

Pre-Operations Report

Operation Name: Mad Monument

County: Linn

Management Basin: Mad Creek

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
I	PC-H	85	78
II	MC	30	26
III	PC-M	80	72
Total		195	176

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation is located within a temperate climate area. Typically the fall and winter seasons are wet. This area receives approximately 70 to 85 inches of rainfall per year. The operation is located within the *Tsuga heterophylla* Zone (Natural Vegetation of Oregon and Washington, Franklin & Dyrness, 1973).

The sale is located on moderate to steep slopes of the broad divide between Mad Creek and the middle fork of Little Rock Creek. There is a band of very steep slopes on the eastern boundary of the sale above Mad Creek. The sale is underlain by sedimentary and igneous rocks, mostly tuffs, mudflows deposits, flow breccias and conglomerates of the Western Cascades. This area is mapped as a very large landslide deposit on the State geology map.

The soil within the operation consists of the Akerson series. Akerson is a deep well-drained colluvial soils. The 50 year average site index for Douglas-fir is 130 and 100 for western hemlock. (Soil Survey of the Cascade Unit, Miller & Steinbrenner, 1980) The elevation within the operation ranges from 1,840 feet to 2,320 feet.

II. CURRENT STAND CONDITION:

Area I is a 90 year old stand that is currently classified as Understory. The overstory consists of Douglas-fir, western hemlock and red alder. There are a few scattered large diameter (50 to 75 inches) remnant old growth trees scattered within the stand. Western hemlock seedlings, vine maple, salal and ferns can be found in the understory. There are approximately 8 snags per acre;

400 cubic feet per acre of sound down wood; and 4,000 cubic feet per acre of wood in all decay classes. (SLI, 2006)

Area II is a part of the same stand as Area I described above. There are very few if any remnant old growth trees located within Area II. The trees within Area II are much more dense and are smaller in diameter than those trees within Area I.

Area III is an 85 year old stand that is currently classified as Understory. The overstory within this stand consists of Douglas-fir and western hemlock with a small number of red alder and western red cedar. Western hemlock seedlings, vine maple, Oregon grape, salal and ferns can be found in the understory. There are approximately 2 snags per acre; 150 cubic feet per acre of sound down wood; and 1,600 cubic feet per acre of down wood within all decay classes within the stand. (SLI, 2006)

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
I	PC-H	12676	DFWH	90	20	196	88	45	85
		Target ³			28	112	25	22	
II	MC	12676	DFWH	90	20	196	88	45	30
III	PC-M	12678	DF	85	17	206	127	51	80
		Target ³			20	140	57	30	

1 The source of stand inventory information is SLI from 2006 .

2 The acres are based on GIS and include roads, streams buffers, reserve areas, etc.

3 The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

III. DESIRED STAND CONDITION:

This operation is located in the Mad Creek Basin. Approximately 54 percent of this basin is planned for Complex Structure stands. (*Cascade District Implementation Plan, 2003*) This basin contains mature, densely stocked stands of Douglas-fir mixed with varying amounts of western hemlock, western red cedar, noble fir, and hardwoods. The diversity of tree species in these stands present good opportunities for structure based management, except for stands with very high overstory densities. The stands generally have high timber values and retain important structural components (snags, large old growth trees, large down logs, etc.) from legacy stands. This basin makes up 1.4% of the City of Salem’s municipal watershed.

The desired future condition for Area I and Area II is for a stand that is not in a complex condition (*Cascade Implementation Plan, 2003*). However, the current stand is suited to easily move toward Layered or Older Forest Structure. The

proposed prescription is designed to help move the stand toward a Layered condition. When the desired future condition for the basin is reviewed during the next Implementation Plan period, the DFC for this stand may be changed to complex at that time.

Area I and Area II will remain a single stand type at the completion of the operation. The mixture of seedlings to be planted in Area II will add diversity of species to the stand. The seedlings will be grown for wood production as well as for stand structure. Future harvests will thin out the planted area to give the seedlings room to grow.

The anticipated pathway for Areas I and II:

- Area I will receive a heavy partial cut.
- The understory in Area I will be groomed to help it grow into a layer or Area I will be clearcut at a future entry. Either pathway is dependent upon where the stand should go in the future since it is classified as general.
- Area II will receive a modified clearcut.
- Area II will be reforested with a mixture of Douglas-fir and western red cedar seedlings.
- Area II will be evaluated for a pre-commercial thinning in 10-12 years.
- Area II will be evaluated for a commercial thin at around age 40. This entry may remove some of the overstory trees and thin out understory trees.
- Add down wood and snags at future entries if needed.

The desired future condition of Area III is Layered. (*Cascade District Implementation Plan, 2003*) Area III may need additional entries to keep the understory growing. Root disease pockets may be possible areas to add diversity of species to the stand by cutting down the trees in the root disease pockets and replanting the areas with disease resistant species to create horizontal diversity.

A green tree area from a previous timber sale is located within the Area III thinning. In order to protect and maintain the proper number of trees in this green tree area, it's location will be move down the slope adjacent to the Mad Creek riparian area. The same number of trees will be retained in this new location of the green tree retention area as required for the original sale.

The anticipated pathway for Area III:

- Moderate partial cut.
- Evaluate larger openings for potential reforestation.
- Add down wood and snags as needed.
- Stand will be evaluated for a commercial thin in 15-20 years. The focus of the thinning will be on creating openings for layering.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ²	Desired Future	Acres
I	12676	UDS	UDS	GEN	85
II	12676	UDS	REG	GEN	30
III	12678	UDS	UDS	LYR	80

1 The forest management plans for these districts do not contain structure strategies.

2 The stand is expected to develop into this condition in the five to ten years after this operation is completed.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

Area I: Trees greater than 8 inches in diameter will receive a diameter limit thinning. All Douglas-fir trees larger than 25 inches in diameter will be reserved from cutting. Western hemlock smaller than 10 inches in diameter and larger than or equal to 20 inches in diameter will be reserved from cutting. Keep all hardwoods. Keep all western red cedar trees greater than 20 inches in diameter. Trees and seedlings in the understory will be protected as much as possible during the operation. This prescription would provide a **total residual stand** with an average stand diameter of 7.5 inches, 99 TPA., 112 BA/acre; and an SDI of 22%.

Keep all down wood and all snags as safety permits within Area I. At the end of the operation a minimum of 2 snags per acre on average will be retained.

Area II: This stand will receive a modified clearcut. Approximately 6 green trees per acre will remain within the unit following the harvest. The trees chosen for green trees should have a minimum diameter of 20 inches where possible. The slash within Area II will be piled and burned. The unit will be replanted with a mixture of Douglas-fir and western red cedar seedlings.

Area III: Trees greater than 8 inches in diameter will receive a moderate thinning to an SDI of 30%. Reserve all western red cedar trees. Reserve any hardwoods that are located within root disease pockets. Protect the trees and seedlings within the understory as much as possible. This will leave the a **total residual stand** with an average diameter of 9 inches, 157 TPA, 149 BA per acre and a SDI of 34%.

Keep all down wood and all snags as safety permits within Area III. At the end of the operation a minimum of 2 snags per acre on average will be retained.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	x
Planned Quarter:		1	

	Conifer	Hardwood	Total
Net Volume (MBF)	2,971	23	2,994
Stumpage Value (\$/MBF)	\$350	\$150	
Estimated Gross Value	\$1,039,850	\$3,450	\$1,043,300
		Project Costs:	\$4,000
		Estimated Net Value:	\$1,039,300

VI. TRANSPORTATION PLANNING AND HARVESTING:

Access to the sale area will be via the County paved road to the Monument Peak mainline and Mad Creek road. The MP and MC roads are collector or near mainline type roads in good condition. No new construction is necessary for the sale. The sale can be ground yarded on about 85% of the area and some minor cable logging may be necessary along the eastern part of the sale. Some minor culvert replacement and surfacing grading will be done on the MP 800 & 700 as well as the MC 100.

- Minor Culvert work on MP 800 & 700, surface grading on MC 100

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0	0
Improve	0	0	0	0
Maintain	0	0	2.4	0
Close/Block	0	0	0	0
Vacate	0	0	0	0

For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

VII. AQUATIC RESOURCES AND WATER QUALITY:

There are no listed fish associated with any of the streams within the operation. Mad Creek, a large fish bearing stream, is located along the far eastern boundary of the operation. There are also four small, non-fish bearing streams located within the operation. One of these streams flows into Mad Creek. The other three streams flow into Little Rock Creek.

Management activities within riparian areas of these streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas can be found in the *NWO State Forests Management Plan* (pg. J-1 – J-16).

- A no harvest buffer will be posted along Mad Creek at least 25 feet from the stream. The remaining RMA area from 25 feet to 170 feet will be thinned to a SDI 30%.
- A no harvest buffer will be posted at least 25 feet from the small, non-fish bearing streams within Areas I and II. Where the streams are perennial, between 15 and 25 trees per acre will remain within the 25 foot to 100 RMA zone. Additional trees will be left from 100 to 170 feet from the stream if there are insufficient trees to be retained in the inner RMA zone.

The following measures will be used to minimize impacts to streams: 1. No ground based equipment will be allowed within 50 feet of any fish stream and 25 feet of any non-fish bearing streams, 2. There will be seasonal restrictions as to when ground yarding and road construction will be allowed (i.e. during dry seasons), 3. Erosion control measures will be used on areas of soils exposed during road construction or improvement, 4. In the cable portions of the operation, one end suspension of logs during yarding will be required, 5. Road ditches will be disconnected from streams, 6. Road maintenance will be required during log hauling.

VIII. T&E SPECIES CONSIDERATIONS:

This operation was surveyed for Northern Spotted Owls during the 2006 survey season and received responses from an owl whose status is unknown. The operation will be surveyed again during 2007 survey season. If during the 2007 survey season enough information is gathered to establish a site, then ODF policies regarding Northern Spotted Owls will be followed prior to the sale being prepared.

The operation area was checked against District knowledge for any listed plant location. The operation area was also checked against the Oregon Natural

Heritage Program's database of known listed plant locations. No listed plant records were identified within the operation area.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial risk assessment by the geotechnical specialist for the sale is low except for the very steep slopes along the eastern boundary of the sale above Mad Creek. If these steep sloped areas remain within the sale area as the sale layout proceeds, the geotechnical specialist will be consulted to determine if a field visit is needed. The State geology map indication of landform origin as a very large landslide deposit is not expected to present any complication to the slope stability as related to this sale; however, if there is any indication of active slope movement observed during sale layout the geotechnical specialist will be consulted.

X. RECREATION RESOURCES:

Currently there is $\frac{3}{4}$ mile of nonmotorized multiuse trail within this operation. This is the part of the Mad Creek Canyon Trail. There is one multiuse dimensional lumber bridge. The trail is primarily used by horse back riders. One month prior to starting operations, notice of trail closure will be posted at the trail, trailhead and Santiam Horse Camp. In addition due to the popularity of this area a news release will be sent out to inform visitors of the trail closure. During the logging operation the trail will be closed to public use. Roads will be posted stating that an active logging operation is taking place. Operators and ODF will ensure that traffic rules are followed and caution is taken to ensure safety. There will not be a detour around this operation due to the fact that the only available detour is the Monument Peak Mainline. This is a busy mainline road that is unsafe for trail users to use as a detour.

Prior to the operations the trail will be flagged clearly so that operators are aware of its location. During operations efforts will be made to minimize impacts to the trail. This will be accomplished by limiting equipment crossing or driving along the trail except where necessary. Operators will make efforts to limit debris accumulation on top of the trail. Logging equipment such as bulldozers or skidders will not be used to open the trail. This will ensure that the trail will remain a single track dirt surface trail. Only hand crews or equipment designed for trail construction will be used. Once operations are complete skid roads leading into the area will be closed to minimize user conflicts such as entry by motorized vehicles into the nonmotorized zone. The trail will be reestablished by the Oregon Department of Forestry and reopened within one year after completion of the operation. Efforts will be made to return the trail tread to its original condition and location except where no longer feasible.

XI. CULTURAL RESOURCES:

Pre-operation reconnaissance revealed no visible cultural resource features or artifacts. If discovery is made, the cultural resource will be protected and field staff will consult with the Cultural Resource Specialist in Salem.

XII. SCENIC RESOURCES:

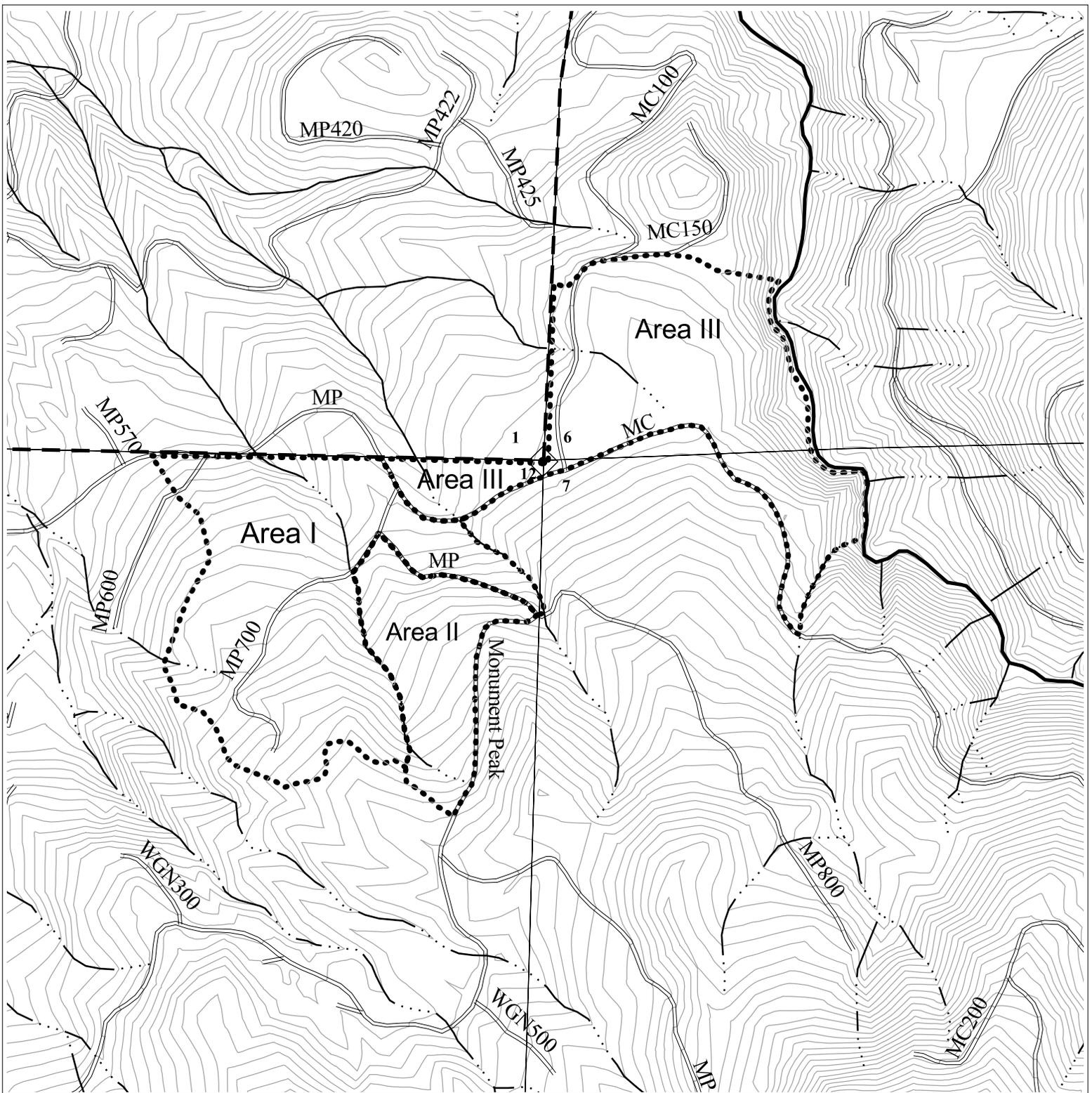
There are no scenic resources within the operation.

XIII. OTHER RESOURCE CONSIDERATIONS:

To protect air quality, the pile burning will comply with the Oregon Smoke Management Plan. The Smoke Management Plan is designed to reduce emissions from prescribed burning in western Oregon and to minimize smoke intrusions into designated population areas.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The operation contains Special Stewardship, Aquatic and Riparian Habitat for a large Type F stream and Focused Stewardship, Aquatic and Riparian Habitat for four small type N streams. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.



**MAD MONUMENT
--TOPOGRAPHY--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT**

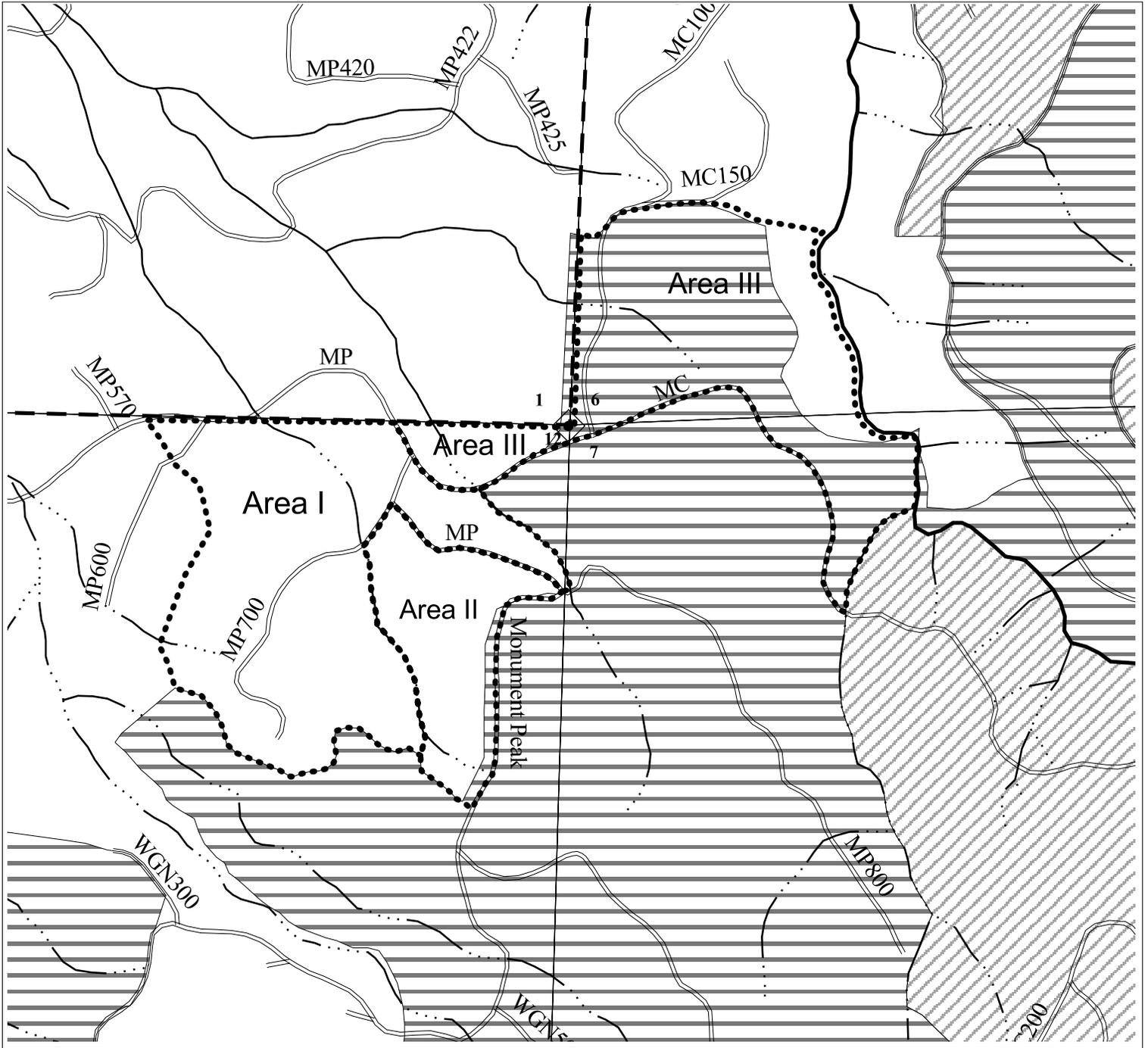
Portions of Sections 12
T10S, R3E W. M. and
Portions of Sections 6 and 7
T10S, R4E W.M.
Linn County, OR

Approximate Net Acreage:
Partial Harvest: 150
Regen Harvest: 26

-  Santiam State Forest
-  Mad Monument
-  Roads
-  Streams
-  FISH
-  NONFISH
-  UNKNOWN
-  20 foot contour lines



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MAD MONUMENT
--DESIRED FUTURE CONDITION--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT

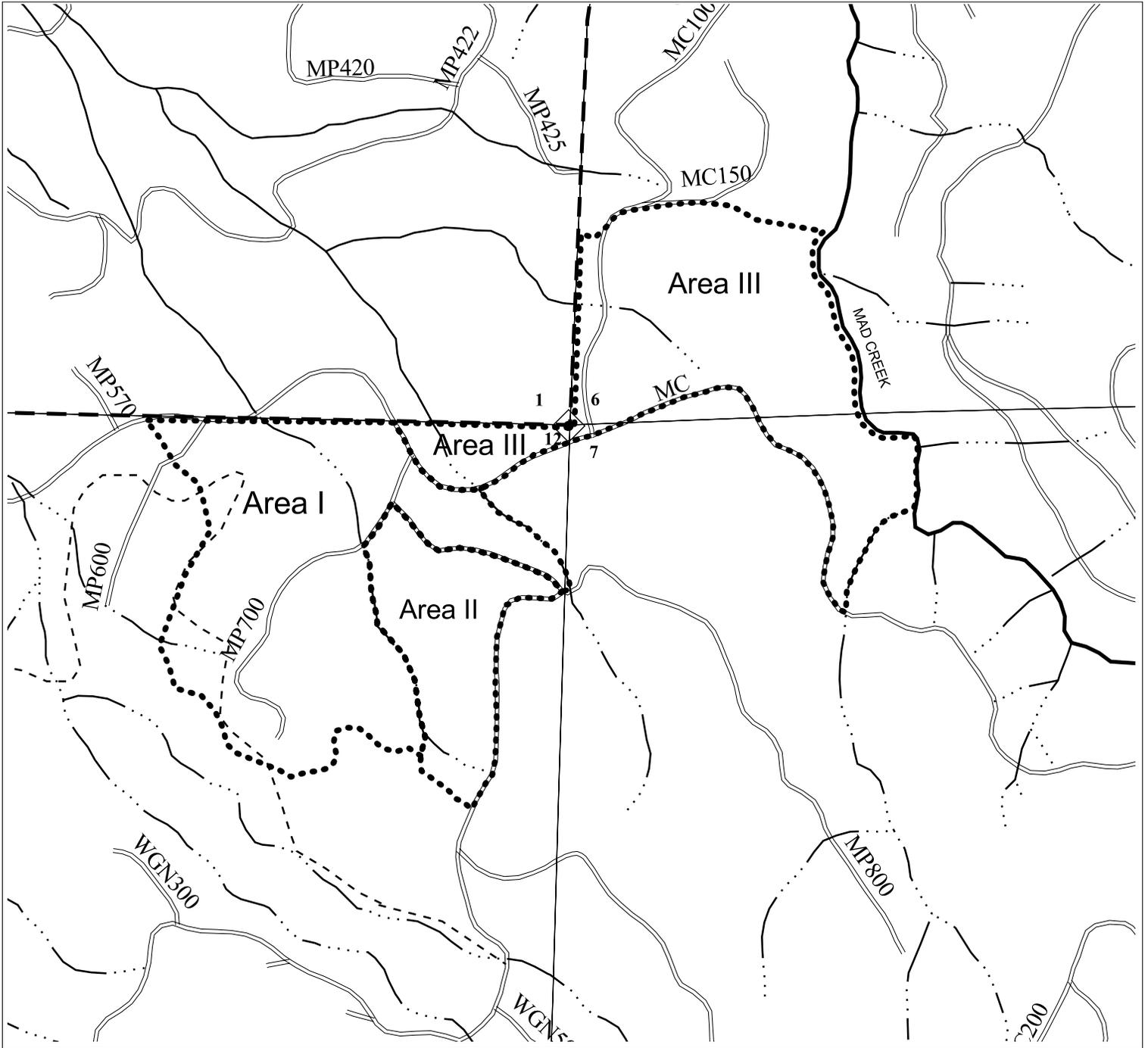
Approximate Gross Acreage:
 Partial Harvest: 150
 Regen Harvest: 26

Portions of Section 12
 T10S, R3E W. M. and
 Portions of Sections 6 and 7
 T10S, R4E, W.M.
 Linn County, OR

- Santiam State Forest
- Mad Monument
- Roads
- Streams
- FISH
- NONFISH
- UNKNOWN
- Desired Future Condition
- LYR
- OFS



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**MAD MONUMENT
--KEY RESOURCES--
FY '08 SALE PLAN
NORTH CASCADE DISTRICT**

Portions of Section 12
T10S, R3E W. M. and
Portions of Sections 6 and 7
T10S, R4E, W.M.
Linn County, OR

Approximate Gross Acreage:
Partial Harvest: 150
Regen Harvest: 26

- Santiam State Forest
- Horse Trail
- Mad Monument
- Roads
- Streams
- FISH
- NONFISH
- UNKNOWN



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