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5200

June 17, 1968

68-TM-45

TO : Forest Supervisors
FROM : Floyd Iverson, Regional Forester
SUBJECT: Forest Insect and Disease Control

Ref.: 5280
10/6/67

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The continuing mountain pine beetle infestation in the Region's lodgepole pine stands is and has been a serious concern of all of us responsible for the protection, management, and utilization of this timber type.

Enclosed are copies of a position statement we have prepared pertaining to these activities. It represents a broad analysis of the problem, the management alternatives involved, and how we feel we can best meet the management objectives.

We encourage you and all of your permanent professional personnel to study this position statement in some detail. We hope you will follow up with discussions with your staff and Rangers to assure that there is uniform understanding. Although the statement itself is "FOR OFFICIAL USE ONLY," it is certain that many Forest Service people throughout the Region will have need to explain our position to the timber industry, our cooperators, and the general public. The concepts, philosophy, and proposed action in the statement can be used for such purposes, either in written or oral communications.

In your study and review of this statement, it is important that you recognize the variability of our proposed action programs. Although the infestation has much similarity over the entire area covered, action to solve these problems must be tailored to fit the set of circumstances existing for each particular area. Thus; for example, the planned action on the Teton is quite different from that on the Targhee.

We are considering the desirability of preparing a brief of this statement for public release. Any comments you may have regarding this will be helpful if received by July 1. Any questions about the analysis and position statement or comments about preparing a release for the general public should be directed to Mr. Galbraith in the Division of Timber Management.

cc: District Rangers
Regions 1-10
W.O. (2)
Directors, INT and RM
D
I&E

Floyd Iverson

April 29, 1968

AN ANALYSIS AND POSITION STATEMENT
ON
LODGEPOLE PINE INSECT CONTROL AND TIMBER HARVEST

INTERMOUNTAIN REGION

FOR OFFICIAL USE ONLY

The mountain pine beetle is currently the most destructive forest insect in the Intermountain Region. Infestations have destroyed much of the mature and over-mature lodgepole pine sawtimber in some stands of southern Idaho, western Wyoming, and northern Utah.

The current infestations have been at epidemic stage on the Targhee and Teton National Forests for several years. While the beetle populations on the Teton are now on the decline, infestations on the Bridger have reached the epidemic stage.

Conservative estimates indicate a kill of about 300 million board feet of timber on these three Forests during 1965--the peak infestation year to date--with subsequent annual kills of 200 million board feet or more. Other significant losses directly attributable to beetle infestations include the serious adverse impacts on improved campgrounds, organization and resort sites, and other high-value recreation areas, both developed and undeveloped. Public use and enjoyment of such areas relate strongly to natural beauty and esthetic values inherent in the attractive forest setting which healthy stands provide. Big-game and livestock range management problems will eventually be increased by the tangled deadfall of killed trees. Big-game movement and hunter access thus will become more restricted, with resultant impacts on the animals' habitat and on hunting success. Similar restriction of the movement of domestic livestock will reduce range capacity and make herding much harder. Wildfires will be much more difficult to control and mopup due to insect-killed snags and down-timber areas. All in all, the effects of the beetle on the environment and associated uses and activities have been and will continue to be quite significant.

The Region has long been engaged in an aggressive direct control attack on this mountain pine beetle epidemic. Our large-scale direct control efforts have been effective, in extensive areas, in retarding and reducing timber losses and in gaining us some time to develop and institute other control methods. In some cases, as on the Wasatch National Forest, the epidemic has subsided for the time being.

Our large direct control programs against this current epidemic began on the Teton and Targhee National Forests in 1956 and 1959, respectively. Since that time, more than 3,250,000 infested trees have been treated there. Intensification of the infestation has been definitely retarded in some areas as a result of this treatment. In other areas, the results of treatment have been less pronounced. Just how much success can be attributed to the effects of our treating is something we cannot measure precisely. However, after comparing the progress and results of epidemics in treated and untreated areas, we are convinced that untreated areas generally have more spectacular losses over a much shorter period of time. Some treated areas may eventually suffer nearly the same losses, however.

Unfortunately, neither the complete degree of treatment nor the precise timing of treatment necessary for greatest effectiveness has been possible over the full extent of the infestation. For example, until quite recently, we were not authorized to use appropriated funds to treat infestations on private lands adjacent to the Targhee National Forest. By the time we finally were permitted to treat these private lands, tremendous populations had built up and moved out to cause serious epidemics on National Forest lands. In some such areas and in others, epidemic conditions have reached such high intensities that direct control has become impractical. These stands serve as a serious source of infestation of adjacent areas.

Since epidemic outbreaks are cyclic, our objective has been and is to retard the infestations by direct control and to work toward reducing the susceptibility to attack, by having a substantial part of our mature and overmature stands harvested and in a vigorous growing condition before the next large outbreak. We have recognized that, in the long run, treating is at best a delaying action--sometimes an expensive delaying action--which in some areas may be effective for a relatively short period of time. Our expenditures for direct control have not been justified solely on the basis of the reduced and delayed loss of commercial timber. The vital need for the maintenance of a pleasing and accessible forest environment and other important recreation, wildlife, and other tangible and intangible values of the National Forests involved has been a major consideration in our decision to use direct control methods. We have been hopeful that the delaying action through direct control combined with increased timber harvest might keep the infestations on the Targhee and Teton National Forests in check until the conditions favorable to the epidemic abate, as in the case on the Wasatch National Forest. On the Teton, our past efforts are beginning to show real promise of success.

Unfortunately, as far as parts of the Targhee are concerned, our massive efforts to date have not been rewarded. The epidemic outbreaks continue, with favorable conditions still sustaining large populations of beetles. It has become increasingly obvious that so long as we have extensive areas of mature and overmature stands they will be periodically attacked and killed.

Analysis of this situation suggests one basic conclusion: We must further shift our emphasis on management of the Region's extensive stands of older lodgepole pine from the previously necessary major reliance on direct control of bark beetle epidemics to the early primary use of indirect control through increased harvest of many of these mature and overmature stands. We must accelerate this harvest, as necessary or desirable, to convert many old-growth stands to stands of younger, more vigorous trees, which are not so susceptible to epidemic beetle attack. In some areas, such as the Targhee in particular, this may constitute a major shift in management direction. Within such areas, it may involve such measures as: (1) preparation of a greatly increased volume of live and dead timber for sale; (2) development of new or expanded milling capacity for live and dead material in the immediate area; and (3) establishment of new and larger "outside" markets for lodgepole pine. It will require: (1) providing for coordination of this expanded harvest program with the protection, development, utilization, and enjoyment of other forest resources and values; and (2) the enlistment of public understanding and support for a carefully coordinated harvest program.

This change in the strategy for combating the beetles does not reflect any change in our basic management objectives. We will continue to manage these stands under the guiding principles of multiple use and sustained yield, with adequate provisions to ensure protection and/or enhancement of the various existing and potential resource uses and activities on the affected areas.

Stepped-up harvest of threatened or infested lodgepole pine will be thoughtfully planned and executed. Logging will be planned only in selected commercial mature and overmature timber stands, scattered through the forested areas. In many mature and overmature stands, no cutting will be done. For example, we will not plan to log on areas where we determine that watershed or water yield characteristics, or recreation, esthetic, or other values make harvest undesirable or unfeasible, or where these values warrant other action. The timber in established Wildernesses will not be harvested. And, of course, there are extensive areas of younger timber which will not need or be ready for logging for many years. Accelerated harvesting will be carried out in an orderly manner and over a considerable period of years. Cutting will be carefully supervised, and all other values will be given due consideration. In some areas, logging practices will need to be modified to recognize scenic or recreation values and water quality and stream regimen characteristics.

This increased emphasis on harvest of our mature and overmature stands will have substantial effects on our needs for development of a transportation system, particularly in those areas where the needed rates of harvest planned will be significantly higher than present cutting rates. Roads will be needed sooner to enable an orderly and timely harvest in many areas which are presently inaccessible. Harvest needs must be carefully correlated with the planning and development of a transportation system to serve multiple use management needs not only in the National Forests involved in this particular insect control program, but throughout the Region. We must assure that the pressures of the insect control program, as they relate to access needs, do not result in unbalanced road programs, too heavily weighted to timber harvest in insect-infested lodgepole pine stands. The Region's forest development road and trail funds must continue to be utilized, on a priority basis, for the planning, survey, design, construction, and maintenance of the transportation system needed to meet the various public and multiple use management needs, including adequate provisions to safeguard watershed, esthetic, and other values. Roads will not be built in established wilderness-type areas, of course.

The stepped-up harvest of our mature and overmature stands of lodgepole pine will be "phased in" to largely replace our direct treating program. However, harvest obviously cannot be initiated promptly over enough of the vast area of old lodgepole pine to achieve all control objectives immediately. As in the past, direct treating methods will complement the harvest program but, as time goes on, to a significantly diminishing extent. Direct control methods will continue to be used, but only to the extent necessary and where they can be expected to significantly inhibit the beetle infestations in or near areas of high value. Increasingly, such direct control will be largely limited to protection of developed campgrounds and other high-value areas that justify continuing preventive treatments on a maintenance basis. During the interim period until harvest cuttings are extensive enough to be meaningful in the long-term control of the beetles,

direct control methods will need to be continued in a number of areas, to "keep the bugs from getting out of hand"--at least to the extent funds and manpower will permit this. Future large-scale direct treatment of a forested area will be planned only where essential and only where it can be expected to effectively retard the infestation until timber harvest operations can be carried on in the immediately threatened area. The quicker we can initiate a fully stepped-up harvest program, the sooner we can sharply reduce our direct control efforts.

The major long-term objective--in this thrust to more rapidly harvest a considerable amount of our mature and overmature stands of lodgepole pine--is to substantially reduce the annual losses and to effect long-range control of epidemics. To gain this objective, in some areas we will need initially to depart from the even-flow principle of management of the involved timber resources. This means that in some areas, accelerated timber harvest above the sustained-yield cut will be necessary for some time at least. This reduction of the sawtimber inventory faster than normal will necessarily result in a lower annual allowable cut following the accelerated harvesting period. Cutting rates will then need to be decreased somewhat, from one planning period to the next, to the sustained yield capacity. It is significant to note here, however, that the eventual timber losses due to beetle activities in the susceptible stands would also result in smaller future allowable annual cuts, whether the beetle-threatened stands are harvested or not. Actually, a stepped-up harvest will result in the utilization of considerable material which otherwise will be killed by the beetle but not be used.

The degree and duration of acceleration of harvest needed will be determined on an individual National Forest working circle basis. Many factors need to be weighed in making this determination. These include: (1) the extent, intensity, and present trend of the infestation; (2) the relationship between the planned timber harvest program and any expected direct control efforts; (3) the extent, condition, and susceptibility of the mature and overmature lodgepole pine stands in the working circle, including the present and future distribution of age or size classes; (4) the presently installed local milling capacity and the dependence of this capacity on the future supply of National Forest timber; (5) the effect the earlier conversion to younger forest stands will have in producing substantially more timber for the future from the same number of forested acres; (6) the relationship between the current average annual rate of cutting and the established allowable annual cut of lodgepole pine; and (7) where the presently installed local mill capacity is inadequate, the estimated volume of timber that would need to be made available to attract needed new industry. These are among the significant factors involved, insofar as the protection, management, utilization, and enjoyment of the timber resource is concerned. These factors would need to be weighed and, if appropriate, adjusted, based on the other resource values--both tangible and intangible--and on the need for adequate on-the-ground coordination of the timber harvest and insect control programs with all other resource uses and activities. The degree and duration of planned harvest acceleration will also need to be related to and correlated with the development of a suitable transportation system, as previously discussed.

Local sawmills near portions of the infestation areas have been continuously encouraged to increase their cut in these timber stands. Many of the small mills, which were contributing to the milling capacity of 15 years ago, are now gone and have been replaced by several larger, more modern mills. These have a much better chance to succeed in today's competitive market.

During the past 15 years, the Bridger, Targhee, and Teton National Forests have increased their annual timber sales program from 21 million board feet to 95 million board feet, an increase of 453 percent. During this same period, their actual cut has accelerated from 25 million board feet to 72 million board feet annually, for an increase of 298 percent. These substantial increases are still not adequate to utilize the annual allowable cut in some areas, however.

Through recently increased cutting on the Teton National Forest, the full allowable cut of lodgepole pine on that Forest is now being offered in annual sales programs. Along with this favorable timber-marketing situation, the current beetle outbreak there is beginning to subside. Therefore, no additional increase in harvesting rates is considered necessary on that Forest.

An accelerated harvesting program being considered as one alternative approach toward dealing with the beetle epidemic on the Bridger National Forest could remove as much as 50 million board feet of live and dead mature and overmature lodgepole pine in the next couple of years. Existing mill capacity in the general area could probably handle such an increased cut, although two-shift operations might be necessary. A harvesting program at this level could possibly have optimum benefits. However, other alternatives--which include (1) no treatment, (2) direct control, and (3) some combination of accelerated timber harvest and direct control--are also under consideration on the Bridger.

The present installed mill capacity on the Targhee--where the greatest need exists for stepped-up early and likely longer range beetle control through timber harvest-- is not large enough for the more rapid harvest that is needed.

There appear to be several possible outlets for larger volumes of lodgepole pine timber from the Targhee during the next decade. Use of a combination of these outlets may be necessary to accomplish the desired increase in timber harvest rates. Basic to this facet of an accelerated harvest program is the responsibility and concern of the Forest Service, not only for protecting and managing the threatened National Forest timber stands, but for contributing to the economic and social development of the communities dependent upon the timber resource. The stepped-up harvest and manufacture of this large timber resource of the Targhee is potentially a significant factor in the economy of that part of southeastern Idaho. The Forest Service and the resource-dependent communities are faced with immediate and difficult problems, as well as opportunities, however. The threatened timber must be promptly offered for sale and be timely harvested, or much of it may soon be dead and worthless for use by the mills presently in the area.

Our future efforts to develop soon the additional outlets required for the needed early harvest of old lodgepole pine in excess of present mill capability on the Targhee will generally take the following order and degree:

1. Marketing of timber under this program will be so organized and scheduled as to encourage local manufacturing and to have the least possible detrimental effect on desirable permanent markets for National Forest timber products.
2. The initial emphasis will be directed at encouraging presently established mills using lodgepole pine in the immediate area to increase their cutting capacities and rates through such practices as plant improvements and expansion, operating on a two- or three-shift basis, and possibly establishment of small satellite plants when and where desirable to do part of the job of the main plant.
3. Initially, we might also encourage established local mills which are not cutting other species, to utilize lodgepole pine by making necessary plant changes to facilitate its manufacture.
4. Established mills which are outside the immediate area, but within the State or general area, will be encouraged to delay cutting on areas where there is no urgent need and to use imports of lodgepole pine cut in beetle-threatened or infested areas to replace such log supplies.
5. The large area of old lodgepole pine in the southern part of the Porcupine Ranger District and the northern part of the Teton Basin Ranger District could furnish raw material for a possible new plant. A mill, if established in the vicinity, would contribute significantly to the local economy. Volume to be sold on the Targhee should be large enough to supply both this mill and the established mills, at least for a considerable period. It appears that a sale of sufficient size to attract and substantially amortize the investment in a mill of 30 to 40 million board feet annual capacity, using both live and dead material, and the development of adequate access to permit such a harvest, are realistic and possible. Possibly one or more mills already established could, through increase in cutting capacity and rate, harvest the timber in such a sale, if no new operator is attracted. Regardless of mill location, there will be some special problems relating to timber harvest, related road construction, and alternate land-use possibilities in this area.
6. If the foregoing approaches appear unlikely to be successful in developing an adequate harvest, our next priority will be to encourage partial processing of the timber in local areas for export to more distant markets. This export would probably be in the form of chips which could be sent to existing or new pulp mills in the United States. Chips or other products might be shipped to foreign countries, if sufficient demand developed.

*Gordon -
What fellow that
was recently in
here looking for
timber to hold of
this - wasn't he
from Colorado?
Burr*

In trying to get further accelerated harvests where needed, we will need to do all we can to avoid the development of a "boom and bust" situation in the local communities. To the extent practical, we will try not to encourage the installation of permanent-type mill capacity which greatly exceeds the sustained yield of timber from the area.

The Forest Service will encourage and work with local people, communities, and industries, to the extent feasible, to try to assist them in placing themselves in a position most favorable to retaining the manufacture of the threatened timber in their areas. This situation is not only a challenge, but a great opportunity, for such people, communities, and industries to take advantage of the chance to provide jobs and expand the economic base of the areas. Our goal will be to provide long-term jobs, in the woods and in the mills, of primary benefit to local people, industries, and communities, to the fullest extent feasible and desirable, while meeting our other management objectives.

Public benefits will likely be greatest, over-all, from the development of some additional "outside" mill capacity to help in accomplishing the job of converting the susceptible stands to a vigorous, healthy state. In order to further work toward an orderly development of new mill capacity that might utilize some of the volume involved, particularly dead material, information on the proposed 30-year four million cord Green River Pulp Sale on the Wasatch, Ashley, and Bridger National Forests will, if possible, be distributed concurrently with other sale offerings of significant volume on the Targhee and Bridger. This should help to create maximum interest in the establishment of plants in the general area capable of full utilization of lodgepole pine over a major part of its range within the Region.

In all of our insect-control and related timber-harvest activities, we will need to continue to work unceasingly to protect and, if practical, to improve the watershed and water-yield characteristics, and the scenic, recreation, wildlife, grazing, and other values. Multiple use surveys and reports will continue to be a vital tool in our work along these lines.

In carrying out any future program for harvest of lodgepole pine timber stands, our thoughtful consideration needs to be given to long-term, as well as immediate, management problems. Over the centuries, fire and the mountain pine beetle have been major forces affecting the development of lodgepole pine forests. Improved fire control methods have greatly reduced fire's effect on these forests. But insects have become an increasingly important factor. Long-term management goals for mitigating the effects of the beetle need to encompass a variety of measures, in addition to the harvest of the mature and overmature lodgepole pine, designed to lead to less susceptible forests.

Such measures, which can be planned and carried out, where and as appropriate, as an integral part of the harvest program, should include: (1) the development of mixed stands of lodgepole pine and other species, (2) the conversion of some lodgepole pine stands to other species, (3) the development of a mosaic of age classes, and (4) the use of shorter rotations.

In addition to these harvest-related features, the development and use of better insect detection methods will be needed. Detection which is early enough, followed by prompt logging, may make it possible to stop some outbreaks in the initial stages while they are confined to small areas. More effective methods for insect control are also needed. Stepped-up research programs in these and related fields would be extremely desirable.

Determination and/or implementation of any needed changes in management direction called for in this position statement will need to be preceded or accompanied by the initiation of an Information and Education program. The timber industry, other National Forest user groups, local, county, and State officials, and Congressional delegations, as well as members of the general public, are all concerned and vitally interested. The objective of our total I&E effort will be to develop to the maximum possible extent, an adequate understanding of the problem and general support for whatever course of action is determined to be best, after careful review of logical alternatives. In working to achieve sound management objectives for this large expanse of National Forest land threatened by epidemic beetle attack, we will need to make a sincere and sustained effort to search out and give full consideration to local and other points of view.

Neighboring Regions, specifically R-1 and R-2, will need to be kept currently informed as to our policies, plans, and programs.