

Appendix IV

Forest Vegetation Management

Vegetation Management Practices

A number of silvicultural systems and management practices may be used, depending upon the management objectives for a particular area. The three systems that will be applied on the Wasatch-Cache are even-aged, two-aged, and uneven-aged.

Even-aged Systems: This system is designed to produce stands where trees of the same approximate age are growing together. Even-aged stands are developed or maintained through the use of clearcutting or shelterwood harvest methods.

Clearcutting is appropriate for early seral species that do not require shade to grow, including aspen and lodgepole pine. It is also appropriate to prevent spread of insects and disease, where windthrow will result in significant loss of residual trees, or to create desirable landscape patterns of vegetation. Clearcutting with reserves (trees that are retained to provide future snags and down woody material) is an appropriate practice in lodgepole pine, aspen, mixed stands dominated by lodgepole pine or aspen, and in stands of aspen undergoing succession to conifers through encroachment.

Shelterwood removes most of the stand, allowing room for new trees to grow beneath the remaining older trees, which provide seed and protect the young trees from sun and wind damage. Leave trees tend to be fairly uniformly spaced throughout the stand. It is appropriate for those species that require some degree of protection to insure growth of seedlings. The removal of the overstory after establishment of regeneration will create conditions similar to those of a regenerated clearcut.

Two-Aged Systems: Stands with two distinct layers or age classes are desirable for a variety of reasons. An irregular shelterwood treatment can be used to create such a structure. In this method, the protecting overstory trees are not uniformly spaced, but scattered over the harvest area as single trees or small groups of leave trees. The overstory trees would not be removed after regeneration, but would function as the overstory age class, eventually providing snags and down woody material.

Uneven-Aged Systems: Uneven-aged systems attempt to provide a full range of size/age classes within the stand, from seedlings to mature trees. This management system is appropriate for mid to late seral species, such as Englemann spruce, that require or tolerate relatively heavy shade to regenerate. This system is applied through either group selection, in which trees are harvested in small (< 1 ac) groups, or single tree selection, in which individual trees are removed. This system is appropriate where windthrow is a concern, in mixed stands where insect and disease problems are less of a concern, and where multiple canopy layers are desired.

Timber Management on Unsuitable Lands.

All lands within Management Prescriptions that do not emphasize managing timber for growth and yield are considered unsuitable lands. Within the unsuitable lands definition are those lands which are tentatively suitable, but received management prescriptions that emphasize resource management other than timber. Timber management (including commercial harvest, reforestation, and commercial and precommercial thinning) may occur on those lands, if analysis determines it is an acceptable way to achieve the management direction for the area (for example, harvest may be used to develop wildlife habitat on prescription 3.2 lands, if the analysis shows that it can be accomplished while still meeting the objectives for the MPC). Where appropriate, timber harvest will be used to achieve desired future condition on unsuitable lands. It is anticipated that most of the activity occurring on unsuitable lands will take place within Management Prescription 5.1, which emphasizes maintaining or restoring forested ecosystem integrity while meeting multiple resource objectives. Any volume produced from these prescription categories is not considered part of the Allowable Sale Quantity (ASQ), but is included in the Total Sale Program Quantity (TSPQ).

Timber harvest may be used to salvage trees or stands substantially damaged by wind, fire, or other significant disturbance; reduce susceptibility to insects and disease; or to develop stand structures that meet the desired future conditions, provided such activities can be done in harmony with the management emphasis for the area. Any volume resulting from such a treatment is not part of the Plan ASQ, and is not scheduled on a regular basis.

Some lands have been removed from the suitable due to steep slopes. Harvesting may occur on these lands to test logging systems, to conduct experiments, etc.

Harvesting of fuelwood and Christmas trees may occur on unsuitable lands to provide for public use provided such use is compatible with the overall management direction for the MPC.

Tables 1, and 2 and Figure 1 present the vegetation management practices, ASQ and LTSYC expected within the first decade of the planning period.

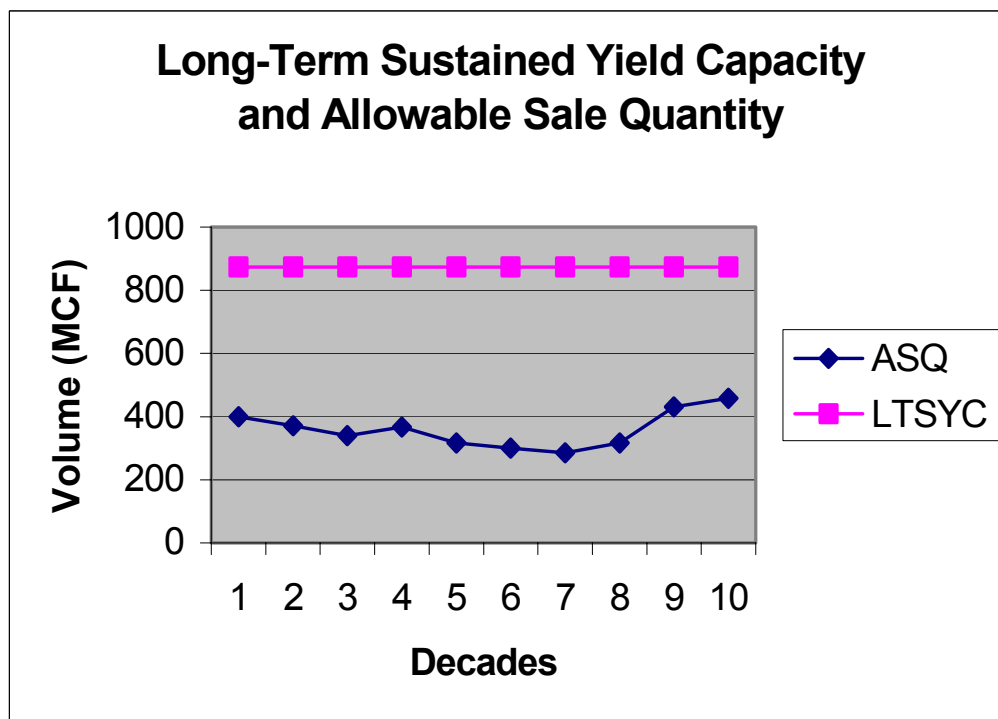
Table 1. Vegetation Management Practices (Annual average in first decade for suitable lands)

Vegetation Mgt Practice	Acres
Regeneration harvest:	
Clearcut	150
Shelterwood and Seed Tree:	
Preparatory cut	
Seed cut	30
Removal cut	
Selection	70
Intermediate Harvest:	
Commercial thinning	50
Salvage/sanitation	50
Timber Stand Improvement	300
Reforestation	250

Table 2. Allowable Sale Quantity and Timber Sale Program Quantity (Annual Average for First Decade).

Harvest Method	Allowable Sale Quantity	
	Sawtimber (MMCF)	Other Products (MMCF)
Regeneration Harvest:		
Clearcut	.20	
Shelterwood and Seed Tree:		
Preparatory Cut		
Seed Tree	.05	
Removal Cut		
Selection	.05	
Intermediate Harvest:		
Commercial Thinning	.04	.01
Salvage/Sanitation	.04	.01
Totals	.38	.02
Additional Sales (Unsuitable Lands)		
	Sawtimber (MMCF)	Other Products (MMCF)
Total for all harvest methods	.5	
	Allowable Sale Quantity	Timber Sale Program
MMCF	.4	.9
MMBF	2.0	4.5

Figure 1. LTSYC and ASQ



Table

3.

Land Classification (Acres Rounded to Nearest 100)

Classification	Acres
1. Non-Forest land (includes water)	567,900
2. Forest land	671,500
3. Forest land withdrawn from timber production (Wilderness, RNA, Utility Corridors, Developed Rec. Areas, Roads, Special Use Areas)	152,500
4. Forest land not capable of producing crops of industrial wood	0
5. Forest land physically unsuitable --irreversible damage likely to occur --not restockable within 5 years	177,300
6. Forest land – inadequate information	0
7. Tentatively suitable forest land (item 2 minus items 3, 4, 5, and 6)	341,700
8. Forest land not appropriate for timber production --minimum management requirements --multiple-use objectives --cost efficiency	0 311,000 0
9. Unsuitable forest land (items 3, 4, 5, 6 and 8)	642,600
10. Total suitable forest land (item 2 minus item 7)	28,900
11. Total national forest land (items 1 and 2)	1,239,400

Table 4. Timber Productivity Classification

Potential Growth (cu. ft./acre/year)	Suitable Lands (acres)	Unsuitable Lands (acres)
Less than 20	307	134,500
20-49	17,848	346,000
50-84	9,517	134,500
85-119	1,228	25,600
120-164		
165-224		
225+		

Table 5. Present and Future Forest Conditions

	Suitable Land (MMCF)	Unsuitable Land (MMCF)
Present Forest:		
Growing Stock	40	705
Salvable Dead	5	79
Annual Mortality	0.8	14.5
Annual Net Growth	0.6	10.7
Future Forest:		
Growing Stock	32	
Rotation Age ¹	80 to 120 years	
Age Class Distribution – Suitable Lands (M Acres)		
	Present Forest	Future Forest
0-30	8	7
30-80	2	12
80+	21	10

¹Average rotation age for regenerated stands on lands with timber emphasis by major forest types.