18, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>72</sup> Memorandum, November 25, 1945, File: Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

timber and brush from the proposed Hungry Horse townsite and an additional \$154,000 for “clearing about eight percent of the reservoir area at the extreme lower part of the reservoir and at the dam-site.”<sup>73</sup> Mansfield proved to be a reliable project supporter, and that fiscal year, Reclamation received the requested appropriations to begin the pre-project preparations, including the project’s earliest logging activity. At the time, BOR estimated that the total cost of reservoir clearing would reach \$1,873,100.<sup>74</sup>

With the project underway, the USFS and BOR assumed varying levels of involvement in reservoir timber harvests. As noted, national forest infrastructure would have to be removed and so would some 90 million board feet of timber. While the USFS maintained an interest in the matter, BOR served as the lead agency, and all land associated with the reservoir came under its jurisdiction through administrative withdrawal in accordance with the Reclamation Act of June 17, 1902.<sup>75</sup>

As it happened, the two agencies found enough common ground to meet both of their objectives—beneficial use of the timber and timely completion of the reservoir clearing. Reclamation agreed that commercial timber in the flowage area should be salvaged.<sup>76</sup> The agencies executed a memorandum of understanding that clarified their roles on the first phase of forestry activity. It called for BOR to compensate the USFS for cruising the timber in the flowage area to provide a volume assessment.<sup>77</sup> The two agencies also recognized that “it is imperative that the jurisdictional lines be drawn in the immediate future in order that we may intelligently deal with prospective purchasers.” Moreover, Flathead National Forest Supervisor Fred Neitzling stated that the Flathead would adjust its own timber sales schedule to ensure that loggers could make use of the reservoir timber. “We ought not to offer for sale any timber which might be in competition with

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<sup>73</sup> H.W. Bashore, Commissioner, to Mike Mansfield, Senator, October 22, 1945, File: Hungry Horse Project III 19-4, Box 19, Series III, Mansfield Papers-UM.

<sup>74</sup> “Hungry Horse Project, Montana,” 299, [undated, ca. September 1946], File: Hungry Horse III 21-2, Box 21, Series III, Mansfield Papers-UM.

<sup>75</sup> First Form Reclamation Withdrawal, Hungry Horse Project, Montana, March 28, 1945; First Form Reclamation Withdrawal, Hungry Horse Project, Montana, March 28, 1946; First Form Reclamation Withdrawal, Hungry Horse Project, Montana, September 4, 1947; First Form Reclamation Withdrawal, Hungry Horse Project, Montana, June 30, 1948, File 2670 Withdrawals, Withdrawal Orders for Hungry Horse Reservoir, BOR HH Reservoir Files, Flathead National Forest, Supervisor’s Office, Kalispell [hereafter FNF-SO]; “Partial Revocation of Reclamation Withdrawals; Hungry Horse Project,” April 8, 1966, *Federal Register*, Vol. 31, No. 69, April 9, 1966, File 2670 Withdrawals, Withdrawal Orders for Hungry Horse Reservoir, BOR HH Reservoir Files, FNF-SO; Reclamation Act of June 17, 1902 (32 Stat. 388).

<sup>76</sup> P. D. Hanson, Regional Forester, to Chief, Forest Service, November 27, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>77</sup> Acting Regional Director to Project Engineer, March 27, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; Memorandum of Understanding for Timber Survey, undated, unexecuted, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.



that on the flowage area,” Neitzling wrote, “but since the clearing work might not be under way for some time it will be rather difficult to defer making some sales on adjacent areas.” He noted that the Flathead would offer no more Emery Creek timber sales until Reclamation sold the flowage area timber.<sup>78</sup>

When the time came to issue the first clearing contract, BOR Project Engineer Paul Jones informed Neitzling that it only required the contractor to dispose of timber as “he sees fit.” However, Jones expected that the clearing contractor would find it economically advantageous to harvest the timber through the services of local loggers. Neitzling offered to administer the sales, but expected—correctly as it turned out—that Reclamation would decline such an arrangement.<sup>79</sup>

Indeed, BOR maintained full responsibility for clearing the reservoir and relied on the USFS only for certain technical advice. Yet correspondence among USFS personnel demonstrates that the agency remained committed to see to it that South Fork timber in the reservoir area be used to benefit local industry. In 1946, for example, Reclamation offered no objections to the Forest Service continuing to offer sales in the withdrawal area near Lion Lake and allowed it to offer “the sale of 15 to 18 million feet if needed by a local operator to sustain operations.”<sup>80</sup> Neitzling noted that “[t]o date we have had very good cooperation from the Reclamation Bureau in removing timber within the area that they intend to use in development of the dam. They are anxious to have the timber removed as it saves them added expense in removing it later for the improvement development.”<sup>81</sup>

Throughout this time, the USFS looked for additional steps it could take to support the flowage timber harvest. For example, it considered offering timber sales in the upper reservoir flowage as “supervisor’s sales” to local operators, so they could “acquire as much of the timber as possible” before BOR needed the site. Although it is unclear why such sales never occurred, the proposition

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<sup>78</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, March 25, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>79</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, April 26, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle

<sup>80</sup> P. D. Hanson, Regional Forester, by C. S. Webb, to Forest Supervisor, March 27, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; F. J. Neitzling, Forester Supervisor, to Paul Jones, Engineer, January 16, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; Paul A. Jones, Project Engineer, to F. J. Neitzling, Forest Supervisor, January 18, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>81</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, April 3, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

speaks to USFS efforts to see that the flowage area forest products entered the local market.<sup>82</sup> Along these same lines, Lindh explained his office’s view that, “We had hoped that the Forest Service would be authorized to direct the sales administration” for clearing the timber from the flowage area, “and thus probably obtain orderly disposal and more complete utilization.”<sup>83</sup> Nevertheless, Neitzling recognized that regardless of the level of USFS involvement in actual timber removal, the two agencies would need to work cooperatively throughout the project to ensure that all forest infrastructure was relocated to required standards, while the USFS would monitor on any initial clearing work and respond if “utilization is not foreseen or obtained.”<sup>84</sup>

## Clearing Begins

In autumn 1946, BOR advertised the initial clearing work—covering just over 1,000 acres—but with the lowest bid coming in at an unsatisfactory \$400 per acre for the most difficult terrain, it rejected all offers and elected to re-advertise it under similar terms the following spring.<sup>85</sup> Despite the setback to clearing operations, cutting began in the flowage area that fall after Reclamation took advantage of seasonal demand for another Flathead timber product—Christmas trees. The 100,000 Christmas tree sale covered an area from the dam site to Clorinda Creek.<sup>86</sup> While relatively small in scale, this initial flowage area harvest foreshadowed things to come as BOR offered a variety of sales that made use of reservoir area forest products.

In 1947, the reservoir clearing project loomed large. *Pacific Builder and Engineer* called the impending operation the “[m]ost unusual feature of the Hungry Horse dam preliminaries” with “16,000 acres of heavily timbered land to be cleared.”<sup>87</sup> *Hungry Horse News* reported that more than just making way for water storage, the local timber industry valued reservoir timber as “the answer to a threatened shortage” of available timber in the region.<sup>88</sup>

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<sup>82</sup> A. G. Lindh, Assistant Regional Forester, to Forest Supervisor, April 18, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>83</sup> A. G. Lindh, Assistant Regional Forester, Memorandum for Forest Supervisors, May 28, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>84</sup> F. J. Neitzling, Forest Supervisor, to Axel Lindh, Assistant Regional Forester, May 14, 1946, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>85</sup> Michael W. Straus, Commission, Bureau of Reclamation, to Mike Mansfield, Senator, May 20, 1947, File: Appropriations, Hungry Horse, 1949, III 20-2, Series III, Box 20, Mansfield Papers-UM; “Hungry Horse Project Rejects High Bids,” *Hungry Horse News*, November 7, 1946.

<sup>86</sup> “Now You Can Buy Hungry Horse Xmas Trees,” *Hungry Horse News*, October 10, 1946.

<sup>87</sup> Roscoe Laing, “Pre-Construction Work at Hungry Horse,” *Pacific Builder and Engineer*, January 1947, File: Appropriations, Hungry Horse, 1947, III 20-4, Series III, Box 20, Mansfield Papers-UM.

<sup>88</sup> “H.H. Would Aid Lumber Supply,” *Hungry Horse News*, February 28, 1947.

## R & S Construction Clearing

Coinciding with the arrival of spring, BOR re-offered the first reservoir clearing contracts. The contracts provided that the successful bidder would be paid to clear the just over 1,300 acres of forest in its entirety. This included every tree over one-inch in diameter, but the successful bidder would have the right to dispose of the forest products how it saw fit—not a minor incentive considering that the parcel held an estimated 6,798,660 board feet of merchantable timber, including larch, spruce, Douglas fir, white pine, cedar, white fir, lodgepole pine, and ponderosa pine, as well as 8,900 cords of firewood.<sup>89</sup>

From a financial standpoint, the BOR decision to reject all bids in its 1946 offering paid off. The April low bid of \$408,320 by J. J. Reese of Columbia Falls reduced the estimated per-acre cost for clearing the same terrain by \$53 per-acre, effectively saving the project \$47,571.45.<sup>90</sup> Reese's successful bid also eased USFS concerns about making beneficial use of reservoir timber. The contractor notified Neitzling that it planned to harvest all merchantable timber and pulpwood, selling the logs to the Kalispell Lumber Company.<sup>91</sup>

BOR executed the contract with Reese on May 19, 1947 and issued notice to proceed that June. The contract covered an area from 600 feet below the dam site upstream to Hungry Horse Creek.<sup>92</sup> *Hungry Horse News* reported that Reese, a part-owner of the Rocky Mountain Lumber Company mill in Essex, would be doing business as R & S Construction Company “with J. J. Reese and E. C. Sever as principal stakeholders.” The company planned “to utilize every possible bit of the up to eight million board feet of timber, and 10,000 cords of pulp wood that will be cleared” on the initial clearing contract and hire local subcontractors to cut “poles, logs and Christmas trees.”<sup>93</sup> The company reportedly reached an acceptable rate agreement with the Great Northern Railroad that enabled it to ship the pulp to the Consolidated Paper pulp mill in Wisconsin Rapids, Wisconsin.<sup>94</sup>

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<sup>89</sup> “Hungry Horse to Call Reservoir Clearing Bids: Timber Will Help Current Shortage,” *Hungry Horse News*, March 14, 1947. The Bureau of Reclamation had initially planned to include just 1,100 acres in the first clearing contract, but increased the offering to 1,335 to accommodate for a potential increase in dam height. With the increased acreage came an increased estimated timber volume. “Increase Dam Timber Clearing: Friday Bids Opening Total 1,335 Acres,” *Hungry Horse News*, April 11, 1947.

<sup>90</sup> Michael W. Straus, Commission, Bureau of Reclamation, to Mike Mansfield, Senator, May 20, 1947, File: Appropriations, Hungry Horse, 1947, III 20-2, Series III, Box 20, Mansfield Papers-UM; “J.J. Reese Low on Reservoir Timber Clearing: H.H. Dam,” [undated, publication unknown], File: Appropriations, Hungry Horse, 1947, III 20-2, Series III, Box 20, Mansfield Papers-UM.

<sup>91</sup> F. J. Neitzling, to Regional Forester, April 18, 1947, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle. Reese's low bid offered \$347.50 per acre for 50 percent of the area and \$262.50 per acre for the remainder.

<sup>92</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume III, Calendar Year 1947.

<sup>93</sup> “Hungry Horse Clearing to Employ 100,” *Hungry Horse News*, May 30, 1947.

<sup>94</sup> “GN Grants Rate on Hungry Horse Pulp,” *Hungry Horse News*, October 3, 1947.



Figure 5 Sawmill on Egg Island in the Hungry Horse Reservoir flowage area.  
Source: BOR Project History, 1947, National Archives, Denver.

R & S Construction's contract involved only a fraction of the overall reservoir area, and BOR provided 840 days for the company to complete the work. Nevertheless, the project faced delays from the start. In early July, operations remained at a standstill with clearing equipment yet to arrive.<sup>95</sup> Finally, on July 21, 1947, the company cut its first trees, marking the start of the reservoir clearing. R & S subcontracted the logging to Montana Valley Lumber Company, which set up two tie mills and a planer on Egg Island in the South Fork, which was located two miles upstream from the dam site. The operation could produce 25,000 board feet of lumber and 800 ties per day. Reclamation contractors used some of the trees cut and milled during the initial clearing as lumber to build homes for the rapidly growing Hungry Horse Project workforce.<sup>96</sup> The *Hungry Horse News*

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<sup>95</sup> "Hiring for Logging has Local Upturn," *Hungry Horse News*, July 11, 1947.

<sup>96</sup> "Powerhouse Planned," *Kalispell News*, March 18, 1948, File: Hungry Horse Dam, 1938–1948, 13-17, Box 13, Perry S. Melton Papers, Collection No. MC 252, Montana Historical Society Archives, Helena, Montana [hereafter MTHS].

reported that R & S planned to improve the Spotted Bear forest road “to allow heavier hauling.”<sup>97</sup> Despite getting the necessary infrastructure in place, the company had cleared just 60 acres by the end of October 1947, and by the close of the season in December, it had completed just 13 percent of the work with 23 percent of the time allowed by the contract elapsed.<sup>98</sup>

The second year of the R & S Construction clearing contract proved equally rocky. Despite employing 182 workers on the clearing job, the company’s lack of progress turned out to be too much to overcome. In August 1948, BOR’s contracting officer terminated R & S’s contract for failing to make satisfactory progress.<sup>99</sup> Seaboard Surety, the contractor’s bonding company, took over the contract after R & S had completed just 30 percent of the work.<sup>100</sup>



Figure 6 Canyon clearing.  
Source: BOR Project History, 1947, National Archives, Denver.

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<sup>97</sup> “Hungry Horse Clearing Starts,” *Hungry Horse News*, July 25, 1947.

<sup>98</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume III, Calendar Year 1947, 15.

<sup>99</sup> “Area Booms; 900 for Schools; H.H. Jobs total 1,550,” *Hungry Horse News*, August 20, 1948; “Bonding Co. Enters R, S Clearing Job,” *Hungry Horse News*, August 27, 1948; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IV, Calendar Year 1948.

<sup>100</sup> “Bonding Co. Enters R, S Clearing Job,” *Hungry Horse News*, August 27, 1948.

## Flowage Area Logging

In September 1948, BOR received no bids on 5.5 million board feet of flowage area timber in the Emery Creek and Wounded Buck Creek areas.<sup>101</sup> Despite a lack of bids, the offering demonstrated Reclamation's commitment to making beneficial use of reservoir area timber since it advertised the harvest separate from the clearing work. At the end of the year, *Hungry Horse News'* New Year's Eve edition looked to a promising season ahead as "one of three big years of Hungry Horse Dam construction." Logging operations scheduled to occur in the South Fork would take center stage, with major harvests commencing in the flowage area. The USFS, for its part, also prepared an additional 6 million board foot harvest in the Canyon Creek area and another million at Emery Creek, which ensured that national forest logging activity could continue once logging contractors completed harvest of the flowage area timber.<sup>102</sup>

Cutting the vast timber stands within the reservoir over a limited timeframe required the mobilization of the majority of the loggers in the Flathead region. Before operations began in earnest, speculation swirled as to the ability of local mills to handle the influx of timber within the project timeframe. Yet public opinion favored logging the forest, rather than burning it.<sup>103</sup> The R & S clearing contract involved relatively small amounts of timber and the company subcontracted the logging. However, that contract contained a variety of restrictive clauses meant to help facilitate clearing work, but which proved too onerous to the loggers. Neitzling advised that these restrictions discouraged operators. For the remaining sales, BOR took a different approach by offering timber sales with few restrictions on a tree estimate scale basis. Neitzling predicted that the low-priced contracts would be attractive to local operators and possibly out-of-state entities. He noted that at least one out-of-state operator expressed interest in the chance, but he hoped that it could remain in the Flathead to support the local economy.<sup>104</sup>

In spring 1949, BOR detailed its plans for a flowage timber sale expected to total around 70 million board feet with minimum acceptable bids "considerably below the prevalent forest service minimums of \$7 a thousand board feet."<sup>105</sup> The low price served to "help prevent saw log trees from

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<sup>101</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IV, Calendar Year 1948, 10.

<sup>102</sup> "U.S. Forest Offers Timber Near Olney," *Hungry Horse News*, December 31, 1948, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-4, Series III, Box 21, Mansfield Papers-UM.

<sup>103</sup> "Weather Slows Reservoir Work," *Hungry Horse News*, June 2, 1950.

<sup>104</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, October 27, 1948, File: S-Sales-Flathead-1947-1950 [1 of 2], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>105</sup> "Slate March Road, Timber Calls," *Hungry Horse News*, March 4, 1949.

becoming just part of a clearing contract to be burned.” Once the successful contractor completed the timber harvest, Reclamation planned to open the area to clearing work.<sup>106</sup>

Local mills sent cruisers to assess the flowage area timber, while the USFS suspended national forest sales. According to the *Hungry Horse News*, “Sale of national or state forest timber at this time would seem inopportune.”<sup>107</sup> The Forest Service also offered contract relief to companies working on active sales so they, too, could concentrate on getting the timber out of the flowage. “In bona fide cases,” Lindh explained, “where equipment and crews would normally be engaged in cutting our stumpage are transferred to the project, modifications of agreements extending the time limit [on the Forest Service sales] should be drawn and approved well in advance of the expiration date, and perhaps, at the time, or before, the move is made to the new operation.” Once they resumed their work on the national forest contracts, the USFS would reappraise stumpage rates accordingly.<sup>108</sup>

The Glacier-Coram Lumber Company’s Emery Creek Block M sale was among the largest sales that the flowage harvest postponed. Glacier-Coram diverted its loggers to the flowage area, which meant that a month before the contract’s December 31, 1949 expiration, it had cut just 562,210 board feet of the total Emery Creek sale, estimated at over 3 million board feet. “In view of the service rendered the Government in the salvage operation,” a forest ranger overseeing the sale wrote, “I recommend this contract be extended without modification until December 31, 1951.” Neitzling concurred and agreed to defer the contract requirements until the company completed operations in the flowage area.<sup>109</sup>

The USFS offered the Hungry Horse Project support in other ways. In 1949, BOR prepared a timber sale covering the final 10,000 forested acres within the flowage area, which included all timber cruised up to the 3,500-foot level—although actual clearing would reach the 3,565-foot level. BOR asked the USFS to prepare the appraisal for the timber sale ahead of clearing operations. The Forest Service completed a timber cruise of the offering—a practice that involves a forest ranger calculating the approximate volume and value of a timber stand.<sup>110</sup>

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<sup>106</sup> “Set Road, Timber Bid Calls,” *Hungry Horse News*, March 11, 1949.

<sup>107</sup> “Timber Sale Attracts Bidders,” *Hungry Horse News*, April 1, 1949.

<sup>108</sup> A. G. Lindh, Assistant Regional Forester, to Forest Supervisor, February 23, 1949, File: S-Sales-Flathead Policy [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.; F. J. Neitzling, Forest Supervisor, to Regional Forester, to Forest Supervisor, February 4, 1949, File: S-Sales-Flathead Policy [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>109</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, November 7, 1949, File: S Sales-Flathead-Glacier-Coram Lumber Company, Emery Creek Block M 6/3/48- 8-4-53, Box 91, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>110</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, to Forest Supervisor, February 4, 1949, File: S-Sales-Flathead Policy [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95,

BOR sought to have all the merchantable timber removed by autumn 1950, which, Neitzling explained, “will mean a big logging job considering the operating season and road situation.” To sell the merchantable timber as efficiently as possible, Reclamation offered it at a flat rate per thousand board feet inclusive of all species, priced low enough that it would offset the disadvantage of the tight time frame for completion. Neitzling remarked that local operators expressed interest in forming a cooperative to handle the sale. The likely haul would involve empty trucks driving up the original South Fork road, with fully loaded trucks driving the newly built, and more gently graded, east side road downstream.<sup>111</sup>

When the BOR finally advertised the timber on March 10, 1949, Neitzling figured that the minimum price of \$9 to \$11 per thousand feet on white pine and Ponderosa pine, \$3 to \$5 per thousand on spruce, and \$2 to \$4.50 per thousand on larch, Douglas fir, and other species, “ought to be fairly attractive to practically all the operators.” However, the restriction calling for timber up to the 3,450-foot elevation to be cleared within 300 days of the contract limited who would be capable of handling such a large sale.<sup>112</sup>

BOR offered the timber on April 5, 1949, in a series of ten schedules, ranging from 2 to 11 million board feet per tract, for a total of just over 70 million board feet of saw timber. As noted, all timber below the 3,450-foot elevation had to be removed within the first 300 days of the contract and all timber below the 3,570-foot elevation removed within 600 days. The offering included a clause for contract termination if progress proved inadequate.<sup>113</sup>

BOR received successful bids on seven of the ten tracts offered. Flathead Timber Products, Inc., placed the high bid on the April 4, 1949, opening by offering \$275,560 for six of the ten schedules covering an estimated 50 million board feet. Local entities Stoltze Land & Lumber Company, Plum Creek Lumber Company, Kalispell Lumber Company, Al Johnson, and Manions, formed Flathead Timber Products, Inc., for the exclusive purpose of competing for the contract. F, K & L, another recently formed local company, bid successfully on Schedule 1 of the flowage timber

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NARA-Seattle; Darris Flanagan, *Skid Trails: Glory Days of Montana Logging* (Stevensville, MT: Stoneydale Press Publishing Company, 2003), 57

<sup>111</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, to Forest Supervisor, February 4, 1949, File: S-Sales-Flathead Policy [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>112</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, March 11, 1949, File: S-Sales-Flathead 1947-195 [1 of 2], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; “Bureau will Sell Vast Timber Area,” *Daily Inter Lake*, March 10, 1949, File: S-Sales-Flathead 1947-195 [1 of 2], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>113</sup> Invitation, Bid, and Acceptance, Invitation No. 1412-49, March 10, 1949, File: S-Sales-Flathead-Hungry Horse Project [1950] [1 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume V, Calendar Year 1949, 32.



located at Emery Creek. The companies announced their intention to set up tie mills in the flowage and ship the products on the Great Northern out of Coram, totaling five to six thousand ties per day. Subcontractors, including L. P. Tonner, Hans Larson, Rex Brown, Rollie Sandon, Francis Kinshella, and Roy Commers, took on that aspect of the job. According to the *Hungry Horse News*, “There is local pride and satisfaction in Flathead mills bidding on these major timber contracts.”<sup>114</sup>

In May, BOR awarded another timber sale schedule containing some 2.25 million board feet to Earl Wagner for an area of the flowage in the vicinity of Wounded Buck Creek. The various logging companies and subcontractors scattered throughout the reservoir and established camps and tie mills. Some located on former USFS administrative sites, such as Elk Park or Coal Banks. Flathead Timber Products subcontractors Clarence Ufford and Francis Kinshella set up their tie mill on Hoke Creek across from Horse Heaven flats. Pat Kinshella set up a mill at Elk Park. Rex Brown put his up at Graves Creek, but later moved it to Wheeler Creek. Birkey and Sons set theirs up at Brush Creek. Hans Larson established his near Canyon Creek.<sup>115</sup>



Figure 7 Kinshella tie mill.

Source: BOR Project History, 1949, National Archives, Denver.

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<sup>114</sup> “Reservoir Looms as Tie, Lumber Source,” *Hungry Horse News*, April 8, 1949; “Damsite Undisturbed by Flood,” *Hungry Horse News*, May 13, 1949.

<sup>115</sup> “H.H. Employment Takes Spurt,” *Hungry Horse News*, May 20, 1949; “Resume H.H. Concrete Placing,” *Hungry Horse News*, October 21, 1949; “Clearing Activity Underway,” *Hungry Horse News*, May 5, 1950; “Reservoir Activity Continues,” *Hungry Horse News*, June 30, 1950.

By that month, over 300 workers had scattered throughout the flowage area. The *Hungry Horse News* captured the scope of the activity there:

Truckloads of railroad ties coming out on the Spotted Bear road tell the story of Flathead Timber Products Inc. operations and their purchase of an estimated 64,600,000 board feet of reservoir timber. The tie output Thursday was an estimated 2,000, most of it for the Great Northern, and it will increase to 5,000. Operating tie mills are Cy Tonner, Rex Brown, Rollin Sandon, Pat Kinshella and Roy Commers. Hans Larson is setting up two tie mills, Joe Birkey is erecting one, and Lloyd Sanderson is putting up a mill on the F, K, and L adjoining contract. Mike Hoerner is obtaining side timber from the tie mills, planing it into 2 by 4s.<sup>116</sup>

BOR announced the bid opening in July for the final 14,000 acres of reservoir clearing. By that time, nearly 500 men were clearing or logging the reservoir flowage.<sup>117</sup>

Logging companies on the Hungry Horse Project took advantage of a variety of technological advancements that came into favor around that time and set a new standard for the volume of timber that could be removed from the forest over a relatively short time frame. First among these was the widespread use of logging trucks, but other heavy equipment, such as bulldozers and power skidders, also changed how loggers approached their work. When South Fork timber harvesting first got underway, crosscut saws remained the preferred method to fell timber. Also known as a “Swede fiddle” or “misery whip,” crosscuts first came into use in Montana in the late 1890s. The saws enabled lumberjacks to efficiently down timber at speeds unthinkable by their axe-wielding predecessors. With the crosscut, experienced teams could down up to 10,000 board feet per day. Yet the Hungry Horse Project coincided with a notable transition towards mechanization, as some sawyers on the project eventually used chainsaws to cut trees in the flowage area. Chainsaws had nearly replaced the crosscut altogether in Montana by mid-1950s.<sup>118</sup>

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<sup>116</sup> “Employment Nears New High” *Hungry Horse News*, May 27, 1949.

<sup>117</sup> “To Finish Reservoir Clearing,” *Hungry Horse News*, July 15, 1949.

<sup>118</sup> Darris Flanagan, *Skid Trails: Glory Days of Montana Logging* (Stevensville, MT: Stoneydale Press Publishing Company, 2003), 62; 123. Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 208.



Figure 8 Chainsaw crew felling a tree. Source: BOR Project History, 1951, National Archives, Denver.

Other harvest methods employed on the flowage area sales were largely remnants of a bygone era. In the midst of the reservoir harvest, Flathead Timber Products introduced an “old Flathead tradition” to the South Fork when it began driving logs down the river. The first drive involved floating 1,400 logs 25 miles from the Sullivan Creek and Graves Creek area to a landing near Hungry Horse Creek where the company loaded the logs on trucks bound for its Columbia Falls and Kalispell mills. The company expected to drive up to 18 million board feet on the river.<sup>119</sup> Ed Conrad, another logger working on the project, also moved logs through a combination of river drives and truck hauls.<sup>120</sup>

At the close of the 1949 logging season, BOR noted that the loggers had made steady progress in the flowage area, with 47 million board feet harvested there since cutting began in April. The

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<sup>119</sup> “Hungry Horse Jobs Edge 1900,” *Hungry Horse News*, July 22, 1949.

<sup>120</sup> “H.H. Spotlight Shifts to Clearing,” *Hungry Horse News*, November 11, 1949.

timber brought a return of \$231,300 to the U.S. Treasury. Of that total, tie mills cut just over 42 million board feet into ties and hauled them to the Great Northern Railway in Coram.<sup>121</sup>

In 1950, flowage area loggers hauled most of the harvest out as sawlogs, rather than railroad ties, and at the close of that season, the total harvest had reached 82 million board feet worth \$392,000.<sup>122</sup> With the massive saw log harvest that year, the supply of logs and lumber on hand at Flathead mills had reached an all-time high. *Hungry Horse News* reported that Reclamation would likely extend the Flathead Timber Products contract to allow the harvest of an additional 3 million board feet “that can be removed without interfering with clearing operations.”<sup>123</sup> The logging contractors completed the last of the flowage area timber harvest in 1951, recording a total volume of 87,208,000 on the timber sales, bringing a total return of \$436,300. Reclamation estimated that by the end of 1951, clearing contractors had salvaged an additional 6 million board feet of timber, exclusive of the west side road construction.<sup>124</sup> All told, the flowage timber harvest exceeded BOR’s original 70 million board-foot volume estimate by over 20 million board feet.<sup>125</sup>



Figure 9 Cleared river bend, approximately one mile above dam site.  
Source: BOR Project History, 1948, National Archives, Denver.

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<sup>121</sup> U.S. Bureau of Reclamation, *Hungry Horse Project, Montana, Annual Project History, Volume V, Calendar Year 1949*, 32.

<sup>122</sup> U.S. Bureau of Reclamation, *Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950*, 35.

<sup>123</sup> “Lumber Termed Critical; Flathead Loaded,” *Hungry Horse News*, December 29, 1950.

<sup>124</sup> U.S. Bureau of Reclamation, *Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951*, 56.

<sup>125</sup> Bureau of Reclamation, “Technical Record of Design and Construction, Hungry Horse Dam and Powerplant, Constructed 1948–1953, Hungry Horse Project, Montana,” (Denver: Bureau of Reclamation, 1958), 208–9.

## Major Clearing Operations

The clearing work that J. J. Reese started in the summer of 1947 amounted to a relatively small undertaking when contrasted with the work that remained. Reese's R & S Construction contract covered just over 1,300 acres of the roughly 25,000-acre flowage area. With just four summer seasons to complete the work, the clearing contractors for the remaining area had to proceed efficiently to meet their project obligations. Innovation born of this necessity brought out some of iconic features of the Hungry Horse Project and speaks to the massive effort that this project entailed.



Figure 10 Cleared flowage area aerial looking North.  
Source: BOR Project History, 1950, National Archives, Denver.

In the summer of 1948, BOR moved forward with another phase in the reservoir clearing project. Unlike the J. J. Reese/R & S Construction contract, Reclamation elected to offer the remaining clearing contracts independent from the timber sales it had offered—or would offer—

within much of the flowage area. It divided the second phase of clearing work into three tracts, each partially burned over with only scattered merchantable timber. The subject area included a total of 7,210 acres from Hungry Horse Creek to Murray Creek.<sup>126</sup> At the August 25, 1948, bid opening, Wixon & Crowe and J. H. Trisdale, a partnership of experienced clearing contractors from Redding, California, made the low offer of \$1,733,880. The bid reflected a rate based on terrain which ranged from \$262 per acre for schedule one to \$230 per acre for schedule two.<sup>127</sup>

Wixon & Crowe and J. H. Trisdale's experience clearing the flowage for the Cascade Dam in Idaho and the Shasta Dam in California made them well equipped to handle the work at Hungry Horse. The partnership got started immediately and had over 100 workers on the project by autumn, while also advertising locally for brush clearing crews—no experience necessary.<sup>128</sup> On October 22, 1948, the Wixon & Crowe and J. H. Trisdale already had 500 acres of debris burning in the flowage area.<sup>129</sup> BOR, meanwhile, continued its practice of utilizing as many wood products within the flowage as possible by offering an estimated 70,000 Christmas trees for sale.<sup>130</sup>



Figure 11 Caterpillar tractor clearing steep terrain.  
Source: BOR Project History, 1950, National Archives, Denver.

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<sup>126</sup> "Slate New H.H. Clearing Contracts," *Hungry Horse News*, July 23, 1948.

<sup>127</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IV, Calendar Year 1948, 11; "1,733,880 Low for Clearing," *Hungry Horse News*, August 27, 1948.

<sup>128</sup> "Clearing Contract Offers 100 Jobs," *Hungry Horse News*, October 8, 1948.

<sup>129</sup> "Hungry Horse Jobs Continue at 1,400," *Hungry Horse News*, October 22, 1948.

<sup>130</sup> "Bureau Announces Xmas Tree Sale," *Hungry Horse News*, October 29, 1948.

Besides manpower, Wixon & Crowe and J. H. Trisdale operated a fleet of heavy machinery that included nine Caterpillar (Cat) bulldozers running “11 hours a day, seven days a week,” and a 26-ton Allis Chalmers H-D 19 tractor.<sup>131</sup> The contractor also brought other eye-catching features to the job, such as a corporate plane that allowed staff to travel to and from the Hungry Horse Project using a runway it cleared between Riverside and Fire Creeks.<sup>132</sup>

Each year, winter descended on the South Fork and eventually halted clearing work. When spring finally allowed the project to resume, the clearing contractors made steady progress. In summer 1949, crews encountered few setbacks. The only major exception came due to fire danger in late August that put a stop to clearing, logging, and milling.<sup>133</sup> In the meantime, BOR offered other clearing contracts. After an August offering that yielded no acceptable bids, it advertised seven schedules in September covering recently logged-over lands. Coleman H. Dykes of Knoxville, Tennessee, offered the low bid of \$508,970 on two of the schedules covering 10,700 acres. Reclamation rejected bids on the others as being too high.<sup>134</sup> That December, it re-offered the five remaining schedules. Wixon & Crowe and J. H. Trisdale, operating as separate entities, each offered successful bids. Wixon & Crowe, Inc., won schedules 1 and 3 covering 6,840 acres with a bid of \$2,446,850. J. H. Trisdale, Inc., won schedules 2, 4, and 5 covering 7,855 acres with a bid of \$2,484,360.<sup>135</sup>

Dykes got off to a slow start due to “insufficient capital and no equipment suitable for this type of work” and made little progress during that first season of its contract.<sup>136</sup> Other contractors fared better. By the close of 1949, Seaboard Surety had completed the original R & S Construction clearing contract. It sold an additional 1.3 million board feet of timber it cleared to Plum Creek. The R & S contract resulted in a total harvest of 5,666,000 board feet of merchantable timber and 8,899

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<sup>131</sup> “Hungry Horse Jobs Continue at 1,400,” *Hungry Horse News*, October 22, 1948.

<sup>132</sup> “Clearing Contractors to Use Own Plane as Transportation Aid,” *Hungry Horse News*, October 22, 1948.

<sup>133</sup> “Fire Threat Cripples Logging,” *Hungry Horse News*, August 19, 1949.

<sup>134</sup> “Resume H.H. Concrete Placing,” *Hungry Horse News*, October 21, 1949; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume V, Calendar Year 1949, 11.

<sup>135</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume V, Calendar Year 1949, 11. Reclamation reported that the firms elected to operate as separate entities to “get more bond than if they had bid the job as partners.” U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 32.

<sup>136</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950, 30.

cords of pulpwood and post wood.<sup>137</sup> Wixon & Crowe and Trisdale reported their original clearing contract to be 95 percent complete before stopping work for the winter.<sup>138</sup>

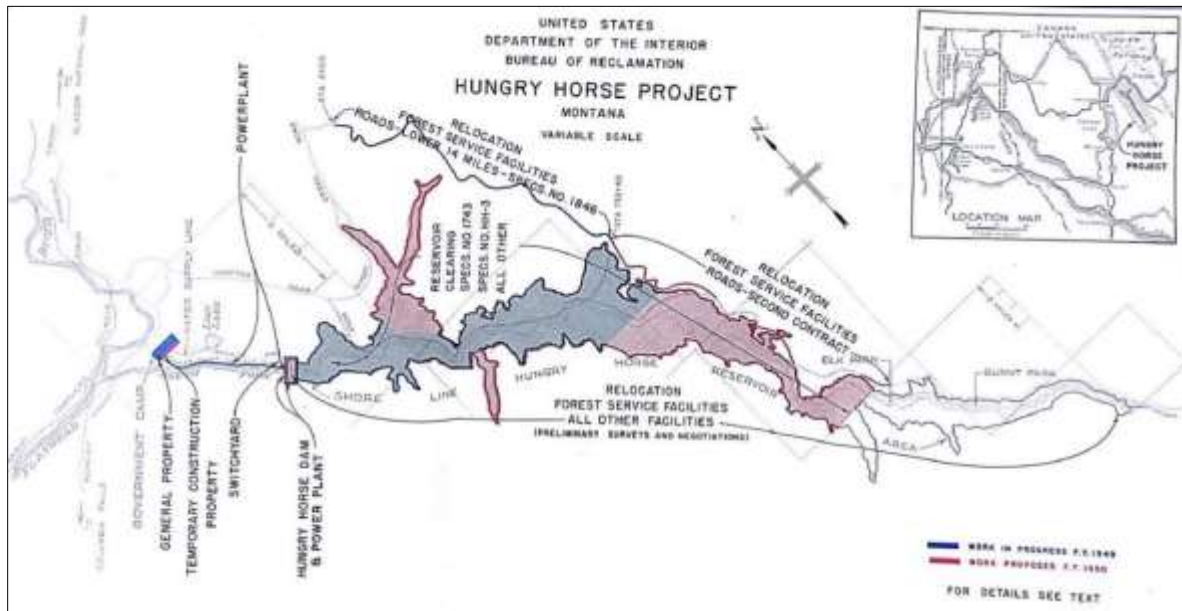


Figure 12 Hungry Horse Reservoir clearing project status, 1949.  
Source: BOR Project History, 1949, National Archives, Denver.

## Life on the Job

Near the start of the 1949 summer season, a local newspaper reported that of the roughly 1,600 workers on the Hungry Horse Project, Wixon & Crowe and J. H. Trisdale employed 155, Flathead Timber Products employed another 150, and 65 worked for Seaboard Surety on clearing work at or near the dam site. It noted that while considerable operations were underway, it expected logging to increase that summer to include “large-scale hauling of spruce and pine logs.”<sup>139</sup> For the individual loggers and clearing workers, the experience can be viewed as both traditional and transitional. Indeed, the Hungry Horse Project bridged historical eras of logging in the Mountain West—not

<sup>137</sup> “Seaboard to Complete Clearing,” *Hungry Horse News*, November 25, 1949; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume V, Calendar Year 1949; Bureau of Reclamation, “Technical Record of Design and Construction, Hungry Horse Dam and Powerplant, Constructed 1948–1953, Hungry Horse Project, Montana,” (Denver: Bureau of Reclamation, 1958), 212.

<sup>138</sup> “Bureau Reports on Logging Activity,” *Hungry Horse News*, November 25, 1949; “H.H. Spotlight Shifts to Clearing,” *Hungry Horse News*, November 11, 1949.

<sup>139</sup> “1600 Men Work at Big Dam Site,” June 4, 1949, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-3, Series III, Box 21, Mansfield Papers-UM.



only had the tools of the trade changed, but the experience of the logger changed in certain ways too.

Prior to the 1949 season, flowage area logging targeted larch and fir for producing railroad ties at an output of 2,000 ties per day. The anticipated production increase drove that number up to between 4,000 and 5,000 ties per day. Stoltze Land and Lumber and Cy Tonner put Glen Penney and his 16-man crew to work logging in the vicinity of Murray Creek, while F, K & L—an outfit formed by Martin City loggers T. R. (Red) Foley, Nick Kartheiser, and Floyd and Carl Lindberg—had 14 men logging, a couple of Cats skidding, and two more Cats building roads on its contract for 3,230,000 board feet of timber.<sup>140</sup>

The prevalence of heavy machinery among the logging and clearing crews working on the Hungry Horse Project is just one of the many indications that technological advancements in logging operations by the late 1940s had brought changes to the industry. Yet some time-tested aspects of the logging and clearing experience remained. Logging camps are one such tradition that figured prominently on the Hungry Horse Project. Until World War II, the logging camp had come to represent a fundamental element of the lumberjack lifestyle. The utilitarian boarding facilities with bunkhouse-style accommodations and a mess hall with a dedicated camp cook were ubiquitous features of camp life. As explained in a local history of the Flathead:

A logging camp in the woods always included a kitchen, a blacksmith's shop, a barn, and bunkhouses, frequently equipped with straw mattresses. The kitchen in this case was a little log cabin with two long tables in it, a stove or two, plus a counter for the cook to work on. The number of men the cook had to help him depended upon the size of the logging crew he was cooking for. With a small crew of six to ten men, the cook did everything himself. With a crew of fifteen men, the cook could have one flunky. With a crew of thirty to fifty men, the cook could have two flunkies. With a crew of sixty to seventy men, the cook could have a dishwasher, two flunkies, and a second cook.<sup>141</sup>

Lumberjacks often stayed at the camps for an entire season, or at the very least for the duration of the work week due to the travel time to and from their homes. Better transportation by the early 1940s meant that logging camps became obsolete on many jobs, with logging companies busing their crew to and from the job site each day.<sup>142</sup> While some of the men who worked as loggers and clearing contractors on the Hungry Horse Project likely took daily trips to the job site, many more reverted to camp life. Lloyd Fagerland recounted years later that Flathead area residents accounted for many on the loggers of the project, and they had the luxury of spending their weekends at home

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<sup>140</sup> "1600 Men Work at Big Dam Site," June 4, 1949, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-3, Series III, Box 21, Mansfield Papers-UM.

<sup>141</sup> Henry Elwood, *Kalispell, Montana and the Upper Flathead Valley* (Kalispell, MT: Thomas Printing, Inc., 1980), 163.

<sup>142</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 189.

after staying in logging camps during the week, “some in portable bunkhouses and others in tents.”<sup>143</sup>

Living and working in the remote South Fork forest meant regular interaction with wildlife. The South Fork has always been a favored hunting area, and some of the workers took advantage of the location to hunt during their time off.<sup>144</sup> Wildlife could also be a nuisance and a danger. Fagerland recalled that garbage and food at the camps attracted bears that created a challenge for the workers living there. He told of one particularly bothersome night when the men at a camp became fed up with the encounters and ended up shooting eight bears that entered their camp in a single night.<sup>145</sup>

Not all wildlife encounters resulted in a destructive ending. Charlie Shaw, who served as a forest ranger during the project, recalled a time when he was looking over the work with John Trisdale, and the men spotted a golden eagle and nest atop a larch snag in the middle of a cutting area:

Trisdale told his foremen to clear all around the snag, but to let the snag stand. All of the brush was piled and burned, but the lone snag—with its nest of eagles—remained until the fall. When the young eagles had left the nest, Trisdale sent a crew back to remove the larch snag. To John Trisdale, this nest of eagles was of sufficient importance to alter the plans of a multi-million dollar clearing operation.<sup>146</sup>

The clearing contractors developed elaborate camps, many at well-established national forest administrative sites and campgrounds that had seen use by the USFS, CCC, and most recently the logging companies and tie mills. J. H. Trisdale located its camp at the site where logging subcontractor Hans Larson had his camp near Canyon Creek.<sup>147</sup> Wixon & Crowe located its camp across from Elk Park, which had been occupied as a logging camp by Ed Conrad’s crews. Trisdale used another camp location at Dead Horse Creek.<sup>148</sup>

The clearing crews typically occupied the camps the entire season, well into the early winter. While the vast majority of workers on the flowage timber harvesting and clearing projects were men, women also lived and worked in the camps. Although no demographic information on the workers exists, in November 1950, the *Inter Lake* reported that Mrs. Stella Graves and Mrs. Dick Williams returned to their homes in Kalispell after spending the summer on the kitchen staff at the Wixon & Crowe camp. Betty Anderson worked in the kitchen at the Pat Kinshella tie mill. Mrs. Red Wixon lived at her husband’s clearing camp and, as the newspaper reported, on at least one occasion the Wixons hosted another couple as guests for a three-week stay. Children sometimes lived at camps,

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<sup>143</sup> Lloyd Fagerland, “Training Bears,” *Voices from the Landscape* (Kalispell, MT: Living in the Landscape, 1998), 51.

<sup>144</sup> “Cooks Leave South Fork for Kalispell,” *The Inter Lake*, November 2, 1950.

<sup>145</sup> Lloyd Fagerland, “Training Bears,” *Voices from the Landscape* (Kalispell, MT: Living in the Landscape, 1998), 51.

<sup>146</sup> Charlie Shaw, *The Flathead Story* (Kalispell, MT: Flathead National Forest, 1964), 137.

<sup>147</sup> “Clearing Activity Underway” *Hungry Horse News*, May 5, 1950.

<sup>148</sup> “Concrete Nears Halfway Mark,” *Hungry Horse News*, May 18, 1951.

such as 6-year-old Stewart Sorenson whose parents lived at the Wixon and Crowe camp. Sorenson's presence at the camp is known because the *Hungry Horse News* reported that he had to undergo a tonsillectomy while living there.<sup>149</sup>



Figure 13 View of cleared flowage area from one-half mile above Riverside Creek.  
Source: BOR Project History, 1949, National Archives, Denver.

## ***Work Place Danger***

Logging and clearing has always been dangerous work. In May 1949, *Hungry Horse News* reported that so much traffic clogged the South Fork road that it was deemed “dangerous for travel.”<sup>150</sup> While the seemingly mundane activity of driving down a forest road took on added risk due to the industrial nature of the project, workers at Hungry Horse also encountered danger in many other forms. According to Darris Flanagan, author of *Skid Trails: Glory Days of Montana Logging*, lumberjacks were “exposed to the elements—snow, rain, blazing sun, mosquitos, sand flies, mud,

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<sup>149</sup> “Cooks Leave South Fork for Kalispell,” *The Inter Lake*, November 2, 1950

<sup>150</sup> “Damsite Undisturbed by Flood,” May 13, 1949, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-4, Series III, Box 21, Mansfield Papers-UM.

dust, steep terrain and underbrush. Their work was hard and dangerous and, despite modernization of the tools and equipment, remains so for the loggers of today.”<sup>151</sup>

Specific to the Hungry Horse Project, the BOR safety engineer explained, “the very nature of side-hill clearing usually results in many dangerous situations.” He commended clearing contractor Wixon & Crowe for mitigating the hazard from falling trees by constructing steel canopies over their tractors. He also noted that their clearing method of using a cable between tractors eliminated much of the risk from falling snags by keeping workers at a safe distance.<sup>152</sup>



Figure 14 Cable attached to tractors to remove snags.  
Source: BOR Project History, 1948,  
National Archives, Denver.

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<sup>151</sup> Darris Flanagan, *Skid Trails: Glory Days of Montana Logging* (Stevensville, MT: Stoneydale Press Publishing Company, 2003), 36.

<sup>152</sup> M. E. Flynn, Safety Engineer, to Chief Engineer, July 19, 1949, File: 13979-0, Box 38, Office of the Engineer, Project Correspondence from the Boulder Canyon and Central Valley Projects, 1921–1989, Records of the Bureau of Reclamation, RG 115, NARA-Denver.

Despite such precautions, at least eight men working on the logging and clearing contracts lost their lives on the project. The first fatality came in late December 1947, when rolling logs struck and killed 39-year-old Charles Powers, an experienced logger who had previously worked in the Emery Creek area before moving on to the Hungry Horse flowage harvest.<sup>153</sup> A year later, bulldozer operator Melvin Quade died after being struck by a falling tree. In late December 1949, Clarence L. Jenkins, 44, succumbed to exposure walking along the snowbound road back to the Wixon & Crowe clearing camp following a trip to town. A falling tree also took the life of logger William Schmeder in June 1950. Wixon & Crowe employee James Ryan died that August after a 70-foot larch he cut kicked up, struck him in the head, and fractured his skull.<sup>154</sup>



Figure 15 Wixon, Crowe, and Trisdale Camp in winter.  
Source: BOR Project History, 1950, National Archives, Denver.

During autumn 1951, a pair of deaths occurred as crews cleared the west side road. A Reclamation employee inspecting the clearing operations accidentally shot himself and died, while a

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<sup>153</sup> “H.H. Has First Accidental Death,” *Hungry Horse News*, December 25, 1947.

<sup>154</sup> Richard Hanners, “More Than a Few Lost Their Lives Building the Hungry Horse Dam,” *Hungry Horse News*, Exhibit, Hungry Horse Dam and Reservoir Visitor Center.

hunter accidentally shot two workers on the clearing project, killing one of them after mistaking them for game.<sup>155</sup> On April 28, 1952, Trisdale employee Charles LaRance, age 46, drowned in the South Fork after being thrown off a ferry barge into the river's spring run-off in the vicinity of Dead Horse Creek. The overturned ferry carried a Cat-skinner and other equipment, which were reported lost in the muddy torrent. Trisdale used its company plane to search for LaRance.<sup>156</sup> That July, a falling tree in the vicinity of Graves Creek killed 20-year-old Norman Herrington of Missoula.<sup>157</sup> Herrington, a signalman and choker setter, was a second-year engineering student at Montana State University in Bozeman working his second summer on the clearing project.<sup>158</sup>

## ***Highball Clearing***

The fatalities experienced on the Hungry Horse Project's logging and clearing demonstrate the dangers associated with the work. However, certain technological advancements may have reduced the number of accidents that occurred on the project. The most notable of these entered the project in 1950 and came to symbolize the magnitude of the project itself. That season, clearing contractors S. H. "Red" Wixon & John H. Trisdale introduced the "highball" clearing method. A custom welded 8-foot-high steel ball served as the centerpiece of the operation. Anchor chain from ships attached to roller bearings on an axle that bisected the ball and provided a point of linkage for 2-inch steel cable. The contractors developed the method as improvement on an early technique that involved pulling 400 feet of heavy 2-inch cable along the ground between their tractors. That method proved effective for burned-over lands, but the logged-over lands presented the added challenge of needing the cable to clear the stump height of recently cut trees. The attached ball raised the cable several feet off the ground, which kept it from getting hung up on the stumps.<sup>159</sup> According to a BOR press release, the highball approach proved effective:

Working on fairly level ground under ideal conditions, one pair of tractors pulling one ball actually snagged down in four hours all of the trees on a heavily timbered area of nearly 200 acres. Average daily production for one pair of tractors and one ball working under varying conditions including steep hillsides, marshy ground, etc., has been close to 100 acres per 8-hour shift.<sup>160</sup>

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<sup>155</sup> "Hunting Score: Man Killed, One Wounded," *Hungry Horse News*, November 2, 1951.

<sup>156</sup> "Overturned Raft on the South Fork Found," *The Inter Lake*, April 28, 1952; "Searchers Scan River for Worker," *The Daily Inter Lake*, April 29, 1952.

<sup>157</sup> "Falling Tree Kills Clearing Employe [sic]," *Hungry Horse News*, July 25, 1952, 5.

<sup>158</sup> Richard Hanners, "More Than a Few Lost Their Lives Building the Hungry Horse Dam," *Hungry Horse News*, Exhibit, Hungry Horse Dam and Reservoir Visitor Center; "Logger Dies on South Fork Trip," *Hungry Horse News*, December 30, 1949.

<sup>159</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950, 31.

<sup>160</sup> Bureau of Reclamation, Press Release, July 9, 1950, File: Hungry Horse Project – Miscellaneous III, 21-5, Series III, Box 21, Mansfield Papers-UM; "Hungry Horse Joins Nation's Big Dams," *Hungry Horse News*, December 19, 1952.

BOR went on to claim the “relentless assault of the 8-foot diameter steel balls is echoing around the world.” The 4-1/2-ton balls allow the contractors to clear “timbered land at a rate rivaling the legendary status of Paul Bunyan.”<sup>161</sup>



Figure 16 Arrival of the “highballs” from Redding, California.  
Source: BOR Project History, 1950, National Archives, Denver.

In practice, the two tractors with 800 feet of cable and a highball in tow bulldozed in a line through the forest until the cable tightened between them. At that point, they anchored their machines and winched the cable back, allowing the cable and highball to knock down and uproot everything in their path. Support tractors then moved in to pile the debris for burning. The speed of the highball method proved effective at allowing BOR to maintain its project schedule, permitting the storage of a portion of the reservoir from the 1952 spring run-off.<sup>162</sup>

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<sup>161</sup> Bureau of Reclamation, Press Release, July 9, 1950, File: Hungry Horse Project – Miscellaneous III, 21-5, Series III, Box 21, Mansfield Papers-UM.

<sup>162</sup> Bureau of Reclamation, Press Release, July 9, 1950, File: Hungry Horse Project – Miscellaneous III, 21-5, Series III, Box 21, Mansfield Papers-UM.

The highball method also generated publicity for the project. *Popular Mechanics* featured an article on the innovation, as did the *Denver Post*. It even drew the attention of “Fox Movietone newsreels” crews that came to Hungry Horse to film it in action.<sup>163</sup> As the *Inter Lake* reported, “probably no other single new development in construction methods attracted more attention during the past year among contractors and construction men, or received greater coverage in the daily press, construction magazines and periodicals” than the “highball” method.<sup>164</sup>



Figure 17 Highball clearing timber.  
Source: BOR Project History, 1950, National Archives, Denver.

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<sup>163</sup> “‘Bowling’ Down Forests for a Super Dam,” *Popular Mechanics*, August 1950; “Outstanding Features Include Big Tractor, Clearing Highballs,” *Hungry Horse News*, July 7, 1950, 9.

<sup>164</sup> “Bureau Expects to Hit New Peak, Smash Records in 1951,” *The Daily Inter Lake*, January 1, 1951.



The highball clearing proved more than just an oddity. Halfway through the first season using highballs, they were already credited with pushing the project well ahead of schedule.<sup>165</sup> As the *Hungry Horse News* explained, “Tales of American construction prowess now include stories of big 8-foot diameter steel balls dragged behind tractors that felled snags as fast as a man could walk.”<sup>166</sup> Two years after first introducing highballs onto the project, Trisdale continued using them for “mowing down snags and unmerchantable timber almost like grain in a field.”<sup>167</sup> Not a single worker died on the highball operations, and BOR could report on the method’s effectiveness “on all types of terrain, from flat land to hillsides so steep it seemed almost impossible to work equipment on them.”<sup>168</sup>

Clearing contractors utilized other unusual tools on the project. Robert E. Lee—subcontractor on the Dykes contract—used an umbrella-shaped four-pointed iron drag that he attached to a cable to clear steep slopes on creek canyons. Two tractors pulled the claw upslope with winches to gather debris that crews piled and burned.<sup>169</sup> A massive bulldozer known by such names as a “supercat” or “Trisdale Giant” provided another “Paul Bunyan-like” innovation. Although J. H. Trisdale brought the machine to the clearing project, R. A. “Buster” Peterson of the Peterson Tractor Company of San Leandro, California, designed the machine he called the “Twin D8’s.” The innovation met the demand for a more powerful tractor than a single Caterpillar D8 by attaching two of them together to operate as a single unit, with a single set of tracks, a single driver, and a 16-foot bulldozer blade.<sup>170</sup>

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<sup>165</sup> “Bureau Reports on Construction Work at Hungry Horse,” *Hungry Horse News*, August 11, 1950; “Bureau Expects to Hit New Peak, Smash Records in 1951,” *The Daily Inter Lake*, January 1, 1951.

<sup>166</sup> “Hungry Horse Joins Nation’s Big Dams,” *Hungry Horse News*, December 19, 1952.

<sup>167</sup> “H.H. Dam Holds Back Flood,” *Hungry Horse News*, May 2, 1952.

<sup>168</sup> “Hungry Horse Joins Nation’s Big Dams,” *Hungry Horse News*, December 19, 1952; Bureau of Reclamation, “Technical Record of Design and Construction, Hungry Horse Dam and Powerplant, Constructed 1948–1953, Hungry Horse Project, Montana,” (Denver: Bureau of Reclamation, 1958), 212.

<sup>169</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 31.

<sup>170</sup> “Clearing Activity Underway” *Hungry Horse News*, May 5, 1950; “Highball Takes H.H. Spotlight,” *Hungry Horse News*, May 12, 1950; “Hungry Horse Joins Nation’s Big Dams,” *Hungry Horse News*, December 19, 1952.



Figure 18 “Twin D8’s” clearing timber on the Hungry Horse Project.  
Source: BOR Project History, 1950, National Archives, Denver.

Like highballs, the “Twin D8’s” entered the project amid fanfare, but it encountered a setback when it proved too powerful for certain applications and bent its blade. In later iterations, improvements allowed it to perform exceptionally on certain types of terrain.<sup>171</sup> BOR reported that the double tractor “proved to be very effective where used, doing the work of three conventional tractors with dozers.<sup>172</sup> Peterson eventually mounted the Twin D8’s with a 22-foot bulldozer blade with rooter teeth, and the machine reportedly set clearing records on the project. It could push timber 300 feet at a time before it would have to take another pass through an area. In 1954, Peterson received a patent for the Twin D8’s as “Tractor with Twin Power Plants.” The machine, which made its field debut on the Hungry Horse Project, had only a short operational lifespan. In 1959, it became largely obsolete when Caterpillar introduced a more powerful model, the D9.<sup>173</sup>

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<sup>171</sup> “HH Dam Employment Prospects Bright for Fall,” *The Inter Lake*, August 24, 1952.

<sup>172</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 33.

<sup>173</sup> Eileen Grafton, *Peterson: The First Sixty Years* (San Leandro, CA: Peterson Tractor Co., 1998), 34; R. A. Peterson, “Tractor with Twin Power Plants,” Patent Number 2,678,105, files May 11, 1951, Patented May 11, 1954.

The clearing contractors found other creative solutions to challenges faced on the project. For example, they introduced World War II-surplus pontoons—sturdy enough to support an HD-19 tractor—to serve as a floating bridge spanning the South Fork at Riverside and Elk Park. The bridge enabled Wixon & Crowe equipment to move freely back and forth across the river. In practice, the pontoons reportedly functioned as a ferry, rather than a bridge. However, as noted, one such ferry overturned during spring run-off, resulting in a worker’s death. Temporary timber bridges were much more common along the river, such as one constructed by logger Ed Conrad at Murray Creek.<sup>174</sup>

The contractors employed numerous methods to clear the flowage. Pile burning occurred throughout the project and marked a final step in the clearing process. After a lengthy dry spell in 1950 that prevented any burning, August rains brought a brief respite with welcome moisture. The clearing contractors operating at the time took advantage of the burn window to ignite hundreds of acres of debris. The *Daily Inter Lake* reported that the burning produced thick smoke that limited visibility and could be seen drifting out of Bad Rock Canyon.<sup>175</sup>



Figure 19 Burning debris at night on the Hungry Horse Project.  
Source: BOR Project History, 1952, National Archives, Denver.

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<sup>174</sup> “Weather Slows Reservoir Work,” *Hungry Horse News*, June 2, 1950; “Reservoir Activity Continues,” *Hungry Horse News*, June 30, 1950.

<sup>175</sup> “Dam Reservoir Area Burning,” *The Daily Inter Lake*, August 24, 1950.

By that time, nearly the entire Dykes contract had been assumed by subcontractor Robert E. Lee of Manning, South Carolina. BOR reported that Lee had made good progress and by the close of 1950, 86.9 percent of the contract had been completed in 52 percent of the time.<sup>176</sup> Clearing operations by J. H. Trisdale, Inc., and Wixon & Crowe, Inc., also made notable progress in 1950. Reclamation credited “operation ‘Highball’” with much of their success:

By use of ample heavy equipment and well planned programs, both contractors made rapid progress toward completion of their contracts. Dry woods conditions in August and September slowed their progress as burning permits would not be issued at that time. In spite of this, by the end of November, when all work was suspended because of rainy and snowy weather, the contractors had accomplished 54.8 and 57.4 percent of their respective jobs.<sup>177</sup>

The contractors resumed work in April 1951, concentrating on piling and burning amid favorable cold and wet conditions, which enabled work to continue steadily into the summer season. Lee completed all work in September 1951, and the government accepted the Dykes contract as complete on October 1. Like Lee, Wixon & Crowe employed a dragline rake in steep canyons, allowing the contractor to complete all work below an elevation of 3,410 feet as specified by its contract. In this operation, the contractor salvaged 750,000 board feet of merchantable timber that had either been inaccessible to the loggers or outside of their contract requirements. From there, Wixon & Crowe moved its camps—including the river ferry—from Riverside to Elk Park. By the close of the season, the company had completed 87.7 percent of its contract, and the Riverside camp site had been flooded by the rising water of Hungry Horse Reservoir. J. H. Trisdale, meanwhile, subcontracted portions of its 1951 work and, all told, just 15 percent remained to be cleared when winter halted operations.<sup>178</sup>

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<sup>176</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950, 30.

<sup>177</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VI, Calendar Year 1950, 31-32.

<sup>178</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 31-34.



Figure 20 Wixon & Crowe clearing with a specially designed rake on steep terrain.  
Source: BOR Project History, 1951, National Archives, Denver.

In 1952, the two active clearing contacts proceeded rapidly, and by August, operations approached completion. The Hungry Horse flowage clearing had completed most objectives: forests clear cut to provide for a more natural appearance of the reservoir, woody debris plowed over and removed to reduce clogging the dam's turbines, and the salvage of roughly 90 million board feet of timber. The *Hungry Horse News* reported that clearing "provided some of the most dramatic phases of Hungry Horse project construction."<sup>179</sup> In early September, BOR conducted final inspections of the J. H. Trisdale project area and, along with fellow contractor Wixon & Crowe, it wrapped up operations later that month. All told, J. H. Trisdale and Wixon & Crowe cleared 21,716 acres of the 24,600-acre flowage area.<sup>180</sup>

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<sup>179</sup> "Reservoir Clearing Nears Completion," *Hungry Horse News*, August 29, 1952.

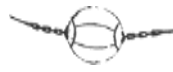
<sup>180</sup> "Reservoir Phase Near End at Dam," *Hungry Horse News*, September 12, 1952; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IX, Calendar Year 1953, 39; "Hungry Horse Joins Nation's Big Dams," *Hungry Horse News*, December 19, 1952.



Figure 21 Cleared forest along the Coram-Spotted Bear Road, downstream from Hungry Horse Creek.  
Source: BOR Project History, 1950, National Archives, Denver.

## Summary

Between 1947 and 1952, logging trucks hauled over 90 million board feet of timber out of the Hungry Horse Reservoir flowage area. During the same period, contractors cleared nearly 25,000 acres there utilizing tools and machinery they developed specifically for the challenges presented by the project. Each day, during the height of the operations, more than 500 workers scattered throughout the flowage area doing such jobs as cutting trees, operating Cats, milling ties, and cutting brush. Collectively, BOR coordinated nearly a dozen contracts on the combined flowage area project, which left it cleared ahead of schedule and allowed Hungry Horse Reservoir to take shape.



## Chapter 3. Post-Reservoir Logging

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### Overview

In 1952, with water already rising behind the new Hungry Horse Dam, clearing contractors finished the last of their work in the flowage area. At the same time, the USFS took advantage of the newly built east side road to offer national forest timber sales, typically with road improvement clauses to further enhance national forest infrastructure. Such improvements, coupled with the addition of the west side road in 1954, provided the USFS a means to meet the demand for national forest timber, which had remained steady since 1947.<sup>181</sup>

A spruce bark beetle epidemic in the early 1950s influenced cutting at the time, with sales prescribed to treat infested stands. The market experienced a brief dip in the 1950s, but quickly rebounded and remained robust into the 1970s. During this period, the USFS also faced a growing push to manage the forests for other uses. The Multiple-Use Sustained-Yield Management Act (1960), the Wilderness Act (1964), and the National Environmental Policy Act (1970) all carried implications for how the government would manage national forests and are themselves indicative of the larger public demands on their national forests.<sup>182</sup>

On the Flathead National Forest, Hungry Horse Reservoir became a focal point for maintaining the balance between timber production and multiple use management. New access roads enabled the area to support industrial-level timber production, with a harvest of 20 million board feet coming out of the drainage each year. Hungry Horse Reservoir also proved to be a major draw for recreationalists, with half of the entire forest's campgrounds and picnic areas existing along the reservoir's shoreline. In a reservoir that became an attractive fishing and boating destination, tugboats towed log booms 750,000 board feet at a time. The Flathead National Forest implemented a management direction during this period for the lands surrounding Hungry Horse Reservoir that sought to strike a balance among the many uses there.

### National Forest Timber Sales

Hungry Horse Reservoir's presence in the South Fork influenced the timber industry in a variety of ways. As early as 1949, for example, local interests recognized that the Hungry Horse Dam would

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<sup>181</sup> Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 189.

<sup>182</sup> Multiple-Use Sustained-Yield Management Act, June 12, 1960, 74 Stat. 215; Wilderness Act, September 3, 1964, 78 Stat. 890; National Environmental Policy Act, January 1, 1970, 83 Stat. 852.

be a long-term boon to industry by providing inexpensive power for mills.<sup>183</sup> An even more direct contribution, however, came through the construction of the haul roads that provided immediate access to hundreds of millions of board feet of merchantable timber, which would have likely remained on the stump indefinitely had it not been for the Hungry Horse Project.<sup>184</sup>

## Roads

During the Hungry Horse Project's planning phase, it remained unclear to what extent BOR would replace the forest roads that it inundated. As it had done when it advocated for the utilization of flowage area timber, the USFS took the position that the local timber industry required high quality replacement roads on both sides of the reservoir. On February 25, 1947, the two agencies executed a memorandum of agreement that Reclamation would relocate or replace facilities flooded by the reservoir.<sup>185</sup> The agreement called for further negotiations to take place concerning improvements on the west side. BOR acknowledged that it was "obligated to the construction of a negotiable road in that area to permit access for fire-fighting equipment and personnel to insure that the valuable natural resource, timber, may be adequately protected from the ravages of fire." It estimated the cost of such a "pilot road . . . adequate to permit bare passage of motor vehicles" as well as additional improvements to the east side at \$600,000.<sup>186</sup>

The USFS maintained that the local community would suffer from the absence of adequate transportation infrastructure.<sup>187</sup> The agency's position dated to the reservoir's planning stages. As early as 1943, USFS personnel called for forest roads along the reservoir "to protect, manage, and utilize the adjoining forest lands."<sup>188</sup> At that time, the Forest Service considered roads on both sides

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<sup>183</sup> "H.H. Dam to Boost Lumbering" *Hungry Horse News*, January 21, 1949.

<sup>184</sup> "Slate Log Use for H.H. Lake," *Hungry Horse News*, April 25, 1952.

<sup>185</sup> C. H. Spencer, Acting Construction Engineer, to Fred Neitzling, Forest Supervisor, File: S-Sales-Flathead-Hungry Horse Project [1950] [2 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; Memorandum of Understanding, February 25, 1947, File 2670 Withdrawals, Withdrawal Orders for Hungry Horse Reservoir, BOR HH Reservoir Files, FNF-SO

<sup>186</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IV, Calendar Year 1948, 33.

<sup>187</sup> A. G. Lindh, Assistant Regional Forester, to Regional Forester, March 2, 1948, File: S-Sales-Flathead-Hungry Horse Project [1950] [1 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>188</sup> Evan W. Kelley, Regional Forester, to Chief, Forest Service, December 28, 1943, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.



of the reservoir “necessary, in order to administer and market the timber resources in the adjacent drainage area.”<sup>189</sup>

The hefty price tag associated with timber haul roads complicated matters. The USFS estimated in 1945 that the construction of a road on each side of the reservoir, along with improving the original logging road along the South Fork through the flowage to access that timber, would amount to \$1,857,000.<sup>190</sup> BOR looked to identify a more reasonable alternative and inquired as to the feasibility of booming logs from the west to east sides of the reservoir—a proposal that would be repeated over the years. The USFS felt that the reliance on water transportation failed to address the long-term need for infrastructure to access the west side of the South Fork valley. It had investigated booming logs as early as 1945, at which time it appeared that the water route would likely be less expensive than trucking if a system could be added to the dam to move logs over the structure.<sup>191</sup> By 1947, Reclamation no longer considered such a feature for the dam, and the USFS found that while water transportation remained a possibility, it was “not practical” in the long-term and “truck transportation will prove the logical and most economical method.”<sup>192</sup>

One shortcoming the USFS identified with water hauling came with fluctuating reservoir levels, which meant that landing sites would have to be moved with changing surface elevation. In the end, the USFS analysis considered the expense of water transportation over truck hauling insurmountable. USFS Engineer Paul Logan concluded, “We have a firm conviction that truck transportation over good roads is the only sound system by which timber can be produced.”<sup>193</sup>

USFS advocacy for high quality roads on both sides of the reservoir continued through the duration of project construction and beyond. In 1949, Regional Forester P. D. Hanson wrote Congressman Mike Mansfield updating him on his agency’s position that a west side road “should

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<sup>189</sup> P. D. Hanson, Regional Forester, by C. S. Webb, Acting, to Chief, Forest Service, June 30, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>190</sup> Reconnaissance Report, November 20, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>191</sup> Water Transportation vs. Truck Hauling, December 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; P. D. Hanson, Regional Forester, to Paul Jones, Resident Engineer, December 21, 1945, File: S-Sales-Flathead-Hungry Horse Project [1950] [3 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>192</sup> F. J. Neitzling, Forest Supervisor, to Files, November 12, 1947, File: S-Sales-Flathead-Hungry Horse Project [1950] [2 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle; Paul H. Logan, Logging Engineer, to Files, February 18, 1948, File: S-Sales-Flathead-Hungry Horse Project [1950] [1 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>193</sup> Paul H. Logan, Logging Engineer, to Files, February 18, 1948, File: S-Sales-Flathead-Hungry Horse Project [1950] [1 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

be constructed to a standard which will provide for logging traffic concurrently with that of public use and with safety to both.” Hanson explained that the extent of timber on the west side of the drainage made the improvement critical. “In order to give you a perspective as to the degree of this particular timber problem,” Hanson wrote, “I will outline a few facts: There exists sufficient timber in the area concerned to sustain on a perpetual basis a sawmill operation in the neighborhood of 20 million feet annually.” Factoring in the economics behind any harvest, the volume “estimated to be between one billion and one billion, two-hundred million, is located mainly on the west side of the reservoir and dependent on a west-side road for its removal.” Hanson valued the timber at an industrial worth of up to \$100,000,000, “or more.” The loss of such an “industrial base,” he explained, would be borne by the local communities. He concluded that “[i]t is important from our standpoint that a firm understanding regarding the west-side road be reached immediately if it is to be completed coincident with completion of the over-all project.”<sup>194</sup>

In 1950, Rolland Huff, acting assistant regional forester, drafted a memorandum on behalf of Assistant Regional Forester A. G. Lindh that hit on many of Hanson’s points. Specifically, it identified the necessity of providing access to over one billion board feet “of operable sawtimber located on lands on the west side of and upstream from the flowage area which the west side road will tap and service.” He noted that recreationalists would also use the road and it would be important for both administration and forest protection. Lindh called for the road to be constructed to 5A standards—sufficient to provide for two-way traffic and heavy logging trucks—for its entire length<sup>195</sup>

In 1951, BOR and the USFS executed an agreement that provided for the construction of a west side road to Class 4 standards, meaning that Class 4 road would completely encircle the reservoir.<sup>196</sup> Reclamation advertised the initial west side road building contracts covering 47 miles. Although not to the 5-A standard that certain USFS personnel had advocated for, it far exceeded the “pilot road” originally considered by Reclamation in 1948. The road design called for a “16-foot subgrade and ten turnouts per mile,” with additional restrictions on grades and turn radius that it intended to provide for heavy hauling.<sup>197</sup>

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<sup>194</sup> P.D. Hanson, Regional Forester, to Mike Mansfield, Senator, January 20, 1949, File: Hungry Horse – Conditions as Complained by H.C. Wagner III, 21-6, Series III, Box 21, Mansfield Papers-UM.

<sup>195</sup> A. G. Lindh, Assistant Regional Forester, by Rolland Huff, acting, to F. E. Thieme, Assistant Regional Forester, January 26, 1950, File: S-Sales-Flathead – Hungry Horse Project [1950] [1 of 3], Box 93, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>196</sup> Bureau of Reclamation, “Technical Record of Design and Construction, Hungry Horse Dam and Powerplant, Constructed 1948–1953, Hungry Horse Project, Montana,” (Denver: Bureau of Reclamation, 1958), 205.

<sup>197</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 47–49; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume IV, Calendar Year 1948, 33.

## Reservoir Area Timber Sales, 1951-1969

Before logging crews had completed their flowage area harvests, the USFS prepared a series of timber sales that took advantage of the new roads, which included blocks in the Hungry Horse Creek and Riverside Creek drainages above the reservoir.<sup>198</sup> In October 1950, the USFS offered one of the first post-flowage area timber sales. Known as the Desert Tract, F, K & L bought the 1.7 million board foot unit and began harvesting almost right away rather than stop operations at the onset of winter. To allow the winter harvest to happen, the company revived a historic hauling practice that had been absent from the Flathead for decades. After purchasing log hauling sleds from Hans Larson that had been sitting dormant for a quarter-century, crews loaded the logs on the sleds attached to tractors—rather than draft horses—to haul them over the snow and out of the South Fork.<sup>199</sup>

Like F, K & L, other logging companies that had harvested flowage timber looked to harvest national forest timber after their flowage area operations wrapped up. Some already had timber under contract that the USFS deferred during the flowage harvest, while others looked for new opportunities to keep their workers in the woods and mill ponds full of logs. Flathead National Forest personnel expected to offer as much as 100 million board feet of timber in 1951.<sup>200</sup> Although the harvest that year fell short of that total, it remained steady with the South Fork providing a major source of timber.<sup>201</sup> The Hungry Horse Creek sale, for example, involved more than 15 million board feet. Plum Creek won the contract, ensuring the company's continued presence in the South Fork after the reservoir flowage cutting had been completed.<sup>202</sup>

By July 1951, the Flathead National Forest had 120 million board feet under contract. The *Hungry Horse News* reported that the increase in USFS contracts came in response to the completion of the flowage harvest. Most significantly, it represented a thriving industry, with the timber

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<sup>198</sup> “Forest to Study New Timber Sales,” *Hungry Horse News*, November 24, 1950; “Forest Service Logging to Show Increase,” *Hungry Horse News*, December 22, 1950.

<sup>199</sup> “F, K and L Using Sleds to Haul Logs From Desert Tract,” *Hungry Horse News*, February 9, 1951.

<sup>200</sup> F. J. Neitzling, Forester Supervisor, by John R. Castles, to Regional Forester, November 21, 1950, File: S Plans Timber Management Planning, Flathead Forest, 1939 to 1955 [1 of 2], Box 162, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle; F. J. Neitzling, Forest Supervisor, to Regional Forester, September 27, 1950, File: S Plans Timber Management Planning, Flathead Forest, 1939 to 1955 [1 of 2], Box 162, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle.

<sup>201</sup> F. J. Neitzling, Forest Supervisor, by John R. Castles, December 10, 1951, File: S Plans Timber Management Planning, Flathead Forest, 1939 to 1955 [1 of 2], Box 162, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle.

<sup>202</sup> Timber Sale Agreement, Hungry Horse Creek, May 10, 1951, File: S-Sales-Plum Creek Logging Company, Hungry Horse Creek, 5/14/51, 12-11-53 [1 of 2], Box 92, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle; “Plum Creek High for H.H. Timber,” *Hungry Horse News*, May 11, 1951.

production doubling in Flathead region since World War II and tripling in Columbia Falls during that time.<sup>203</sup>

In 1952, water backing up behind the Hungry Horse Dam submerged the original road to Spotted Bear and four Flathead National Forest administrative sites: Hungry Horse (Township 30 North, Range 19 West, Section 8), Coal Banks (Township 27 North, Range 17 West, Sections 2 and 3), Riverside (Township 29 North, Range 18 West, Sections 13, 14, and 24), and Elk Park (Township 27 North, Range 17 West, Sections 2 and 3). BOR made good on replacing infrastructure and built the Anna Creek and Betty Creek Work Centers on each side of the reservoir to allow the USFS to administer the lands on each side.<sup>204</sup> By that year, the road projects were well underway, and the *Hungry Horse News* could report, “One of the major benefits of the Hungry Horse project will be the access roads and new timber areas that will be opened for logging operations. Timber, especially on the west side, was previously not reached by loggers.”<sup>205</sup>

The USFS offered over 30 million board feet of new timber sales up the South Fork in 1952. This included 11 million board feet at Deep Creek; 6 million board feet between Harris and Canyon Creeks; and 15 million board feet at Trout Lake.<sup>206</sup> With any South Fork logging activities along the reservoir, the USFS sought balance between commercial timber production and the recreational values associated with the new lake. This meant buffer strips along roadways, but some sales required additional consideration. The Hungry Horse Creek sale is an example of the latter, and being the first major harvest outside of the flowage, it triggered discussion of the sometimes-competing needs of logging and recreation. Forester S. H. Larson cautioned that an area near Emery Creek held potential as a summer home site. He recommended that “the cutting plans should be modified to the extent that a heavier reserve than is now contemplated will be made between Emery Creek and Lower Hungry Horse Creek between the creeks and the proposed road,” as well as recommending lighter cuts on stands that supported recreational value. “Since this road will undoubtedly become the main route to Spotted Bear,” Larson explained, “consideration should be given to marking the timber adjacent to the road so that the roadside will have a presentable appearance after the slash is disposed of.”<sup>207</sup>

The first post-reservoir timber removed from the west side came as a by-product of road construction. The USFS issued BOR a free-use permit for timber cut incidental to the clearing

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<sup>203</sup> “Timber Sales at Record High,” *Hungry Horse News*, July 20, 1951.

<sup>204</sup> Vicky MacLean, *A Home in the Woods: Montana's Westside Ranger Stations* (Ronan, MT: Vicky MacLean, 2014), 79–80.

<sup>205</sup> “Slate Log Use for H.H. Lake,” *Hungry Horse News*, April 25, 1952.

<sup>206</sup> *Hungry Horse News*, May 9, 1952; “F, K, L Submits High Timber Bids,” *Hungry Horse News*, July 18, 1952.

<sup>207</sup> S. H. Larson, Forester, to Files, March 19, 1951, File: S-Sales-Flathead-Plum Creek Logging Company, Hungry Horse Creek, 5/14/51, 12-11-53 [2 of 2], Box 92, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle.

operations. The USFS found it objectionable that logs would be decked and allowed to rot, which created a fire and insect hazard. Therefore, it aided with whatever technical expertise was required for BOR to offer timber sales.<sup>208</sup> Clearing operations for rights of way generated a considerable volume of merchantable timber. A 1951 telephone line clearing project adjacent to the east side road, for example, produced 871,000 board feet of saw timber that F, K & L Lumber Company purchased and hauled to their mill.<sup>209</sup> Clearing operations for the roads generated even more. In those instances, the USFS offered the logs for sale, including nearly a million board feet a clearing contractor had cut, decked, and prepared for sale.<sup>210</sup>

In 1952, Miller and Strong from Eugene, Oregon, a clearing contractor on the west side road project that had its camp at Flossy Creek, elected to tow logs across what was then a gradually rising reservoir, marking the first commercial use of the new lake. The towing tug, *Ida M*, built in Portland, Oregon, went into service on April 27, 1952. Miller and Strong also added to the reservoir's maritime history in another way by using two LCVP military surplus landing crafts on the project—one of which had been used in France during World War II.<sup>211</sup>

Other logging companies hauled logs on the reservoir as well. That September, L.P. Tonner of the Glacier-Coram Lumber Company in Martin City obtained a BOR log floating permit to use the rapidly rising lake to boom around 2 million board feet he purchased from clearing contractor Hoops Construction Company, which maintained a construction camp at Heinrude Creek. Tonner planned to put the logs into the water at “Wheeler, Ben, Graves and Sullivan creeks, float them down the lake, and then load the timber on trucks where the old Spotted Bear road dips to the new lake about a mile above the dam.”<sup>212</sup> Along the west side, road clearing and construction activity continued through 1954, with many of the logs harvested being floated across the reservoir. The USFS prepared other national forest timber sales along the reservoir's west side near the Lost Johnny burn area, with the sale coinciding with the completion of the new road.<sup>213</sup>

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<sup>208</sup> Timber Management Comments, File: S-Sales-Flathead-General (Roads) 1949-1956, Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>209</sup> U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 43.

<sup>210</sup> “Forest to Sell Clearing Timber,” *Hungry Horse News*, August 17, 1951.

<sup>211</sup> “Slate Log Use for H.H. Lake,” *Hungry Horse News*, April 25, 1952; The Canyon Citizen Initiated Zoning Group, *The History of the Canyon Area*, Patrick Hefferan and Sarah Dakin, eds., (Coram, MT: The Canyon Citizen Initiated Zoning Group, 1994), 35; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 49.

<sup>212</sup> “Reservoir Having Log Haul Use,” *Hungry Horse News*, September 19, 1952; U.S. Bureau of Reclamation, Hungry Horse Project, Montana, Annual Project History, Volume VII, Calendar Year 1951, 48.

<sup>213</sup> F. J. Neitzling, Forest Supervisor, to Files, June 29, 1951, File: S-Sales-Flathead Policy [1956], Box 88, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle.

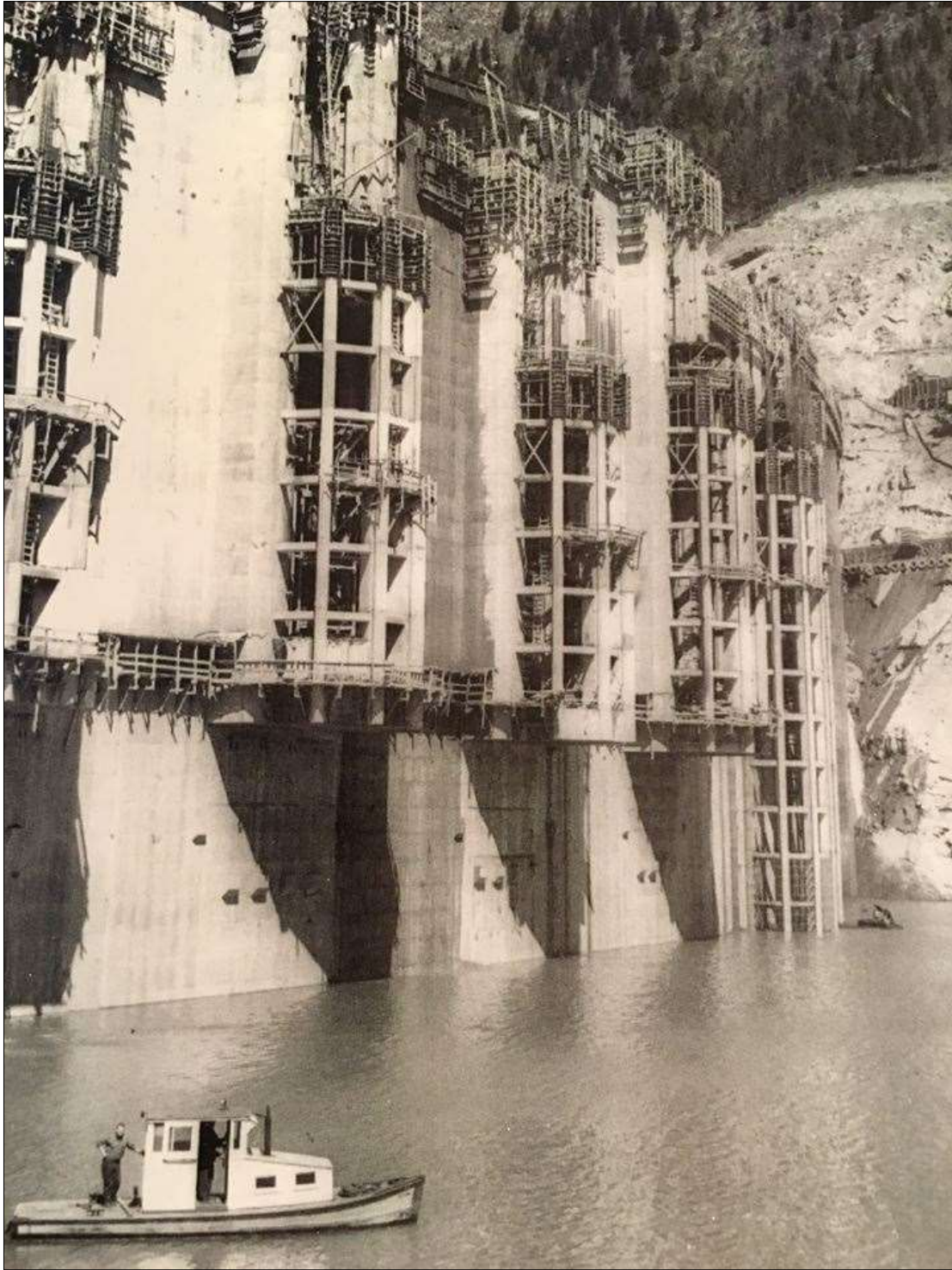


Figure 22 The tugboat *Ida M.* in front of the Hungry Horse Dam.  
Source: Mel Ruder photograph, *Hungry Horse News*, 1952.

## Forest Health Sales

Contractors had yet to finish the Hungry Horse Reservoir clearing project when a different kind of impetus led calls for a major clear-cutting operation in the South Fork drainage. Although long endemic on the Flathead National Forest, as early as 1952 the USFS identified the beginnings of a spruce bark beetle epidemic, which a massive blowdown in 1949 had precipitated. Within a couple of years, the forest pests had infested some 87 million board feet of timber predominantly in the Flathead National Forest. The silvicultural treatment to halt bark beetle outbreaks involved clear-cutting infected stands to lessen the rate of spread. South Fork areas identified for proposed spruce beetle timber sales included Doris, Wheeler, Graves, and Aurora Creeks.<sup>214</sup>

The USFS offered a variety of other sales for various silvicultural purposes. Collectively the sales also reveal the robust nature of the Flathead lumber industry during the 1950s. In August 1954, a report of active timber sales on the Flathead, excluding “spruce control sales,” listed seven active timber sales in the Coram Working Circle in the South Fork drainage with a total volume sold of 64,261,000 board feet, of which just 17.1 million board feet involved spruce trees. Four of the sales involved timber adjacent to the new reservoir’s east side road.<sup>215</sup>

On March 3, 1955, *The Daily Inter Lake* reported that timber production on the Flathead National Forest had reached a new all-time high. That fiscal year, the Flathead expected a harvest of around 100 million board feet and anticipated as much as 105 million board feet for the 1955–1956 fiscal year. It attributed much of the increase to spruce sales offered to combat the beetle epidemic. Within the Coram Working Circle, which included Hungry Horse Reservoir, the Sullivan Creek sale and the Lost Johnny sale were each located on the west side of the reservoir, and they each contained infested spruce stands. Meanwhile, the Wheeler Creek-Forest Creek sale remained tentative depending on “availability of funds and manpower to cruise.”<sup>216</sup>

## Road Shortcomings

Timber sale planning during the 1950s reveals shortcomings of the recently completed west side road, identified as Forest Road 895. BOR contractors completed the road in 1953. Yet as early as 1954, foresters questioned its viability as a haul road and whether it would be necessary to improve it for major timber operations. Forester John Castles remarked that Reclamation completed the road

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<sup>214</sup> *Hungry Horse News*, Undated, “Spruce Bark Beetle,” File: Hungry Horse Misc., 1950–1976, XXIII, 29-6, Series XXIII, Box 29, Mansfield Papers-UM; Kathryn L. McKay, *Trails of the Past: Historical Overview of the Flathead National Forest, 1800–1960* (Kalispell, MT: Flathead National Forest, 1994), 191–2; “Spruce Bark Beetle Causes Local Alert,” *Hungry Horse News*, August 3, 1952.

<sup>215</sup> Active Timber Sales, Flathead National Forest, August 31, 1954, File: S-Sales-Flathead-General [1957] [2 of 2], Box 88, Records Related to Timber Sales, 1907–1961, RG 95, NARA-Seattle.

<sup>216</sup> “Flathead Forest Cut Sets Record,” *The Daily Inter Lake*, March 3, 1955.

to the minimum requirement outlined in the working agreement, resulting in a road that presented danger to both “the timber industry and the public.” He felt the extent of the resource there, which he described as a “virgin area to date with a total sawtimber stand of about one billion board feet,” justified investing in infrastructure.<sup>217</sup>

In 1955, Flathead forester George Weyerman prepared a preliminary sales program that included offering three sales in the South Fork area of spruce beetle infested timber. The Sullivan sale contained timber “[s]eriously infested at the heads of all tributaries,” including Slide Creek, which was “almost totally infested or dead.” He, too, considered the west side road inadequate to handle the logging traffic on the sales, so he noted that “the purchaser will probably have to dump logs in the flowage area and tow them to the dam.”<sup>218</sup>



Figure 23 Floating Logs on Hungry Horse Reservoir.  
Source: BOR Project History, 1956, National Archives, Denver.

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<sup>217</sup> John R. Castles, to Record, June 17, 1954, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>218</sup> F. J. Neitzling, Forest Supervisor, by George F. Weyerman, to Regional Forester, February 17, 1955, File: S-Sales-Flathead-General 1/1/59-6/30/59, Box 87, Records Relating to Timber Sales, 1907–1961, RG 95, NARA-Seattle.



By April 1955, debate had accelerated on how the USFS should handle the west side road. The agency considered expending an additional \$300,000 to improve it, although it had only recently been completed at a cost in excess of \$2 million. Ray Harmon explained the predicament that the improvement would put the agency in. He questioned “how much study we have given to the possibilities of water transportation and how much criticism might develop should we spend \$300,000 on this project, only to find that the timber is to be transported by water” from timber sales on the upper west side of the reservoir to a landing on the east side.<sup>219</sup> Indeed, by that time lumber companies had boomed logs across the reservoir for several years and unloaded them at a well-established landing at Emery Creek, so it appeared that substantial road improvement would be necessary to replace the practice that timber operators had grown accustomed to.<sup>220</sup>

Regional Forester A. G. Lindh solicited Neitzling’s view on the matter, reminding him of the long and contentious debate required to get the Class 4 road and questioned where the potential breaking point existed in the economics between water hauling and improving the west side road.<sup>221</sup> Neitzling responded by reaffirming the road’s shortcomings. Unlike the east side road, which had proven to be an effective timber haul road during the reservoir clearing project, the west side road, he explained, made foresters reluctant to designate it as a viable transportation route for timber cut from the area. He considered it insufficient to handle any large harvests, due to “narrow fills, inadequate backslopes, no extra road width curves, and very poor drainage.” The road accessed 170,000 acres of Flathead National Forest timber lands, yet it proved “unsatisfactory for heavy log hauling trucks.”<sup>222</sup>

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<sup>219</sup> H. R. Jones, A. R. F. Engineering, to Forest Supervisor, Flathead N.F., April 7, 1955, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>220</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, April 29, 1955, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>221</sup> A. G. Lindh, Regional Forester, to Division of Engineering, April 18, 1955, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>222</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, April 29, 1955, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.



Figure 24 Loading a logging truck.  
Source: BOR Project History, 1952, National Archives, Denver.

In view of logging companies' inability to move large volumes over Forest Road 895, Neitzling recommended that booming continue on Hungry Horse Reservoir as a "temporary expedient until the road is satisfactorily improved," despite the added cost of having to reload the logs out of the reservoir. He pointed to cost-comparison studies that showed the superiority of truck transportation and stressed that booming the logs remained "impracticable" in the long-term, but would provide a short-term means to remove the timber.<sup>223</sup>

Ultimately, the USFS left it up to the logging companies to decide how to move the timber and offered sales along the reservoir's west shore that described both haul methods. The Wheeler Creek-Forest Creek sale is among the first of these. Rex and Margaret Brown bought the estimated 12

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<sup>223</sup> F. J. Neitzling, Forest Supervisor, to Regional Forester, April 29, 1955, File: S-Sales-Flathead-General Roads [1956], Box 88, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

million board feet, which included spruce bark beetle salvage.<sup>224</sup> The USFS suspected that water haul for this sale would cost “a great deal more than truck haul for the entire distance.”<sup>225</sup>

Similarly, in 1958, the USFS and Plum Creek Lumber Company executed a contract for the Clark Creek sale, which covered some 5,500 acres and around 12 million board feet of timber in the Wheeler Creek and Sullivan Creek drainages. The contract called for removal of any insect damaged timber while maintaining a buffer along Forest Road 895.<sup>226</sup> The original timber sale report offered the purchaser alternatives of using either Forest Road 895, requiring a 57-mile truck haul—including 43 miles on the single-lane forest road—or an 8-mile truck haul to Heinrude Landing, followed by a 22-mile water tow on the reservoir, followed by a 15-mile truck haul to Columbia Falls.<sup>227</sup> It is unclear how much of the sale volume actually moved over the reservoir. However, in a 1960 reappraisal, the USFS increased the transportation allowance on the contract, “Due to uncertainty of reservoir level and spring and winter truck haul.”<sup>228</sup>

It is unclear what transportation method the Browns and Plum Creek opted for on those particular sales, but many other loggers continued to use the reservoir to float logs. In fact, Plum Creek obtained a permit to operate its log booming operations at Heinrude Log Landing, which also covered its operations at Soldier Creek and Emery Bay Log Landings.<sup>229</sup> Log booming remained a common sight on Hungry Horse Reservoir through the early 1970s. Glen Kartheiser and Harry Cheff of Canyon Logging operated a tugboat on the reservoir during the 1960s and 1970s. They acquired the vessel from F, K & L and provided towing service for many of the logging companies that operated near the reservoir. According to Kartheiser:

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<sup>224</sup> Herbert Flodberg, Forester, to Files, March 11, 1958, File: 2430 Commercial Sales, 3 Timber Sales, Wheeler Creek, Rex Brown Lumber Co – Flathead, Reappraised-1958, Closed 8/31/60 – 6/19/56 – 12-11-101-90, Box 97, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>225</sup> Herbert Flodberg, Forester, May 3, 1956, File: 2430 Commercial Sales, 3 Timber Sales, Wheeler Creek, Rex Brown Lumber Co – Flathead, Reappraised-1958, Closed 8/31/60 – 6/19/56 – 12-11-101-90, Box 97, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>226</sup> File: 2430 Commercial Sales, 3 Timber sales, Closed 11/28/61, Plum Creek Lumber Co., Flathead-Clark Creek 7/18/58 12-11-101-241, Box 91, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>227</sup> Timber Sale Report, undated [circa 1958], File: 2430 Commercial Sales, 3 Timber Sales, Closed 11/28/61, Reappraisal-1960, Plum Creek Lumber Co., Flathead-Clark Creek 7/18/58 12-11-101-241, Box 91, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>228</sup> Report of Reappraisal, January 4, 1960, 5, File: 2430 Commercial Sales, 3 Timber Sales, Closed 11/28/61, Reappraisal-1960, Plum Creek Lumber Co., Flathead-Clark Creek 7/18/58 12-11-101-241, Box 91, Records Related to Timber Sales, 1907–1961, Division of Timber Management, RG 95, NARA-Seattle.

<sup>229</sup> U.S. Forest Service and Bureau of Reclamation, Reservoir Area Management Plan, Hungry Horse Dam and Reservoir, Hungry Horse Project, Flathead National Forest, Montana, May 1969, 8, 10, File: 2740 Memos of Understanding, FNF-SO.

It took about three days to bring a load from Spotted Bear clear to the bottom of the dam. We had three quarters of a million board feet in one tow. So it saved a lot of trucking on roads that were not very well in those days.<sup>230</sup>

Kartheiser remarked years later that a number of factors ultimately limited the practice, but not the superiority of truck transportation on the west side road. Instead, he pointed to the increasingly limited period of time when the reservoir remained at full pool, which BOR reduced from six months to as few as three months to allow consistent run-off for spawning kokanee salmon. The fluctuation made loading and unloading logs difficult. In addition, floated logs carry more water weight, which meant fewer logs could be hauled per truck due to highway weight restrictions. Finally, the logs transported by booms took longer to reach the mills, which could disrupt increasingly tight mill schedules.<sup>231</sup>



Figure 25 Removing logs from the reservoir at Emery Creek.  
Source: BOR Project History, 1956, National Archives, Denver.

An incidental implication of the difficult roads appeared through the ongoing presence of logging camps into the 1960s. Kartheiser recalled spending many seasons at the camps: “The roads

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<sup>230</sup> Jane Renfrow, “Glen Kartheiser Oral History Interview, February 23, 2016,” Northwest Montana Historical Society, Kalispell.

<sup>231</sup> Mark Brunson, “Log-floating may make comeback,” *The Daily Inter Lake*, February 19, 1984.

were bad enough that you just didn't come home." These post-reservoir logging camps mirrored those that operated during flowage area logging. Workers typically spent the week at the camps and went home on weekends. Kartheiser recalled that both F, K & L and Plum Creek operated logging camps near the reservoir. F, K & L located its camp near Deep Creek around 22 miles up the east side road. The companies equipped each camp with a kitchen staff and bunk houses. Eventually, improved roads put an end to the tradition. As Kartheiser recalled, "Roads got better. People didn't want to stay over all week long. They wanted to come home."<sup>232</sup>

Ultimately, improvements to Forest Road 895 aided its ability to handle large volumes of timber and reduced the dependence on the reservoir for moving logs. Local lumber companies formed a maintenance association that allowed the road to be regraded every year. The USFS assessed fees on timber sales that supported the improvements. The 1972 advertisement for the Natrona Sale, for example, shows an assessment of \$1.02 per thousand board feet on the sale charged in addition to the regular stumpage rate and designated for the benefit of the Flathead Road Maintenance Association. West side road transportation also benefitted from congressional appropriations that allowed the USFS to pave portions of the road, eventually covering the first 15 miles beyond the dam.<sup>233</sup> Regardless of how logging companies elected to move their logs, they hauled large volumes of timber out of the South Fork. Between 1947, when Hungry Horse clearing got underway, through 1960 harvest volume totals from the Coram Working Circle, exclusive of the timber cut out of the flowage area, are as follows:

Timber Cut (including convertible products)<sup>234</sup>

Year	Volume in board measure
1947	20,550,000
1948	12,656,000
1949	3,829,000
1950	4,381,000
1951	12,972,000
1952	20,126,000
1953	19,841,000
1954	16,696,000

<sup>232</sup> Jane Renfrow, "Glen Kartheiser Oral History Interview, February 23, 2016," Northwest Montana Historical Society, Kalispell; Ron Buentemeier, personal correspondence with James Grant, March 15, 2018.

<sup>233</sup> Ron Buentemeier, personal correspondence with James Grant, March 15, 2018; "National Forest Timber for Sale, Flathead National Forest, Natrona Sale," *The Daily Interlake*, May 12, 1972.

<sup>234</sup> Table derived from Appendix Table 32 in Flathead National Forest, "Timber Management Plan, Coram Working Circle" (Kalispell, MT: Flathead National Forest, 1961), 97.

Timber Cut (including convertible products)<sup>234</sup>

Year	Volume in board measure
1955	10,856,000
1956	30,113,000
1957	40,651,000
1958	27,024,000
1959	38,566,000
1960	41,593,000

### *Forest Management along Hungry Horse Reservoir*

In 1958, the USFS modified its management approach to the inundated South Fork valley by dividing the area administratively. It assigned the upper reservoir area from a point between Soldier Creek and Tin Creek to the jurisdiction of the Spotted Bear Ranger District. It assigned the area downstream to the Hungry Horse District, which it formed out of the Coram District.<sup>235</sup> When the USFS established the Hungry Horse District, the Sullivan Creek timber sale—the largest to ever occur in the South Fork apart from the flowage area—was already underway. It resulted in some 21 million board feet harvested. A 1967 history of the Hungry Horse Ranger District recalled that in the late 1950s into the 1960s, the total harvest there “increased steadily,” with an average harvest from the ranger district of around 20 million board feet and a peak year harvest total of 33 million board feet.<sup>236</sup> Indeed, the high level of production recorded in the 1950s remained steady, with 98.3 million board feet harvested from throughout the Flathead National Forest in 1960.<sup>237</sup>

While the South Fork’s abundant timber captured the attention of commercial loggers, recreational opportunities in the area presented their own appeal. Federal legislation codified the USFS responsibility to account for such potentially competing interests in 1960 when it passed the Multiple-Use Sustained-Yield Act. The law directed that national forest resources, such as water, timber, recreational assets, forage, and wildlife, be administered under “Multiple Use Management principles for maximum overall benefits.”<sup>238</sup>

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<sup>235</sup> Alfred C. Arvidson, “History of the Hungry Horse Ranger District,” March 1967, FNF Historical Docs of Interest, Forest Resource Summaries, Room 154, HHRD.

<sup>236</sup> Alfred C. Arvidson, “History of the Hungry Horse Ranger District,” March 1967, FNF Historical Docs of Interest, Forest Resource Summaries, Room 154, HHRD.

<sup>237</sup> F. J. Neitzling, Forest Supervisor, Information Summary, Flathead National Forest, May 1961, File: [unlabeled], Box 1, Heritage Records, FNF-SO.

<sup>238</sup> Multiple-Use Sustained-Yield Management Act, June 12, 1960, 74 Stat. 215.

For timber management on the Flathead National Forest, in general, that meant continuing commercial timber production—which had increased by 1961 to an AAC of around 127 million board feet of saw timber and an additional 34.3 million feet on convertible products such as poles and pulpwood—while also accounting for other forest values.<sup>239</sup> For the South Fork, the USFS continued its ongoing improvement and development of recreational sites, while also planning timber sales that took into consideration recreational values and environmental concerns, such as protecting water quality.<sup>240</sup>

The USFS articulated its approach to managing the timber resources along Hungry Horse Reservoir in the 1961 “Timber Management Plan, Coram Working Circle,” which it based on data collected from the area between 1959 and 1960. The plan divided the Coram Working Circle, one of four working circles within the Flathead National Forest, into four blocks and 119 compartments. The Hungry Horse block covered the west side of Hungry Horse Reservoir in its entirety and contained 24 compartments, while the Coram block covered the east side of the reservoir and included 48 compartments.<sup>241</sup>

The Coram Working Circle plan noted that only one salvage sale had occurred within the Reclamation withdrawal area after the reservoir filled—the withdrawal area consisted at the time of land in the vicinity of the dam and a “200 foot horizontal strip above the high water mark around the reservoir”—but, it explained, “Future plans provide for many more sales within this area.” While that area remained under BOR administrative jurisdiction, the USFS and BOR would work in concert there with each agency taking on certain responsibilities. This joint management within the withdrawal area involved BOR delegations of management functions to the USFS that included roads, recreation, and timber management. When harvests took place within the zone the USFS managed the sales, but BOR took in any receipts derived from timber harvested there.<sup>242</sup>

The Coram Working Circle plan identified the need to implement logging practices in the reservoir area and along the South Fork upstream that would minimize watershed damage. It explained, “siltation of the reservoir must be kept to a minimum, and a comparatively uniform flow of high quality water must be provided for this [Hungry Horse] project, and other downstream users, on the Columbia River System.” In practice that meant:

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<sup>239</sup> J. M. Pomajevich, Forest Supervisor, August 1, 1966, File: 1650 Contacts & Other Historic Data, Flathead National Forest, Box 69, Historical Collection, ca. 1905–1990, RG 95, NARA-Seattle; F. J. Neitzling, Forest Supervisor, Information Summary, Flathead National Forest, May 1961, File: [unlabeled], Box 1, Heritage Records, FNF-SO.

<sup>240</sup> Flathead National Forest, “Timber Management Plan, Coram Working Circle” (Kalispell, MT: Flathead National Forest, 1961), 16.

<sup>241</sup> Flathead National Forest, “Timber Management Plan, Coram Working Circle” (Kalispell, MT: Flathead National Forest, 1961), 5.

<sup>242</sup> Flathead National Forest, “Timber Management Plan, Coram Working Circle” (Kalispell, MT: Flathead National Forest, 1961), 35.

- (1) First consideration will be given to watershed protection in all timber harvesting and road construction plans.
- (2) Roads and skid trails will be located outside streamside zones, whenever possible.
- (3) Backslope stabilization will be considered on all back and fill slopes which are capable of producing sediment in accordance with FSH 2522 and 2522.24 inclusive.
- (4) Locations of camps and small mills will be controlled to avoid stream pollution.
- (5) Close cooperation with the Bureau of Reclamation, Public Health and other water administrative agencies will be sought.
- (6) Whenever possible, turbidity studies will be made on side streams where there are no roads at present. These studies will be made at various times but particularly during high water. From these studies the effect of operations and turbidity can be determined. Studies will also be made on other streams as time and money permit.<sup>243</sup>

The management plan specified that “[t]imber management policies and practices will be closely correlated with multiple use objectives.” It noted that following construction of Hungry Horse Dam, recreational activity in the area “increased tremendously,” with the total number of recreational visits in 1960 expanding by five times what it had been in 1952. Therefore, it articulated a policy that “on present and potential recreation areas cutting methods and logging practices will be used which will promote safety and preserve or enhance the recreational values.”<sup>244</sup>

In 1965, Congress passed Federal Water Project Recreation Act, which carried direct implications for the lands along Hungry Horse Reservoir. Among other things, the law allowed BOR to transfer recreation and other land management responsibilities on its lands to another federal agency.<sup>245</sup> On September 25, 1966, BOR transferred 178.25 acres within the withdrawal area to USFS administrative jurisdiction, which is one of many withdrawal land transfers between the agencies. The *Federal Register* notice provided “that all lands and waters within the Hungry Horse Reservoir area needed or used for the operations of the project or for other Reclamation purposes shall continue to be administered by the Commissioner of Reclamation to the extent he determines to be necessary for such operation.”<sup>246</sup> All told, the lands withdrawn for Reclamation and reacquired

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<sup>243</sup> Flathead National Forest, “Timber Management Plan, Coram Working Circle” (Kalispell, MT: Flathead National Forest, 1961), 17–18.

<sup>244</sup> Flathead National Forest, “Timber Management Plan, Coram Working Circle” (Kalispell, MT: Flathead National Forest, 1961), 15–16.

<sup>245</sup> Federal Water Project Recreation Act of July 9, 1964, 79 Stat. 213.

<sup>246</sup> *Federal Register*, Volume 31, Number 186, September 24, 1966, 12606.



by the USFS eventually amounted to 30,636 acres, while the two agencies coordinated joint management at the reservoir through a series of Memorandum of Agreements.<sup>247</sup>

In 1969, the USFS and BOR produced a management plan for Hungry Horse Reservoir that listed 18 recreational sites along the man-made lake. This included picnic areas, boat ramps, beaches, and an observation point. The USFS had also developed the Heinrude summer homesite area, which consisted of homesite lots it leased as a recreational development. The 1969 plan noted that all timber management activity in the area fell under the Flathead National Forest Timber Management Plan, which classified all lands in the reservoir area, as well as some nearby lands, as “Water Influence Zone in the Multiple Use Plan,” which regulated how timber there could be harvested. The plan also specified, “All timber sales, leases, licenses, and permits will contain adequate provisions for insuring the objective of beauty enhancement for the area.”<sup>248</sup>

Thus, logging in the immediate vicinity of Hungry Horse Reservoir from the mid-1950s onward sought to strike a balance between the locality’s extensive recreational values with its use as a major access corridor to the Flathead’s most extensively timbered lands. In 1974, the Flathead National Forest revised its Basic Land Management Plan that reiterated the need for the forest to be managed for more than utilitarian uses:

The increase in leisure time, mobility of the population, and an environmental awakening have created demands to preserve the aesthetic appearance of the Forest, reduce pollution of the water and atmosphere, manage the forest with fewer roads, and retain selected areas in a wilderness or roadless condition. New legislation, such as the Environmental Protection Act of 1969, reinforce these demands.<sup>249</sup>

Speaking to the recreational demand at Hungry Horse Reservoir, by the 1980s, nearly half of all the Flathead National Forest’s campgrounds and picnic areas were located along its shores.<sup>250</sup>

## Summary

Immediately following the completion of the Hungry Horse Reservoir’s flowage area harvest, logging companies went to work on a series of timber sales in the South Fork, including many that targeted stands affected by a spruce beetle epidemic. Roads on both sides of the reservoir

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<sup>247</sup> U.S. Bureau of Reclamation and U.S. Forest Service, “Management Plan, Hungry Horse Reservoir, Montana,” May 1969, 2; “Hungry Horse Reservoir Area, Who is Responsible for What and Who has Jurisdiction Between the Bureau of Reclamation and the Forest Service,” draft, April 28, 2006, File: HH Reservoir 2006, Who Does What FS–BOR, Exhibits, SO, FNF-SO.

<sup>248</sup> U.S. Forest Service and Bureau of Reclamation, Reservoir Area Management Plan, Hungry Horse Dam and Reservoir, Hungry Horse Project, Flathead National Forest, Montana, May 1969, 8, 10–12, File: 2740 Memos of Understanding, FNF-SO; “Forest Prepares Home Use Permits,” *The Daily Inter Lake*, September 18, 1958.

<sup>249</sup> Flathead National Forest, Basic Land Management Plan, Revised February 1974, HHRD.

<sup>250</sup> U.S. Forest Service, Environmental Impact Statement, The Flathead National Forest Land and Resource Management Plan, March 4, 1983, III-2.

constructed by BOR as a replacement for roads lost under the reservoir provided important access to timber and served as haul roads for some of the sales. Other logs moved across the reservoir itself, as logging companies often found it more cost effective to boom and tow the logs than use the roads. All told, timber operations on the Flathead National Forest increased substantially in the 1950s and 1960s, with the South Fork serving as a focal point for timber sale activity on the Flathead National Forest. In step with this increase in timber production came an increase in recreational use of the National Forest. As a result, the Flathead National Forest worked to balance a high level of timber production with Hungry Horse Reservoir's many other uses.



## Conclusion

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Historic logging uses and timber management at Hungry Horse Reservoir, from the 1897 establishment of the Lewis and Clark Forest Reserve through the 1960s, reflects many of the local and national trends associated with the timber industry during the period. In the early twentieth century, little cutting took place within the South Fork drainage, but World War II marks a turning point. The war effort triggered demand for timber that coincided with the depletion of stands elsewhere, making the Flathead National Forest a particularly attractive area for timber operators. The war also provided the necessary impetus for BOR to move forward with the Hungry Horse Project, resulting in a one-time harvest of over 90 million board feet of timber from the South Fork. The flowage harvest and subsequent clearing operations are notable for the scale of the mobilization required to accomplish the job and the innovative methods employed in the work.

Trails existed within the South Fork that had been used by Native people for thousands of years, the USFS and CCC built and improved others in the early twentieth century and built a road along the river to Spotted Bear. However, the new forest roads built along both sides of the reservoir as part of the Hungry Horse Project finally opened the valley to large-scale commercial timber production. The completion of the roads, and the completion of Hungry Horse Reservoir itself, proved timely. A spruce beetle epidemic infested portions of the South Fork forest, which led the Forest Service to offer sales as treatment to slow the spread of the infestation. Logging companies boomed logs salvaged in these operations in the reservoir, as well as those harvested on many of the other timber sales in the South Fork and towed them to a landing near the dam to reduce the distance logging trucks traveled on forest roads.

While the lands adjacent to Hungry Horse Reservoir continued to provide for timber sales, recreation in that vicinity also increased. Reflecting a growing environmental awareness nationwide, and mandated through several laws affecting forest management, the Flathead National Forest sought to manage the project area in a way that minimized the impacts that logging had on other forest uses and values. It prescribed sales in potential recreation areas intended to improve recreational potential, it required buffer zones along reservoir roads, and it incorporated measures to minimize the impacts that logging had on the South Fork watershed.

Over the period of this study, logging and reservoir clearing projects occurred throughout the landscape, with concentrated activity at several locations. Administrative sites now lying beneath Hungry Horse Reservoir water played host to a succession of uses. Locations such as Riverside and Elk Park had been used from time immemorial by local tribes; recreationally by campers; administratively by the CCC and USFS; and industrially by tie mills, logging camps, and, finally, clearing camps. Once Hungry Horse Reservoir reached full pool, timber sales activity occurred one

time or another along much of the reservoir's edge, with the clearing line sometimes delineating timber sale boundaries. Post-reservoir timber sales resulted in areas of concentrated use that left their mark through such things as roads and skid trails, as well as shoreline landing areas that facilitated log booming, including Heinrude Creek, Soldier Creek, and Emery Bay. Timber operators sometimes established semi-permanent camps on the Flathead National Forest during this period. Collectively, the logging and clearing activity that took place at Hungry Horse Reservoir beginning in the 1940s occurred on an industrial scale that lasted many years and helped shape the landscape that exists there today.



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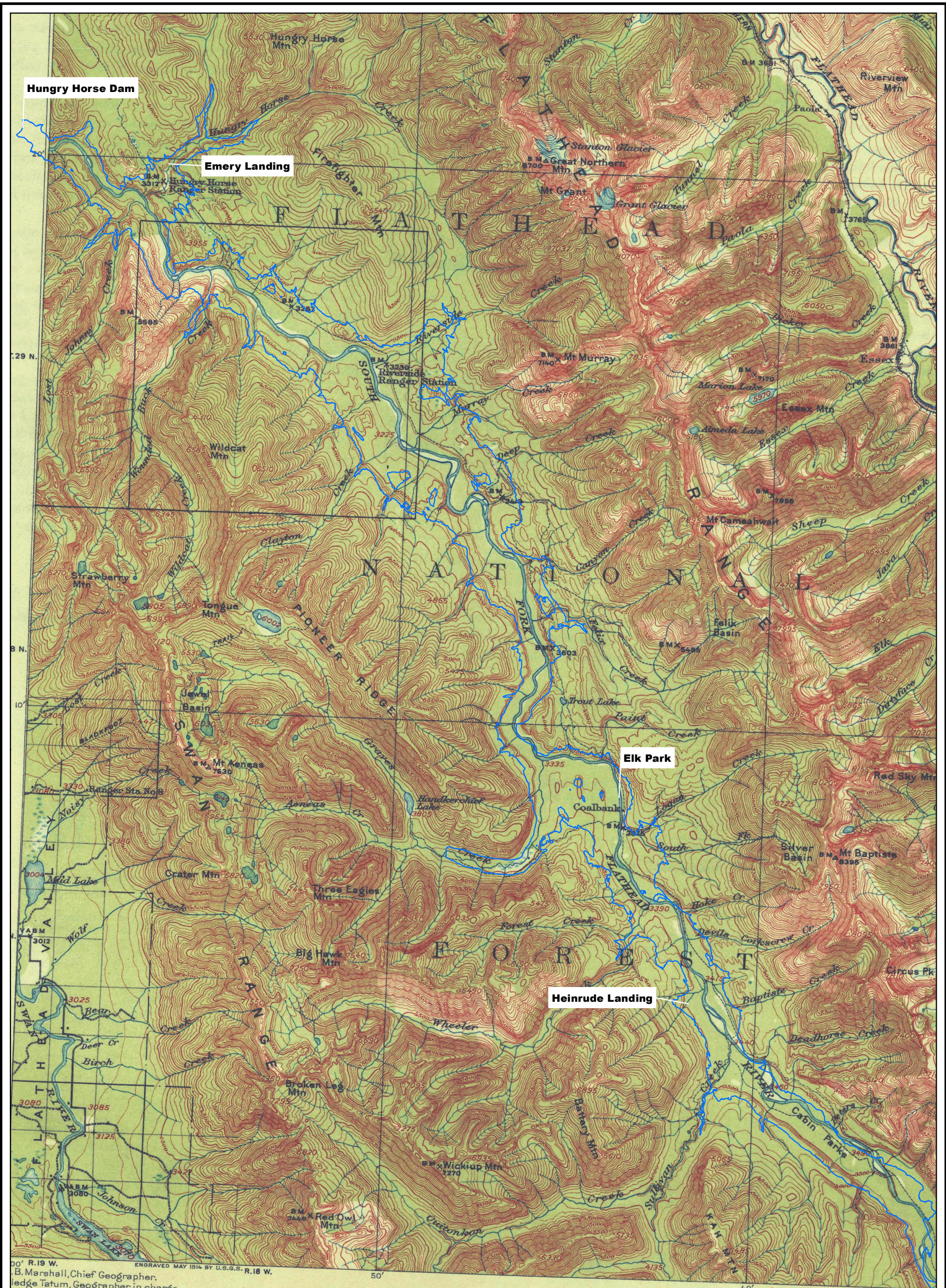
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## Appendix A. Overview Map

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**Hungry Horse Dam**

**Emery Landing**

**Elk Park**

**Heinrude Landing**

0' R.19 W. ENGRAVED MAY 1914 BY U.S.G.S. R.18 W.  
 B. Marshall, Chief Geographer.  
 ledge Tatum, Geographer in charge.  
 opography by R.T. Evans, Art. & S.

### Hungry Horse Reservoir with 1914 USGS 1:125,000 Topographic Map

Hungry Horse Reservoir  
 (approximate high water line)

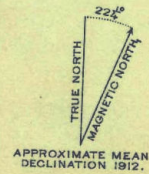
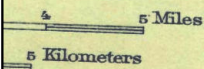
Date: 4/27/2018



HISTORICAL  
 RESEARCH  
 ASSOCIATES, INC.

Coord/Projection NAD 1983 UTM Zone 12N Transverse Mercator	Datum NAD83	Scale 1:125,000
Township/Range T28N R17W, T29N R17W, T29N R18W, T29N R19W, T30N R19W		Quadrangle Nyack, MT (1914)

Service Layer Credits: USGS 1914 Nyack, Montana Quadrangle



Editi  
 DIAGRAM OF TOWN

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14
19	20	21	22	23
30	29	28	27	26
31	32	33	34	35