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- Commission

BEFORE THE
FEDERAL POWER COMMISSION
APPLICATION FOR RELICENSING
OF
THE MYSTIC LAKE PROJECT
PROJECT NO. 2301

DEC 23, 1968
Commission

RECREATIONAL USE PLAN

The Montana Power Company submits the following Recreational Use Plan for the Mystic Lake Project area as part of its Application for Relicensing. The facilities described herein are proposed as a part of the cost of the project and are in accordance with order No. 292 issued January 8, 1965.

CONSULTATION AND COOPERATION WITH GOVERNMENT AGENCIES

In order to ascertain the effect, if any, the project and its proposed expansion would have upon recreation, and fish and wildlife resources and what, if anything, can be done to conserve and/or enhance these resources, the applicant solicited the assistance of all interested Federal and State agencies. Excellent cooperation was received and this exhibit was prepared on the basis of studies made in coordination with these agencies having jurisdictional responsibility for fish and wildlife on public lands. This exhibit reflects all suggestions made by those agencies. Preliminary drafts were submitted for agency review before preparation of the final draft of this exhibit.

The applicant has consulted and cooperated with the following representatives of Federal and State agencies:

Bureau of Sport Fisheries and Wildlife, Missouri River Basin
Supervisor
Fish & Wildlife Biologist
Area Supervisor
Chief of Planning Section

U. S. Forest Service
Recreation & Lands Staff Officer
Civil Engineer
Wildlife Biologist
Watershed Management Officer
Forest Engineer
Water Storage and other Impacts Branch Engineer
General Engineering Branch Engineer
District Forest Ranger
Landscape Architect

Montana Fish and Game Department
Game Division Chief
Fisheries Division Chief
District Supervisor
District Fishery Manager

Officials of the Custer National Forest proposed that because the Forest Service is presently responsible for the administration of all of the lands on which there is space available for recreational development and has extensive facilities in the West Rosebud drainage at the present time and is concerned about over-development in the area, further management and overall planning of recreation in the project area should be continued by the Forest Service with the applicant cooperating to the extent its cooperation is needed. Applicant proposes to continue its formal and informal working arrangements with the Forest Service and other interested agencies.

LOCATION

The Mystic Lake Project is located near the center of the Beartooth Division of the Custer National Forest on West Rosebud Creek in Stillwater County in South Central Montana.

The Mystic Lake area is one of the most popular recreational spots in south-central Montana, attracting countless visitors for fishing, camping, hiking and other forms of outdoor recreation, particularly between Memorial Day and Labor Day. The access road leaves U. S. Highway 10 at Columbus, Montana, 45 miles west of Billings and although the first 30 miles of this road are oiled, the last 15 miles are gravel. The powerhouse is located at the end of this road. The lake is three miles farther up the canyon and can be reached by the public only by a steep but good Forest Service trail. With the limitations described below, it is expected that plans to improve the access road will make possible some increased use of the general area in the future. The

majority of recreational visitors come from Billings, and more than 100,000 people live within 90 miles of West Rosebud Creek. A creel census conducted by the Montana Fish and Game Commission shows that nearly 3,000 anglers fished West Rosebud Creek in 1965.

HISTORY OF PROJECT AREA

This country was the home of the Crow and Northern Cheyenne Indians before Captain Clark came down the Yellowstone River in 1806. The railroad did not reach Billings until 1882, six years after the famous Custer Massacre took place 65 miles east of Billings.

Construction was started on the Mystic Lake Project in 1920, when survey crews went into the area on horseback and were supplied by pack train. Power was first generated on March 20, 1925. Construction of the project was completed in 1927.

PROJECT EFFECT ON RECREATION

Mystic Lake was a natural lake in the West Rosebud Creek drainage. A tunnel was driven through solid rock for 1,029 feet and a hole was punched in the bottom of the lake. A 56-inch wood pipe connects to the tunnel and extends 10,900 feet along the side of the canyon, with a drop of only 40 feet in this distance, to a point directly above the powerhouse. From this point a 42 inch steel pipe, 2700 feet long, descends to the powerhouse. Two generators have a capacity of 5,750 KW each.

The dam is 368 feet long and has a maximum height of 45 feet. The elevation of the spillway is 7,670 feet. Three feet of splash-

boards bring the elevation of Mystic Lake to 7,673 feet. The lake formed by this dam is approximately 1-3/4 miles long and 1/2 mile wide in the widest place and is approximately 427 acres in area.

The lake is usually filled by July 1 each year and remains at nearly maximum elevation until the early part of September. With reference to Department of Agriculture recommendation 3d dated March 14, 1966, to the Commission, Applicant reviewed the subject at one of several conferences with U. S. Forest Service and other government officials whereupon it was acknowledged that, normally it is not possible to fill the lake until approximately July 1st because of the cold weather prevailing at this extremely high altitude. They also agreed that it would be desirable to maintain the lake level within 10 feet of high pool elevation from such initial point of filling until the end of the recreation season which is early in September.

Applicant accordingly proposes that these climatic conditions shall govern the operation of the project during the summer season, and that the pond will be maintained within ten feet of high pool elevation between July 4th and Labor Day. Applicant proposes in this application the construction of a reregulating dam at the outlet of West Rosebud Creek. The effect of this dam is discussed hereafter and in Exhibit H of this application.

The lake lies in a steep canyon and the mountains rise practically from the waters edge, leaving very little level ground along the

shores which can be used for campsites or picnic areas.

PHYSICAL FEATURES OF SURROUNDING AREA

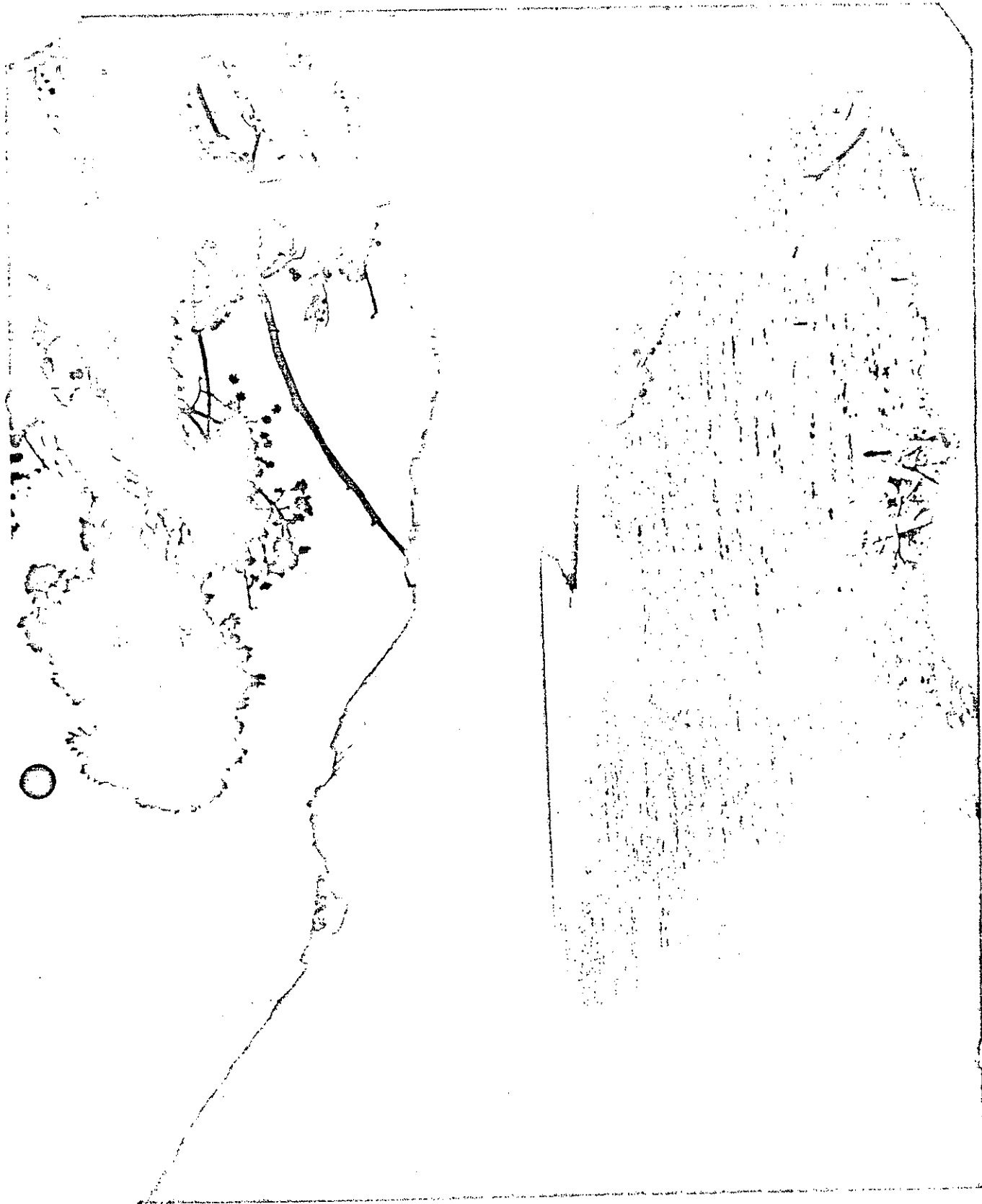
Mystic Lake is practically surrounded by the Beartooth Primitive Area, which extends to within three miles of Yellowstone National Park. This area is one of the most rugged and scenic areas in the world, as depicted in the scene on the page following. Granite Peak, about 5 miles south of Mystic Lake, is the highest point in Montana - 12,799 feet. There are 25 other peaks nearby that reach above 12,000 feet. There are ten plateaus having an average elevation of 11,000 feet, some of them several square miles in area.

The famous Grasshopper Glacier is also at the headwaters of this drainage. This glacier, approximately one mile long and one half mile wide, is at an elevation of 11,000 feet. Millions of grasshoppers have been buried and well preserved in this glacier for over two centuries.

There are several lakes in the West Rosebud drainage above Mystic Lake. Island Lake, 155 acres in area, joins Mystic Lake; 55-acre Silver Lake is two miles up the canyon; and there are several unnamed lakes above this, one at an elevation of 10,500 feet. In addition, there are two lakes below the power house, 34-acre Emerald Lake and 22-acre West Rosebud Lake. The Beartooth Primitive Area contains over 300 lakes and many miles of streams with over 5,000 waterfalls.

FISH AND WILDLIFE

See Exhibit S for a discussion of the fish and wildlife resources of the project area and the surrounding area.



PRESENT RECREATIONAL FACILITIES IN THE AREA

The Recreational Potential in South Central Montana is almost unlimited. The Custer and Gallatin National Forests are comprised of 3,326,326 acres and are joined on the south by Yellowstone National Park, an area of 2,222,080 acres. Six mountain ranges, all furnishing recreational possibilities, can be seen from Billings.

There are 32 public camp and picnic areas in the Beartooth Division of the Custer National Forest alone. Nine of these are on the east side of the forest near the Red Lodge - Cooke City Highway.

Billings advertises "32,000 miles of fighting-trout streams and rivers plus thousands of picturesque lakes." Every kind of fishing water is available from high mountain lakes and streams to the wide Yellowstone River. The high lakes and streams abound with native brook, rainbow and cut-throat trout. Rainbow trout, brown trout, Eastern brook and whitefish are found in the lower streams, and walleye, sanger, channel catfish, ling, goldeye and fresh water drum in the Yellowstone River below Billings. Record catches have been made from the Yellowstone River in Stillwater county including rainbow to 12 pounds, brown to 10 pounds and whitefish to 3-1/2 pounds. Fishing pressure is heaviest on the Stillwater River and East and West Rosebud Creeks, with lesser pressure on Fish Tail Creek and Finley Creek. Good catches of rainbow and brown from one pound to a pound and a half and 6 to 12 inch Eastern Brook are caught in Trout Creek. Nine public access areas have been established on the Stillwater River. The Yellowstone River, being a navigable stream, has public access.

Hunting in Stillwater county varies from Hungarian partridge to moose with about everything in between. Ducks and geese are plentiful. For the upland bird hunter there are blue grouse, ruffed grouse, sharp-tailed grouse, chukar and hungarian part-ridge and ringnecked pheasants. There is even a short season on Merriam's wild turkey only a few miles to the north.

This area is a big game hunter's paradise. Twenty-five moose permits are available in Stillwater County in 1968. A total of 975 antelope permits are available in Stillwater County and two adjoining areas. One hundred thirty-five mountain goat permits are available in four adjoining areas and an unlimited number of bighorn sheep permits are available in Stillwater County for 3/4 curl or larger rams. The Montana Fish and Game Department noted on the 1965 hunting maps, in connection with the sheep permits for Stillwater County, that "Applicants-----are advised these areas are high, rugged and difficult to hunt. As a result success has been very low." There are a few elk in the area and deer are plentiful, so plentiful in fact that 600 special \$35.00 non-resident deer licenses were available in 1967 in Stillwater and adjoining Sweet Grass Counties, and two deer could be killed by resident hunters. Many more special permits for moose, goats, sheep and antelope were available in adjacent areas in 1968, an average year.

Campgrounds are strategically located throughout the area. Many overnight campgrounds are located along Interstate Highway 90 as well as in the National Forests and Yellowstone National Park. The Beartooth Division of the Custer National Forest alone has 32 improved recreation sites. All of these sites have trailer

parking, all have camp units and all have picnic units.

The National Forest provides many interesting trips for the hiker and photographer. There are excellent mountain trails for the amateur and high rugged peaks for the experienced mountain climber, including Granite Peak, the highest point in Montana. Grasshopper Glacier is best reached from Cooke City, 123 miles southwest of Billings on U. S. Highway 212. The glacier is approximately eight miles north of Cooke City. The road from Cooke City terminates about one and one-half miles southwest of the Glacier. Two miles of this road are passable with a passenger car and the remaining eleven miles require a four-wheel drive vehicle.

One of the most scenic drives in America is the sixty-four mile road from Red Lodge to Cooke City, the northeast entrance to Yellowstone National Park. This road climbs to 10,940 feet at Beartooth Pass. The first engineers sent out to survey this road reported the only way a road could be built through this area was to "hang it from the clouds."

The Grizzly Peak ski area six miles west of Red Lodge and sixty-six miles southwest of Billings, offers excellent skiing for both the beginner and the expert. Double chair lifts operate in tandem to the top of the mountain, a distance of 7,240 feet with a rise from 7,400 feet to 9,416 feet elevation. The normal season is November 15 to April 15.

There are few large lakes in the area that can be driven to that afford good boating. The Yellowtail Reservoir provides good boating and water sports. This reservoir is 71 miles long and up to 2 miles wide and has a surface area of 27 square miles. The

National Park Service plan proposes a National Recreational Area that would include approximately 63,287 acres.

YELLOWSTONE PARK

Yellowstone Park, with three entrances in Montana, furnishes a variety of recreation for the people of south central Montana as well as for people from all over the world. Although the boundaries of the Park and the Beartooth Primitive Area are only three miles apart it is over 100 miles by road from the Mystic Lake powerhouse to the nearest entrance to the Park.

Yellowstone Park, the first National Park, was created on March 1, 1872. This picture-taking paradise contains lakes, streams, waterfalls, boiling springs, petrified forest, mud volcanoes, the Grand Canyon of the Yellowstone, and many species of wild animals and birds. There are over 100 geysers - more than are to be found in all the rest of the world, and over 4,000 hot springs. The most famous geyser, Old Faithful, erupts every 65 minutes to a height of 130 feet. Other geysers are higher but not as predictable. The Upper Falls of the Yellowstone are 109 feet high and the Lower Falls are 308 feet high - twice the drop of Niagara Falls.

Yellowstone Lake, the largest high-mountain lake in the United States, 7,731 feet above sea level, has an area of 139 square miles and a shoreline of 110 miles. It affords excellent boating and fishing. Fishing is also enjoyed on the many smaller lakes in the park and on the more than 440 miles of streams. There are 300 miles of paved roads in the park and over 150 miles of forest trails, for riding and hiking. There are over 9,000

accommodations to choose from in the park.

WEST ROSEBUD CREEK AREA

West Rosebud Creek winds through the Beartooth Division of the Custer National Forest for approximately 12 miles with 3 miles above the powerhouse and 9 miles below. The creek meanders through West Rosebud Lake and also Emerald Lake within two miles below the powerhouse. The fishing pressure is heavy on this part of Rosebud Creek and on the two lakes. The Montana Fish and Game Department plants approximately 16,000 catchable size fish in this area each Summer.

The applicant plans to use West Rosebud Lake for a re-regulating reservoir. The proposal plans a dam at the outlet of this lake which will raise the level of the lake 11 feet. At the present time this lake averages only 2½ to 3 feet in depth. The dam will not only increase the depth of the lake but will nearly double its surface area. Because the lake is currently so shallow, freezing in the winter time is a real detriment to the fish. The increased depth and size of the lake will improve both the fishery and public access. The details of the plans for the re-regulating reservoir are set forth in more detail in Exhibits J, K, L and M, and the effect on fisheries resources in Exhibit S.

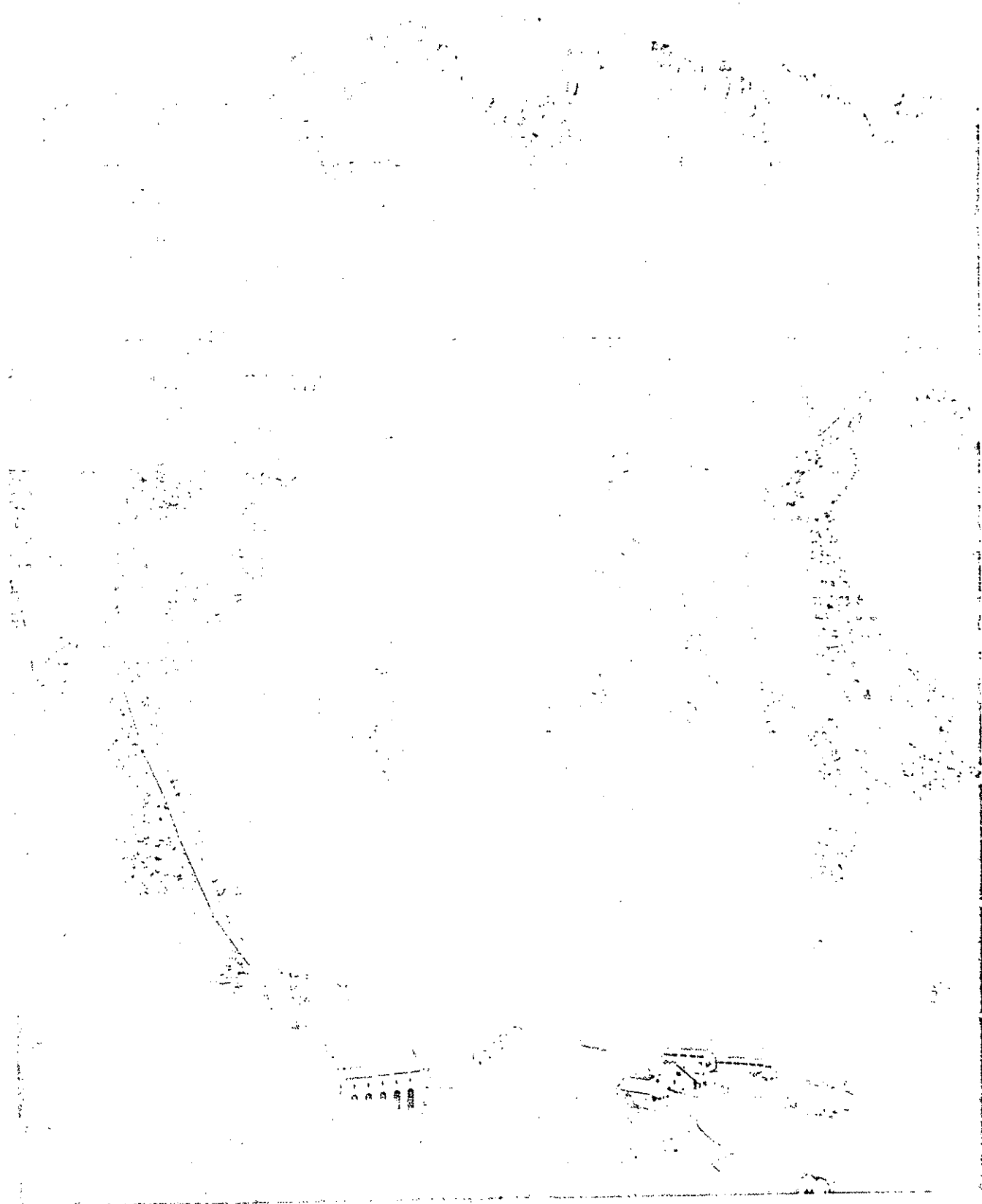
The Forest Service has constructed and maintains the Pine Grove Campground six miles below the powerhouse. This is a beautiful campground built among the trees on each side of the creek. There are ten picnic sites with tables and fireplaces, and forty camp sites large enough to accommodate a big trailer and car,

also with tables and fireplaces. Water is available, firewood is furnished and there are several comfort stations throughout the area. This campground is not getting as much use as it should. There is too much camping at present around Emerald Lake and West Rosebud Lake, which the Forest Service plans to restrict in order to protect the vegetation and to maintain proper sanitation.

In 1967 the Forest Service installed a bridge across the creek between the two lakes and started construction on a new campground on the south side of the creek. The campground was completed in 1968 and consists of 21 camp units and ten picnic units with tables and fireplaces at each unit, and comfort stations and running water in several locations. At the present time the Forest Service plans to discourage picnicking and camping above this campground in order to protect the wildlife and fisheries resources, although there is uncertainty on how much pressure these resources will stand. Possibly a limit on the number of users will have to be imposed but it will depend on further studies of this problem.

MYSTIC LAKE

Mystic Lake lying three miles above the powerhouse in a beautiful Alpine setting shown in the accompanying picture can be reached by the public by means of a wilderness trail which is excellently maintained by the Forest Service. The lake has an area of 427 acres. In 1946 Lyle Platte, the present manager of the Mystic Lake Project, planted 18,000 eyed fish eggs in Mystic Lake. For several years there were too many fish but increased fishing pressure reduced the number of fish and now the fish are larger, averaging 12 to 14 inches and all three lakes in the chain, Mystic, Island and



Silver, are producing fish on a sustained yield basis. The limit in these lakes is ten pounds and one fish, which allows approximately thirty fish. A good share of the fishermen get their limit, with the better fishermen filling their limit in less than two hours.

At the present time there are twenty boats on Mystic Lake and Island Lake, including two owned by the applicant, all of which were hauled to Mystic Lake on the applicant's tramway and narrow gauge railroad. Boats cannot be hauled on any particular schedule and can be hauled out only for major repairs. The Forest Service has requested that the applicant not haul any additional equipment into the lake without prior permission primarily due to limited camping facilities. The Mystic Lake Boating Club has cleaned up the shoreline of the lake and built six lockers on the south side of the lake in which to store gear.

The water temperature of Mystic Lake is a constant 35 or 36 degrees in the summer which is excellent for fishing but makes swimming, water skiing and other water sports out of the question. In fact, snowfields remain on the edge of the lake past the middle of August.

ESTIMATES OF PUBLIC UTILIZATION

A survey was made on the Beartooth Division of the Custer National Forest in 1967 and it was estimated that there were

approximately 320,900 visitor days spent in the area, a visitor day being one person for twelve hours. The estimates were made by random sampling, traffic counts and observations by the Forest Service and should be reasonably accurate.

It would be reasonable to assume that the large majority of these visits were on the east side of the forest where there are oiled roads, ski areas, and more numerous campgrounds. No separate figures are available for the West Rosebud Creek area but Lyle Piatte has estimated that on each week-end from the first of June until Labor Day from 150 to 200 people visit Mystic Lake, Island Lake or Silver Lake. A number of scout troops camp on the lake during the summer and during 1965 a boys group from Billings, numbering sixty-five, went to the lake in groups of twelve to fifteen over a five-week period, and each group stayed one week. Three dude ranchers use the area for pack trips. One of these ranchers uses a Forest Service Trail over the divide from East Rosebud Lake.

A breakdown of the total by kinds of activities is as follows:

<u>Kind of Activity</u>	<u>Visitor-days use</u>	<u>% of Total</u>
Driving	131,000	40.8
Camping	64,000	19.8
Recreation Residence*	44,400	13.8
Skiing	13,800	4.3
Hiking	12,200	3.8
Fishing	11,000	3.6
Horseback riding	8,900	2.7

<u>Kind of Activity</u>	<u>Visitor-days use</u>	<u>% of Total</u>
Big Game hunting	7,200	2.2
Picnicking	6,700	2.0
Viewing outstanding scenery	5,900	1.8
Ice-snow craft	2,100	.6
Guided tours	2,000	.6
Miscellaneous	<u>11,100</u>	<u>4.0</u>
Total	320,900	100.0

*Summer homes in National Forest under Special Use Permit.

The beauty of this area and the excellent fishing in these lakes will probably increase the fishing pressure some, but the three-mile walk into the lake will discourage many people, so it is not anticipated that the pressure will build up very fast. The increase will probably not be over two to three percent a year over the next twenty years.

INITIAL RECREATION PLANNED

Road construction into the West Rosebud drainage area is scheduled for sometime within the next five years. This will improve the accessibility into the area and can be coordinated with construction of applicant's re-regulating reservoir which requires relocation of a section of the existing road. Present plans indicate this road may terminate approximately 1/4 mile above the powerhouse.

Coincident with an improved roadway is the probable installation of end-of-the road facilities consisting of parking lot, sanitary facilities and related improvements. Camp and picnic facilities will not be provided in this area because the Forest

Service does not want to concentrate people at the end of the road. With this road terminating above the powerhouse, the present parking facilities below the powerhouse should be adequate because it will serve only those people taking tours of the powerhouse shown in the accompanying picture.

Applicant discussed the management of the recreation facilities in the West Rosebud Creek area with representatives of the Custer National Forest and it is agreed the Forest Service should continue its responsibility for managing and protecting these resources, together with all recreation facilities in this area. Applicant expects to cooperate fully with the Forest Service in this endeavor in the operation of this project and the Forest Service and Montana Fish and Game Department have readily acknowledged the extent of the cooperation they have had in the past from the applicant.

ULTIMATE RECREATIONAL USES

The consensus of those Federal and State agencies having responsibilities in the area is that the remote wilderness nature of the Mystic Lake area should be preserved. If their present plans are carried out, it does not appear likely that any additional facilities will be required. Therefore all reasonable requirements of future recreational use can be met by a continuation of the mutual efforts and the spirit of cooperation which exists between the interested Federal and State agencies and the applicant.

Applicant represents that it will continue to cooperate with appropriate Federal and State agencies in providing for future recreational needs as they arise. No other facilities or other developments to protect, conserve or improve the fishery and wildlife resources in this area have been proposed by any interested agencies.

