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IS BACK COUNTRY FIRE PROTECTION A
"PRACTICAL IMPOSSIBILITY"?

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This review takes sharp issue with the proposal (in "The Passing of the Lolo Trail") to "withdraw the entire fire protection organization" from an area of some 3,000 square miles in the lower value section of certain National Forests in Idaho. It pays tribute to the well selected, trained, equipped and organized fire control organization in the Northern Region, but holds that the primary cause for past failures to protect this country have been the lack of a satisfactory fire control policy; weaknesses in preparedness and in suppression techniques and practices; failure fully to recognize all the resource values and possible losses due to fires in this region. These values and possible losses are discussed and a counter-proposal is made which, it is held, will result in attaining real protection for this country at a reasonable and justifiable cost.

Appeals to the general public based on facts and sound arguments generally miss their mark unless supported by a strong emotional and sentimental pull. This, a matter of common knowledge, also applies to audiences composed of technicians and other professional men. "The Passing of the Lolo Trail" is, therefore, thoroughly up to date in its heart-rending appeal that all protection forces be withdrawn from an area of 3,000 square miles in certain National Forests in Idaho.

To suggest complete devastation of an area of this size, with its beautiful mountains and clear running streams, and at the same time make the audience weep in sympathy with the proposal, would seem to be an impossible undertaking. But Koch has done it, - most skillfully. His article is a masterpiece in this respect. There is, however, another side to the picture. So, despite the susceptibility of technical men to emotional appeal, a deliberate effort is made, here, to present that other side in a logical, factual way.

In making this presentation it is only fair to call attention to the fact that the author of "The Passing of the Lolo Trail" (what a heart-throb there is in this title!) is, with other ^{similar} "overhead" personnel in Region 1, rarely called to a fire until it has reached man-sized proportions. He is, therefore, "on the spot", immediately he gets on the job. And he is under conditions so trying that one can readily sympathize with the despairing cry that fire protection (in that particular country) "is a practical impossibility."

Intelligently to decide whether or not fire protection is impracticable requires, it seems to me, analysis of factors which have brought about the conflagrations which so many men have so often and so valiantly faced. For if past fire control policies and practices in this region are not, in every respect, true guides to such policies and measures as can and should be used, improvements are possible. And improvements, if possible, might conceivably dispel despair.

It is my conviction, - shared, I find, by others acquainted with the situation, - that past fire control policies and practices in the region under discussion are not, in several vital respects, as adequate as they can and should be. Specifically, I hold that:

1. Suppression techniques and practices were faulty at critical times in 1934, despite the fact that real progress has been made in the east.
2. Back-country fire control policy has been unsatisfactory for years; a fatal condition that could readily be corrected.
3. Resource values and possible losses due to fires in this region have not been fully recognized.
4. Costs of real protection in this country are justified by the true values.

Volumes, literally speaking, have already been written on each of these matters. And more volumes could be added. But consideration for fellow technicians, as well as lack of space, require at least some degree of brevity in the following discussion.

1. Suppression Practices

Koch speaks of having "as favorable a set-up for fire control facilities as the most fantastic conception of an organization could provide." Yet the records indicate many serious breaks on the large Selway fire of 1934 (which resulted, by the way, from the fusion of eight lightning fires). What were those breaks? Among others, - and without going into details, - an initial attack so sluggish that it required four or five hours in the "peak of the peak" of the fire season and in a locality where one hour for attack should be the maximum; poor predistribution of available man power; good intentioned, deliberate, but faulty non-manning of three sectors of the going fire. So that, even though the "set-up" was present, it did not function properly.

Four or five hour control for this country is admittedly and fantastically ridiculous. And regardless of expenditures for roads and other physical improvements, an army of man-power (more than 2,000 CCC's were readily available) must be futile in emergencies unless it is handled with a reasonable degree of skill. This, true in military engagements where brave but poorly organized mobs have been cut to pieces and routed time and again by much smaller but better handled troops, is equally true in fire control warfare with its parallel stages of prevention, preparedness and suppression.

Lest I be misunderstood, and readers of the "Journal" led to incorrect conclusions, let me say, here and now, that in few places in the country can there be found a better selected, trained, equipped and organized body of fire control men than are those now in the Northern Region. They surpass most groups in these respects. And they must,

because they have (in places) about the toughest conditions imaginable to deal with. And no matter how good the organization, an occasional "break" is inevitable, - in any organization. This is a recognized fact. Witness, for example, the Morro Castle catastrophe and the burning of the stockyards in the heart of Chicago. The fact remains, however, that the serious breaks of 1934 were not "occasional." A "6-2-2-1" defense would have held them.

Fortunately, "breaks" in Region 1 have decreased during the past few years until, in 1934, only 9% of its 1243 fires exceeded ten acres in size. And the acreage burned in this Region during the past five years has dropped, as compared with the record for the preceeding half decade, from .62% to .39% of the gross area within the National Forests. These, real signs that weak and inadequate action has been corrected in the past, augur well for the future.

Additional belief that adequate fire control is possible at a reasonable cost in this country is based on the fact that there is a clear Regional recognition that large fires are usually due to preventable weakness in organization, and that huge strides have been made along many fronts. Fire control has reason to be proud, for example, of its special pumps, radio, trenchers, etc; of wider and wider use of scientifically located fire breaks and detection improvements; of the development of better methods of determining and forecasting fire danger; of the more reliable gauges of the speed and strength of attack required for each situation. And even with these and other improvements, only the surface has been scratched. Who is there who believes we will be fighting fires with the mattock, axe and shovel forever?

2. Unsatisfactory Fire Control Policy.

I understand that years ago Region 5 (California) enunciated a policy under which fires which started on alternate (or railroad) sections were to be "let burn", at least until such time as they seriously threatened

values. I also understand that the policy was short-lived; far shorter, I believe, than that combined policy and objective - established for Northern Idaho - which is based on the intention of holding costs plus the more tangible, "losses" to a minimum.

This intention, however, laudable it may have been, has caused confusion and hesitation. It has amounted, in actual practice, to lack of a clear cut, readily understandable fire-control policy for the "back-country" under discussion. And this, despite the continuous study and earnest attempts at application which have been given to the matter. Imagine the effect on military field officers and troops under a similar handicap. Not being sure of their objective, a fatal hesitancy, a lowering of alertness, would be bound to result. This has been true, at times, with the fire control forces in this section. Which might be the reason there were twice as many extra period fires in this Region in 1934, as in any other National Forest Region.

Although intangible in character, this lack of adequate policy and objective is, perhaps, the major barrier to most effective fire control in this country. Certainly it has been so in other regions; most recently in Idaho south of the Salmon River, where heavy losses resulted from attempts to follow the same questionable policy now in effect in the northern part of the state. And as has been the case elsewhere, the change on the southern Idaho Forests to a positive policy which calls for prompt suppression of all fires, has been followed by a definite reduction (to the point of elimination,) in the number of fires that are controlled only by heavy rainfall.

3. Resource Values and Possible Losses

Would that I might capitalize, in good hard dollars and cents, the sentiment engendered by such expressions as "the Lolo Trail is no more" and "gone are the camps of fragrant memory." These phrases should be worth real money; the feeling they represent, - a feeling that is in the hearts of millions of men and women, - is worth real money. Unfortunately for the coldly calculating, careful, pragmatic forester, neither the phrases, the sentiments, nor images of fires sweeping uncontrolled through vast areas of quiet hillsides, shady canyons and limpid streams, have yet successfully been reduced to resource values expressed in dollars and cents.

In our attempts to be business analysts, we sometimes evaluate those resource values which call forth such sentiments at as much as 50 cents an acre. And then, in support of proposals of despair, we contrast fire expenditures on the Selway with Selway cash receipts of "only \$76,000!" If this is our attitude, how can we expect the field men, backbone of the fire control organization, to have that wide of real service which is essential if they are to put their hearts into their efforts? The fact that many field men do have this feeling, despite their leaders' attitudes, indicates, perhaps, an underlying belief on their part that there are values, - even though not yet expressed as high, dollars and cents figures, - which are worth protecting.

I firmly believe that returns in dollars and cents to the Federal treasury via grazing and timber sales are not the only returns to be derived from publicly owned lands, despite the fact that we have, in the past, stuck to tangible, Federal treasury dollars and cents figures

in our attempt to lay down a fire control policy based on a theory that does not take all values into consideration.

Suppose there really were^a huge "No Man's Land," a "Big Black Burn" within which it was known that the Forest Service was deliberately doing nothing in the way of protection. Would there not be a regiment of complaints, some based on fact, some imaginary, for permitting such a sore spot to exist? Would fishermen and hunters, - few now, perhaps, but more later, - be complaisant? Or might they be positive that fishing and hunting were not what they had been in the good old days? Might they, perhaps, conceive the idea that this back country ought to be developed as a wild life reservoir, to feed deer and elk to what is now more accessible and more intensively used country? And can it be so developed, if fires are allowed to run rampant?

Is free reign to be given to carelessness and wilfulness with cigarettes, pipes and campfires by hunters, fishermen, campers and grazing permittees who enter this area? Why not, if we are not concerned with fire therein? What understandable basis would we have for any other policy within the area? And would such a condition assist, or would it hinder, our 30 year struggle against carelessness and incendiarism in National Forest areas some of which are separated from this "low value" area by a purely imaginary line?

Would those who hear about it, or visitors who might get no more than a long distance view of part of this area, recommend that a bureau with such evident lack of vision be given added appropriations? Or would they cry out at the shame and disgrace of it, and recommend a much needed smack; reductions; a new head; a new fire-department; a transfer?

Values of such things as these may be intangible, but the things themselves - or their effects on a region, or a city - are tangible enough. If we - or someone smarter than we - placed plausible dollars and cents values on such things, hope might, perhaps, replace hopeless despair in our consideration of a fire control policy for "back" country.

Travel by air is increasing. Indications are that it will be the common, rather than the uncommon, mode of travel in the future. What if the air is full of smoke? Region 5 kicks, now, at smoke from partially controlled fires in the Piedmont. That smoke, they say, reduces the income from tourists (and they prove it, in big figures, by impressive surveys) and puts their lookouts out of business. And the Solway fires, in 1934, put planes (transporting fire fighters) out of business in Region 1.

In addition, fire control men recognize another, and a most dangerous, condition chargeable against this factor. It is the lowering of visibility, often to such an extent that fire detection systems are seriously impaired and not infrequently put entirely out of commission. Those who were in the West in 1910, 1919, 1926, 1937 and 1938, when the great Tillamook fire occurred, will recall that detection systems were made useless or their effectiveness greatly lowered, not only in the regions immediately adjacent to the fires, but in sections of the country hundreds of miles away. Smoke from fires in Idaho obscured the Colorado Rockies during these years. Under such conditions, fires in the nearby high value country and in Oregon, Washington, California and elsewhere, - fires which ordinarily would be discovered while small and consequently held to insignificant size, - may be expected to become unmanageable. There is nothing more useless than blinded lookouts and grounded planes. As for the timber (and other) values lost at these distant points, should they not also be charged against fires in the back country areas? And if so, does not this factor, alone, call for serious efforts to avoid long burning, vast conflagrations? Have such values as these been weighed in the balance by the "let-burners"?

It goes without saying that the values and influences of forested lands are dependent to a great extent on the size and location of the areas involved. The burning of a small area in the back country would do relatively little harm. To be sure, Koch is not advocating withdrawing protection from all low value lands. "It is conceded," he says, "that it is a misfortune whenever fire sweeps any forested area - and it is difficult to measure that damage in dollars & cents." However, his proposal would directly affect "three thousand square miles"; an area one-third larger than the land surface of the State of Delaware. Others would as earnestly place seven thousand to ten thousand square miles or more, - from the Sawtooth mountains and the Salmon river to the

Flathead, Blackfeet and Yak country in the northern part of Region 1, - in the same classification.

It is agreed that much of the timber in the section within which Koch and others would maintain devastation on a large scale because \$75,000 does not pay all the costs, is small, scattered and relatively inaccessible. Yet what forester of experience does not recall that the inaccessibility rating of yesterday was too often made without weighing carefully the possibilities and developments of tomorrow? And how many times have we heard the statement, - "There is plenty of timber elsewhere; values here are low; protection and other carrying charges are high"? How many scenes of devastation, - "justified" by this argument, - are foresters now busily repairing? And what affect might serious depletion of forest cover on even three thousand square miles of this country have on other values which can not readily be measured? Values such as water supply, siltage, uncontrolled floods, and climate; intangible values in the areas immediately affected and in adjacent territory including the drainages of the Missouri, the Snake, and of Pacific coast streams?

Both the ~~so-called~~ "Copeland Report" of the Forest Service (1933), and the 1934 report of the President's Water Resources Board, point out the high watershed value existing in the Northern Rocky Mountains. Both stress the need for better fire control because of damage done by forest fires to stream behavior, water supply, and erosion. Koch apparently disregards such a need, but should any forester whose organization is founded on the premise of watershed protection fail to take them into account?

Is history to repeat itself to the shame of the profession? For years, many people in the Northwest laughed at those visionaries, there and elsewhere, who proclaimed the existence of overgrazing and who insisted that overgrazing was a primary cause of floods and erosion. Today, with the Roosevelt Reservoirs filled with silt, foresters are frantically endeavoring to repair the damage. Efforts of many agencies and thousands of dollars are now being expended in corrective measures because the real cure of a few decades ago - the removal of excess numbers of stock - was not taken at that time because of powerfully adverse pressures involving the loss of a cash income of, shall we say, \$76,000?

Two years ago a party of high ranking foresters visited the area it is now proposed to burn. There were some in the group who jeered the visionary idea that protection to the mountains was necessary because of the probability that some big reservoirs would some day be erected in the Northwest, yet dams are today under construction at Grand Coulee and at Bonneville! Are foresters now proposing to help fill these public works with silt because receipts are only \$76,000? Are we our brother's keeper? Will not the foresters of a decade hence look back upon the present-day group and accuse it of destroying the treasure entrusted to foresters to preserve?

Furthermore, dare any forester soundly bring forth the idea of devastating an area as large as Delaware or New Jersey without considering what would be the effect upon the climate? None of us who have stood in the middle of a large barn would doubt but that the climate of the locality has been rendered less salubrious. It is hotter; it is drier. The citing

of actual records is unnecessary, but they are all alike in showing that a forest reduced the extremes of temperature and evaporation, and increases humidity. How far will this influence extend? Will the contemplated devastation have a corresponding effect in the region lying to the westward? No one knows, but it is safe to say that those residents of the Northern Plains region who have suffered from the recent great drought will not look with complacency upon a deliberate effort to maintain denudation on a scale which has in it the possibility of making life more difficult than it is, today.

4. Protection Costs.

In considering costs in relation to the proposal to segregate areas in which fires will be allowed to run unhampered, it should be borne in mind that

(a) Expenditures listed by Koch are open to question.

They are the total costs for the entire Selway National Forest, only a part of which is within the low value zone. Moreover, expenditures per acre for roads and other improvements are much higher, in the zone where timber values are high, than they are in the "wilderness" portion where such improvements are comparatively few. And during the last decade (prior to the fiscal year 1935) approximately 50% of the total expenditures have been for improvements. As such, these improvements are water over the dam. No part of the initial costs can now be saved.

- It should be remembered that "let-burners" would continue to maintain existing roads and major trails and would also continue an organization "to protect the game and direct recreational use." To any forest administrator acquainted with this proposed type of fire control, the 15¢ per acre which Koch feels could be made available for other purposes is obviously unreasonable. Where "controlled burning" has been tried in other regions, its cost has exceeded protection costs.
- (b) A large portion of the "wilderness" does not possess a high fire hazard. Indeed, much of it is below the average degree of fire danger of many western types. Clumps of lodgepole or other species, with open spaces between them, are not uncommon. Protection in these sites is not particularly difficult.
- (c) The areas of high fire danger are almost entirely outside the back country. And it is in high danger areas that, despite more intensive protection there, many of the worst "back woods" fires have started. Tighten up on control in these high value areas and the cost of back country protection, even on the basis of continued drought conditions, will drop far below the figure which Koch believes is justifiable. And with a return of a wet phase (predicted by meteorologists) fire will, of course, be easier to handle and costs will be correspondingly reduced.

(a) Natural barriers to control such fires are practically non-existent. This has been demonstrated time and time again. For example, Howard Flint while on air patrol has noted - a thousand feet and more in the air - embers of flaming cedar bark two or three feet in length floating to unknown destinations. And local forest officers have repeatedly recorded spot fires five miles or more away from the original fire. The point to this is, of course, that fires can not be permitted to run as the "let-burners" propose, with the expectation that they can be held to any definitely segregated area. A fire utterly out of control cannot be stopped at a line between high and low values. It must be controlled while small regardless of location, otherwise, clearly tangible high values will also be destroyed.

A Suppression Policy

The principle that protection costs should bear a reasonable relation to values, - long recognized, - is sound and logical. It should be, now, as it has in the past, the cornerstone of our fire suppression policy. But if that suppression policy is to be equally sound, it must give due weight to all values, tangible and intangible, direct and indirect, human as well as material, potential as well as immediate; must embrace the long-time, national viewpoint as well as the short-time, local one; must set up minimum protection standards which, even for minimum values, are high enough to prevent devastation.

Past experiences in the back country - on the Selway in 1934, elsewhere and in other years in many Regions including Region 1 - indicate that recognition must (unless we are truly blind) be given to this fact that no protection, - which is what "herding" really means, - is in too many cases more costly than real protection. It follows, then, that even from the standpoint of costs alone, positive protection must be given in some degree to even the lowest of National Forest values if they (and adjacent higher values) are to be saved from destruction.

To the adventurous, there is a real lure in Koch's statement that his proposal is a "radical" one. To be effective, a counter proposal should perhaps be equally radical. Following this thought there might be suggested a policy based on the objective of "keeping every acre green." This proposal has been made many times, despite the fact that it unquestionably involves enormous costs if it is to be translated into unvarying back-country action.

It is not advanced, here, because unvarying action is neither advisable or necessary if a minimum be set up and due weight given to all values. Under such conditions the approved principle that protection costs should vary with values can be applied, both to front and back country, with the certainty that adequate protection, rather than destruction, will result. Application of this principle may mean, for example, that in forests of highest value, whether tangible or intangible, advance preparations may include heavy expenditures for firebreaks subdividing the country into small blocks; and that each fire will be fought by "direct" attack (at the fire edge) and held to the smallest possible size.

In lowest value country, on the other hand, there may be a complete absence of such expensive improvements as fire breaks, and fire fighters may take advantage of the easiest nearby terrain from which to make their attack even though this may mean backfiring and the resulting deliberate burning out and sacrificing of relatively wide strips between the fire edge and the backfire line.

But in either case, facilities for, and execution of, prompt and decisive action is mandatory; in neither case should the disastrous "herding" or "let burn" policy be countenanced.