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THE PACIFIC LUMBER COMPANY SCOTIA, CALIFORNIA 95565 • (707) 764-2222

June 22, 1990

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DEPARTMENT OF FORESTRY  
AND FIRE PROTECTION

California Department of  
Forestry and Fire Protection  
Resource Management  
P.O. Box 670  
Santa Rosa, Ca. 95402

Attn: Mr. Tom Hoffman  
RE: THP 1-89-762H and 1-89-793H

Dear Mr. Hoffman:

Enclosed please find a copy of the Executive Summary of the Pacific Meridian report referred to in my response to the recommendations of the review team chairman. Within this, I believe, you will find a discussion of many alternatives to logging these plans as well as a discussion of the current logging objectives of The Pacific Lumber Company and alternatives to these plans.

I am not enclosing a copy of the entire document as it contains data and numbers I consider not appropriate for public distribution.

Once more, thank-you for your patience and cooperation during the lengthy review of these plans.

Respectfully submitted,

THE PACIFIC LUMBER COMPANY

*Robert Stephens*

Robert Stephens  
Forest Manager

RS:pd  
Enclosure

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RESOURCE MANAGEMENT

AN ANALYSIS OF ENVIRONMENTAL IMPACTS  
ASSOCIATED WITH PACIFIC LUMBER COMPANY'S  
TIMBER MANAGEMENT PROGRAM

EXECUTIVE SUMMARY

Prepared by

Pacific Meridian Resources  
Emeryville, California

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RESOURCE MANAGEMENT  
**AN ANALYSIS OF ENVIRONMENTAL IMPACTS  
ASSOCIATED WITH  
PACIFIC LUMBER COMPANY'S TIMBER MANAGEMENT PROGRAM**

**EXECUTIVE SUMMARY**

Introduction

At the request of the Pacific Lumber Company, Pacific Meridian Resources investigated four long-term management alternatives for the company's timberlands, and analyzed their potential environmental and social impacts. While timber harvesting is an 'exempt' program under California's Environmental Quality Act, most of the elements commonly associated with an environmental impact report are covered.

Four questions regarding environmental impact need to be answered during the environmental impact analysis process. Included are:

- 1) Do the proposed actions result in environmental effects?
- 2) Are the effects significant?
- 3) If the effects are significant, can they be mitigated?
- 4) If they cannot be mitigated, does an overriding public interest in the outcome of the proposed action exist to compensate for the environmental effects?

Compliance with State Forest Practice Rules is assumed for all alternatives considered, ensuring that impacts to certain forest resources are minimized. Mitigation measures are available for many of the other foreseeable impacts reported. Because of the lack of research, questions remain about:

- 1) Specific habitat requirements of eight wildlife species of concern (northern spotted owl, marbled murrelet, red tree vole, northern goshawk, Pacific fisher, Olympic salamander, tailed frog and the Del Norte salamander); and
- 2) Potential cumulative impacts of timber harvesting on these species and watershed hydrology on P.L. timberlands.

This summary is organized as follows. An overview of Pacific Lumber's timber resources and opportunities is followed by a review of each alternative and its anticipated environmental and social impacts for the period 1989-2008.

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Timber Resources and Opportunities

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- Due to past harvesting practices and the productivity of much of P.L.'s lands, its ownership has a greater variety of timber types than is generally found in the north coast region. Pacific Lumber is unique among north coast industrial timberland owners in that more than half of the Company's timber is contained in trees exceeding 30 inches in diameter. This gives the company a large array of feasible management opportunities (p. 2).
- With careful planning, P.L. can minimize the environmental and social impacts of their timber management program, while continuing to operate profitably (p. 29).
- Pacific Lumber's ownership and timber resources allow for the dispersal in time and space of management activities. This enables managers to reduce the significance of potential environmental and economic impacts (p. 29).
- Approximately 8% of P.L.'s forested ownership is currently occupied by virgin timber (Table 1). Pacific Lumber's virgin redwood represents only a small fraction of the virgin redwood already preserved in parks (p. 20).
- Nearly 33% of P.L.'s forested ownership currently supports residual old growth timber (Table 1).

Four Management Alternatives for Pacific Lumber: 1989-2008

The four management alternatives span the range of feasible timber management regimes available to the Pacific Lumber Company. Alternative A continues the current regime. Alternative B maximizes timber production, with harvest going up substantially and then declining. Alternative C resumes pre-1985 harvest levels and timber management practices. Alternative D is identical to A except a 3000 acre tract of virgin old growth is preserved.

Some potential environmental impacts are common to all alternatives. Significant impacts to rare and endangered flora are unlikely under all alternatives (p. 20). Additionally, impacts to visual quality and archaeological and historical resources are possible but can be mitigated or prevented (p. 26,28) Retention of streamside vegetation to protect water quality and fisheries is employed in all alternatives. Impacts to recreational opportunities are unlikely under Alternatives A, B, and C (p. 26). The timber management activities of all alternatives have the potential to affect visual quality but can be effectively mitigated (p. 26).

Information is lacking on relationships between timber harvesting activities and various wildlife species. Thus, considerable uncertainty remains regarding habitat requirements for the eight species of concern thought to occur on P.L. lands. As a result, conclusive statements regarding specific impacts to these species are difficult to make. Comparisons of relative potential impact by alternative can be made however, and are found in the discussion of environmental impacts for each alternative. Further research is needed to better determine specific habitat requirements of these species. Pacific Lumber has initiated research to investigate the occurrence of these species on Company lands and is collecting valuable data on habitat use and structure.

**Alternative A** continues the current management regime, harvesting between 250-280 MMBF per year for 20 years. Substantial quantities of residual old growth remain after 20 years of this regime. Most of the virgin old growth is cut. Additional harvesting takes place in unthinned and thinned stands of timber.

#### Environmental Impacts

- Relative to the other alternatives analyzed, Alternative A is intermediate in its propensity to result in sedimentation, adverse soil effects, elevated water temperatures, increased peak flows and induce mass movement events. Additionally, as Alternative A is intermediate in terms of the scale and frequency of land-disturbing activities, the likelihood of Alternative A producing cumulative watershed effects, while difficult to assess in absolute terms is also in the middle relative to the other alternatives. (p. 17-19)
- All of the alternatives will alter existing plant communities. Virgin ecosystems will be reduced in extent under Alternative A, while earlier successional communities will be increased. Overall vegetative diversity will be reduced, although the reduction is intermediate in relation to the other alternatives analyzed. (p. 19-20)
- Alternative A will affect wildlife populations, as changes in vegetative cover resulting from timber harvesting take place. Its effects are expected to be less than those resulting from Alternatives B and D, while more pronounced than those associated with Alternative C. (p. 20-21)
- In absolute terms, the extent to which the actions proposed under Alternative A will jeopardize any of the eight wildlife species of concern noted above is unknown. Nevertheless,

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Pacific Lumber is in a unique position to manage habitat for all eight wildlife species of concern as a secondary goal under Alternative A. Retention of stands of large second growth, large conifer trees (at least 50' in diameter, stands with dense crown cover, snags, downed material, and vegetation in streamside zones are all feasible mitigation measures that will protect habitat. (p. 23-25)

- Alternative A is intermediate in its potential impacts to the eight wildlife species of concern. Approximately 22,000 acres of virgin and dense young growth timber will remain in 2008, with sufficiently dense crown cover to provide potential habitat for spotted owls, and other avian and terrestrial species. (p. 22-23)
- Alternative A is unlikely to have any impact on traffic. (p. 26)
- Alternative A is intermediate in its impact on air quality due to the amount of slash burning that would occur. However, impacts to air quality are not expected to be significant. (p. 28-29)
- Timber harvest will remain stable under Alternative A for 20 years, after which it would decline and stabilize. (p. 15, 27) See Figure 1 attached.
- The acreage reduction of old growth, residual, and young growth/thinned young growth stands is intermediate to the reductions found under the other alternatives. The increase in submerchantable stands is likewise intermediate. See Figures 3a-d attached.
- Pacific Lumber's employment will be stable for 20 years under Alternative A, declining and stabilizing after 2008. (p. 27) See Figure 2 attached.
- Derived employment in the regional economy will also be stable for 20 years under Alternative A after which declines would take place. (p. 27-28)
- Yield tax revenues will fluctuate during the 20 year period in response to changes in the market for redwood and Douglas-fir, but timber harvest volume remains even during the period, providing a stable basis for predicting revenues to state and local government. (p. 28)

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**Alternative B** maximizes timber production, converting stands with low growth rates to plantations. Harvest would initially increase substantially to 394 MMBF per year and then decline to 203 MMBF per year in 1999, rebounding to 213 MMBF per year by 2004. Large older trees would be harvested and by 2008, the standing inventory would consist of trees smaller than are currently used by P.L.'s mills.

### Environmental Impacts

- Due to its accelerated rate of harvest, Alternative B as well as Alternative D are most likely of the alternatives considered to cause significant levels of sedimentation, adverse soil effects, elevated water temperatures, increased peak flows and induce mass movement events. Nevertheless, these impacts are largely mitigatable at individual harvest sites. Alternatives B and D are the most likely of the alternatives analyzed to produce cumulative watershed effects, although the likelihood and magnitude of such effects is unknown. (p. 17-19)
- Virgin ecosystems would be reduced most rapidly under Alternative B (p. 20) Vegetative diversity would be reduced, with the extent of that reduction being exceeded only by Alternative D. (p. 19-20)
- Impacts to wildlife populations associated with reductions in ecotones between contrasting vegetation types and overall vegetative diversity would be most pronounced under Alternatives B and D. (p. 21)
- The extent to which implementation of Alternative B would jeopardize any of the eight wildlife species of concern is unknown. However, virgin and dense young growth timber, considered to be potential habitat for spotted owls will be eliminated by 2008. (p. 22-23)
- Alternative B would increase log truck traffic but since most of this traffic would be on private roads controlled by P.L. and public roads that are used far below capacity, the impacts are not considered to be significant. (p. 26)
- Reductions in air quality would be possible from increased slash burning. This would not be expected to result in significant impacts however, due to the seasonal nature of this activity, proximity to the coast and sparsely populated nature of the region. (p. 28)

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- Timber harvest would increase significantly under Alternative B during the first 10 years of the planning horizon. Harvest would then drop significantly and climb slowly at the end of the period. (p. 15) See Figure 1 attached.
- The acreage reduction in old growth stands is intermediate to that of other alternatives. Residual stands see the greatest reduction under Alternative B, while the acreage of young growth/thinned young growth stands remains unchanged until the last five years of the analysis period when a moderate reduction occurs. The increase in submerchantable stands is intermediate. See Figure 3a-d attached.
- Pacific Lumber's employment would increase significantly at first, dropping as harvest declined. Employment during the last 10 years of the period would be substantially below that for Alternative A, but above that for Alternative C. (p. 27) See Figure 2 attached.
- Derived employment would follow the pattern of employment at P.L.'s facilities, increasing initially and then dropping significantly. (p. 27-28)
- Yield tax revenues would increase initially as timber harvest increased, but would drop during the last 10 years of the period. (p. 28)

**Alternative C** is a return to the 1985 harvest level of approximately 140 MMBF per year which is actually below the long-term, sustained yield capacity of P.L.'s timberlands. Alternative C would necessitate the closure of one of P.L.'s existing sawmills.

### Environmental Impacts

- Alternative C is least likely of the alternatives considered to produce significant levels of sedimentation, adverse soil effects, elevated water temperatures, increased peak flows and induce mass movement events. It would also be least likely to produce cumulative watershed effects. (p. 17-19)
- Virgin ecosystems would be reduced in extent, but more slowly than the other alternatives. Likewise, the reduction in overall vegetative diversity would be less than that for the other alternatives during the planning period. (p. 20)

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- Wildlife populations would be affected under Alternative C, but because changes in vegetative cover would be less extensive than under the other alternatives, impacts to wildlife populations would be less than expected under the other alternatives. (p. 20-21)
- The extent to which the actions proposed under Alternative C would jeopardize any of the eight wildlife species noted above is unknown. Approximately 32,000 acres of virgin and dense young growth timber, representing potential habitat for spotted owls and other avian and terrestrial species would remain at the end of the 20 year period, more acreage than left by any of the other alternatives. (p. 22-23)
- Traffic would be reduced by 70 trips per day. (p. 26)
- Alternative C would reduce the amount of slash burning on P.L. lands. (p. 28)
- Timber harvest would decline to 140 MMBF and remain stable throughout the period. Total wood production, in terms of harvest and growth would decline. (p. 26-27) See Figure 1 attached.
- Old growth, residual and young growth/thinned young growth stands would see the lowest acreage reductions of the alternatives analyzed, and the increase in submerchantable stands would be correspondingly lowest. See Figures 3a-d attached.
- Employment at P.L.'s facilities would decline significantly under Alternative C but would remain stable at levels far below the other alternatives throughout the analysis period. (p. 27) See Figure 2 attached.
- Derived employment in the regional economy would also decline substantially as a result of the reduction in P.L.'s labor force. (p. 27)
- Yield tax revenues would decline, reducing payments to both state and local government. (p. 28)

**Alternative D** is identical to Alternative A except 3000 acres of old growth are reserved from harvest in the Salmon Creek and Elk River watersheds. A larger area is harvested annually than under Alternative A.

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Environmental Impacts

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- Alternatives D and B would have the highest likelihood of the alternatives considered to produce significant levels of sedimentation, adverse soil effects, elevated water temperatures increased peak flows and induce mass movement events. Alternative D would be the most likely to produce cumulative watershed effects because timber harvest would be concentrated on lands available for management. In absolute terms, the likelihood and extent of occurrence of cumulative watershed effects is unknown. (p. 17-19)
- By reserving 3000 acres of virgin forest, Alternative D would have the least significant impact on virgin ecosystems. Other P.L. lands would, however, experience a substantial reduction in vegetative diversity. Virtually all old growth outside of the 3000 acre block would be harvested, most of it in the first 15 years of the period. (p. 14, 19-20)
- Wildlife populations would be affected under Alternative D. Less variety of habitat types for wildlife use would be available than Alternatives A and C. (p. 21) The extent of those impacts would be similar to those expected under Alternative B. (p. 20-21)
- The extent to which the actions proposed under Alternative D would jeopardize any of the eight wildlife species of concern is unknown. Nevertheless, 3000 acres of old growth would be reserved under this alternative, providing potential habitat for spotted owls and other wildlife. (p. 22-23)
- Recreational opportunities could increase under Alternative D, depending on the disposition of the 3000 acre old growth reservation. (p. 26)
- Traffic would not be significantly affected. (p. 26)
- Slash burning would increase under Alternative D, but due to its seasonal nature, significant impacts to air quality would not be expected. (p. 28)
- Timber harvest would be identical to that of Alternative A during the first 10 years, but would decline thereafter. (p. 15) See Figure 1 attached.
- After the reservation of the 3000 acre old growth tract, Alternative D would result in the most rapid reduction in old growth acreage, with the extent of that reduction being passed by Alternative B in the last five years of the analysis period. The reduction in residual stands would be exceeded only by

Alternative B. Young growth/thinned young growth stands see their greatest reduction under Alternative D, and the acreage of submerchantable stands correspondingly increases most under this alternative. See Figures 3a-d attached.

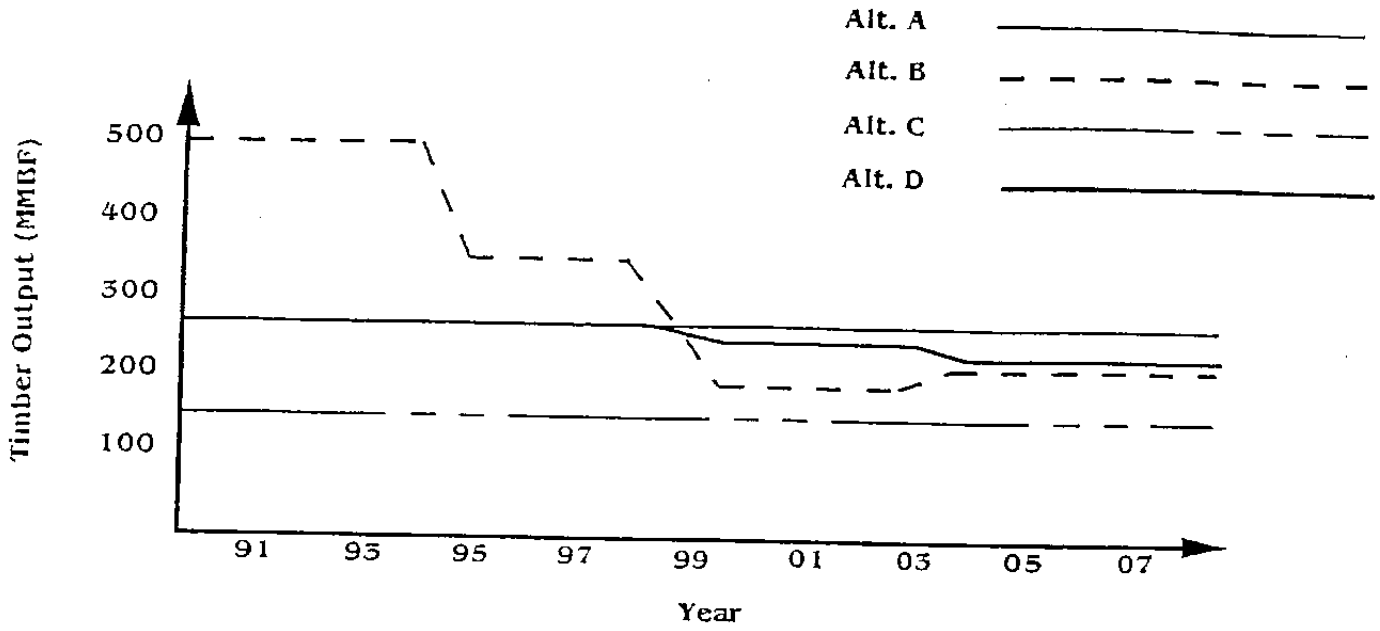
- Pacific Lumber's employment would be stable for 10 years and would then decline as timber harvest volume went down. (p. 27) See Figure 2 attached.
- Derived employment would follow the same pattern of initial stability and then decline parallel to reductions in P.L.'s employment. (p. 27)
- Yield tax revenues to state and local government would be the same as under Alternative A for the first 10 years and would then go down as harvest volume declined. (p. 28)

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Figure 1: Timber Output by Alternative, 1989-2008

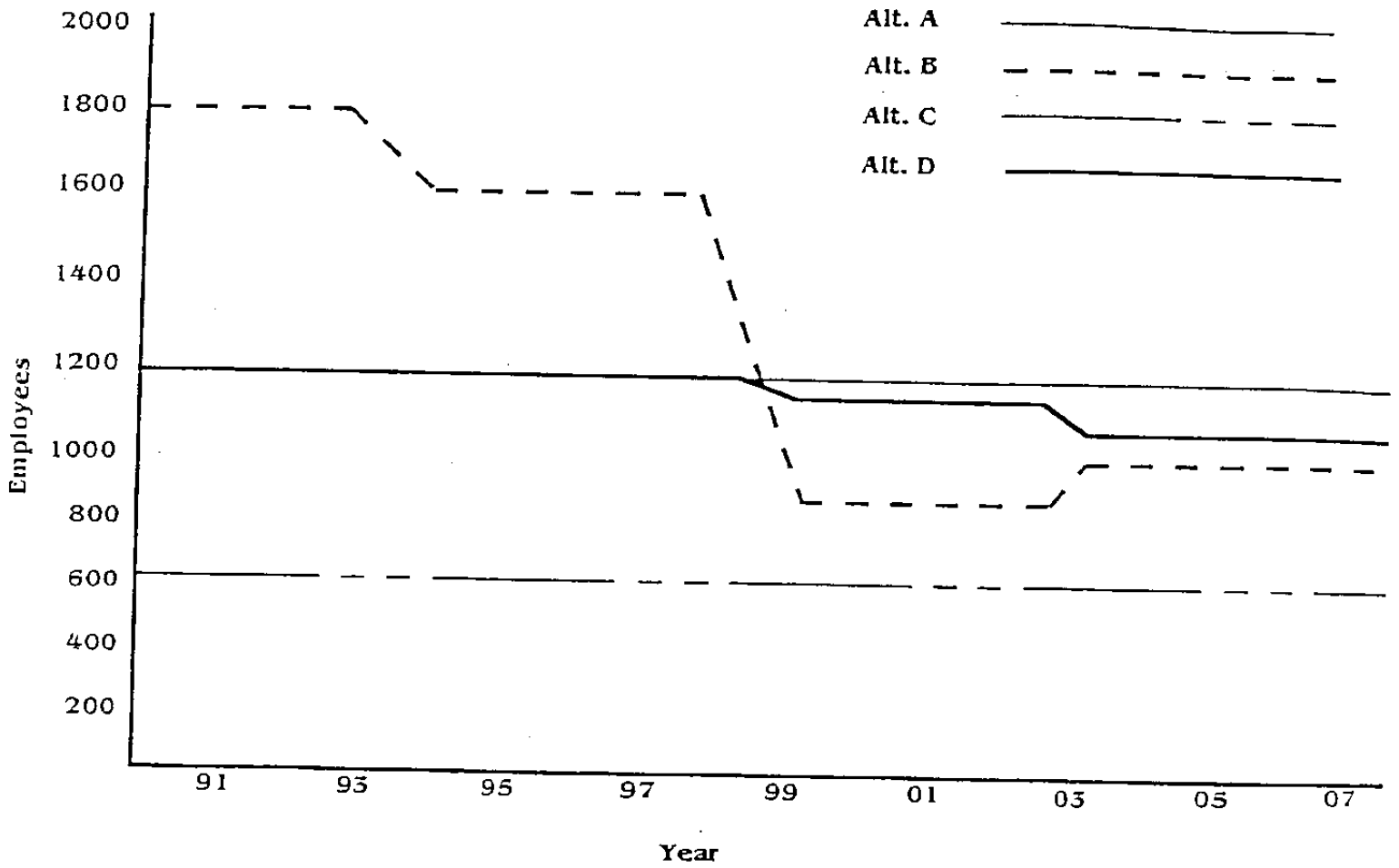


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Figure 2: Employment by Alternatives, 1989-2008

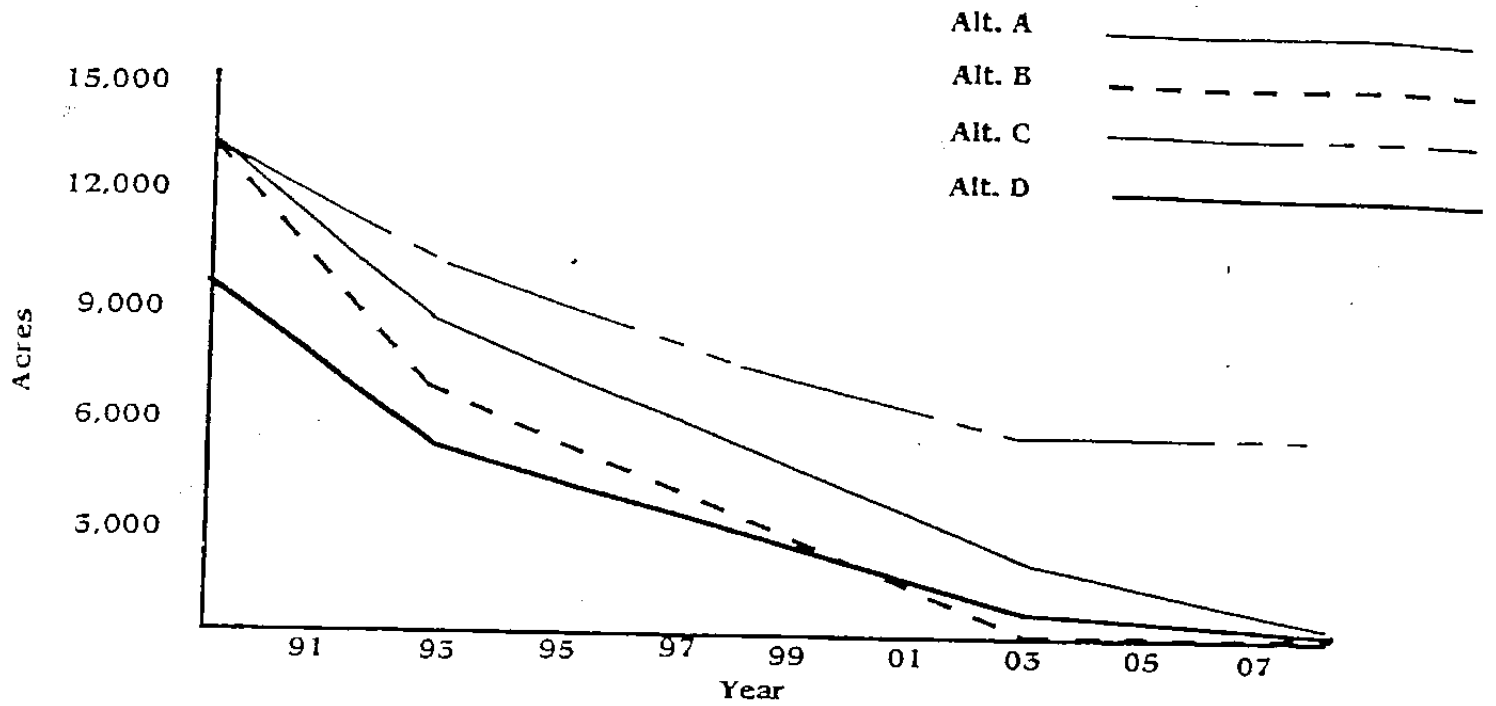


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Figure 3a: Old Growth Remaining After Harvest  
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Figure 3b: Residual Stands Remaining After Harvest  
1989-2008

