



# Service Bulletin

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## DEATH OF MR. SUDWORTH

It is with profound regret that we announce the death of Mr. Sudworth, on Tuesday, May 10, at his home in Chevy Chase after a very brief illness.

Mr. Sudworth had a continuous connection of nearly 41 years with the Forest Service and its predecessors, the old Division of Forestry and Bureau of Forestry, having received his appointment on August 31, 1886. He was not only by far the oldest member of the Forest Service in point of service, but was dean of the forestry profession in the United States.

As Chief Dendrologist of the Forest Service, Mr. Sudworth had achieved wide distinction. A fuller account of his work and life is appearing in the OFFICIAL RECORD, which reaches all the field force; but the following letter records more intimately the great sorrow his death has wrought upon his fellow-workers.

My dear Mrs. Sudworth:

The whole Forest Service, from youngest to oldest, has but one thought to-day. Mr. Sudworth's death takes from our midst one of our best loved and most revered members--our dean in years of service, our most eminent figure in scientific accomplishment, our veteran comrade and associate, our long-time friend. In this hour of loss and sorrow our

first sympathy is necessarily for you.

Though he began his labor here so long ago that none of us have served an equal time, and had given all his working life to our public undertaking, he is prematurely removed from our number and fellowship; for his usefulness and powers were still at their height. We shall miss him more than any words of mine can adequately tell you; and his passing means a loss to science as well as to the cause of forestry, which will be felt far beyond the circle of those immediately associated with him. If it carries any comfort in the midst of your overwhelming personal bereavement, you may justly feel pride, even in your sorrow, that his fruitful life won so well-earned permanent recognition, and that his memory will endure, not only in our hearts for what he was, but in the world for what he did. That pride we share with you.

I ask that you permit me to extend to you, on behalf of all in the Forest Service our respectful and profound sympathy.

Faithfully yours,

E. A. SHERMAN

CLOSET NATURALISTS

By Elers Koch - D-1

Munn's article, "Trailing the Enemy," in the April 25 issue of the Service Bulletin



brings to my mind Theodore Roosevelt's outburst against "closet naturalists," who derive all their information about natural facts from the study of dried skins and bones and dead specimens brought in to their laboratory from the great outdoors.

We all know that laboratory work in biology is necessary in order to meet one phase of the study of nature, but the really great naturalists who are responsible for most of our knowledge have all gone to the field for their observations, and left the necessary dissection of carcasses largely to lesser men.

A proper recording of important facts and analyses of such written records is a part - probably a considerable part - of the job of fire control. But the assumption that the drawing of graphs and the tabulation of figures is a major solution of the fire problem is surely a glorification of the "closet naturalist's" point of view.

There is no other branch of forest work for which we have as detailed reports or as complete statistics as we have for forest fires. While possibly something further might be done with fire statistics, their compilation has by no means been haphazard or partial. Most of the juice has been sucked out of them.

The fundamental error in Munn's conception lies in this quotation:

"Is it not time, instead of theorizing as to the effect of various factors, and guessing at what happens under a given set of conditions based upon partial facts, that we KNOW? And where can better information on such points be found than in the many and rapidly accumulating individual fire reports? """""

As a matter of fact, any one who has had much fire experience should know that reports can give only a fraction of the real facts, and frequently omit the most essential things which would show up to a man on the ground. Most of the mistakes made, and inefficiencies which occur, do not appear in the reports at all. It is not every man who is willing to write his mistakes into the record, and often the man writing the report does not recognize his own failures.

The real solution to the fire problem rests right in the men on the ground. A strong, well-trained personnel, from smoke chaser to Supervisor, is the real answer, and the building up of this personnel is the main job rather than the building up of a web of statistics. July and August are far better months in which to acquire information on forest fires, and the means of controlling them, than December and January.

I doubt if it is sufficiently recognized in the Service what a tremendously important element the personal factor is in fire control. The record may show prompt discovery, start and arrival at a fire, but who knows whether the fact that a fire got beyond the control of the smoke chaser was an unpreventable act of God, or whether it was because the smoke chaser did not have all the tricks of the trade in checking and holding a spreading fire till he could get a safe line around it, or lacked the physical and mental stamina to stay with a man-killing job. We are too apt to reckon our strength statistically on the assumption that a smoke chaser is a smoke chaser, a foreman a foreman, and a ranger a ranger. Some rangers are three men and some less than half a man.

The main point I want to make is that the statistical, and even the whole investigative phase of fire control, is only a contributory factor, -important, to be sure, but far less important than the selection, development, and training of the force of men who organize and execute the prevention, discovery, and putting out of fires.

#### SOME FIRST EDITIONS

By Will C. Barnes, Washington.

We are in the habit nowadays of imagining that the most of the problems we are facing are brand new and that we are the real discoverers. A little delving, however, into past history will nearly always convince us to the contrary. Take for instance, the question of eradicating the Barberry bush. As early as 1726 the selectmen of the



province of Connecticut passed a law as follows:

"Whereas the abounding of Barberry bushes is thought to be very hurtful it being by plentiful experience found that where they are in large quantities they do occasion or at least increase the blast on all sorts of English grain."

Barberry eradication therefore is almost two centuries old in this country.

We fondly imagine that the branding of livestock belongs exclusively in the Western range States, and that it originated there. As a matter of fact the Council of New Plymouth, Massachusetts, on November 15, 1636, passed the following order:

"That every man's marke of his cattell be brought to the towne booke where he lives and that no man give the same but shall alter any other bought by him and put his own upon them."

Also in 1662 they had a law to punish stock thieves in Maryland.

Hog stealers in that colony were to be branded on the shoulder with a "red hotte iron", the irons being provided in every county court and "used by the direction of the court."

There existed much the same order for the branding of horses in all of the early colonies, Georgia, the Carolinas, Pennsylvania, New York, Maryland, and Virginia, being especially strict in the enforcement of the branding and marking laws. Beverley's History of Virginia, published in London in 1705, makes the following rather interesting statement regarding wild horses at that date:

"There is another kind of sport, and that is the hunting of wild horses. You must know they have many horses foaled in the woods that never were in hand and are as shy as any savage creature. These having no mark upon them belong to him who first takes them. The captor commonly purchases these horses very dear by spoiling better in the pursuit. All he has for his pains is the pleasure of the chase for the horses are so swift that tis difficult to catch them \*\*\* when they are taken tis odds but their grease is melted or else being so old they cant be tamed."

We used to talk about "running a horse till he melted his taller" but the expression seems to be ages old.

Roberts of the Sitgreaves has been looking up the question of broom tails, willow tails, "dilseys" etc. as applied to wild horses. He might discover some early information in this volume which is not generally known.

There are references both to wild horses and wild cattle in Beverley's and other histories of the early Colonial days showing that they ran sometimes in bands of three or four hundred; one reference to a thousand wild cattle on a certain range in South Carolina being well substantiated.

In 1661 in Maryland there existed many herds of half wild unmarked and unbranded cattle running in the woods. A law was passed by the Governors of the colony granting permission to any one to hunt and kill them on shares "the profits to be divided equally between the Lord proprietor and the hunter". (Carrier Beginning of Agriculture in the U. S.) Eventually they had to repeal this law because the hunters became careless and failed to distinguish between unbranded and branded animals. They were after meat regardless of ownership. This very thing happened in Nevada in connection with killing wild horses within the last fifteen years. One can easily realize how "history repeats itself."

#### FIRE CONFERENCE AT MISSOULA

The following report of the fire conference at Missoula is given by Mr. Rutledge:

"Every angle of fire control was discussed. The following points appeared to be the high spots which might be of value for consideration:

"The significant thing that stood out was that 14 per cent of the fires which were beyond a Class A size reached these proportions because of some failure in the organization. This emphasizes the importance of human action in our fire organization. Among the failures noted for fires reaching large proportions, are the following: In one in-



stance, the truck which was to carry the men and outfits was not in condition to go. In another instance, a Ranger having 10 men at his station, upon receiving the report of a fire sent one man to it, this man probably being the least qualified of the number available. The other 9 men were at the station and on pay at the time. Because of the failure to send enough men and act quickly, this fire reached large proportions and cost many thousands of dollars to extinguish. Apparently a large number of fires reached large proportions after having been placed under control, as the men in charge thought. The fact of the matter is that the fires were not out when they were thought to be. On some Forests there seemed to be too long a time between the starting of the fire and the arrival of men on the line. On one Forest this average elapsed time was given as 11 hours. In several instances, the search for fires after lightning storms was difficult and fires got a good start before being found, due to unfamiliarity of the smokechasers with their territory.

"Another frequent cause for fires gaining large proportions after once being under control was the failure to mop up thoroughly, the leaving of burning snags within or near the fire line, the failure to have a clean trench, and the failure to promptly burn out the small points within the fire line, all of which came in for a lot of criticism.

"There seemed to be a very strong question whether night detection, night dispatch and night travel and work were being followed up to the fullest extent. All of these points might have been raised in this District at various times, and the fact that failures of this kind contributed to the District 1 trouble emphasizes the necessity for the greatest effort to organize so that this class of failures will not occur.

"The discussion of this kind of failures, brought very prominently before the conference the question of rules or codes versus the leaving of things to the judgment of the men on the ground. The argument on this point sometimes became very warm.

I believe it was the general impression that rules and codes should be formulated and enforced to the limit. It seemed to be the opinion of the meeting that a rule should be formulated requiring that equipment be in absolutely good shape and ready to go at an instant's notice, and when formulated it should be strictly applied. In one instance a trail foreman used fuse in blasting during a very dangerous season and started a number of fires which cost a lot of money. It would appear that in this case, a rule against blasting with fuse should be formulated and strict disciplinary action applied if the rule is violated. It also appeared to be the opinion of the meeting that rules on mopping up should be thoroughly understood and applied without flexibility.

"The above are simply given as examples of the discussion on this point and what appeared to me to be the general opinion.

"It is apparent that thorough training and continued drill is one of the best ways to prevent failures in the organization. District 1 has been doing, or intends to carry out an intensive training program, among which are the following steps:

"Training one or more men in each trail or road crew for emergency smokechaser work, who can immediately take their position in the organization when emergencies arise. District 1 has been carrying on quite an intensive system of training of guards and smokechasers. They plan on seeing that each guard and smokechaser is personally conducted over his territory by a District Ranger, if this is at all possible. They suggest during seasons of less than emergency conditions that guards be sent back to their fires after a day or two in order that they may ascertain the action of the fire and the result of their work and detect any weaknesses. They propose to reach a point where every Forest will take the initiative and hold their own fire meetings each winter, at which an analysis of most of the fires for the past season will be made for instructional purposes. In this analysis, it is the intention, of course, to bring out good practices as well as bad. They are taking every measure to impress the



smokechaser with his importance at critical times in getting to the fires and putting them out while small.

"Another point which came in for a great deal of discussion was the question of the thoroughness of inspection by Supervisors and Rangers. The discussion left a doubt in my mind whether these inspections are being made with the thoroughness desirable and whether after things are found wrong they are immediately corrected. District 1 proposes to give the Supervisors, Rangers, and other members of the Forest overhead force thorough training in the field in handling fires.

"There was a strong argument on the part of a number of District 1 men for a larger yearlong force, the feeling being that they were not getting results from so many temporary men and that the yearlong force was not now sufficient to train and direct the temporary force being used.

"Incidentally District 1 worked last season something like 120 students. These students came from nearly every forest school in the United States. An analysis indicated that while the men from Idaho and Montana possibly did a little better work generally, the proportion of failures and successes among the eastern and western schools were not really distinguishable." - From D-4 Daily News.

#### COLONEL GREELEY MADE DOCTOR OF LAWS

A press dispatch from Berkeley, California, dated May 11 announces that Colonel Greeley received the honorary degree of Doctor of Laws "in recognition of outstanding work in behalf of humanity," at the sixty-fourth commencement of the University of California.

#### NOT WITHOUT HONOR

People who have ignorantly or maliciously or jealously scoffed at the timber resources of the Manzano Forest would do well to read an article entitled "Mammoth Lumber

Fields" in the May number of the English "Windsor Magazine," where in the second paragraph it is stated unequivocally and without reservation that "amongst the foremost forests of the United States is the Manzano National Forest." This authoritative pronouncement uttered with the characteristic conservatism of the English should still the dangerous jibes that have been known to be surreptitiously bandied about at Supervisors' meetings, and particularly at the annual meetings of the Scientific Society of District 3, which can now be restored to its original function of diffusing wisdom and the love of wisdom among foresters. Ex-Manzanito.

#### THE CRATERVILLE PARK COVENANT

By J. H. Hatton, D. 2

Unique in the local history of southwestern Oklahoma is the Craterville Park Covenant entered into by Frank Rush, former Supervisor of the Wichita, and the Indians of Comanche County on the 25th of May, 1924. The covenant is attractively printed on soft deer skin and great ink thumb marks stand for the signatures of three Indians opposite the signature of Frank Rush. It is worthy of a photograph for permanent record. There is no doubt that it is resulting in wholesale uplift among the Indians in that locality and it serves to illustrate the generous public spirit so characteristic of Mr. Rush.

"This covenant made and entered into by Frank Rush of Craterville Park, Comanche County, Oklahoma, party of the first part and the Indians whose names are hereto subscribed, parties of the second part. Witnesseth: Whereas, it has become necessary for the American Indians to take steps for the advancement and uplift of their people, and especially to teach their children the value of building character and becoming self-supporting, this covenant is entered into as a means toward that end. Therefore, the parties



hereto covenant and agree among themselves as follows:

There shall be held annually at Craterville Park an agricultural Indian Fair.

The object of this fair will be to create self confidence and to encourage leadership by the Indian for his people, a belief in the capacity of the Indian to better his position and to take his place on terms of equality with other races in the competitive pursuits of everyday life, and a desire to accomplish the most possible for himself and his people.

All Officers, Directors, Judges and Exhibitors at the aforesaid fair must be Indians and all said officers, directors, and judges must be elected by the Indians themselves.

In testimony whereof we have hereunto set our hands this 25th day of May, 1924."

#### WHY COW MONTHS?

By A. H. Abbott, Helena

In reference to Sandvig's article in Service Bulletin of April 25, there are several disadvantages in issuing permits calling for cow months. First, the difficulty of correct utilization. For example, if we have a range which will carry 500 cattle for a six-months' period, May 1 to October 31, and issue permits on the basis of a cow month, what is to prevent all of the grazing being concentrated on the first three months of the season? This would mean that a larger portion of the grazing would be done before the forage has fully developed than under the present system. Most of us recognize the fact that spring grazing, particularly early spring grazing, is the greatest factor that tends to injure National Forest range. A good many of us feel that one month of early spring grazing is fully as detrimental to a range as two months of grazing late in the season.

Second, under our present system we have a very much better and cheaper system of control than one would have under the cow-months' system. Just figure the additional

costs for salt plan adjustment, as well as distribution of stock on the range.

Third, we have to consider the satisfaction to the permittees. Certainly, most of the permittees, would kick if a few men tried to turn out on the cow months' system early in the spring and thus take the cream of the grazing. Spring range is at a premium anyhow, and usually arrangements can readily be made for stubble fields and the like for late summer and fall grazing.

If John Hereford ships his beef in September and he has extra stock, there is certainly nothing to prevent his putting on other stock to take their place, providing he has taken the matter up with the ranger beforehand.

Could not the beef steer permits be handled by having special periods to cover such cases as Sandvig has mentioned?

#### FILES ON PARADE

Mrs. Chipley, in charge of the District Office Files, left her museum of designations during American Forest Week and took the stump in Pueblo for an intensive campaign in the public schools.

During the five school days of the week, she made 20 talks which, together with 4 other talks made in Denver and Georgetown the last of the week before, reached a total of 6,460 pupils, all of whom it is safe to say know more about the importance of forests and conservation than they did before they heard Mrs. Chipley's interesting and instructive story.

The Pueblo Chieftain refers to "Mrs. Margaret Chipley of the Denver Forest Service office who is making such a hit with the Pueblo school children." By virtue of her activity, the same newspaper gives us credit for public spirited interest as follows: "The Government Forest Service is taking an active part in the local observation of Forest Week. -District 2.



## FROM THE FOOT OF THE CLASS

By Robt. W. Putnam, Fremont

A solution of the problem set by Mr. Koch in the December 27, 1926, Service Bulletin would lift a heavy burden from the shoulders of Management, wherever it has to deal with mixed stands of desirables with inferiors, where the inferiors tend to be highly defective and where, worse yet, the inferiors form the climax type. The temptation, of course, is to try to favor the more desirable species at the expense of the in-

feriors are felled and burned up, the area is put into productive shape but all the usable wood contained in these defectives is lost to commerce. Roughly, the problem is to choose between these two admittedly evil courses.

In Bulletin 722, "A Study of Heart Rot in Western Hemlock," by Weir, are some interesting figures anent depreciation rates in hemlock in what I take to be a type similar to this one on the Cabinet. On page 22 is a table which states the volumes in cubic feet of trees, and rot for trees 161-200 years old, and for trees 201 years and older. The table is as appended, for what Weir calls slope type:

Classes	No. of Trees	D.B.H. (inches)	Height (feet)	Volume cu. ft.		Rot Percentage		
				total	of rot	For class	For stand	
							Total	Infected trees
41-100 years	15	8.4	62.6	19.8	.62	3.1		
101-160 years	18	13.6	88.9	52.6	13.20	25.1		
161-200 years	23	17.5	160.0	107.6	33.50	31.1	30.8	90.1
201-yrs. & over	25	21.5	117.0	175.5	59.40	33.8		

feriors, but with markets as they are even such trials are often impossible and what is actually accomplished is exactly the reverse of what is hoped for, i. e. the inferiors are favored.

With possible practices, forcibly limited by economic conditions, the handling of these forests boils down apparently to a selection between one of two evils; (1) either we cut the inferiors and lose money or materials, or (2) we leave them standing and lose growth.

The economic conditions cannot be altered, or at least not quickly, and meantime the demand for superiors goes merrily on, and the problem applies to larger and ever larger areas. A reasonable solution for it would be, one supposes, very welcome.

If, in this case, the hemlock and fir are left on the ground and the pine taken, the area is left safe but non-productive. If

Mr. Koch's Cabinet stand is 25.4 defective (in scaled logs), but I take for granted that some defective trees were left in the woods and that because of this the stand defect is higher than that in the logs taken out. I am going to do a large amount of taking for granted here anyhow. Probably the Cabinet hemlock is as bad as that at Priest River.

If the third class is taken to be 160 years old and the fourth 200 years old, growth from one class to the other has gone on at about one half of one per cent. Mean annual growth was 1.7 cubic feet per year or 25% of the growth. Meantime the rate of decay is on the increase and the rate of growth is on the decline, and so much so indeed that perhaps a guess that decay surpasses growth shortly after 200 years is not so far off. At 300-350 years it seems likely that decay will annually



make an appreciable encroachment on the volume of the stand and rot will, according to the tables, amount to at least a third. And a third defect means that much less than two thirds is usable. Supposing that some day hemlock will show a plus stumpage value and that this day is thirty years away, and that in the present 300-350 year stand rot amounts to about 1% annually (simple interest), stumpage will have to be enough to take care of increased logging costs (due to defect) of roughly a third, and if they are, a third of the present merchantable volume is lost anyhow. Personally, I don't think 30 years will bring any such stumpage price for hemlock, or for some of the other inferiors, barring acts of God or good advertising, but if they do the dubious salvage then of two-thirds of the present merchantable stand is a poor thing to set against the certain loss of growth and one-third of the stand we now have. The growth up to 200 years, according to Weir, seems to be pretty good, about one-half cubic foot per tree per year, but above 160 years the rot increases rapidly. Maybe this rot can be very materially reduced in the next crop, by destroying the present rotten hemlock, i.e. reducing the size of the source of infection. It occurs to me that some such measure of forest sanitation would be a genuinely constructive piece of business and one which in dealing with defective stands is not properly to be ignored.

I have not, I confess, any great confidence in the guesses I have here made; I would not be willing to run any woods I owned myself on any such "maybe so" data. But I do think that in some such information is the best means of managing some of these pestilent mixed stands. Management itself, unaided, is helpless. There is, for one thing, too much confliction of what is no more than opinion, for while one man is a fiend for putting an area to growing, another is all for conserving what is there already. Between these two courses where they collide either there is no choice or one is preferable. Comparative figures on depreciation, growth, or yields are all that will determine which is preferable and which, hence, best to

follow:

As regards one operator's intensive selling campaign, I doubt its efficacy unless that operator has unlimited means. But for all that, if the Douglas fir gang can see profits in advertising their product it might be that markets for Idaho hemlock and white fir and for Blue Mountain Douglas fir, larch and white fir, could be brooded and hatched if it were tried. Public Relations, by acquainting the public with the merits and uses of these little known species, can help Management considerably. I notice in the Post-office a placard by the U.S.D.A. exhorting us to eat meat. How about one there lauding hemlock and white fir for building chicken coops, or whatever else it may be good for? "Fire-consciousness" is all right; how about "wood-consciousness", the knowledge that little-used species will do well enough and be cheaper for various uses?

Products, in their studies of little-used species, by finding uses and handling methods for hemlock and white fir, can make available to Public Relations and to lumbermen a body of definite and concrete facts with which to create a receptive market for so-called inferiors.

It is undoubtedly a case where specialists outside of Management need lay the ground-work for the proper management solution. We don't build houses by beginning with the roof, and we can't solve the problem of "inferiors" by our present methods.

The Forester's Office is in receipt of a great many letters from different sections of the country, including Portland, Oregon, commending Colonel Greeley for his decision in which he declined to give his approval to the construction of a cableway to the summit of Mt. Hood. The only note of disapproval comes from some business organizations at Portland and Hood River, Oregon. Several prominent citizens of those sections, on the other hand, have expressed themselves as strongly approving the position taken by the Forester. C.H.S.