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FOR INFORMATION (The following article has been submitted to the Pacific Sportsman, 401 Sansome Street, San Francisco, California.)

> FOREST ROADS OR FOREST FIRES? By C. J. Buck, Regional Forester, U. S. Forest Service

With such an obvious drive as that of the past few years for emergency relief employment it is small wonder that at least part of the public suspects that many recently constructed roads were not needed but rather were "concocted" to provide work. Nor is the public inclined to discriminate between those projects which it believes were partially "concocted", and projects which for years had been essential parts of carefully worked out plans crying for completion.

Typical of the popular skepticism in certain quarters is a recent editorial in the Pacific Sportsman deploring the fact that recreationists now seek in vain for sylvan territory not traversed by roads. It attributes the "road building craze" in the national forests to the desire of rangers, for the comforts and luxuries of travel. It concedes that some roads are needed in the mountains but contends that roads have been laid in areas where nobody goes or is ever likely to go and that there is no need to honeycomb the forests with arteries that are not justified by travel. It raises the question what will become of the wild life of the forests with the country crossed and crisscrossed with unnecessary roads.

In so far as its statement applies to the Pacific Northwest, the Pacific Sportsman has fallen into pardonable error both as to the facts and their interpretation. Let us deal not with state highways through the national forest, but only with roads for which the Forest Service is primarily responsible. Some 3,600 miles of these roads have been built in the national forests of Oregon and Washington since the advent of the CCC. If any road system ever was worked out according to a definite scientific and economic plan this is true of the system of which these CCC forest roads are a part. The central aim was not the comfort of rangers or others but the protection from fire at the lowest cost, of the 26 million acres within the national forest boundaries of the two states.

The plan for the system originated in 1928 to avoid just such haphazard road building as uninformed critics now suspect. The actual procedure for the national forests was laid out in 1930-1931 based primarily on the control of fire within time limits which would mean the prevention of large forest conflagrations and the holding of burned acreage to a minimum. Careful and comprehensive study of past fire records was made. From this it was possible to set up periods within which fire in any given type of timber or country must be reached if it is to be controlled without serious loss. This means that every area in the national forest has its limit set for the allowable time from the "spotting" of a fire to the arrival on the ground of suppression forces. The lookout system, the telephone system and the road system between them carry the burden of the requirements shown by the survey. The greater the reduction in detection time effected by a better lookout system, the less the burden on the road system which must help deliver fire fighters on the ground within the set period.

Fire suppression involves the first line of defense consisting of one or two fire chasers for immediate action and the second line of defense made up of varying sized crews drawn from outside and depending on larger trucks to speed them to the vicinity of the blaze. There is no romance about this grim business. The first hour or two after discovery of a fire usually determines whether the flames will be confined to a negligible area or break out into a real forest annihilating blaze. It is the old war formula or the city fire department formula over again, of "getting there first". Horses and trails are more picturesque, no doubt, but horses had to give way to motors and of course motors meant roads.

So it was that before the CCC came into existence the Forest Service in Oregon and Washington had mapped its necessary truck roads, 20,825 miles of them, of which only 75% are as yet completed. Waiting with the certain knowledge that large areas for which it was responsible had insufficient fire protection till these roads could be built, the Service welcomed the advent of the CCC with open arms. Upon the Tree Troopers devolved the job of building roads which incurred some criticism but which added immeasurably to the protection of the forests. The roads they built were not boulevards for convenience. They were the vital arteries which, along with the equally vital telephone nerves from lookout stations, must be counted on to save the forests in the hour of need.

Nor was the forest protection plan limited to the lookout, the telephone and the road system. It called for 35,284 miles of trails of which from the road arteries extending up from important stream courses or following strategic ridges. Even these trails cannot attempt to cover the ground or lead fire fighters to the exact locations of a fire. It does not take great imagination to understand how easily both roads and trails are lost in this North Pacific regional forest, which is larger than the combined states of Connecticut, New Hampshire and Massachusetts, embracing the most rugged and mountainous country, innumerable ridges, yawning canyons, baffling thickets, a grand expanse of unharnessed distance.

It must not be assumed that the Forest Service has not weighed carefully the increased fire hazard to be expected from roads and trails. Unquestionably the hazard is somewhat increased by greater travel in the forest but it has been found that such travel is better concentrated and better controlled because of trails and camp grounds, while the danger of major conflagrations is immeasurably lessened. Lightning which is a prolific cause of fires in the mountains finds its way into the forest, trail or no trail, and the recent road and trail additions have made it possible to combat lightning fires quickly and effectively.

In direct answer to those who still believe that at least some forest roads are built without any excuse other than the convenience of officials and to furnish employment to the CCC, let it be definitely stated that when any new road is proposed the first question asked is, "Is this road on the fire protection plan?" If not on the plan the proposed road has to run the

gauntlet of the most searching scrutiny. Its approval is always weighed on the scales of its importance to fire prevention. As a result few roads are built "outside the plan" and few if any have been based on administrative convenience or 100 per cent for the accommodation of recreationists. The main objective of the Service is the protection of the forests and until the protection plan is fully realized there is small likelihood of undue interest in other construction. Now, a word of understanding to the "road haters" - Every wilderness lover appreciates that a multiplicity of roads does destroy wilderness charm. It is for this reason that roads have been barred from the 1,446,360 acres set aside as primitive areas in Oregon and Washington. The Forest Service has taken the lead in establishing these wilderness sanctuaries in many parts of the national forest, at the same time taking into account, however, that the attraction even of these areas is threatened unless fire protection roads are brought within reasonable striking distance of their boundaries. The real need for permanent primitive areas is not being neglected, nor is the protection of game and animal life.

Game and wild life fortunately are not long disturbed by roads. Game animals are coming back in the East in greater numbers than existed in the virgin forest days. Evidently protection and ample forage are more important to them than roadless solitude. Forest fire, on the other hand, is the arch enemy of wild life, as anyone who has followed in the track of a fire will agree. Though Pacific northwest forests have a comparatively enviable record in fire loss, the figures for the ten years up to 1933 show that this great destroyer of forests and forest denizens had devastated in Oregon and Washington an area equal to a small eastern state. What is the answer of the sportsman to this record? Can the northwest continue to see its forest land, the home of its wildlife, burned over at the rate of 400,000 to 500,000 acres a year?

The proposition finally is this, - born from the disheartening history of forest lands in the northwest and throughout the country: Shall we have protected forests with roads, or unprotected forests without roads? The lesson of the past is so plain that it cannot be missed. It is supported by thousands of cases which have been classified and become the scientific basis for policy and action. The protection of the forest demands speed in putting out fires and speed in these days of motor vehicles means roads. As the honest tree surgeon said to the patron whose favorite elm was being destroyed by decay, "This tree surgery will hurt the looks of your tree somewhat, but without it in a few years you will have no tree at all."