13019

Vol. M90 Page 5927

'90 APR 2 PM 2 34

CAVENHAM FOREST INDUSTRIES INC.

SUSTAINED YIELD MANAGEMENT PLAN

ANTELOPE DESERT UNIT

January 1, 1990

TABLE OF CONTENTS

CAVENHAM FOREST INDUSTRIES INC.

SUSTAINED YIELD MANAGEMENT PLAN

ANTELOPE DESERT UNIT

Submitted January 24, 1990

by R. E. Dahlin

Vice President & General Mgr.
Title

Northwest Timber & Wood Products
Division

Cavenham Forest Industries Inc.
Name of Company

1500 S. W. First Ave.

Portland, OR 97201
Address

I, R. E. Dahlin, certify that the Corporation has made a re-inventory of the Antelope Unit, and that the revision of the management plan is in keeping with the objectives of the original plan effective in 1960.

Cavenham Forest Industries Inc.

VBF

Vice President and General Manager
Northwest Timber and Wood Products

Approved February 12, 1990 RLD
for the period January 1, 1990
through December 31, 1999

John F Bertaille

Regional Forester, U. S. Forest
Service, Region 6

Cavenham Forest Industries
Mazama Managed Forest
OWNERSHIP MAP

SUMMARY OF PLAN

A. Summary of Resource

		Lodgepole Pine Acres	Ponderosa Pine Acres	Total
Commercial Forestland:				
Overmature	110+ years	14,033	1,026	15,059
Mature	70 to 100 years	50,130	3,581	53,711
Immature	40 to 60 years	18,105	413	18,518
Reproduction	10 to 30 years	2,058	25	2,083
Subtotal		84,325	5,045	89,370
Forage and open				1,512
TOTAL ACRES				90,882

		Lodgepole Pine Cunits	Lodgepole Pine MBF	Ponderosa Pine Cunits	Ponderosa Pine MBF
Species Distribution by Volume:					
Overmature	110+ years	211,413	66,079	7,855	3,460
Mature	70 to 100 years	708,168	233,400	38,791	13,024
Immature	40 to 60 years	133,006	37,561	9,329	3,463
Reproduction	10 to 30 years	9,483	2,591	-	-
TOTAL VOLUME		1,062,070	339,631	55,973	19,947

B. Ten-year Cutting Plan

Total for the decade:	Cunits	MBF
Lodgepole Pine	276,000	94,800
Ponderosa Pine	34,000	16,700
TOTAL CUT	310,000	111,500

C. Growth, Rotation, & Cutting Cycle

Current annual growth is estimated to be 27.3 MCCF or 31 cubic feet per acre per year on stocked acres. Growth is projected to increase to 31 MCCF per year or 35 cubic feet per acre per year as older components of uneven aged stands are harvested, leaving younger, faster growing residual stands.

Stands will be entered on 20 to 30 year intervals with lodgepole of 10"+ d.b.h. and ponderosa of 16"+ d.b.h. removed, depending on market conditions. Target harvest age will be reduced to 90 years.

D. Status of Inventory

Present inventory is as of August 1983. Next re-inventory will be taken prior to the year 2000 update of the plan.

E. Revision of Plan

Revision will be planned each 10 years, the next one effective January 1, 2000.

F. Silvicultural Systems

1. Ponderosa pine - "Overstory removal", looking towards the maintenance of basically two-aged stands. Natural restocking will be encouraged as much as possible.

2. Lodgepole pine - "Primarily overstory removal" with maintenance of reproduction. Partial cutting or seed tree may be used where needed to develop an existing reproduction understory or to obtain natural restocking.

G. Reforestation

1. Ponderosa pine cutting areas - Not all of the ponderosa pine blocks have satisfactory stocking in the understory. In a few areas natural restocking and planting have been unsuccessful. These areas will probably become stocked through encroachment or may be artificially reforested where biologically and economically feasible.

2. Lodgepole pine cutting areas - Very little artificial regeneration anticipated since natural regeneration is generally adequate in the understory of these types. In those areas not restocked, experimentation and use of existing knowledge will be needed to achieve it.

3. Areas non-forested at inception of plan - There are approximately 1,591 acres of land that were non-forested at the time of the inventory. Approximately 74% of these consist of roads, rock pits, powerline easements, etc. The balance consist of brushlands, rock outcrops, etc.

4. Areas deforested by fire - In case of loss of stocking from fire, pine type areas more than 100 feet from seed source will be examined. If needed and feasible, the burned area will be restocked artificially.

H. Timber Stand Improvement

Over the last few years the Corporation has been commercially thinning both the ponderosa pine and lodgepole pine stands. This practice will continue in the pole stands that it will benefit.

I. Other Uses

Cattle grazing and rock sales.

J. Compliance with Law

All operations will be conducted in accordance with the Oregon Forest Practices Act and other laws relating to forest operations.

GENERAL STATEMENT AND DEFINITIONS

The "plan" effective when the sale was awarded early in 1960 is applicable to lands purchased by Crown Zellerbach Corporation within the Antelope Sustained Yield Unit under Section 28 of the Act of August 13, 1954 (68 Stat. 718), as amended by the Act of August 23, 1958 (72 Stat. 816).

The Crown Zellerbach Corporation was restructured early in 1986 and it's wood products and timber businesses, including the assets of those businesses, were transferred to Cavenham Forest Industries Inc. as of May 6, 1986. Hereinafter, Cavenham Forest Industries Inc. will be referred to as the "Corporation"; and its lands as designated above will be referred to as the "Unit".

General location of the Unit is shown on the location map herein, Page 3. The Unit is described in detail in the records of the Bureau of Indian Affairs, Portland, Oregon, and was so described in the conveyancing instrument which includes the "plan".

This plan sets forth the principles for achieving the following objectives:

A. The production of wood from this Unit for the period 1990-1999 with a two-fold objective: 1. to improve the health and growing capacity of both ponderosa and lodgepole pine stands, and 2. to furnish a continuing supply of wood products for sale in the open market or for conversion within the Corporation, under a sustained yield program.

B. Management to rotations for both lodgepole pine and ponderosa pine which recognize both value and volume production.

C. Maximizing income as far as is consistent with maintaining adequate growth, through removing the higher value, overmature, bug infested and diseased trees and stands. This may result in harvesting higher volume in good market years, and less in years of poor market.

D. Management of the forage for grazing to provide continuing grazing revenues, and forage use for local stock and wildlife.

E. Conservation of soil and water resources.

All revisions and amendments of this plan, made as hereinafter discussed, will provide for a continuation of such principles. It is the Corporation's understanding that the requirements of this plan with respect to the sustained yield management of the Unit shall be neither more nor less stringent than the management now and subsequently imposed on comparable national forest lands.

The Unit will be managed with the long-term objectives of producing sustained yield of wood products by 10-year budget periods with optimum financial return and continuous annual production, fluctuating in volume as markets allow. Rotation period will be adjusted as better mensurational and financial data are assembled.

The Corporation recognizes that the Secretary of Agriculture is responsible for enforcing the plan. Therefore, the officer of the Forest Service authorized to act in his behalf, hereinafter called the "Forest Service", will be provided access to the Unit at all times. All maps, aerial photographs and volume production records of the Corporation pertaining to management of the Unit will be available for inspection and study by the Forest Service at a time to be arranged during regular hours of business at the Corporation's Bend office.

With continuing operations under this plan, the Corporation will provide in writing any change of the resident representative authorized to represent the Corporation and act in its behalf in matters relating to the application of this plan.

Commercial forest lands of the Unit, both ponderosa pine and lodgepole types, will be managed to produce the maximum volume consistent with value production. This will consist of a combination of peelable logs, sawmill logs, poles, posts, and pulpwood to produce the highest total value. Commercial forest land referred to in this plan is as classified in the appraisal made in accordance with the Klamath Termination Act. Whenever new inventories are made, commercial forest land may be redefined and classified under definitions then in use or approved by the Forest Service for use in this plan.

Scribner (Eastside) log rule is used at the present for measuring sawtimber; weight on a per ton basis is used to measure pulpwood. Weight scale is converted to both Scribner and cubic (cunit - 100 cubic feet) scales, which are used for maintenance of inventory and harvesting records. The volume measurement units may be changed to meet future market needs.

SILVICULTURE AND LOGGING METHODS

A. Silviculture

1. Silviculture System for Ponderosa Pine Type

The management of this forest under the Crown Zellerbach ownership began in 1960. At that time there were approximately 14,700 acres of overmature pine types with understory stands of ponderosa and lodgepole pine of a range of ages and densities. These types had received at least one selective cut (50-60%) during the decade 1930-1939. During the 30 years 1960-1990 these types have been converted to the species type that dominated the existing understory (lodgepole or ponderosa pine). In the process, over 9,300 acres of the ponderosa type is now classified as lodgepole pine, because lodgepole predominated in the lower story of the original type. The remaining ponderosa pine types have very little lodgepole in the lower story. The ponderosa pine type now embraces 5,045 acres, described below:

Age	Acres	Cunits/Acre	Cunits	MBF
130	1,026	7.65	7,853	3,460
100	82	22.87	1,875	755
90	2,458	10.64	26,165	8,353
70	1,041	10.33	10,751	3,916
60	193	20.33	3,923	1,416
50	105	17.92	1,882	611
40	115	30.64	3,524	1,436
20	25			
	5,045	11.09	55,973	19,947

Except for the 100, 60, and 40 year old types, the density of the remaining types is low enough to allow a relatively high rate of tree growth. The denser types would support a partial cut or thinning.

The 100 years old type can be partially cut soon along with types older that 100 years. During the past decade ponderosa pine types have been commercially thinned for the post and pole markets. This practice will continue to be applied to the 60 year old type as markets allow. Currently, precommercial thinning of ponderosa pine in the low site stands of the Antelope Desert Unit is not economically feasible. Consequently the Corporation will continue to seek opportunities to reduce stand densities where needed in conjunction with commercial operations.

For approximately the first eight years of this decade, cutting in the ponderosa pine type should be primarily removal of the overstory with some commercial thinning of the understory of much of the stand over 90 years of age. The rest of the ponderosa pine types will be treated with mortality salvage and commercial thinning.

2. Silvicultural System for Lodgepole Pine Type

The lodgepole types received no management attention prior to the middle of the decade 1960-1969. When the Klamath Indian people did the harvesting during the 1930's, there was no market for the lodgepole. The first Crown Zellerbach cutting cycle, 1960-1969, concentrated on harvest of ponderosa, taking lodgepole where good sawlog stands occurred within the ponderosa types. However, sufficient market developed for lodgepole logs so that additional cutting was done in the lodgepole pine type and in lodgepole from ponderosa types. Also, the increasing threat from the mountain pine beetle necessitated increased lodgepole salvage and harvesting to minimize insect damage. The shift from ponderosa to lodgepole harvest volume over time is seen in the following table:

	Lodgepole Type			Ponderosa Type		
	Acres	MBF LP	MBF PP	Acres	MBF LP	MBF PP
1960-1969	7,500	12,700	2,200	15,000	4,000	33,500
1970-1979	9,400	9,800	4,800	10,240	-	14,500
*1980-1989	43,000	99,900	560	8,427	9,450	18,240

* Includes estimates for the year 1989.

During the first 20 years, about 17,000 acres of lodgepole were partially cut, primarily with a diameter limit selection and over 9,000 acres formerly classified as ponderosa type were converted to lodgepole type when the understory lodgepole became the dominant species as the overstory ponderosa was removed. Since that time there have been another 295 acres converted from ponderosa type to lodgepole type for a total of approximately 9,295 acres converted since 1960. There is currently 23 MMBF of scattered ponderosa pine volume remaining within the lodgepole type. This is a greater volume than was indicated in the inventory for the last management plan. Apparently there was premerchantable ponderosa pine present in the stand at the time of the last inventory and it grew into a merchantable class during the last 10 years.

The forest description of the resulting lodgepole type is as follows:

Age	Acres	Cunits/Acre	Cunits	MBF
130	672	11.54	7,757	2,878
100	25,268	15.27	385,783	126,762
90	21,750	14.23	309,601	100,368
70	16,472	13.14	216,450	69,471
60	5,251	10.20	53,556	14,355
50	9,277	6.26	58,116	17,533
40	3,577	5.96	21,324	5,673
20	2,058	4.61	9,483	2,591
	84,325	12.59	1,062,070	339,631

During the decade 1990-1999, the operations will concentrate on the lodgepole types. The silvicultural objective will be to cut out most of the mature (90+ year old) component leaving

younger, healthier two to three aged stands, with better spacing of individual trees as a stimulus to better growth. Following are some stand conditions that will be used as a basis for identifying those stands which should have cutting priority:

a. Stands which have heavy mistletoe infestation in both overstory and understory. The management objective is to remove all infested merchantable trees in basically a one cut "overstory removal". Logging will be on a tree length basis so most of the slash will be accumulated, piled, and burned at the landing. Any patches of reproduction of lower story trees which do not have mistletoe will be kept undisturbed to the extent practicable. Restocking will basically be obtained by natural seeding.

b. Overaged stands, age groups 90+. The management objective is to cut the overaged material in an "overstory removal", and convert the stands to vigorous young types. This will reduce the potential for serious bark beetle kill and increase stand productivity. Where there is little or no reproduction in the understory, adequate vigorous, larger trees will be left to supply seed for restocking and protection for the regeneration.

3. Marking Guide and Operating Instructions for Ponderosa Pine Types

Stands with light reproduction in the understory. Delay cutting until these stands are assured of stocking either naturally or by planting.

4. Marking Guide and Operating Instructions for Lodgepole Pine Types. The priority types for operations during the coming decade are described under "Silvicultural System". To apply these principles to the actual operation, the guides are listed below:

a. Stands having heavy mistletoe infestation. Cut all infested merchantable trees. Make a reconnaissance before the operation to determine if there are patches of reproduction or small poles which are not infested by mistletoe. Where such patches are found, designate them for saving. The purpose is to fall timber away from them so that they are not damaged by yarding and slash disposal. Eliminate infected trees by felling, or in the slash disposal process.

b. Overaged stands, age group 90+. The objective is to harvest all merchantable volume from these types, which are now growing at a rate of 15% or more below the average. Preferably the trees will be mechanically harvested and merchandised on the landing where the slash can be piled and burned. Disturbance to patches of healthy reproduction or poles will be minimized. The goal with the residual stand is to retain a young, vigorous understory with healthy reproduction in the understory.

c. Dense younger stands. The objective is to release trees that have the greatest growth potential so that the productivity of individual trees can be maximized. Depending on the stand composition, a stump diameter can be set to designate which trees should be harvested. Also, criteria identifying high risk trees can be established to further identify harvest trees. Careful logging procedures could accomplish some precommercial thinning of the understory through judicious placement of skid trails and the way falling patterns are achieved.

5. Reforestation

a. Ponderosa pine types. In the 1980-1989 management plan the West Boundary and Scott Creek ponderosa blocks were recognized as being understocked under a low density overstory stand. This condition, for the most part, has corrected itself on the Scott Creek block but continues to be a problem with West boundary. The other ponderosa blocks have satisfactory reproduction, at least

100 trees per acre and 40% stocking. The trees defined as reproduction are those 20 feet high and shorter. Some of the small scale plantings that were made in the period 1960 - 1969 resulted in low survival rates which were thought to have been caused by gophers. Since that time, through additional planting and observations it appears that the low survival rates may be caused more by micro-climates that are subject to extremely cold temperatures at ground level. These areas seem to be regenerating themselves from their perimeters in. The perimeters are outlined by surrounding stocked stands and this stocking seems to help protect the reproduction. We will need to maintain the overstory and stocking of the perimeters as much as possible in these types of stands until they become adequately stocked. This will be a long process so we will continue to look for other methods of reforestation that will speed up the process.

b. Lodgepole pine types. In the lodgepole pine types natural restocking is generally adequate. Where it is not, existing knowledge from adjacent lands and appropriate procedures developed from research will be utilized to develop cutting methods which will achieve satisfactory reproduction.

c. Existing deforested areas. The Klamath Indians apparently followed the practice of burning the central parts of this tract to improve grazing. When the last management plans was prepared there were over 12,000 acres of land on this tract what were classified as open grazing that it was felt may have previously supported a stand of lodgepole pine. The inventory for this management plan indicates that the area of land classified as open grazing land has been reduced to approximately 1,500 acres, which seems to support the previous statement and shows that it is becoming restocked.

d. Areas deforested by fire. If a fire kills all trees in an area more than 200 feet across, such deforested areas will be examined and if it appears economically feasible, they will be planted or seeded as soon as planting stock or seed is available, i.e. within three years.

6. Timber stand improvement. There are areas of dense stocking in both the ponderosa and lodgepole types but precommercial thinning of these areas is not economically feasible at this time. We will continue to look for commercial methods of thinning the stands that contain the smaller piece sizes. We will also attempt to do some precommercial thinning, where practical, in association with harvesting practices.

B. Logging Methods

The type of logging equipment will be used by contractor or stumpage purchaser which will result in the combination of lowest logging costs and acceptable logging damage. Emphasis will be placed upon minimum damage to soil, water, and the residual stand. Precautions will include the following:

1. Roads, skidroads and landings will be constructed in advanced of felling in the few places that are not already developed or where topography dictates it.

2. Clearing for roads, skidroads and landings will be held to minimum areas practicable under an efficient operation.

3. To the extent practicable, all trees will be felled so as to avoid standing trees and clumps of reproduction except that in dense reproduction it may be desirable to fall some trees so that their yarding will result in a partial thinning.

4. Trees will be felled in proper relation to skidroads and, wherever practicable, logs will be skidded endwise in order to avoid unnecessary disturbance to the soil and damage to reproduction.

5. On steep ground temporary roads and skidroads will be protected from erosion. Cross ditching and other effective measures will be used as needed.

6. Mechanical falling and merchandising equipment will be utilized as much as it is available and in the stands where it is best suited. Tree length skidding will be utilized where practicable, which is in most areas of the lodgepole types, and merchandising will be done at the landings.

7. The above and all other operating activities will be done in accordance with the Oregon Forest Practices Act.

FOREST PROTECTION

A. Fire

1. General

Minimum requirements for fire protection will be as set forth in Oregon state laws. Contractors and stumpage purchasers are required to abide by these laws and in many cases Corporation fire protection and equipment requirements are stricter than dictated by Oregon laws. The Antelope Desert Unit is located within the Klamath Forest Protective Association (KFPA) district. The KFPA has a guard station that is located on Corporation property at Sand Creek and a portion of their responsibility is the protection of Corporation land.

The Corporation also has a four-wheel drive 200 gallon fire truck that is located near Diamond Lake Junction on Highway 97 that is available for fire suppression. If needed, the Corporation would also enlist the services of logging contractors working on the property or in the area.

2. Slash and snag disposal

Slash and snags will be disposed of as follows:

a. Clearing for main road rights-of-way and landings

All slash will be piled or bunched and disposed of in the same manner as logging slash.

b. Partial cut and thinned areas

With mechanical harvesting most slash will be piled and burned at the landings. Where this is not the case, such as in thinned areas or where conventional logging methods are used, as with larger ponderosa pine trees, slash may be piled and burned at landings and within 50 foot wide strips on each side of main truck roads, or reduced by a mechanical system to crush or break up the debris.

c. Snag disposal

In all cutting areas, snags which protrude above the rest of the stand will be felled concurrently with the cutting operation, unless they are obviously used as nesting trees by wildlife.

B. Animals, Insects and Diseases

There are a number of endemic insect pests in the ponderosa pine and lodgepole pine types of eastern Oregon which may become epidemic at any time such as has been the case with the mountain pine beetle in the last few years. The Corporation will maintain vigilance to detect and act upon epidemic outbreaks by revision of the logging plans so as to log beetle infested trees.

While dwarf mistletoe will be a consideration in tree selection in both of the pine types, in the most heavily infested lodgepole stands it will be the major factor requiring removal of most of the overstory.

Needlecast disease of ponderosa pine has been observed in the past on the property and should it become epidemic, some departure may be required from the marketing guide previously described.

Porcupines have caused serious mortality in both of these pine types. Control would be accomplished through hunting.

C. Water and Soil

To accomplish the objectives of soil and water resource conservation, the practices stated below will be followed. Because of the level topography and lack of live streams, many general practices are not applicable and do not appear here.

1. Tractor roads will not be constructed, nor yarding done, across wet meadows or marsh areas.

2. Non-public truck roads used for operations in the Unit will be maintained as necessary.

3. During construction or reconstruction of logging roads, the following precautions will be observed:

   a. Roads will be located away from marshes.

   b. For all new construction, width of grade and drainage will be adapted to the type of material to be hauled over the roads. Drainage is not a problem over most of the area. Slopes are gentle and the soil is porous. Cross drainage, roadside ditches and outfall ditches will be designed to handle the spring snow runoff, which is the major consideration.

CALCULATION OF SUSTAINABLE HARVEST

A. Inventory

During the spring and summer of 1988 a complete inventory of the Unit was conducted. This included new aerial photos, new type maps and timber reforestation cruises. Atterbury Consultants, Inc. was contracted to do the mapping and cruising. The field data was processed through the Corporation's forest inventory system.

B. Growth

Current annual growth on the unit is estimated at 27,305 cunits, or 31 cubic feet per acre per year on 89,370 timbered acres. The estimate of annual growth is from the Corporation's inventory system and reflects the current mix of species, age, site and stocking. The model used in estimating growth is based on published yield tables as well as growth data collected on the Unit.

Current annual growth by age class is shown in the following table:

Age	Acres	Current Growth CCF/Year	Cu. Ft/Acre/Year
130	1,698	175	10
120	2,947	712	24
110	10,414	2,856	27
100	11,990	3,559	30
90	24,208	7,937	33
80	11,401	3,789	33
70	6,112	1,359	30
60	5,444	1,785	33
50	9,382	1,008	41
40	3,692	595	16
30	1,766	221	13
20	317		
	89,370	27,305	31

Current annual growth increased over the past decade as overmature and mature stand components were harvested. Growth is expected to continue to increase as remaining overmature components are harvested and target harvest age is lowered toward age of culmination of mean annual increment. Periodic annual growth is expected to increase from 31 cubic feet per acre per year currently toward 35 cubic feet per acre per year over the next thirty years, as the removal of the older, slower growing, components of uneven aged stands continues.

C. Sustainable Harvest

Planned harvest for the 1990's is 310 MCCF, or an average of 31 MCCF per year, based on a detailed harvest level analysis which demonstrates the feasibility and sustainability of this harvest volume over the next 100 years. Of this 310 MCCF total harvest, approximately 89% or 276 MCCF will be lodgepole and approximately 11% or 34 MCCF will be ponderosa.

For this analysis the entire forest area of the Unit was classified into "management types" based on species, site, age and average stand diameter. Stand statistics from individual timber types were averaged

to yield stand statistics for the broader management types. These were then used as input to a growth model in order to project future volumes available for harvest.

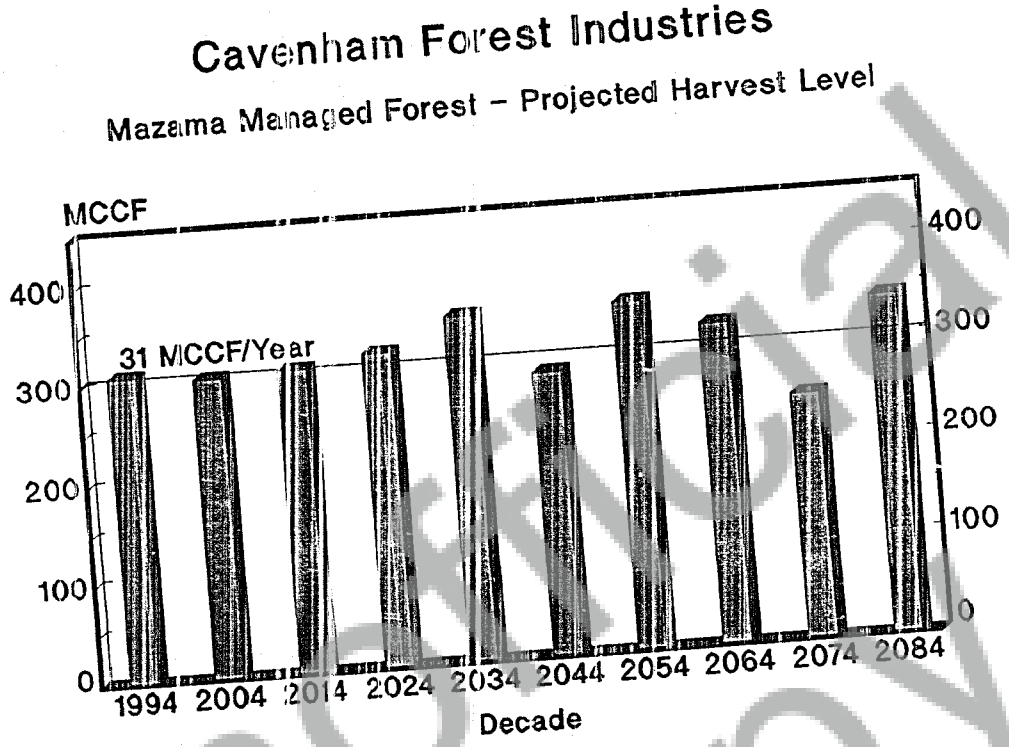
The SPS growth and yield model (developed by Dr. James Arney of Mason, Bruce & Girard) was used for growth projections in this analysis. SPS is a diameter based model and allowed simulation of selective harvests with diameter limits.

A number of criteria were used to determine which management types were eligible for harvest and how much volume could be harvested from a type in a given time period. Minimum diameters for harvest of 10 or 11 inches for lodgepole and 16 inches for ponderosa were required. An interval of 20 to 30 years between harvest entries and a minimum harvest volume of 1,000 board feet per acre were also applied in the analysis.

For a number of management types alternative harvest regimes were generated, e.g. distinguished by different initial entry periods. A spreadsheet program was used to allocate type acres between alternatives and to sum available harvest over all types in order to derive total harvest by decade and to demonstrate sustainability.

The results of this analysis are shown in the following Table and Figure.

	Projected Harvest		
Decade	M Acres	M Cunits	MMBF
1990 - 99	35	309	114
2000 - 09	34	304	105
2010 - 19	25	307	108
2020 - 29	35	318	111
2030 - 39	29	310	109
2040 - 49	23	288	113
2050 - 59	37	354	144
2060 - 69	25	325	124
2070 - 79	23	249	102
2080 - 89	42	344	130



SUSTAINABLE HARVEST CONTROL AND REPORTING

Annual harvests for the decade 1990 - 2000 are not specified in this plan. Annual harvests will vary with market conditions, operating factors, and goals of the Corporation. As with previous ten year plans, actual harvest volume in cunits will be controlled against plan (calculated sustainable) volume for the decade; actual

harvest volume may not exceed the plan volume by more than ten percent for the decade. Actual harvest area and volume will be tracked by species and reported to the Forest Service annually.

INVENTORY MAINTENANCE

The forest inventory for the Unit will be maintained as part of the Corporation's Timber Resource Information System. Timber types will be updated annually for growth via the system growth model. Timber types will be updated annually for the harvest or other significant changes based on cruises, production records, and/or estimates of removals.

REVISION OF INVENTORY AND MANAGEMENT PLAN

The 1990 ten year plan is based on an inventory conducted during spring and summer of 1988. The Corporation will reinventory the Unit every ten years. The next complete reinventory will be done in preparation for the ten year plan to be effective January 1, 2000.

The Corporation will conduct reinventories and prepare emergency revisions to this plan at any time for the balance of the decade when made necessary by radical shifts in the basic economy or to meet catastrophic events resulting from fire, insects, or any other cause. In response to the Corporation's application, emergency revisions may be undertaken upon confirmation by the Regional Forester that they are necessary.

The Corporation will submit all revised plans to the Forest Service for confirmation. The inventory developed by the Corporation for all of its forest lands will be used. If the Corporation's revision is not confirmed, and needed changes are not made after deficiencies have been pointed out to and discussed with the Corporation, the revised plans will include such provisions as the Regional Forester still determines to be necessary.

AMENDMENTS TO THE PLAN

It is intended that portions of this plan may be amended at any time, except that recalculation of allowable cut will be done only at ten-year intervals or as an emergency action as provided herein. When amendment of any section of this plan is deemed necessary, the Corporation intends to discuss the matter informally with the Forest Service. If the Forest Service concurs, the amendment will be prepared and will be submitted formally to the Forest Service for approval. The amendment will be effective only upon confirmation. Each approved amendment will be recorded in the Court House, Klamath County, Oregon, by the corporation. New five-year cutting budgets are not considered to be an "amendment" in the sense of this section.

OTHER LAND USES

There are 1,512 acres of other forestland in the Unit. Most of this land is economically useful for stock grazing if utilized in conjunction with forage found on the commercial forestland. Accordingly, it is the Corporation's plan to lease grazing rights for cattle. The grazing will be controlled by the Corporation and

modified or eliminated if necessary to prevent undue interference with sustained yield forest management or damage to soil and water resources of the Unit. Present cattle grazing load is approximately 407 head annually. In the past the Corporation leased portions of the Unit for grazing sheep but it was determined that this was detrimental to reproduction. As a result the practice was discontinued after the last sheep grazing lease was terminated.

There is one active rock pit on the Unit that will continue to be used and additional rock pit development will be investigated for use on the basis of whether they are determined to be compatible with the rest of the resource.

The camping use by deer, elk, and antelope hunters at the several springs and wells will be continued unless fire danger becomes too high or the liability becomes too great. Also, the Corporation will continue to work with the game department in the development and maintenance of watering devices for game.

Finally, there is a mill site on the Unit that is partially being used by a pole manufacturer. This operation will continue and additional use of the site by other operations will be investigated and encouraged as the opportunities develop.

APPENDIX

(TOO VOLUMINOUS TO RECORD)

Copies of this information maintained at

Winema National Forest
2819 Dahlia Street
Klamath Falls, OR 97601

Harvest Allocation Spreadsheet

Mazama Managed Forest

Forest Inventory Summary

July 1, 1989

STATE OF OREGON: COUNTY OF KLAMATH: ss.

Filed for record at request of Cavenham Forest Industries, Inc. the 2nd day of April A.D., 19 90 at 2:34 o'clock P.M., and duly recorded in Vol. m90, of Deeds on Page 5927.

Evelyn Biehn, County Clerk

By Pauline Mullendore

FEE $183.00

Return: Cavenham Forest Industries, Inc.
1500 SW 1st Ave. #500
Portland, OR. 97201

1830