Old Growth

Morgan Creek and Coffeepot

Managed Coffeepot Old Growth Background

- In 2002, all competing trees were removed
- In 2003, slash piles were burned
- These selected stands are composed of trees with ages 250-300 years old

Managed Coffeepot Old Growth

COMA - 2008

File: C:\fmsfolio2\OldGrowth\Cache\COMA-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	65 (65 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	24.3	14.0	7.0	54.0
ht	98.4	44.7	35.9	180.2

Basal area:	259.9	(259.9 per acre)
Number of trees:	61	(61 per acre)

Standing dead trees (using FVS plant class codes):

No FVS standing dead trees to summarize

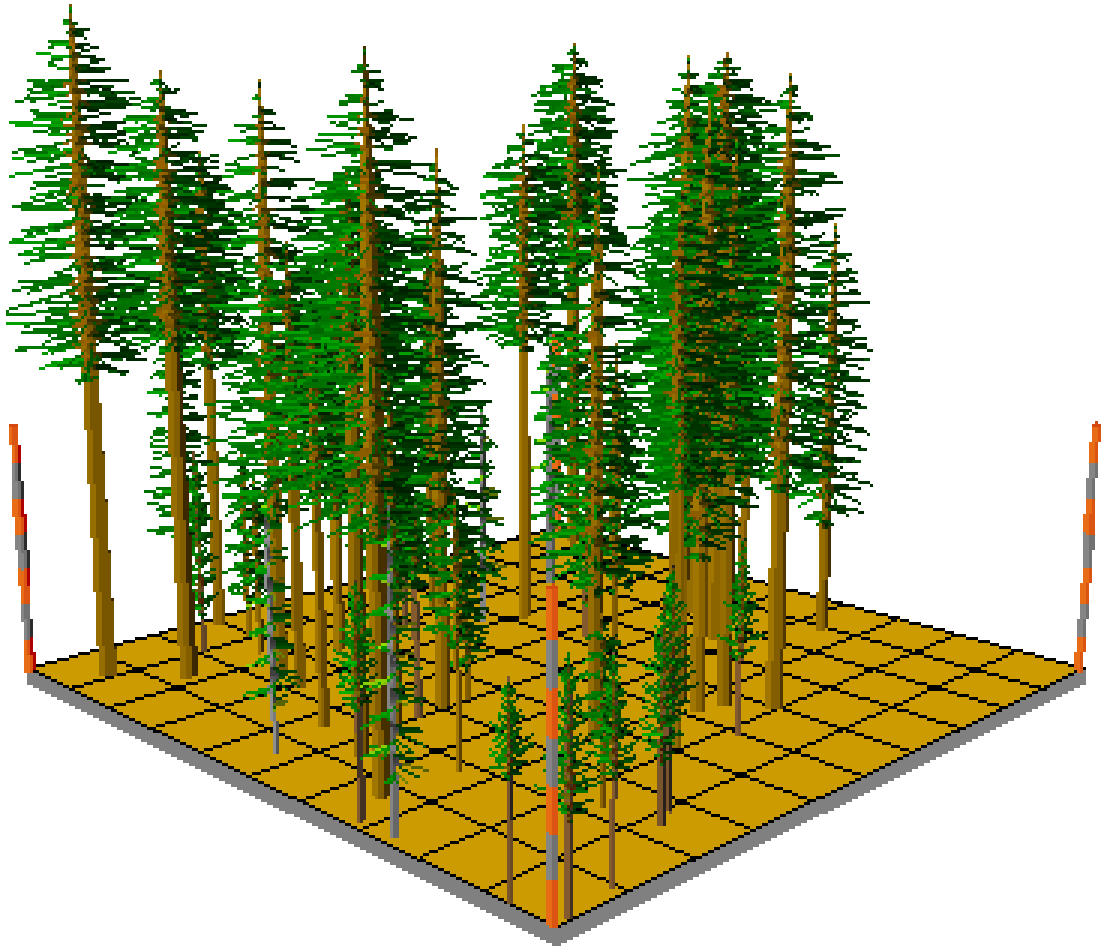
Downed trees and logs (status code 0, 10, 3, or 13):

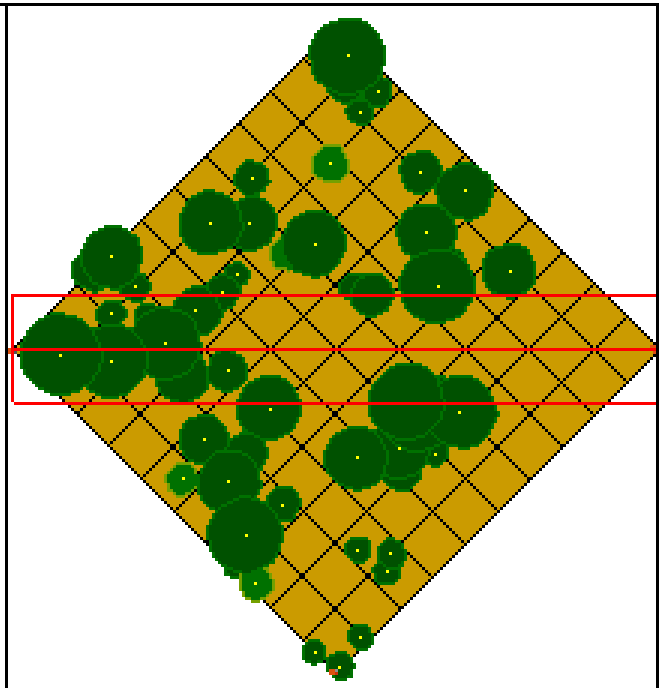
No downed logs to summarize

- All stands are very open with low disease and fire risk.

COMA - 2008

COMA-2008.svs





Unmanaged Coffeepot Old Growth Background

- These stands are basically untouched, though no fire has been allowed to enter the area

Unmanaged Coffeepot Old Growth

COUN - 2008

File: C:\fmsfolio2\OldGrowth\Cache\COUN-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	296 (296 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	13.4	11.3	2.0	87.0
ht	59.8	38.0	11.0	168.0

Basal area:	487.5	(487.5 per acre)
Number of trees:	292	(292 per acre)

Standing dead trees (using FVS plant class codes):

No FVS standing dead trees to summarize

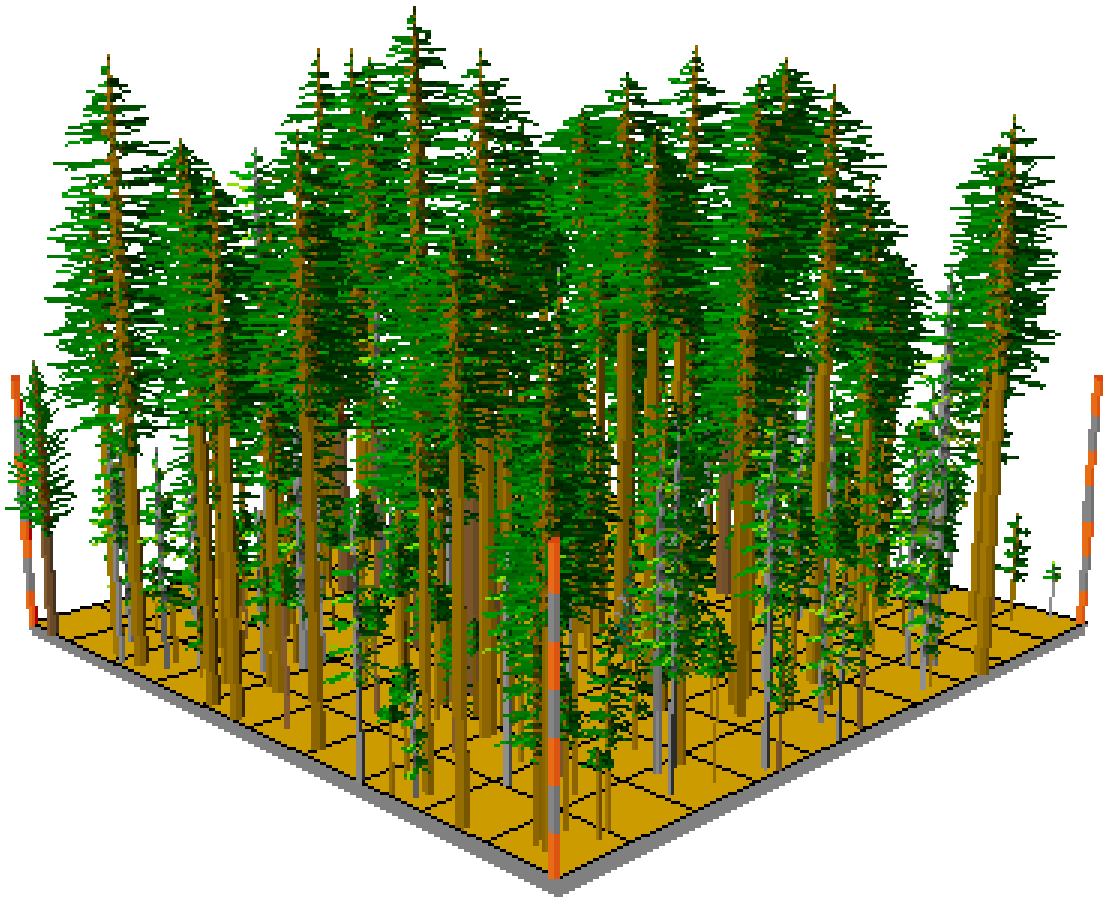
Downed trees and logs (status code 0, 10, 3, or 13):

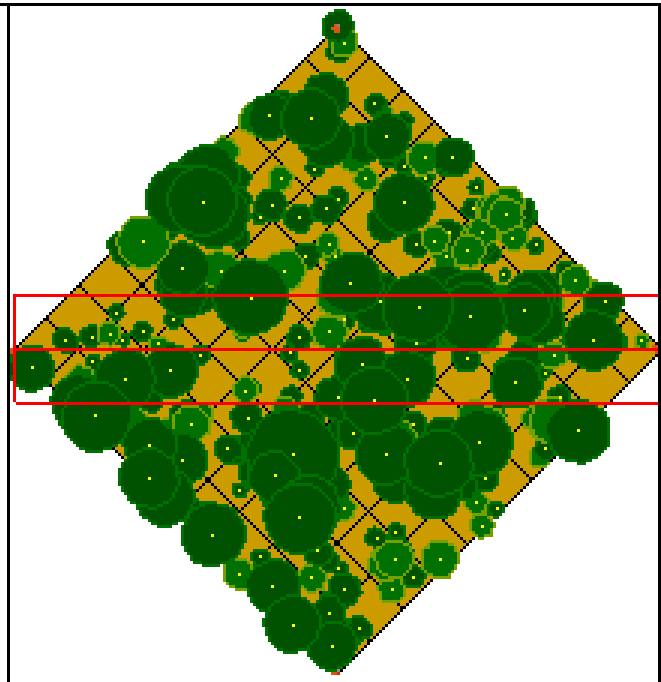
No downed logs to summarize

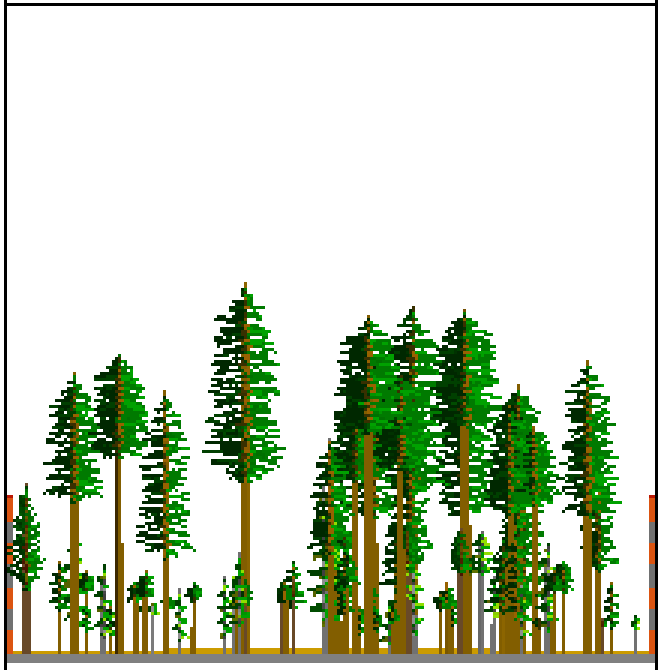
- Stands are very dense, with around 300-400 trees per acre in each.
- Older trees have crowned out, with many hollow or growing conchs.
- Some trees are succumbing to beetles.

COUN - 2008

COUN-2008.svs







Morgan Creek Managed Area Background

- Stands were thinned 40 years ago, taking largest trees, leaving around 30-40 trees per acre
- A few upper-story, mid-story and under-story trees were left

Morgan Creek Managed Area

MOMA - 2008

File: C:\fmsfolio2\OldGrowth\Cache\MOMA-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	96 (96 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	17.9	9.7	4.0	38.0
ht	79.6	36.8	20.1	145.1

Basal area:	207.3	(207.3 per acre)
Number of trees:	92	(92 per acre)

Standing dead trees (using FVS plant class codes):

No FVS standing dead trees to summarize

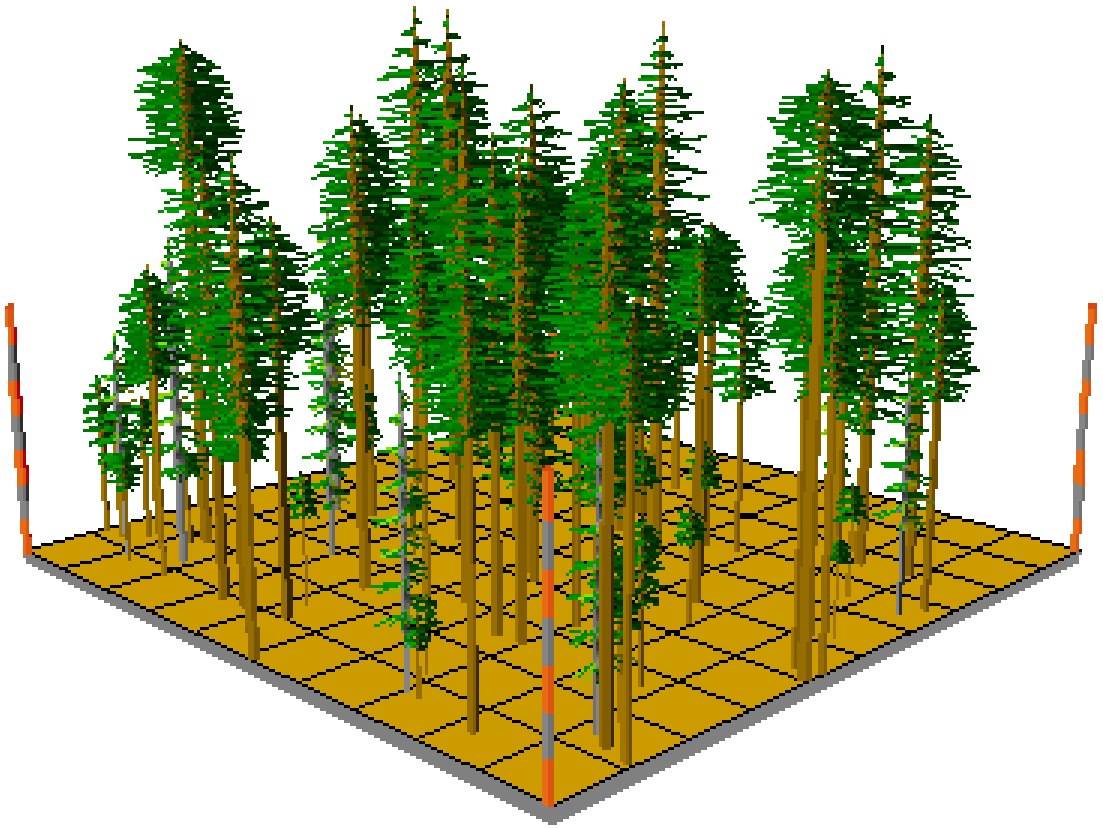
Downed trees and logs (status code 0, 10, 3, or 13):

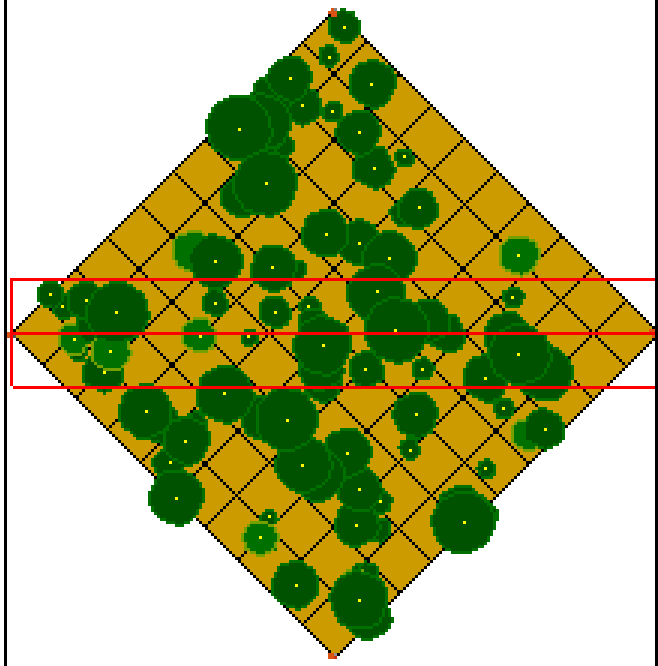
No downed logs to summarize

- 4 species of tree are present – Ponderosa, Lodgepole, and White Pine, as well as white fir.
- Stands are fairly open, with some shrubs.

MOMA - 2008

MOMA-2008.svs





Morgan Creek Harvested Area Background

- Harvest was typical, largest trees were taken
- Trees present today are smaller and spaced out

Morgan Creek Harvested Area

MOHA - 2008

File: C:\fmsfolio2\OldGrowth\Cache\MOHA-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	64 (64 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	49.7	23.6	11.0	73.0
ht	132.6	57.5	55.3	213.4

Basal area:	986.6	(986.6 per acre)
Number of trees:	60	(60 per acre)

Standing dead trees (using FVS plant class codes):

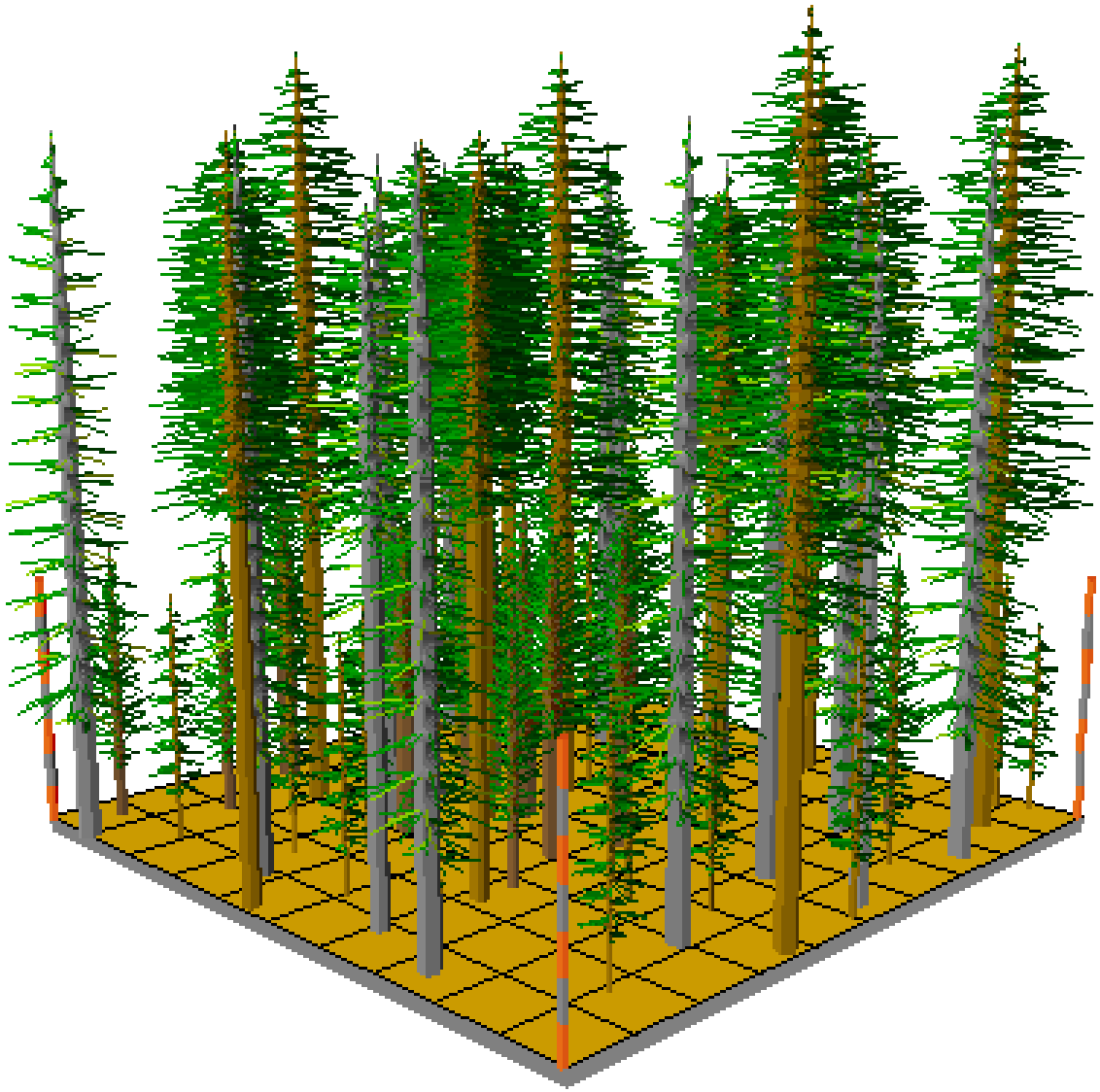
No FVS standing dead trees to summarize

Downed trees and logs (status code 0, 10, 3, or 13):

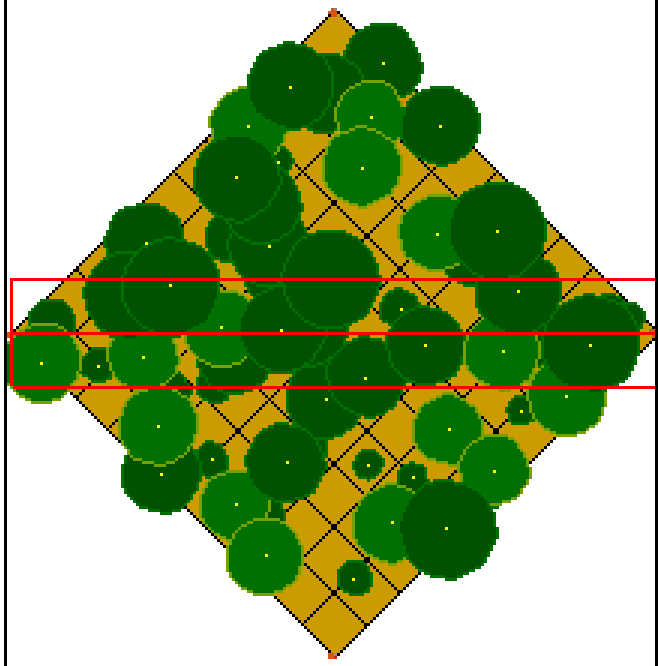
No downed logs to summarize

- Mostly mid-sized trees, low number of trees per acre

MOHA - 2008



MOHA-2008.svs



Morgan Creek White Fir Area Background

- The large trees have become decadent, many in early snag stages or snapped off
- Much of the ground is covered in woody debris, large and small, from trees that have fallen or shed branches
- Site is, overall, highly degraded, and many trees have mistletoe or paint fungus growing on trunk or branches

Morgan Creek White Fir Area

MOAPNE - 2008

File: C:\fmsfolio2\OldGrowth\Cache\MOAPNE-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	244 (244 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	66.1	46.1	22.0	150.0
ht	67.9	49.6	22.0	170.0

Basal area:	8480.1	(8480.2 per acre)
Number of trees:	240	(240 per acre)

Standing dead trees (using FVS plant class codes):

No FVS standing dead trees to summarize

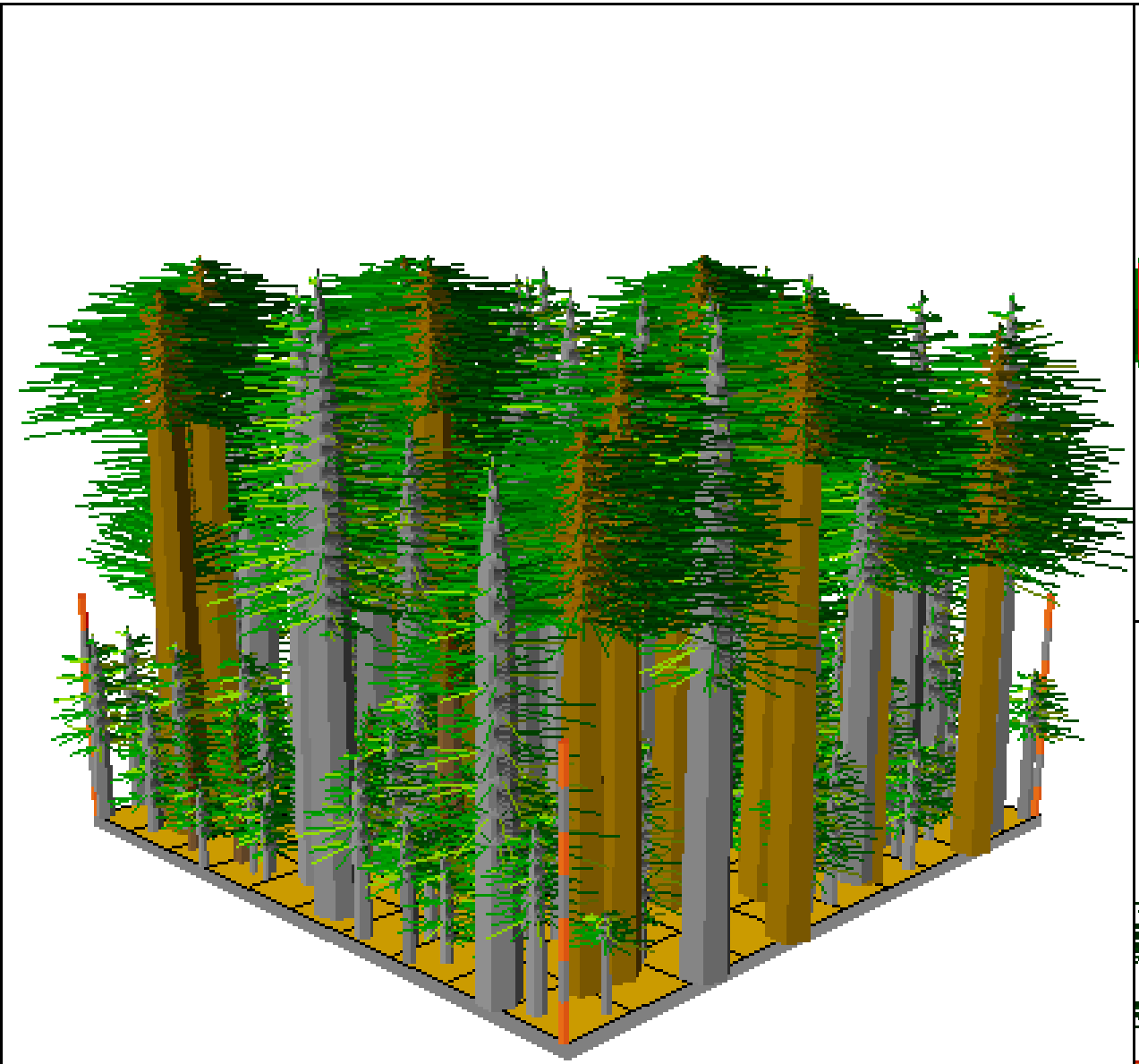
Downed trees and logs (status code 0, 10, 3, or 13):

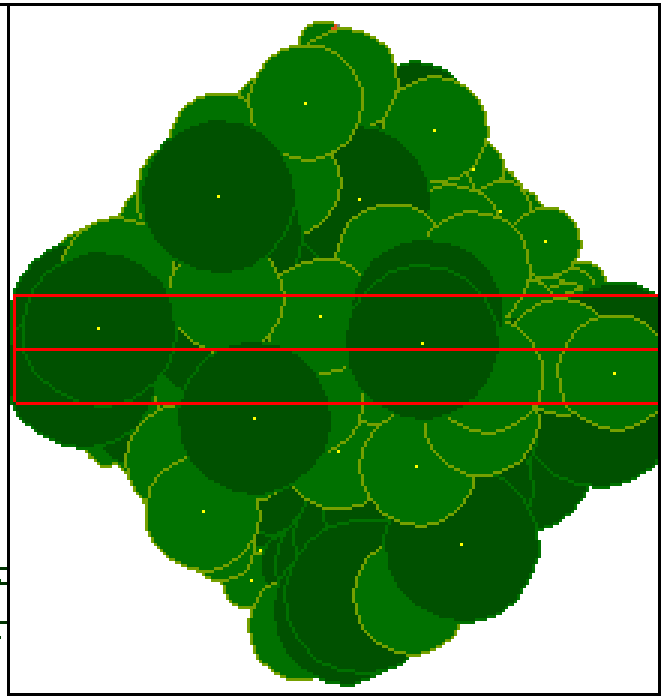
No downed logs to summarize

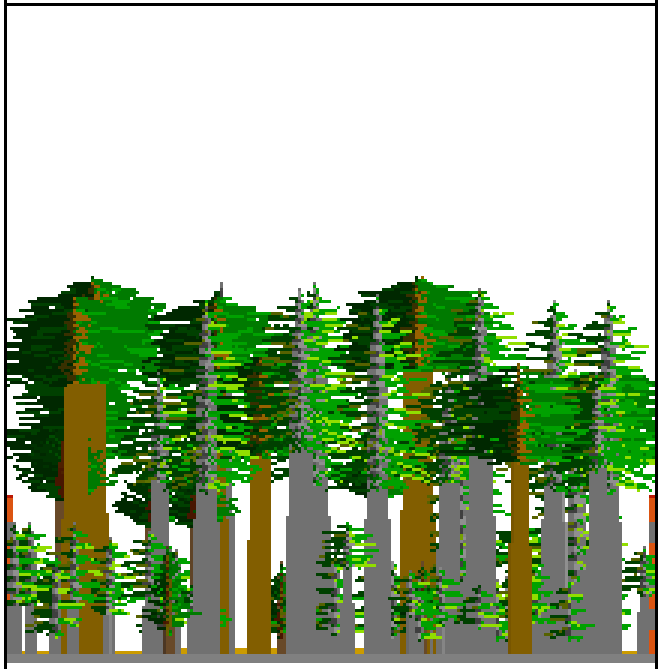
- Large numbers of regenerating trees are present, with around 1000 trees pre acre total, no shrubs are growing in

MOAPNE - 2008

MOAPNE-2008.svs







Morgan Creek Stream Area

MOCRK - 2008

File: C:\fmsfolio2\OldGrowth\Cache\MOCRK-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH

Total objects: 124 (124 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	87.1	43.7	3.0	148.0
ht	87.1	43.7	3.0	148.0

Basal area:	6204.9	(6204.9 per acre)
Number of trees:	120	(120 per acre)

Standing dead trees (using FVS plant class codes):

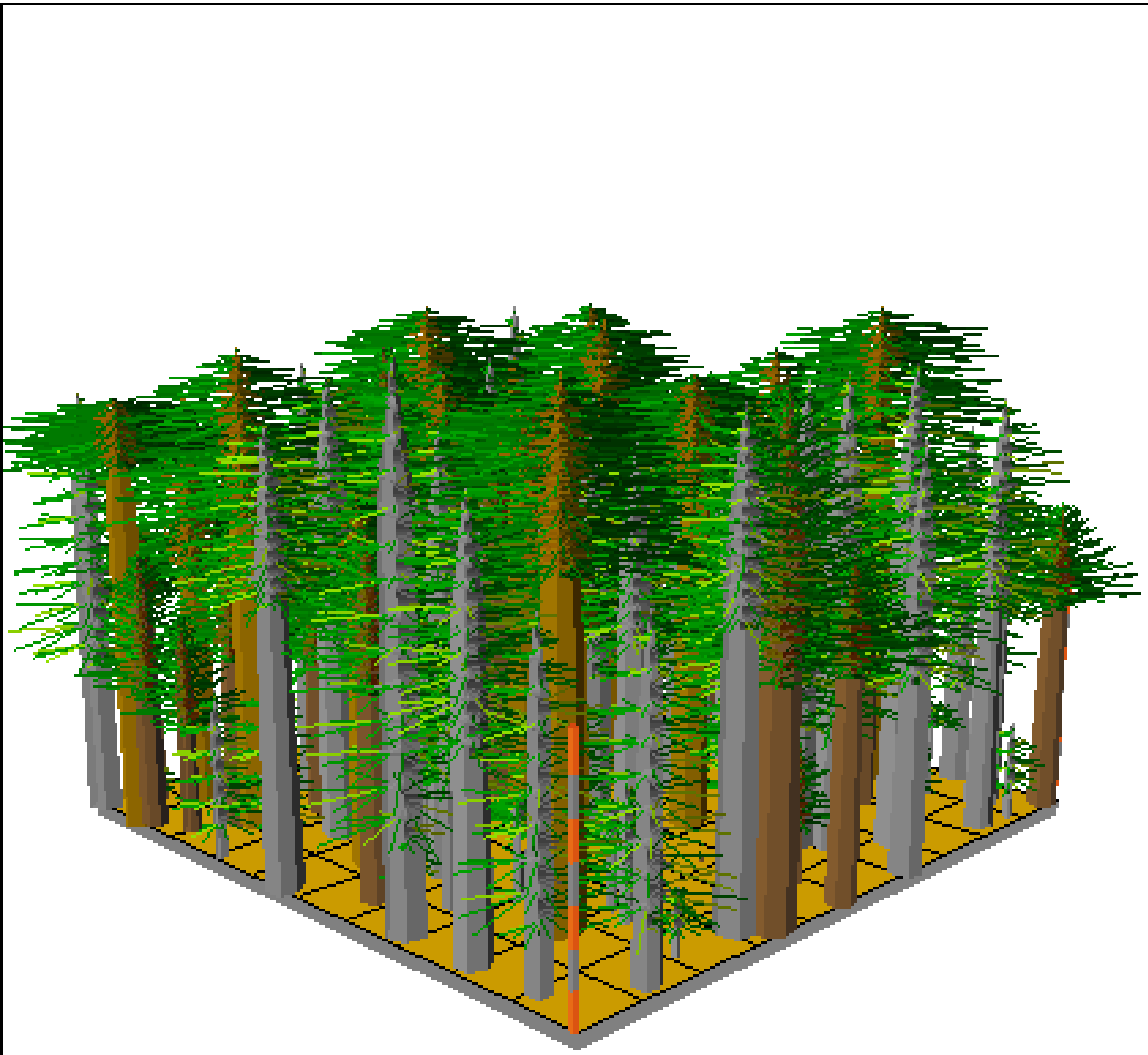
No FVS standing dead trees to summarize

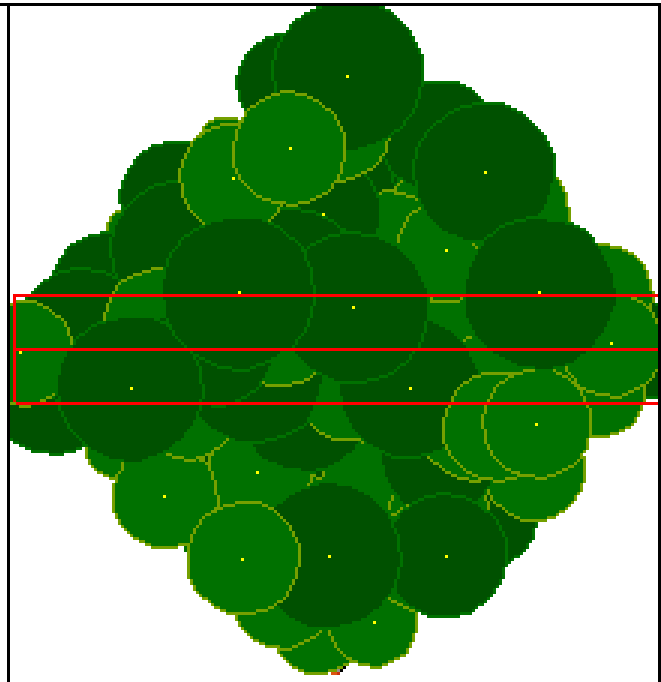
Downed trees and logs (status code 0, 10, 3, or 13):

No downed logs to summarize

MOCRK - 2008

MOCRK-2008.svs





Morgan Creek Sugar Pine Area Background

- Stands have never been entered for management or harvest and are composed of large trees with a large component of understory coming in
- Understory is fairly open, but as fire has been excluded for about 60 years, the understory trees are beginning to take over

Morgan Creek Sugar Pine Area

MOPLNE - 2008

File: C:\fmsfolio2\OldGrowth\Cache\MOPLNE-2008.svs

Summary is for all species

Tree list summary:

Origin:	(0.0,0.0)
Size:	208.7 by 208.7 (1.00 acres)
Units:	ENGLISH
Total objects:	172 (172 per acre)

Standing live trees (using FVS plant class codes):

	Mean	SD	Min	Max
dbh	61.3	32.7	14.0	150.0
ht	61.6	33.4	14.0	165.0

Basal area:	4414.0	(4414.0 per acre)
Number of trees:	168	(168 per acre)

Standing dead trees (using FVS plant class codes):

No FVS standing dead trees to summarize

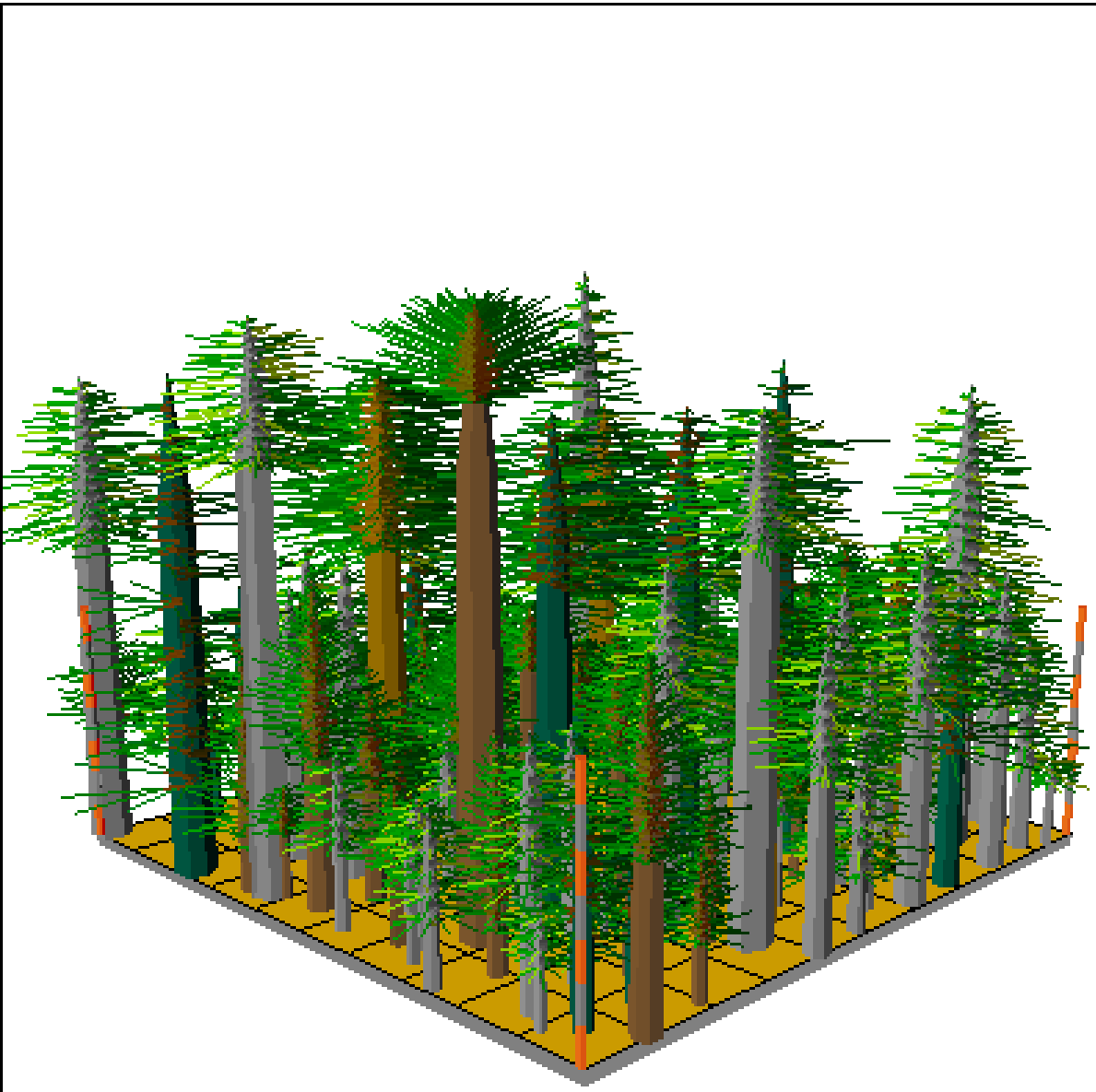
Downed trees and logs (status code 0, 10, 3, or 13):

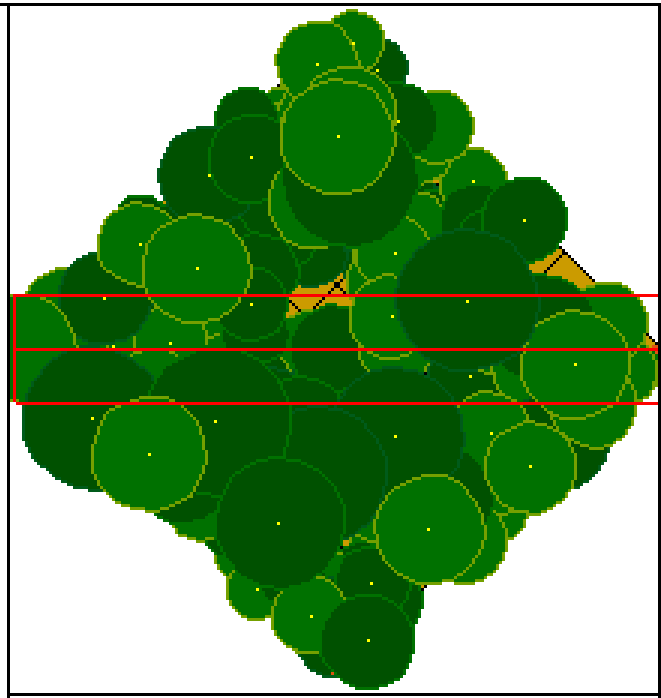
No downed logs to summarize

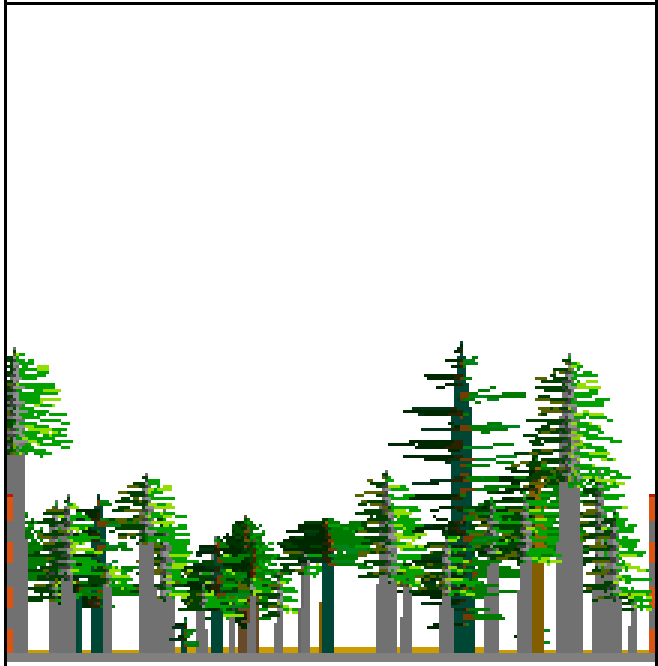
- Much of the ground is covered in heavy duff, with large amounts of woody debris
- Largest trees are starting to crown out

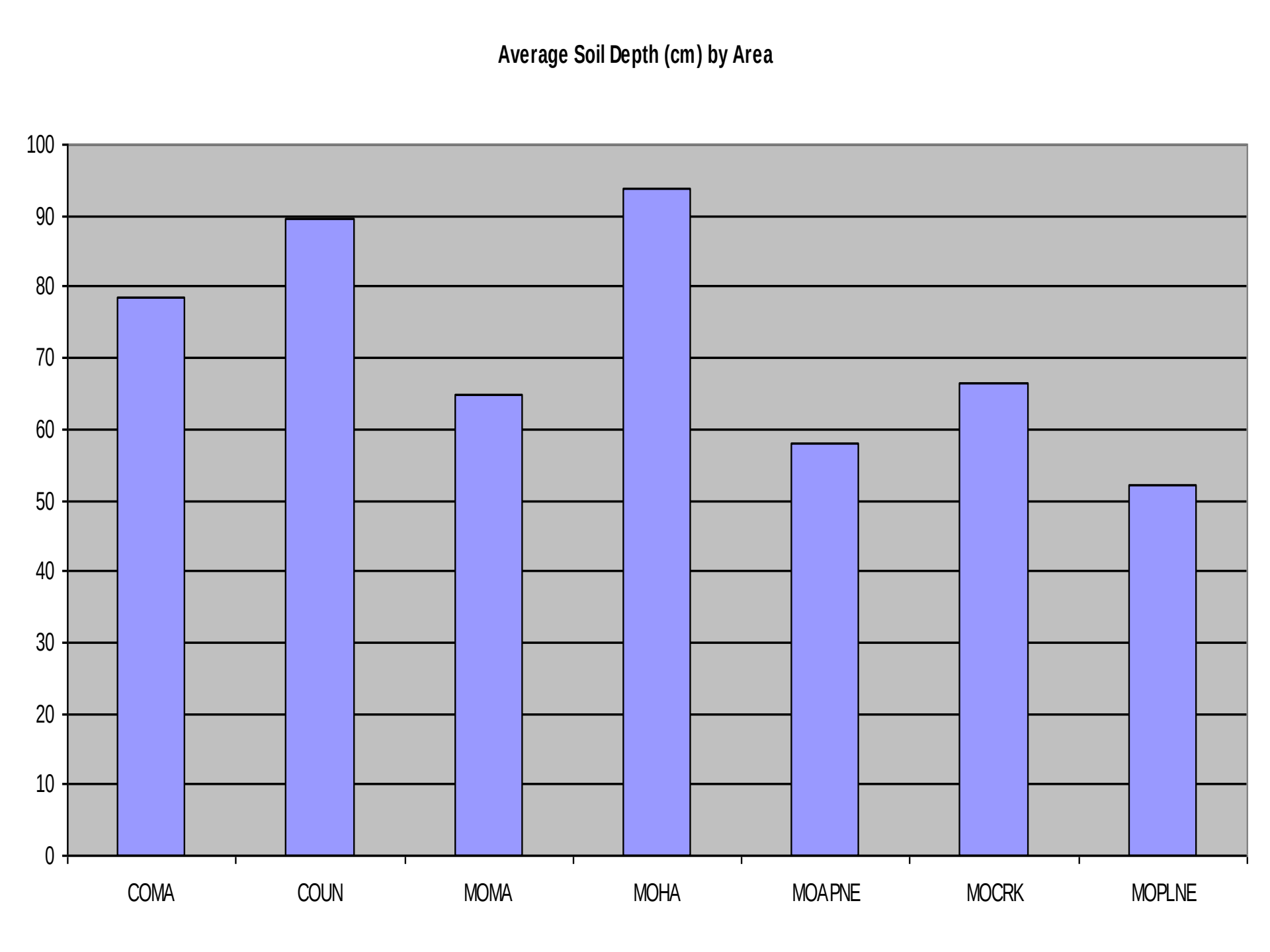
MOPLNE - 2008

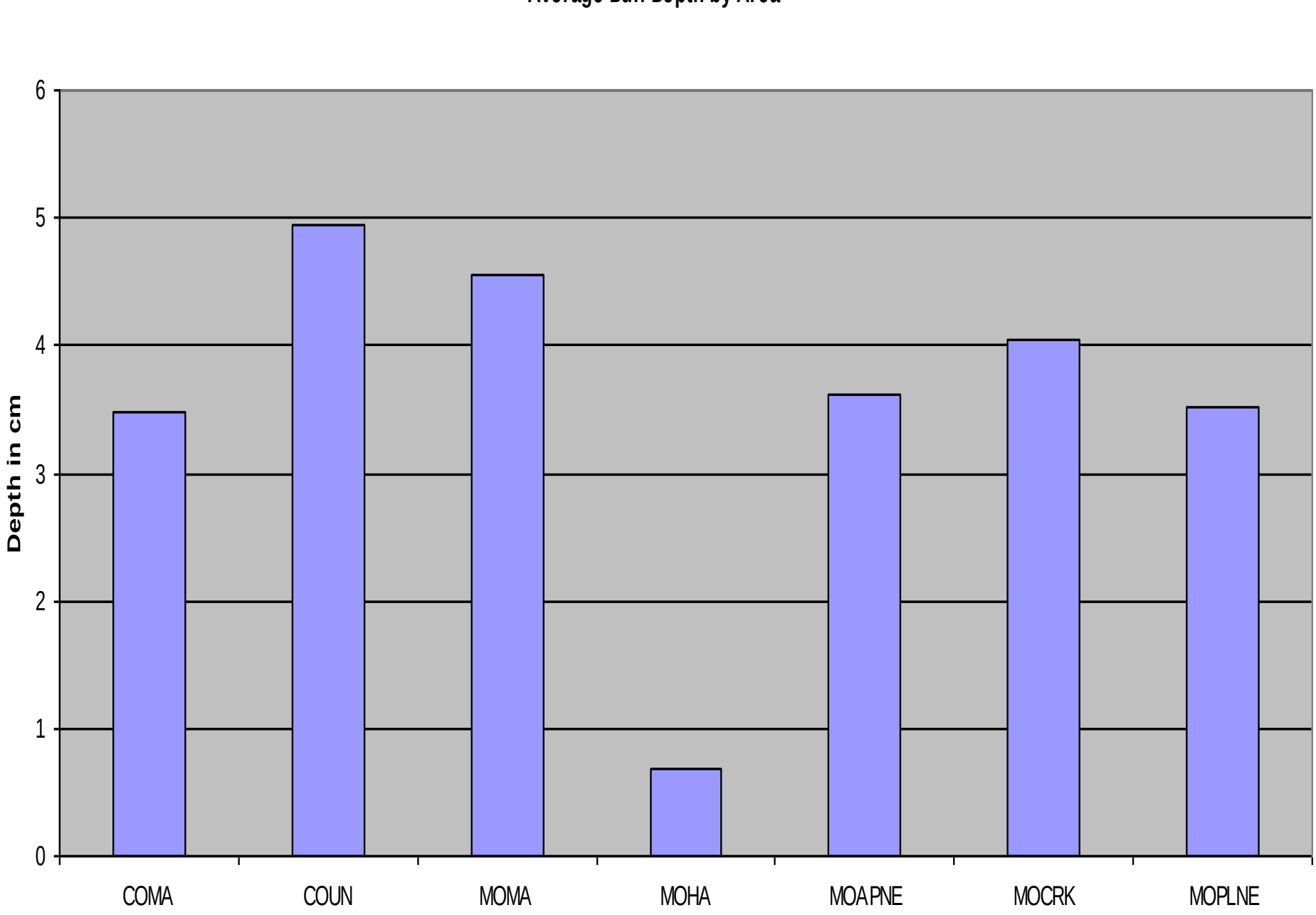
MOPLNE-2008.svs

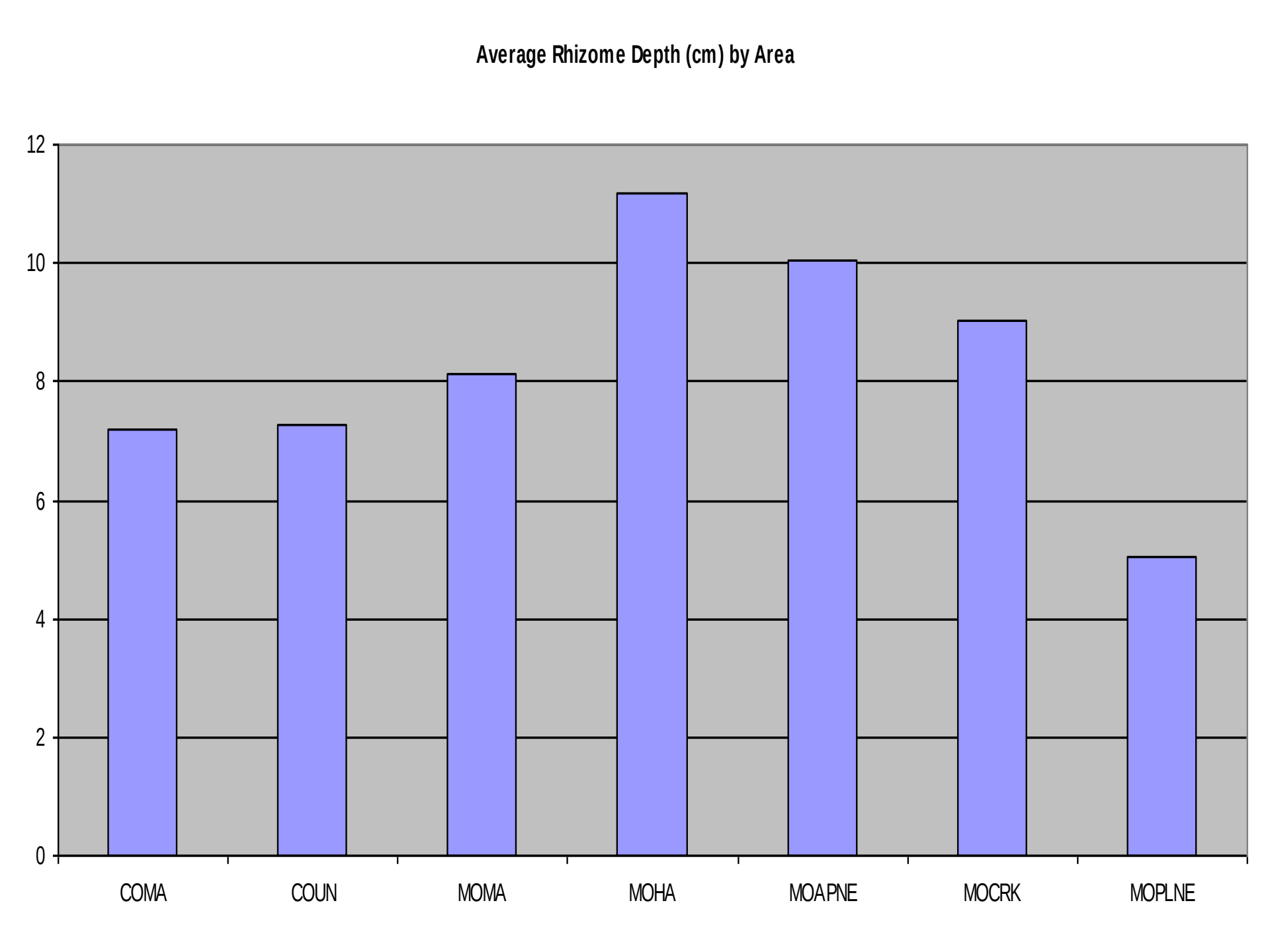


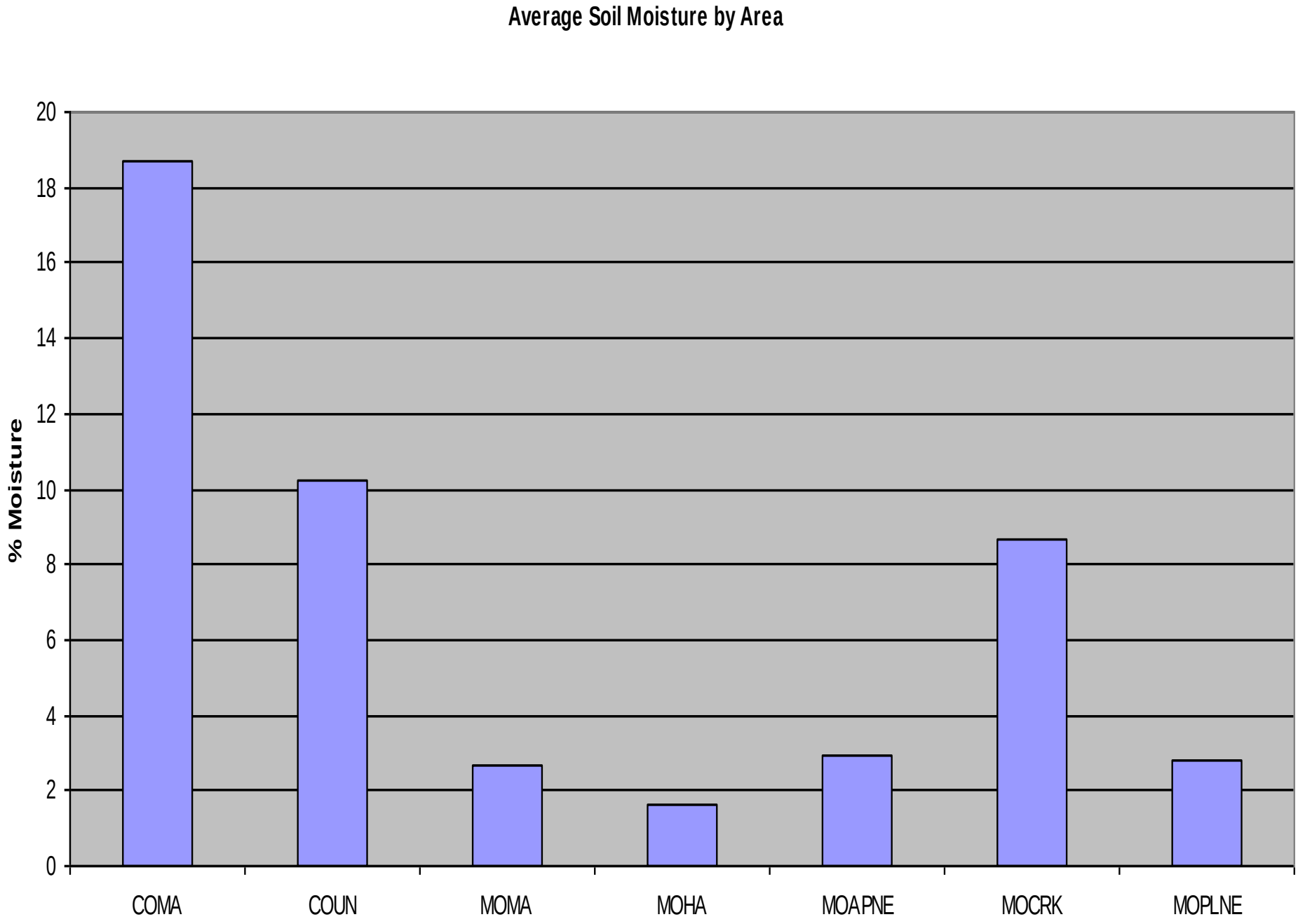


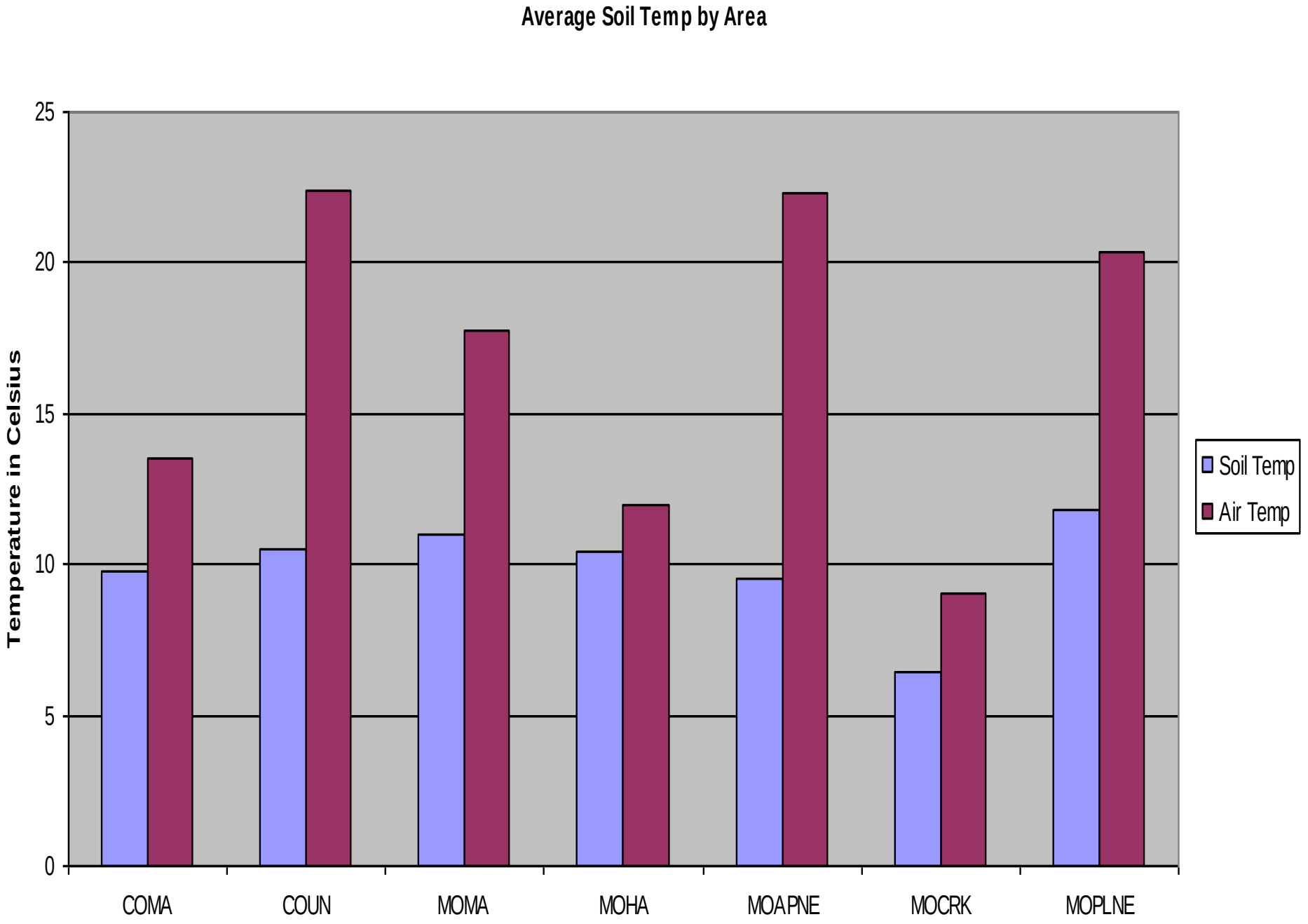



Average Soil Depth (cm) by Area
100
90
80
70
60
50
40
30
20
10
0
COMA
COUN
MOMA
MOHA
MOAPNE
MOCRK
MOPLNE


Average Duff Depth by Area
Depth in cm
6
5
4
3
2
1
0
COMA
COUN
MOMA
MOHA
MOAPNE
MOCRK
MOPLNE


Average Rhizome Depth (cm) by Area
12
10
8
6
4
2
0
COMA
COUN
MOMA
MOHA
MOAPNE
MOCRK
MOPLNE


Average Soil Moisture by Area
% Moisture
20
18
16
14
12
10
8
6
4
2
0
COMA
COUN
MOMA
MOHA
MOAPNE
MOCRK
MOPLNE


Average Soil Temp by Area
Temperature in Celsius
25
20
15
10
5
0
COMA
COUN
MOMA
MOHA
MOAPNE
MOCRK
MOPLNE
Soil Temp
Air Temp

Old Growth Cycles (Regen)

- (A) Stocking – 25-35 trees per acre of large trees
  - Shrub understory
  - Layers of understory have a 30 ft. approximate height difference
- (B) Fire every 15-30 years to kill regen with heights of less than 15-30 ft. Only about 4-6 trees per acre will survive
  - Grasses and herbs destroyed by fire will return after about a year, shrubs may take 5 years or more
- (C) Fire tends to reduce tree diseases and infestations

Conclusion

- Stands that have never been entered have become overstocked
- Too late in many cases to introduce fire safely
- Mechanical treatment may be necessary to restore the health of these stands