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Future Recreational Development
of Crater Lake Natl Park

by
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A Thesis



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FUTURE RECREATIONAL DEVELOPMENT
OF CRATER LAKE NATIONAL PARK

INTRODUCTION

The problem faced in this paper is to present an inventory and review of present conditions as they are at Crater Lake National Park and to these correlate past and present needs and demands, and to present ideas and changes that will need to be considered for the recreation plans of the area.

The present National Park and recreation movement in the United States has reached a point where careful and intelligent planning must be produced to give this nation a program adequate to meet the diversified and increasing needs of the people. (4) This need for national planning carries over to other Federal agencies that must consider recreation; also to state, county, city, and private recreation programs and enterprises. The National Park Service has been trying to help this condition and give those dealing with recreation a better understanding of their own problems as well as the relation to other recreational agencies and their development and plans.

In 1936, the Department of the Interior, through the National Park Service, was empowered to cooperate with the states on a permanent basis in relation to recreation (6). A park, parkway, and recreational-area study was authorized

on a national scale to obtain information on existing facilities, population data bearing on the area, and an inventory of potential areas (6). Studies as to the amount and kind of use in county and city recreation centers have been made. Experiments are being carried out by the National Park Service, such as on the Recreation Demonstration Areas, which are large tracts of land established and developed within range of population centers to fulfill outstanding recreation deficiencies, such as picnicking, fishing, boating, hiking, etc. One such area is located at Silver Creek in Oregon. (10) Thus the National Park Service is building up the background necessary to meet the definite responsibility for the work in this special field, the broad objective being to help meet the recreation needs of the people throughout the nation.

Park work under the National Park Service is dealing with conservation in its broadest meaning, conservation of natural resources and of human resources. To conserve the natural resources of a Park area the conditions should be left as they originally were, without change. The introduction of people to enjoy a park necessitates man-made improvements or accommodations, and so the more people frequenting an area, the harder it is to preserve the natural wild conditions.

A plan for each area is essential, taking into consideration the various recreational phases throughout the nation, the naturalness vs. man-made changes necessary for

use, and the fundamental policies of the National Parks:

- "1. That the National Parks must be maintained in absolutely unimpaired form for the use of future generations as well as those of our own.
2. That they are set aside for the use, observation, health and pleasure of the people.
3. That the national interest must dictate all decisions affecting public or private enterprise in the Parks. " (1)

The text of this paper is not intended as a plan to go by for future developments, but as a review of present conditions and things that may well be taken into consideration in any plans or future development of Crater Lake National Park if it is to continue to grow and remain one of the most popular recreation centers of the Northwest.

Chapter I

CRATER LAKE PARK

The inventory of the Park is covered in this chapter as well as certain information about other recreation areas. The physical description of the area is covered, both as to natural features and man-made changes. The present recreational use and travel, along with information such as trends in population and travel figures that should give some indication of future use are also given.

NATURAL FEATURES

Crater Lake Park is located in Southern Oregon on the Crest of the Cascade Range about sixty miles from the southern border of the state. It embraces an area of 250.52 square miles, or 160,333 acres, and was established as a National Park by an act of Congress May 22, 1902 (3). It is accessible by motor highway from Medford, a distance of about eighty miles, from Klamath Falls, about sixty-five miles, and from Bend, about one hundred miles. The topography is quite rough and elevations vary from 4,000 feet to a high of 8,938 feet.

The Lake itself is set in the crater of an extinct volcano (15, 16) which precipitation has partly filled, resulting in a body of water six miles across, almost 2,000 feet deep and with an area of twenty square miles. The lava cliffs rise up from the shore line on all sides

for not less than five hundred feet or over two thousand. This leaves a very clear fresh water lake with no inlet and no outlet, with a depth sufficient to give off a light reflection of pure blue.

The Park's numerous streams all rise within its boundaries; some being fed by springs that are probably caused by seepage from the lake. Through erosion some have formed very rugged and steep canyons. Fishing is fair in a few of the streams.

The climate during the summer season, taking in most of June through part of September, is very good except for occasional cloudiness or thunder showers. Very seldom is it too hot in the shade or too cool in the sun. The winter season is cold, with sufficient snow for winter sports from six to eight months of the year. A snow depth of twelve feet is not at all uncommon (3).

The tree cover of the Park is almost entirely of virgin forests except for a few square miles of pumice openings on which grows scant grass. These areas are not too dry to support tree growth, but rather so young in formation that trees are not yet established, although some Lodgepole stands have worked into the open areas for quite a distance even within the history of the area as a Park. The most extensive stands are of Lodgepole pine (Pinus contorta), Mountain Hemlock (Tsuga mertensiana), and fir (Abies magnifica shastensis) and (Abies concolor) types (3). A stately stand of ponderosa pine (Pinus ponderosa) is seen

along the south boundary and around the rim the White-bark pine is the outstanding tree, due to the stunted and grotesquely twisted shapes that it often grows in. With the other species there are fourteen common trees represented.

The undercover is made up of over 570 flowering plants and ferns (3) which vary in blooming time throughout the summer months.

A large variety of wild life may be seen, both large and small and of seventeen species three are very common. The most common and friendly is the little golden-mantle ground squirrel; then the black bears may be seen at the feeding pits at almost any time, and the numerous deer are occasionally seen, especially in the beam of a headlight while driving at night. Marmots, porcupines, coneys, weasels, martens, rabbits, chipmunks, and pine squirrels are occasionally seen.

Of the bird life more than 111 species have been positively identified. (1) The most interesting are the occasional golden and the southern bald eagles, and the more common ospreys and large red-tailed hawks which play about in the varied air currents around the peaks.

Crater Lake is no exception to a great many other National Parks, for its wealth of geological features that offer beauty for the visiting public and study for the naturalists. For references to the geological history and formations of the Park and Crater, various publications are recommended, of which those by J. S. Diller, F. E. Matthes,

and Howell Williams are considered authoritative.

The chief value and attraction that makes this area worth while setting aside as a Park and recreation center is the aesthetic value, not only of the blue lake, but of its magnitude, setting, and surroundings. This is helped by the changing colors and the contrasts of the reddish brown cliffs with the various shades of blue in the lake, which change with the time of day, wind movements on the water, and the atmospheric conditions.

MAN-MADE CHANGES

The Park is well covered with a road system, both of highways and a network of secondary roads for protective measures. There are a little more than seventy-five miles of well kept-up highways, of which thirty-five miles is a drive completely around the lake, following as close as possible to the crater wall (3). Numerous turnouts are provided at the viewpoints, both along the rim drive and along the entrance drives. The one hundred miles of secondary roads or protection motorways cover the park so that the walking distance to any area is not over two and one half to three miles.

Foot trails are quite limited, as a total of only about twenty miles are provided; the most important being the one from the rim village to the lake shore, the one east from the rim village to the top of Garfield peak, and the trails to the two fire lookouts, The Watchman and Mt. Scott.

No horse trails are provided as riding horses are not kept in the Park.

Ski trails are limited to about seven miles, of which two miles are quite extensively used during the ski season and one five-mile trail that is occasionally used.

There are four campgrounds located within the Park, as shown by red ink on Figure 1, and they cover a total area of about twenty acres. The largest and best equipped is in close proximity to the rim at the rim village and is provided with parking facilities for sixty cars and forty trailers, over fifty tables and fireplaces, and three buildings with washing and toilet facilities, of which two have hot showers (2).

The greatest concentration of the Park government buildings are located about two miles by road below the rim village as shown in Figure 1. They consist of the Administration building, Ranger Dormitory, bunkhouse, and mess hall, warehouse, gas station, fire hall, garages, shop buildings, storage shed and residences. Three checking stations along with residences are located on the entrance highways, as can be seen on Figure 1.

A small information building is located on the rim just west of the lodge, and just below it and located within the crater rim is the Sinnott Memorial used for displays, exhibits, and a gathering place for visitors who wish to hear lectures about the history and geological formations of the Park (3).

Two fire lookouts are situated within the Park; The Watchman, immediately on the west rim of the crater wall, and Mt. Scott, the high peak about a mile back from the east crater wall. Both are completely equipped for fire detection and are easily accessible by good trails.

A Park Service boat house is located on the Lake in a cove on the west side of Wizard Island, however a serviceable boat is not provided.

A Civilian Conservation Corps camp is located about one-quarter mile east of the Annie Springs checking station.

The concession right for the entire park, as well as bus service rights, is leased out to an operator, The Crater Lake National Park Company. The buildings controlled under this company are the Lodge, cafeteria, store, and overnight cabins, all located in the rim village area. A boat house on the south shoreline of Wizard Island accommodates the operators' two 35 to 40 foot excursion boats and part of the dozen row boats. Four busses give passenger service daily with Klamath Falls and Medford.

Other man-made changes are the wide, hard-surfaced walks along the crater wall at the rim village area. Numerous attractive signs are set at strategic points throughout the Park.

As for public utility advantages, the Park is supplied with a 22,000 volt line, and water system adequate to take care of all ordinary and protection needs of the rim village

and Park headquarters areas. An efficient sewer system is provided. Telephone, telegraph, and post office facilities are available at Park headquarters and telephones are located at the Lodge and all Ranger Stations in the Park.

Another consideration among man influenced changes is the presence of fish in Crater Lake, as there were originally no fish there. The first few were planted in 1868, but after that plantings were rare until the lake was established as a National Park (3). Since 1910, 1,529,000 fish have been liberated in the lake, as given by year and by species in Table 1 (1).

The stream fishing has been greatly improved during the past ten years by planting of brook and rainbow trout. About twenty-five of the Park streams have been planted with 632,385 fish during the years from 1931 through 1939 with the exception of 1934. Table 2 shows the plantings for 1939, which is a good representative year (7).

PRESENT RECREATIONAL USE

The travel through Crater Lake National Park is roughly divided into the summer season, taking in May, June, July, August, September, October and November, although most of the travel is in July and August, and the winter season, which takes in the rest of the year.

The attendance of people for the entire year of 1939 was 230,411, which is broken up by months and cars in

Table 3; 92% during the summer season, leaving only 8% for the winter season travel. A classification of summer travel by areas that the people came from shows in Table 4 that 50.3% were from Oregon, 49% from the rest of the United States and .7% were from other countries.

Crater Lake National Park is one of the two major developments in winter sports areas in Oregon, and over 16,000 took part during the 1939 season. The winter season visitors are classified by the Park Service as to whether they come for winter sports, general (to see the lake and winter scenery), or just passing through the Park. These figures are only available for 1938 and 1939, as given in Table 5.

Of the available developments the campgrounds are very extensively used and quite complete records are available as to their use, as Table 6 shows. No records are known for September of the last three years, so I have put in estimated figures which are averages taking into consideration the past use during September and the yearly increases in camping. Thus 8,775 used the camp grounds during 1939, with the greatest use during July and August.

The Park operator's developments, which include the lodge, cafeteria, overnight cabins and boats on the lake were all patronized throughout the season, which is from the first part of June to the middle of September. I obtained no figures on attendance, except that launch trips on the Lake numbered sixty-eight and 1,030 people took

part (8).

The most used trail in the Park is the 1.6 mile Lake trail; 8,361 people made the trip in 1939. Other well-used trails are to the top of Garfield, Wizard Island, The Watchman, and Mt. Scott lookouts. Nearly 3,000 people climbed the mile-long trail to The Watchman, and slightly over 100 climbed the two and one-half mile trail to the top of Mt. Scott. The short nature trail by Park Headquarters was used by 142 during 1939 (8).

The two ski trails from the rim village area to Headquarters area are quite extensively used during the winter.

Of the Ranger conducted trips, which included auto caravans, hiking trips, launch trips and camera trips, there were a total of 189, in which 3,310 people took part (8).

The attendance of the two interpretational stations at the rim village area, the Sinnott Memorial and the Information building, was 50,440 and 33,657 respectively.

Other valuable recreational opportunities are offered to visitors in the various lectures that are presented by the Park Rangers on various subjects of interest pertaining to the Park. Eighty-seven talks were presented to 5,191 people at the community house and 101 lectures had an attendance of 10,869 people at the lodge (8). 12,954 people took advantage of the geological formation explanation at the Sinnott Memorial during the 1939 season.

The fishing in the Park has proved quite an attraction and has increased year by year. No state fishing license is necessary. The stream fishing is good in some streams, although few visitors take advantage of it and no figures are available to show their success. As for fishing in the lake, the 1939 statistics were not available, however the 1938 and part of the 1937 figures are given in Table 7, which takes in the short season from July 1 to September 1, which is the only time that boats are available.

Of the other agencies interested in recreation, the Forest Service has done the most, as their policy and plans have called for more and more along this line, besides which the Forest Service has control of most of the Southern Oregon Cascades. The three largest and best developed Forest Camps in the southern Cascades are: Union Creek campground and resort, Diamond Lake area and resort, and Lake of the Woods area with its campgrounds, summer homesites and resort. There are about twenty improved Forest Camps within ten miles of the Park, mostly to the west and southwest, although some are located to the southeast of the Park.

As one-half the travel is national in scope, and much of this is of tourists who make their vacation a long circuit taking in as many of the National Parks and Monuments as possible, the other places visited should each be considered a unit along with Crater Lake in a long circuit of recreational localities. These National Parks along the

Pacific Coast, starting in Washington, are Mount Olympus and Mount Rainier National Parks, then south into California are Lassen Volcanic National Park, Yosemite, General Grant and Sequoia National Parks, as well as about ten National Monuments scattered throughout these three states. The recreation phase is even larger than National in scope if all the National Park units are considered, as Mount McKinley National Park is in Alaska and the Hawaii National Park is in the Territory of Hawaii.

The state recreation program is not very extensive in the southwest interior of Oregon as only eleven areas are provided and most of these are wayside turnouts or viewpoints (2); the only area of any size is Easy State Park, a campground and picnic area of eighty acres along the Crater Lake Highway about five miles north of Trail, or about halfway between Medford and Crater Lake. Approximately three thousand people make use of this park per year (2).

DETERMINATION OF FUTURE RECREATION USE

The trends of past travel into Crater Lake Park have given a steady increase in visitors ever since the area was made a National Park. This is given by cars and people since 1930, with the 1920 and 1910 figures also included, and the percent increase is also given in Table 8. In Table 6 the increase in camping per year since 1932 can be seen. Although figures are not available to tell about the

other recreational developments, their use has apparently increased in close relationship with the number of visitors.

The increased population, both national and, more important, that local to southern Oregon, has helped the increase of recreation use of the Park. The population of Oregon now in 1940 can be estimated from U. S. census graphs to be close to 1,100,000, or an increase of 15% over 1930, and southern Oregon has increased a bit faster than the average for the whole state (2). More important, though, to the increased travel and the probable increasing number of visitors is the trend that has given a generally higher standard of living with more leisure time and opportunities to take extended vacations.

The general effect of the world's war condition will stop most of the foreign travel to our Parks, but a large percentage of the Americans who usually vacation abroad will be diverted to a vacation in this country with the National Parks as one of the main attractions.

The highways that reach to and throughout Crater Lake Park have also been a major factor in increasing travel, as most of it comes by auto. The Willamette Pass highway to open this summer will offer a direct highway route from Eugene to the Dalles-California highway, which makes a great improvement and short-cut in reaching the Park from the northwest part of the state. The continuation of the present surveyed highway route from Diamond Lake to the Willamette Pass highway will even further help to increase

the travel as this will give the easiest to drive highway from northwest to southern Oregon going right through Crater Lake Park.

The short cut road from the Crater Lake Highway at Trail to U. S. 99 at Canyonville is improved enough now for general travel, and this route gives a saving of slightly over fifty miles for those coming to the Park from northwest Oregon who would otherwise go by way of Medford. The Forest Service now has a road east from Roseburg to the Diamond Lake area, which although a very unimproved road now in places, offers a much more direct route to the Crater Lake Park.

The added effect of all these causes should at least hold the Crater Lake travel to its present standard, but more likely a greater percentage increase in travel will occur than the Park has enjoyed in the past.

Chapter II

RECREATION PLANNING

This chapter is a survey of the recreation possibilities or what would be possible to develop or give increased consideration in the recreation field, even though some ideas would not seem to fit into the Park program, especially as set up by present standards and policies. The public demand for the various types of recreational advantages is discussed along with the possibility for such development to try and get some correlation between the two, which is a basis to follow out one of the fundamental Park Service policies.

PARK SERVICE POLICY

These fundamental policies which have been followed since they were set down by the Secretary of the Interior in 1918 are written out on page 3 of the introduction. This policy sets up two standards which are directly opposite; that the Park area be maintained in absolutely unimpaired form, and that they are set aside for the use of the people which necessitates man-made changes in about the same proportion as the areas are used, so a workable compromise is necessary.

A good example of the present attitude as to policy is given in a memorandum for the Park Service, Washington and all field offices, February 7, 1940, by Director A. A. Cammerer, and as it relates to winter use is as follows:

"With regard to the statement in the policy concerning practice slopes and downhill runs, clearings involving the cutting of a large swath through the trees will not be permitted. Other than a few short practice slopes, curving trails taking advantage of the terrain and existing forest cover are desirable.

The Service is opposed to ski jumps requiring permanent trestle work. There may be places, however, where stone-work could be built up for take-offs which, with a small amount of planting, would fit into the landscape. Ski lifts and tows that may be dismantled at the close of the winter season are the most desirable....."

The Forest Service recreation plans for the south central part of the state and those of the state program should be available and understood. With cooperation in consideration of these plans, a more complete system can be set up for the people. Likewise the Crater Lake plan, fitting in with the National Master Recreation plan helps to balance out the needs for recreation throughout the land.

SURVEY OF DEMANDS AND POSSIBILITIES

There are almost unlimited possibilities for development of recreation in the Park as relatively little has been done and the area is large enough to furnish accommodations for as many as wish to come. Planning for the developed class of area or places where the concentration of people will be expected, needs fixing up to meet the demands of the people who wish to spend some time away from home yet not give up any more of their home conveniences than is necessary. In National Parks such areas should be limited in number and size to no more than is necessary for

their demand. The rim village area serves this purpose at Crater Lake although many recreational facilities are not available that such an area should provide.

Demands in this area for sports features including a softball field, tennis courts, swimming pool, archery course and horseshoe court should be met. There is need for a recreation building to take care of the adult recreation requirements, such as for dancing, parties, indoor games, or a gathering place for the Ranger lectures or a place to spend the time on a bad day. Visitors and those working in the Park would welcome such a place for year around use.

A very sore need pertains to the cabin facilities for the use of those who do not care for camping out or to stay in the lodge. Some cabins are provided, but they are inadequate both from a quality and quantity standpoint.

The developments for the concentrated areas need to be planned for the peak loads or the time when the most people frequent them. The heaviest travel months are July and August and during the weekends and holidays. It is the local or Oregon visitors that bring these high peaks on weekend and holidays to tax the present facilities to a maximum.

A regular ranger station needs to be planned for this area as an adequate place to house whoever is in charge and as a central point where help or information can be obtained. A first aid station in connection with this development would be in order.

The picnic and campground areas need consideration so that they may be increased to fill the future demands for greater use.

The lodge situation needs looking into; the structure as it now stands will sooner or later be inadequate and more additions to such an old structure would probably not be the solution.

Winter sports and other winter uses need a program. Sufficient overnight facilities and opened-up roads to more and better ski areas will very soon need to be considered if the demand increases at the rate now indicated. Overnight cabins and the recreation hall would be ideal to help take care of the winter sports program.

The fishing program is well taken care of by a plan that has proven quite satisfactory and will probably continue to provide conditions so that the fisherman may expect the best fishing possible.

Planning for the more primitive type area, which includes most of the Park away from the crater wall and the Headquarters area, should see that recreation development is kept to a minimum of the demands which can be met to a large extent by foot and horse trails, with the occasional use of the protection system of roads, and a few scattered shelter cabins.

A plan for such areas would be considered in a scientific class (areas where wildlife, geological, botanical

or archeological interests predominate) should provide for the least possible development that will allow for their study or observation.

Chapter III

RECREATION DEVELOPMENT

This chapter has to do with the future developments in this Park that I believe should be seriously considered before they are either set in a plan to be definitely carried out or thrown away as impractical. The divisions are as to summer and winter use, and then by development that needs immediate consideration and development that should come up for consideration at some indefinite later date.

PRESENT SUMMER USE CONSIDERATIONS

The considerations for developments to be looked into now are trails, picnic area, campgrounds, cabins, other rim village development, and a Ranger patrol boat.

The twenty-mile trail system here is very meager and does not hold up the general public conception that National Parks offer a vast network of trails. The U. S. Forest Service has a booklet published in 1939 that shows the mapped location of the Oregon Skyline Trail throughout the length of the Oregon Cascades (17) and on a section of this map (scale $\frac{1}{2}$ " = 1 mile) the location of this trail through Crater Lake is shown; however the Park has never provided a posted route through the area. Figure 2 shows what is probably the best route through the Park (about the same as given in the Forest Service map) as it is away from the highways, only crossing them twice, within a very short

side trip of the lake itself, and the route goes by the Annie Springs Checking Station, which gives an official Park Service station to stop at. As most of the route follows old roads and protection motorways, very little trail would need to be built; only the proper placement of signs.

Other trail development would be some continuation of the crater rim trail, as it ends about a mile west from the rim village and at the top of Garfield Peak to the east. A trail on around the west rim to Liao Rock would be easy to construct, staying almost immediately on the crater edge most of the way and only coming in contact with the highway at three viewpoints. In the other direction a trail continuing on from the top of Garfield Peak to the tops of Applegate and Dutton would make an interesting short trip. The feasibility of a trail for a ways along the lake shoreline both directions from the boat landing should be looked into. Around the west shoreline there is ample room for trail building as far as the Devil's Backbone and also to Eagle Point in the other direction, and only a few small points jutting into the lake would offer any difficulty. The practical consideration would be determined in how well a trail could stand the winter, lake storms and the snow slides of the crater wall.

Other trails to the lake could easily be constructed on the north side of the lake at either or both Cleetwood Cove or the Wineglass. There is less vertical distance to

the water there by 400 feet, and the sun keeps the north wall clear of snow two or three months longer per year than at the present trail location. Also the fishing is usually better along the north shore than along the south or west shorelines. There are way trails now that follow down to the shoreline at each of the proposed locations, but in their present conditions they are not safe to open up or mark for public use.

For riding horses for hire in the Park, suitable paths could easily be provided. A system of signs could soon lead a rider, over very little new trail construction, to the Park network of old abandoned roads and protection motorways which are ideal bridle paths and lead to most anywhere in the Park. This network of motorways is shown on Figure 2.

The use of the protection roads for recreational driving should be largely restricted to certain areas, and these areas only to those who have the interest to apply at the Ranger office for a permit; however, I think the Union Peak trip should be given more attention.

The need for small picnic spots or places to stop and eat lunch are sadly neglected, especially so around the rim drive. I am referring to small developments adjacent to the highway, yet hidden from it by the topography or vegetation, where one to three rustic type tables with benches and a refuse container is placed, but no camp or cooking fire allowed and at most of them, not even water.

A good example of a place for such development is located by the first lookout point on the west rim drive about a mile from the lodge. To the immediate north of this highway view point an old trail takes one up some twenty feet to a small flat clear area almost circled by trees which frame sections of the lake on one side, screen out the highway on the other, and above, give shade from the sun. Other points where such developments would fit in with the physical surroundings and the needs of the people are between the Watchman and Hillman Peaks, by the north entrance station, Cleetwood Cove, the Wineglass, Cloudcap view point, Sentinel Rock, Kerr Notch, and at the crater rim in Sun Valley. Such developments close to the west and south entrances probably would not be amiss.

The present set-up of campgrounds seems to well fit the public's needs in location, improvements, and size, except the one in the rim village area which needs some enlargement to handle peak loads.

The overnight cabins are quite inadequate as to quality in both appearance and conveniences; also the number is hardly sufficient to accommodate the normal summer travel. A complete group of 25 to 30 modern cabins is needed; the present general location could suffice although somewhat further removed from the highway would be more desirable. A better arrangement of buildings is necessary from a landscaping angle if nothing else.

A new recreation and lecture hall could fill the growing need and demand for such a place. The building would need a large gathering room for lectures, dancing, group games and the like, and then such accommodations as game rooms, lounge rooms, fire places and a ski waxing room. A location close to the east of the cafeteria is probably one of the best places for the hall, being convenient to the camp ground, cabins, and parking area which would be even more important during the winter, as the recreation hall could well act as the skiers' headquarters.

For developments in the rim village area to help satisfy those who want all the city conveniences, the building of tennis and horseshoe courts and the laying out of softball diamonds will go toward this end. I don't mean to give the developments the appearance of a city park, but the courts could be placed to the southeast end of the camp ground and in among the trees so that they would be noticeable only to those people using them.

There is a need for the Rangers to have some adequate means of looking after the recreation on the lake and around the shoreline. The operators' boats are the only ones on the lake, and they are quite slow and often are not available to the Ranger force. A fast Ranger patrol boat would give more public interest to the lake level and more prestige to the Ranger force as well as furnishing the control and protection that the Rangers do not now have on the lake.

FUTURE SUMMER USE CONSIDERATIONS

The highway system throughout the Park is sufficient for present travel and except for maintenance in places and widening, and the building of additional parking area, it should suffice for a long time. The motorway system is fairly complete, however, the planning for the needed increases has to do with protection and very little with recreation.

Crater Lake Park is not situated right or of large enough size to provide foot trails for very extended trips, however, trails up some of the cinder cones throughout the Park such as Crater Peak, Bald Crater, Desert Cone, Red Cone, and Timber Crater would make interesting hiking trips as well as being a help to the protective organization.

I believe in having riding horses in the Park with the motorways open for their travel, and as need arises, construct simple shelters so that a few day trip can be made around the outskirts of the Park. This would increase fire risk, but the slight additional risk would be justified by the additional use of the Park. A bridle path could be constructed around the crater rim, being between the highway and the rim most of the time and coming out on the highway only at the view points.

With the increase in campground use, the present camp areas will need to be increased or new ones built or both. A new campground across the lake at Cleetwood Cove or the

Wineglass would fit in well with a trail to the lake and also to form the nucleus of another concentrated area development of cabins, eating places, Ranger Station, lodge facilities etc. that may well be desired in the future with sufficient increase in travel.

Not too far in the future a Ranger Station at the present rim village area will be a necessity. A good location for it is on the spot where the old recreation hall is now, as this location is close to activities and the highway, and the few trees there can help landscape it in with the surroundings.

With increased activity on the lake, there is more need for a Ranger there, so with sufficient increase a Ranger Station on the Island will be necessary. With radio communication in the Station and the patrol boat with headquarters and the lookout stations on the rim a very efficient patrol and protection job could be accomplished.

The present lodge building can't last forever, and the sooner the ugly old barn-like structure is removed, the sooner it will cease to mar the beauty of the rim in that area. I believe a good location for a new lodge to take the place of the old one would be in the low point at the head of Munson Valley, and set back from the crater rim only far enough for a walk between. A lower building than the present one, extending both ways from the low point of the rim there and designed to fit the contour of the ground and tree locations, could be made into a very attractive

development without destroying the natural beauty very much. This location is also further removed, by distance and by topographic features, from the campground and other activities, which would be quite an advantage.

PRESENT WINTER USE CONSIDERATIONS

The overnight and meal accommodations are most satisfactory now except that they are limited to so few people. The same accommodations to handle three or four times as many would be extremely welcome and should take care of the travel for the next winter or two.

A semi-portable ski tow is highly desirable and should be given consideration, as most skiers are coming to demand a tow, and a semi-portable will not affect the naturalness of an area when the snow is gone.

The Park seems to be doing a good job now of satisfying the general winter use of the area.

FUTURE WINTER USE CONSIDERATIONS

More ski trails need to come with more skiers. With a very large increase in skiers a demand will come for the road to be opened to new and better ski slopes, which would logically lead to the slopes of Hillman Peak, and to a lesser extent, the slopes of The Watchman. Hillman Peak has some of the best skiing in the Park, as on the northwest side it is almost bare of trees, various degrees of slope are presented, and ski runs of over one-half mile can be made.

This development would require a little more than four miles of the rim road to be kept open, a parking space (either the one between The Watchman and Hillman or the one on the highway at the small saddle on the west side of Hillman) for enough cars to accommodate the skiers, and a shelter cabin for warming up or waxing skis. The opened road gives an opportunity for winter tourists to get other views of the lake and also the road through to the north entrance could be opened sooner in the spring.

Some time in the future it may be practical to open the roads to Mt. Scott, whose scooped-out western face should prove to be the best skiing in the Park.

Increased winter travel will also warrant the opening of the lodge, cabins and cafeteria facilities, and will also give regular daily bus service in and out of the Park.

SUMMARY

Findings

Crater Lake National Park is provided with the physical features and natural wonders to properly make it worthy of setting aside as a conservation area of national importance. The national prominence is being born out by the findings that one-half the visitors it attracts are from states other than Oregon. The physical developments are small in relation to what is possible to develop, however they now suffice in some respects, and in others the developments are deficient, but on the whole they are quite suitable for present use.

The public use of the Park is increasing 30% per year, and so suitable plans are necessary to provide the development to fit the increasing use as findings indicate that it will probably continue to increase. The plans for this development need to be cooperative on a national scope, blend in with the plans of other agencies, and the master plan of the Park Service.

The conclusion is that for the most efficient and satisfactory method of working out the recreation problem, a recreation plan should be prepared with a definite line of action to follow, yet flexible enough to adjust to unforeseen complications and changes. The data for this should be an assemblance of all the demand factors

upon the area with all things available to be developed, correlated as to their practical value, fundamental policies of the agency involved, and the cooperation with the plans of the other agencies.

My recommendation is that a more complete list of possible future developments be assembled for consideration, or at least these in this paper be given consideration in a recreation plan for Crater Lake National Park.

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APPENDIX

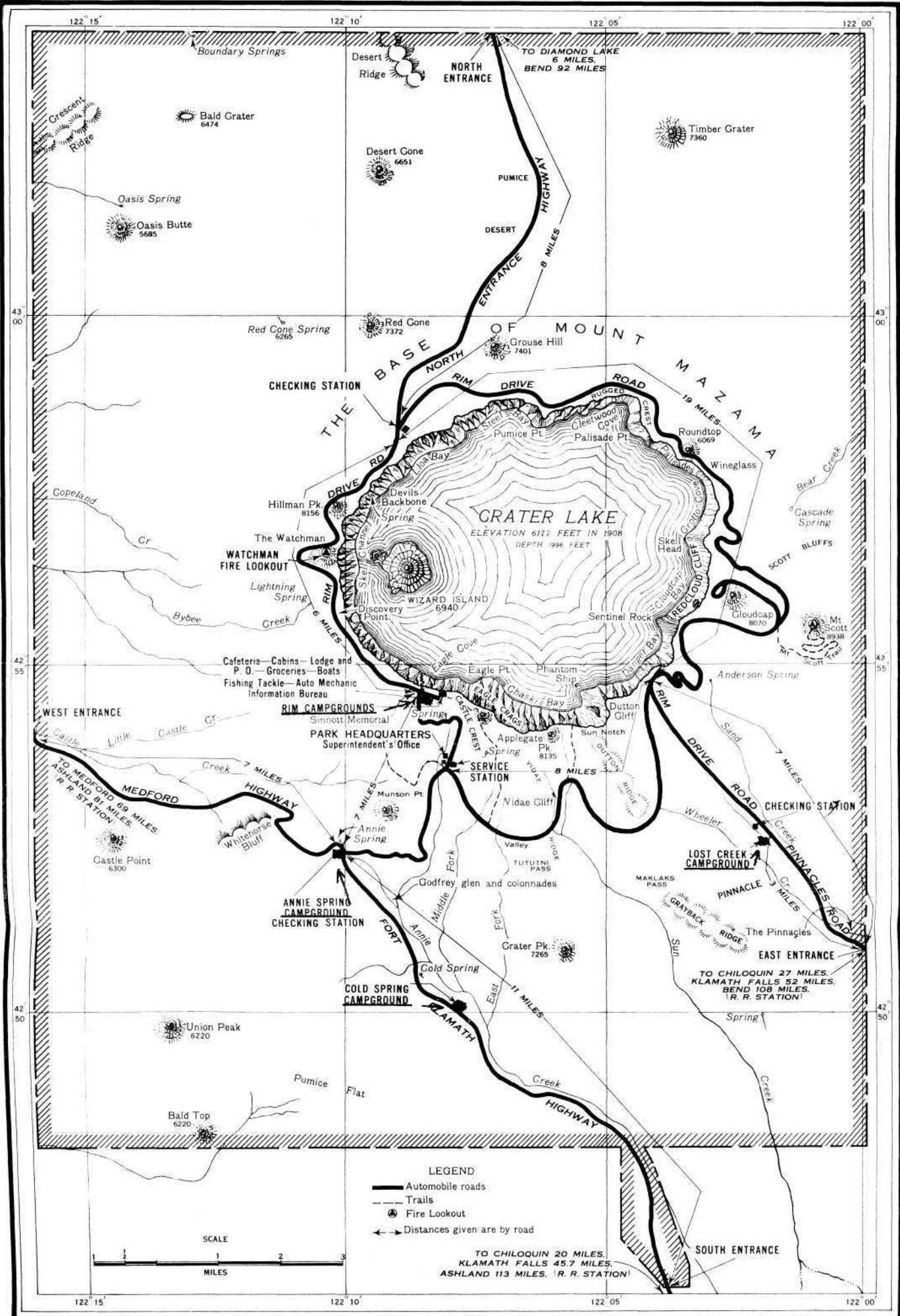


FIGURE I

MAP OF CRATER LAKE NATIONAL PARK

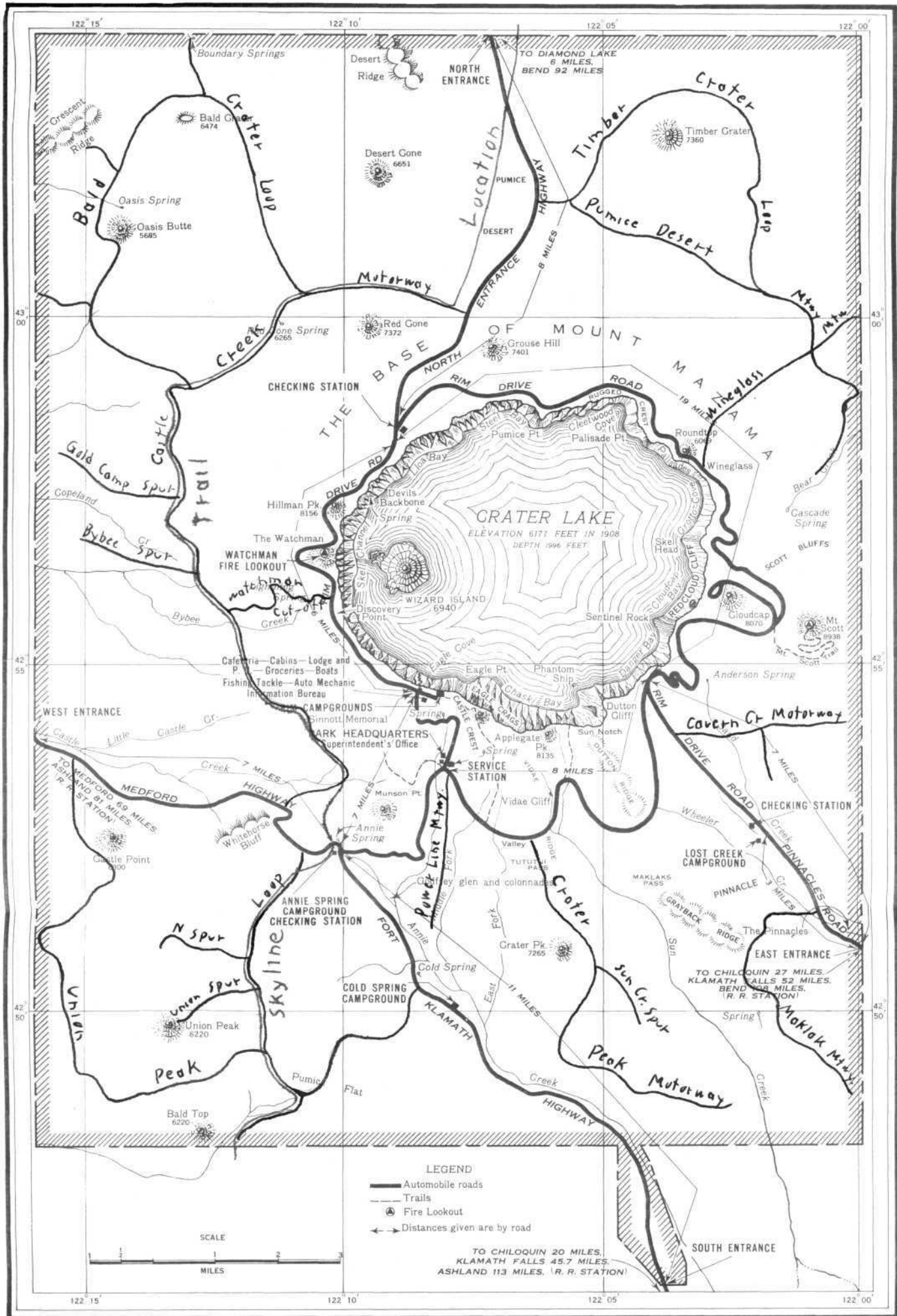


FIGURE II

TABLE I

FISH LIBERATIONS IN CRATER LAKE

Year	Rainbow	German Brown	Silversides	Cutthroat	Steelhead
1910	50,000				
1914	2,000	15,000			
1922	25,000		3,500		
1923				14,000	11,000
1924	24,000				
1925			22,500		
1926					
1927	46,000				
1928	64,000				
1929					
1930	3,000		7,500		
1931					98,000
1932	156,000				163,000
1933			200,000		150,000
1934			54,000		
1935			100,000		20,000
1936			25,000		25,000
1937	100,000		50,000		
1938					
1939	100,000				

570,800 15,000 462,500 14,000 467,000 = 1,529,300

TABLE II

FISH PLANTED IN STREAMS OF CRATER
LAKE AUG 8+9, 1939

Streams	Brook Trout	Rainbow Trout
Sand Creek	6,000	
Sun Creek	6,000	
Munson Creek	2,000	
Lost Creek	1,000	
Annie Creek	12,000	
Middle Fork Annie Creek	3,000	5,000
Patton Creek		10,000
Castle Creek		15,000
Trapper Creek		5,000
Bybee Creek		10,000
Total	30,000	45,000

TABLE III

CRATER LAKE TRAVEL - 1939

Month	Cars	People
January	974	3,334
February	557	2,058
March	941	3,084
April	1,987	6,117
May	3,651	11,406
June	8,875	29,694
July	19,084	65,863
August	17,276	59,750
September	9,569	32,265
October	3,333	10,335
November	1,238	3,898
December	798	2,657
Total		<u>230,411</u>

TABLE IV

ORIGIN OF TRAVEL BY AREAS FOR SUMMER 1939

Month	Oregon	National	International
May	7,176	4,146	84
June	10,477	11,854	168
July	21,706	21,932	276
August	17,678	20,635	291
September	13,056	9,240	115
Total	70,083	67,807	934
Percent	50.3%	49%	.7%

TABLE V

WINTER TRAVEL

BY YEARS - DEC. THROUGH APR Inc.

Year	Cars	People	% Increase
1935	- Closed	Season -	
1936	2,293	7,537	
1937	2,730	8,988	18.9
1938	3,844	13,283	48.1
1939	5,058	16,589	24.8
Total	13,925	46,377	

BY CLASSIFICATION

Classification	1938	1939	Percentage
Winter Sports	5,922	5,505	38%
To See the Lake	5,825	8,101	47%
Going through Park	1,536	2,983	15%
Total	13,283	16,589	

BY DISTRIBUTION

Year	Oregon	Out of State
1938	91.3%	8.7%
1939	85.2%	14.8%

TABLE VI

CAMPGROUND USE

Month	1932	1933	1934	1935	1936	1937	1938	1939
January	Park Closed	closed	closed	closed	0	0	0	0
February	Park Closed	closed	closed	closed	0	0	0	0
March	Park Closed	closed	closed	closed	0	0	0	0
April	Park Closed	closed	closed	closed	0	0	0	0
May	2	0	9	0	0	0	0	13
June	no record	105	627	342	416	361	182	239
July	no record	2,126	3,532	3,098	3,271	3,661	3,278	4,613
August	3,694	3,257	2,857	2,571	2,779	3,111	3,546	2,656
September	no record	1,437	932	1,026	1,121	no record* 1,000	no record* 1,100	no record* 1,200
October	202	0	closed	0	28	0	38	45
November	Park Closed	closed	closed	0	12	0	0	9
December	Park Closed	closed	closed	0	0	0	0	0
Total		6,925	7,957	7,237	7,627	8,033	8,144	8,775

*estimated average use

TABLE VII

CREEL CENCUS
FOR ALL ANGLERS

Date	Anglers	Fishing Hrs.	Fish Taken	Fish per Hour
July 1937				.83
Aug. 1937				.66
July 1938	268	476	248	.52
Aug. 1938	356	447	176	.39

CREEL CENCUS
FOR PARK EMPLOYEES

Date	Anglers	Fishing Hrs.	Fish Taken	Fish per Hour
July 1938	10	14	29	2.07
Aug 1938	24	39.5	53	1.34

TABLE VIII

YEARLY TRAVEL — OCT. Through SEPT.

Year	Cars	People	% Increase
1910		5,000	
1920		20,135	
1930	51,020	157,693	
1931	56,189	170,284	7.9
1932	36,465	109,738	-35.5
1933	28,443	90,512	-17.5
1934	37,529	118,699	31.1
1935	33,276	107,701	-9.2
1936	55,967	180,382	67.4
1937	61,111	202,403	12.2
1938	58,089	190,699	-5.7
1939	66,722	225,101	18.0