

CASE HISTORY: NORTHERN REGION FOREST SERVICE EASTSIDE
ZONE--MOUNTAIN PINE BEETLE CONSIDERATIONS

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ABSTRACT: In the fall of 1985, personnel assigned to the Three Forest Timber Zone recognized the need for a coordinated strategy for responding to the mountain pine beetle threat in the Deerlodge, Lewis & Clark, and Helena National Forests. A task force was implemented which developed six alternatives. The three Forest Supervisors selected an alternative which places emphasis on harvesting green lodgepole pine while retaining the timber sales program at Forest Plan levels. The selected alternative offers maximum flexibility for adjusting programs between Ranger Districts, concentrating on infestation areas and areas of high risk.

During the fall of 1985, it became increasingly apparent that a three-forest strategy was needed for responding to the threat of a mountain pine beetle (MPB) attack in the susceptible stands on the Deerlodge, Helena, and Lewis & Clark National Forests. A zone-wide task force consisting of three District Rangers and three silviculturists from the zone, plus personnel from the Flathead Forest and from the Regional Office, was assigned the duty of assessing the potential of a MPB attack and preparing a report which would provide some alternatives for response. The need for a report and a coordinated strategy was prompted by the following perceptions:

- * Hot spotting - each Forest appeared to be responding to the isolated outbreaks in an individual manner. There appeared to be no broad overview being looked at across the Three Forest Zone, and no attempt was being made to develop a consistent zone wide response.
- * Organizational changes - several recent arrivals to the zone timber organization were reassigned from forests in the Forest Service Northern Region

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where MPB epidemics were in process. Experiences on these forests heightened an awareness of the potential for a MPB attack.

- * The Draft Forest Plans for each Forest provided good direction to harvest old-growth lodgepole and ponderosa pine ahead of a MPB attack.

- * A recent silviculture review on the Lewis & Clark Forest highlighted the potential for a MPB attack.

The objectives of the MPB Task Force were as follows:

- * Describe the problem.
- * Gather necessary data.
- * Develop a range of alternatives.
- * Present a report to the three Forest Management Teams.

Data gathering began by identifying mature and overmature lodgepole pine and ponderosa pine types on old, but available, timber type maps (1960's vintage). Specifically, the high-risk and moderate-risk stands were identified on overlay material. The overlays were then compared to the Draft Forest Plan maps which highlighted those stands in the suitable timber base on each Forest. Estimates were then developed of the acreage on each Forest of high risk and moderate risk stands.

A series of overlays were then prepared which showed MPB attacks on each Forest for the period 1976 through 1985. Projections were then made of where the MPB could reasonably be expected to move in the next 10- to 15-year period. These projections were transferred to forest plan maps, which became the basis for further estimates of the volume and value of the timber expected to be killed by the MPB.

Using available subcompartment maps showing P.I. type and forest strata, mortality predictions were developed using the INDIDS model, which predicts 10-year losses for stands within or adjacent to active infestations. Estimates of stumpage values were assigned to the projected losses so that a zone-wide potential loss calculation could be obtained.

The following table shows the potential volume loss of lodgepole pine (LPP) and ponderosa pine (PP) during the next decade for each Forest in the Three Forest Zone.

Potential Loss Calculation

	Allocation To TM (Acres)	High Risk LPP/PP (Acres)	Potential Loss (MMBF)
Deerlodge	352,000	208,000 (LPP)	1,067
L & C	282,000	137,000 (LPP) 6,000 (PP)	719 (LPP) 35 (PP)
Helena	251,000	113,000 (LPP)	791
Total	885,000	458,000 (LPP) 6,000 (PP)	2,577 (LPP) 35 (PP)

Using the available information, the MPB Task Force developed six alternatives for response to the potential MPB attack.

Alternative 1 - Continue existing direction as provided in the three draft forest plans. Approximately 70 percent to 80 percent of regulated harvest would be implemented in the high-risk lodgepole pine and ponderosa pine types.

Alternative 2 - Concentrate zone harvest almost exclusively (95 percent plus) in LPP/PP timber types while being responsive to identified minimum industry requirements for other species and non-sawlog components. Retain district and forest program levels.

Alternative 3 - Concentrate harvest in LPP/PP types. Adjust district level programs as needed to salvage major outbreaks and to develop and harvest large areas of high risk LPP. Retain forest level programs. Emphasize development of high risk stands using the capitol investment program.

Alternative 4 - Concentrate harvest in LPP/PP types. Accelerate harvest of green volume during the early years of the next decade. Reduce harvest accordingly during the later part of the decade so that decade allowable sell quantity is maintained for each forest within the zone.

Alternative 5 - Concentrate harvest in LPP/PP types. Accelerate harvest of green volume on each

forest for the entire decade. Exceed ASQ on each forest by approximately 50 percent. Adjust final forest plans to reflect major changes in harvest levels.

Alternative 6 - Concentrate harvest in LPP/PP types. Consider the three forest's ASQ as one timber program rather than individual forest or district programs. Implement the zone program with the objectives of developing and placing under contract large areas of high risk LPP, and salvaging major outbreaks. Do not accelerate harvest.

In September, 1986, the three Forest Supervisors met in Helena to discuss and reach agreement on a coordinated response to the threat of a MPB infestation. The group discussed the MPB Task Force Report and examined the 1986 MPB survey reports which had just been completed for each Forest.

The Forest Supervisors adopted Alternative 3. The primary reasons for selection of Alternative 3 were that it permitted final forest plans to be completed without major overhaul; it kept response to the threat in line with the actual rate of infestation; it could be accomplished with existing funding and personnel; and finally Alternative 3 harvest levels could be accelerated through forest amendments if the need arose in the future.

The Forest Supervisors sent the following seven step process to the District Rangers as direction for implementing Alternative 3:

1. Annually, identify high-risk stands
2. Prioritize high-risk stands
3. Determine road access needs
4. Translate into timber sale proposals
5. Make appropriate adjustments to the 10-year plans
6. Report 10-year plans to Forest Supervisor by March 1, annually
7. Timber zone consolidate into three forest programs

In summary, preparation of the MPB Task Force Report accomplished three major objectives: it pulled a substantial amount of existing data into one report; it raised the level of awareness of Line and Staff Officers within the zone to the threat of a MPB infestation; and, lastly, it has allowed the Three Forest Zone to proceed with harvest and development plans in a coordinated manner.