

Mosaic Analysis for the UP Project Area
3/17/03

Note: This data has been reanalyzed to incorporate information from an improved seral stage map. Comparison of the original seral stage map with aerial photos indicated the need to improve the accuracy of the BLM woodland map which went into creation of the seral stage map, along with the need to reclassify some of the Landsat vegetation maps vegetation classes into different seral stages. As a result of the reanalysis, some of the acreage targets have changed.

NOTE: The UP Project Area (composed of the Dry Creek and Spring Creek Watersheds) has been subdivided for the purpose of analyzing the existing vegetation mosaic. The subdivisions are made up of 1) Mosaic Driver, 2) Watershed, and 3) private or non-private land. Each unit has been analyzed in comparison its mosaic objective on the following pages.

Each page is formatted consistently as follows:

- Mosaic Driver name
- Analysis and recommendations for non-private lands in each watershed
- Acreage totals for each unit
- Existing Seral Stage percentages
- Existing patch size distribution and matrix
- Mosaic Objective

For the seral stage proportions, an estimate of the minimum and maximum amount is shown for each seral stage. This was necessary to show the range of uncertainty that exists in the seral stage map. The uncertainty is based on the lack of specificity of the vegetation maps from which the seral stage map was derived. Where the existing range is more than 10% off of the desired percentage, a recommendation to add or subtract acreage of that stage is made. The recommendations are based on the difference between the midpoint of the range and the desired amount multiplied by the acreage in that unit, then rounded to the closest round number.

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Mosaic Driver: WUI/Sagebrush/Saltbush SE Plateau

Analysis: WUI/Salt Desert Dry Creek needs approximately 215 acres more early seral, and at least 150 acres less early mid. The majority of early acres created should come from the early mid stage. The later stages appear to be close to the desired range. Maintain the matrix in early mid stage

WUI/Salt Desert Spring Creek contains an insignificant amount of acreage.

Acreage

WUI/Salt Desert Dry Creek	798
WUI/Salt Desert Spring Creek	21
Private WUI/Salt Desert Dry Creek	246
Private WUI/Salt Desert Spring Crk	160

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Late Mid %		Late/Old Growth %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/Salt Desert DC	3	3	59	88	1	29	0	6
WUI/Salt Desert SC	0	0	33	93	7	66	0	0

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Late Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/Salt Desert DC	72	28	0	6 M	24 M	70 M	100	0	0	0	0	0	41	59	0
WUI/Salt Desert SC	0	0	0	4 M	96 M	0 M	100	0	0	0	0	0	0	0	0

Mosaic Objectives

Patch Size	Early Describe: Grass-forb 0-10 yrs	Early-Mid Describe: Grass/Forb/ Shrub 10-40 yrs	Late-Mid Describe: Shrub/young tree invasions 40-100 yrs	Late/Old Growth: Dense PJ, decadent sage 100+ yrs
% of Unit	30	40	20	10
Small 1-5 acres	70	50	40	20
Medium 5-50 acres	30	50	60	80
Large 50+ acres	NA	NA	NA	NA

Mosaic Driver: WUI/High Elevation PJ/Shrub SE Plateau

Analysis: WUI/High Elevation PJ/Shrub Dry Creek needs approximately 500 more acres early seral stage, in medium and small size patches. In addition, 270 more acres of early mid seral stage are needed in both medium and small patches, along with 340 more acres of mid seral stage (including savannah). The majority of these acres need to be taken out of the late/old stage stage, but in areas dominated by younger trees and avoiding the true old growth areas. Maintain the matrix of older seral vegetation, but increase the number and size of earlier seral patches within it.

WUI/ High Elevation PJ/Shrub Spring Creek needs about 1,400 acres more early seral stage, and about 600 more acres of early-mid stage, and around 1,150 acres of mid seral stage (including savannah). The early and early mid seral stages need to be created in small and medium size patches. The majority of these acres need to be taken out of the late/old stage, but in areas dominated by younger trees and avoiding the true old growth areas. Maintain the matrix of older seral vegetation, but increase the number and size of earlier seral patches within it.

Acreage

WUI/High Elevation PJ/Shrub Dry Creek	1,814
WUI/ High Elevation PJ/Shrub Spring Creek	4,763
Private WUI/ High Elevation PJ/Shrub Dry Creek	507
Private WUI/ High Elevation PJ/Shrub Spring Crk	4,865

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/High Elevation PJ/Shrub Dry Creek	0	0	5	5	21	21	48	93
WUI/ High Elevation PJ/Shrub Spring Creek	0	0	7	7	16	16	62	94

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/High Elevation PJ/Shrub Dry Creek	100	0	0	31	69	0	23	47	31	3	39	58	7	70	22
WUI/ High Elevation PJ/Shrub Spring Creek	100	0	0	22	47	31	27	35	38	2	13	85	13	76	11

Mosaic Objectives

Patch Size	Early Grass-forb 0-10 yrs	Early-Mid Grass/Forb/ Shrub/Young PJ. Some savannah 10-70 yrs	Mid: Decadent Sage with PJ, little understory. Some savannah 70-200 yrs	Late/Old Growth: Dense PJ 200+ yrs
% of Unit	30	20	40	10
Small 1-5 acres	40	30	M	M
Medium 5-50acres	60	70	M	M
Large 50+acres	NA	NA	NA	NA

*Use M to designate which stage is the Matrix

Mosaic Driver: WUI/Low Elevation PJ/Shrub SE Plateau

Analysis: WUI/Low Elevation PJ/Shrub Dry Creek needs approximately 1,400 acres more early seral stage, 500 acres more early mid, and 1,600 more acres of mid seral. The majority of these acres need to be taken out of the late/old stage, but in areas dominated by younger trees and avoiding the true old growth areas. The early seral patches should be small and medium sized, larger patches need to be broken apart. Maintain the matrix of late and mid stage, but create more openings within.

WUI/ Low Elevation PJ/Shrub Spring Creek Around 1,100 acres more early seral stage and 1,300 acres more mid seral are needed. The majority of these acres need to be taken out of the late/old stage stage, but in areas dominated by younger trees and avoiding the true old growth areas. The early seral patches should be small and medium sized, larger patches need to be broken apart. Maintain the matrix of late and mid stage, but create more openings within.

Acreage

WUI/Low Elevation PJ/Shrub Dry Creek	4,709
WUI/ Low Elevation PJ/Shrub Spring Creek	3,714
Private WUI/ Low Elevation PJ/Shrub Dry Creek	739
Private WUI/ Low Elevation PJ/Shrub Spring Crk	5,137

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/Low Elevation PJ/Shrub Dry Creek	0	0	31	31	6	6	55	70
WUI/ Low Elevation PJ/Shrub Spring Creek	0	0	12	12	6	6	49	100

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/Low Elevation PJ/Shrub Dry Creek	100	0	0	8	26	65	31	34	35	2 M	8 M	90 M	30	70	0
WUI/ Low Elevation PJ/Shrub Spring Creek	100	0	0	16	49	35	29	71	0	2 M	17 M	81 M	23	65	12

Mosaic Objectives

Patch Size	Early Grass-forb 0-10 yrs	Early-Mid Grass/Forb/ Shrub/Young PJ. Some savannah 10-70 yrs	Mid: Decadent Sage with PJ, little understory. Some savannah 70-200 yrs	Late/Old Growth: Dense PJ 200+ yrs
% of Unit	30	20	40	10
Small 1-5 acres	40	30	M	M
Medium 5-50acres	60	70	M	M
Large 50+acres	NA	NA	NA	NA

*Use M to designate which stage is the Matrix

Mosaic Driver: WUI/Mountain Shrub SE Plateau

Analysis: WUI/Mountain Shrub Dry Creek Acreage pretty much insignificant, but needs approximately 10 more acres early, and 18 acres mid seral. These acres could be taken from the late/old stage, but avoid taking true old growth.

WUI/ Mountain Shrub Spring Creek: Around 100 more acres of early seral needed in medium sized patches, and around 130 more acres of early mid seral are needed. These acres can come from the mid stage. A small portion of the mid stage could be allowed to advance into late/old stage. Maintain the matrix in the older seral stages.

Acreage

WUI/Mountain Shrub Dry Creek	92
WUI/ Mountain Shrub Spring Creek	568
Private WUI/ Mountain Shrub Dry Creek	570
Private WUI/ Mountain Shrub Spring Crk	2,809

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/Mountain Shrub Dry Creek	5	5	8	41	3	36	0	84
WUI/ Mountain Shrub Spring Creek	3	3	7	7	89	89	0	1

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/Mountain Shrub Dry Creek	100	0	0	100	0	0	100	0	0	100	0	0	54	47	0
WUI/Mountain Shrub Spring Creek	100	0	0	100	0	0	17	14	69	100	0	0	100	0	0

Mosaic Objectives

Patch Size	Early Grass/Forb/ Shrub 0-5 yrs	Early-Mid Stem Exclusion Shrubs 5-30 yrs	Mid: Dense shrubs w/ some larger shrubs developing 30-80 yrs	Late/Old Growth: Dense PJ 80+ yrs
% of Unit	20	30	40	10
Small 1-5 acres	10	M	M	M
Medium 5-50acres	90	M	M	M
Large 50+acres	NA	NA	NA	NA

*Use M to designate which stage is the Matrix

Mosaic Driver: WUI/Ponderosa-Oak SE Plateau

Analysis: WUI/Ponderosa-Oak Spring Creek: There are around 200 acres of early mid seral stage that need to be changed to other stages--particularly 60 acres which should be pushed to late-mid and 100 acres pushed toward late/old. Any early stage created should be in the patch size percentages in the objective. Maintain the matrix in the later seral stages.

Acreage

WUI/Ponderosa-Oak Dry Creek	0
WUIPonderosa-Oak Spring Creek	484
Private WUI/ Ponderosa-Oak Dry Creek	0
Private WUI/ Ponderosa-Oak Spring Crk	160

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Late Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/Ponderosa-oak SC	1	1	77	77	23	23	0	0

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/Ponderosa-oak SC	100	0	0	1 M	16 M	83 M	26	74	0	6	94	0	100	0	0

Mosaic Objectives

Patch Size	Early Grass-forb 0-30 yrs	Early-Mid Young, open stand 30-100 yrs	Late-Mid Older, slightly denser stand 100-170 yrs	Late/Old Growth: Late seral, old age, large trees 170+ yrs
% of Unit	10	35	35	20
Small 1-5 acres	20	M	M	M
Medium 5-50 acres	60	M	M	M
Large: 50+ acres	20	M	M	M

Mosaic Driver: WUI/Aspen/Spruce/Fir SE Plateau

Analysis: WUI/Aspen/Spruce/Fir Dry Creek Around 20 more acres of early seral stage, and 90 more acres of early-mid seral stage are needed. These acres should be created from the late mid stage. Early seral stage should be in small patches, while the early mid seral stage should become the matrix stage.

WUI/ Aspen/Spruce/Fir Nearly 100 more acres of early seral stage, and 160 more acres of early mid seral stage are needed. These acres should be created from the late mid stage. The early mid seral stage should become the matrix stage.

Spring Creek: Acreage

WUI/ Aspen/Spruce/Fir Dry Creek	139
WUI/ Aspen/Spruce/Fir Spring Creek	585
Private WUI/ Aspen/Spruce/Fir Dry Creek	11
Private WUI/ Aspen/Spruce/Fir Spring Creek	59

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Late Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
WUI/ Aspen/Spruce/Fir Dry Creek	5	5	7	7	87	87	0	0
WUI/ Aspen/Spruce/Fir Spring Creek	4	4	32	32	63	63	1	1

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid (late mid)			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
WUI/ Aspen/Spruce/Fir Dry Creek	21	79	0	100	0	0	100	0	0	3 M	0 M	97 M	0	0	0
WUI/ Aspen/Spruce/Fir Spring Creek	20	80	0	0	0	0	58	41	1	3 M	13 M	84 M	0	0	0

Mosaic Objectives

Patch Size	Early Grass/forb/ sprouting aspen 0-15 yrs	Early-Mid Aspen w/ minimal young conifer 15-75 yrs	Late-Mid Aspen with <30% conifer 75-120 yrs	Late/Old Growth: Older conifer with decadent aspen 120+ yrs
% of Unit	20	60	20	0
Small 1-5 acres	75	25	10	0
Medium 5-50 acres	25	25	15	0
Large 50+ acres	0	50	75	0

Mosaic Driver: Salt Desert SE Plateau

Analysis: Salt Desert Dry Creek: Around 1,400 acres of additional early seral stage are needed, this will need to be taken from the early-mid and mid seral stages. Most of these early patches should be medium sized.

Salt Desert Spring Creek: not enough acreage

Acreage

Salt Desert Dry Creek	11,589
Salt Desert Spring Creek	11
Private Salt Desert Dry Creek	1,522
Private Salt Desert Spring Creek	1,600

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Stages %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
Salt Desert Dry Creek	8	8	24	84	1	61	0	6
Salt Desert Spring Creek	0	0	74	79	17	22	0	8

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
Salt Desert Dry Creek	74	27	0	17	83	0	100	0	0	100	0	0	94	6	0
Salt Desert Spring Creek	0	0	0	100	0	0	100	0	0	0	0	0	100	0	0

Mosaic Objectives

Patch Size	Early Grass-forb 0-20 yrs	Early Mid Grass and shrub 20-50 yrs	Mid Shrub dominance—root exclusion 50+ y
% of Unit	20	40	40
Small 0-20 acres	50	M	M
Medium >20 acres	50	M	M

*Use M to designate which stage is the Matrix

Mosaic Driver: High Elevation PJ/Shrub SE Plateau

Analysis: High Elevation PJ/Shrub Dry Creek: There are around 5,600 acres too much early mid seral and 2,100 acres too much mid seral stage in this zone, and roughly 8,200 too few acres of late and old seral stages. Much of the excess early mid and mid stages needs to be pushed toward or set aside to succeed toward the later stages. Some of the medium sized early patches need to be pushed to large, and others to small patch sizes. Some of the remaining early mid stage should be broken into small patches. Vegetation treatments should be designed to push the unit toward a matrix of later seral stages.

High Elevation PJ/Shrub Spring Creek: There need to be about 1,100 more acres of late/old seral stage. This should be developed mainly from some of the later mid seral stage, which is too abundant. Some of the medium sized early and early mid patches need to be pushed to large, and others to small patch sizes. Vegetation treatments should be designed to push the unit toward a matrix of later seral stages.

Acreage

High Elevation PJ/Shrub Dry Creek	16,468
High Elevation PJ/Shrub Spring Creek	9,780
Private High Elevation PJ/Shrub Dry Creek	1,746
Private High Elevation PJ/Shrub Spring Creek	1,683

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
High Elevation PJ/Shrub Dry Creek	10	10	39	39	28	28	12	22	1	10
High Elevation PJ/Shrub Spring Creek	12	12	13	13	24	25	25	38	12	25

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
High Elevation PJ/Shrub Dry Creek	20	26	54	2	18	80	9	33	58	5	48	47	19	74	6
High Elevation PJ/Shrub Spring Creek	22	45	33	13	68	19	23	43	34	2	18	80	18	75	7

Mosaic Objective

Patch Size	Early Grass-forb 0-10 yrs	Early Mid Shrub-grass 10-50 yrs	Mid Shrub-tree infilling 50-150 y	Later Mid Tree stem exclusion, touching canopies 150-350y	Late Tree stand thinning-even size/age, indiv. Dropping out 250-400y	Old Understory reinitiation, starts old growth characteristics 350-600y
% of Unit	5	5	15	15	30	30
Small 0-5 acres	30	30	20	M	M	M
Medium 5-100 acres	10	10	20	M	M	M
Large 100+ acres	60	60	60	M	M	M

*Use M to designate which stage is the Matrix

Mosaic Driver: Low Elevation PJ/Sage SE Plateau

Analysis: Low Elevation PJ/Sage Dry Creek: There are around 6,950 too many acres of early mid seral stage, and 4,400 acres too much later mid seral stage. There need to be about 10,500 additional acres of late/old stage. Much of this should be developed from setting aside the excess later mid seral stage and the early mid stage to allow succession to proceed. More medium and large early seral patches are needed and could be created from existing small patches. The matrix needs to be pushed toward the later seral stages. The existing early mid matrix needs to be broken apart into more small and medium sized patches.

Low Elevation PJ/Shrub Spring: There are around 1,100 too many acres of later mid seral stage, and 1,400 too few acres of late/old seral stage. Much of this should be developed from setting aside the excess later mid seral stage to allow succession to proceed. The matrix needs to be pushed toward the later seral stages. The existing patch size distribution for the early, early mid and mid seral stages is about right.

Acreage

Low Elevation PJ/Sage Dry Creek	28,388
Low Elevation PJ/Sage Spring Creek	3,947
Private Low Elevation PJ/Sage Dry Creek	1,392
Private Low Elevation PJ/Sage Spring Creek	1,151

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
Low Elevation PJ/Sage Dry Creek	2	2	47	52	6	11	23	38	1	15
Low Elevation PJ/Sage Spring Creek	6	6	25	26	15	16	39	48	4	13

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
Low Elevation PJ/Sage Dry Creek	56	44	0	5 M	19 M	76 M	31	32	37	4	21	76	35	61	4
Low Elevation PJ/Sage Spring Creek	34	66	0	16	65	19	19	43	39	2	7	91	20	61	19

Mosaic Objective

Patch Size	Early Grass-forb 0-10 yrs	Early Mid Shrub-grass 10-50 yrs	Mid Shrub-tree infilling 50-150 y	Later Mid: Tree stem exclusion, touching canopies 150-350y	Late Tree stand thinning-even size/age, indiv. dropping out 250-400y	Old Understory reinitiation, starts old growth characteristics 350-600y
% of Unit	5	25	10	15	20	25
Small 0-5 acres	20	20	10	M	M	M
Medium 6-100 acres	60	60	60	M	M	M
Large 100+ acres	20	20	30	M	M	M

*Use M to designate which stage is the Matrix

Mosaic Driver: Mountain Shrub SE Plateau

Analysis: Mountain Shrub Dry Creek: The seral stage proportions appear about right for this unit. However there may be condition problems within each of the seral stages. The early seral needs to be in more medium and large patches.

Mountain Shrub Spring Creek: There are about 850 too many acres of mid seral stage, and about 500 too few acres of later mid seral stage. The matrix should be pushed toward the later mid stages as well. More small patches of early mid stage are needed, and fewer medium sized patches.

Acreage

Mountain Shrub Dry Creek	1,428
Mountain Shrub Spring Creek	2,034
Private Mountain Shrub Dry Creek	10,357
Private Mountain Shrub Spring Creek	10,772

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
Mountain Shrub Dry Creek	7	7	9	66	17	75	0	65	0	8
Mountain Shrub Spring Creek	6	6	6	16	68	78	9	19	0	1

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
Mountain Shrub Dry Creek	100	0	0	100	0	0	16	38	46	100	0	0	66	34	0
Mountain Shrub Spring Creek	69	31	0	38	62	0	9	22	69	32	68	0	100	0	0

Mosaic Objective

Patch Size	Early Grass-forb—shrub resprouts 0-4 yrs	Early Mid High shrub stem density 4-15 yrs	Mid Mature shrub, self thin 15-50 y	Later Mid: Static, self- maintaining shrubs, survival mode >50 y
% of Unit→	10	20	30	40
Small 0-20 acres	60	50	M	M
Medium 20-100 acres	30	30	M	M
Large 100-300 acres	10	20	M	M

*Use M to designate which stage is the Matrix

Mosaic Driver: Ponderosa-Oak SE Plateau

Analysis: Ponderosa-Oak Dry Creek: There should be at least a few more acres of early seral stage, and around 250 more acres of early mid seral. There are roughly 800 too many acres of mid seral. Around 130 acres of this should be pushed toward the later mid stage, and another 300 acres pushed toward the late/old stage.

Ponderosa-Oak Spring Creek There should be at least a few more acres of early seral stage, and around 550 more acres of early mid stage are also needed. Both of these could be derived from the roughly 2,300 too many acres of mid seral stage. Over 1,000 acres of this should also be allowed to succeed to the late seral stage, and additional acreage could be pushed into the later mid stage.

Acreage:

Ponderosa-Oak Dry Creek	1,170
Ponderosa-Oak Spring Creek	4,248
Private Ponderosa-Oak Dry Creek	3,214
Private Ponderosa-Oak Spring Creek	2,818

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
Ponderosa-Oak Dry Creek	0	0	4	4	92	92	4	4	0	0
Ponderosa-Oak Spring Creek	0	0	12	12	80	80	7	7	0	0

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
Ponderosa-Oak Dry Creek	100	0	0	1	16	84	0 M	14 M	86 M	0	100	0	0	100	0
Ponderosa-Oak Spring Creek	4	96	0	1	7	91	0 M	1 M	99 M	8	92	0	0	0	0

Mosaic Objective

Patch Size	Early Shrub resprouts, grass-forb, seedling pine	Early Mid High shrub stem density, pole pines emerging from canopy	Mid Mature shrub, immature pine with some fire resistance to moderate intensity fire	Later Mid: Pine dominates site, reduction in oak, pine in groups, looking clumpy	Late: Trees increase in size, where trees in clumps, crowns interlock, shrubs minimal beneath 125+
	0-10 yrs	10-20 yrs	20-50 yrs	50-125 yrs	
% of Unit→	10	25	25	15	25
Small 0-20 acres	Too speculative—the numbers would be arbitrary and unfounded. Best advice- mimic what is on landscape already, additional research needed to provide basis for landscape mosaic parameters. Our perception is that this system seems perched on a threshold—could vary tremendously based on minor difference in fire return interval.				
Medium 20-100 acres					
Large 100-300 acres					

*Use M to designate which stage is the Matrix

Mosaic Driver: Spruce/Aspen SE Plateau

Analysis: Spruce/Aspen Dry Creek: About 70 acres of later mid seral need to transition into the late and old stages. The matrix, which is now later mid should also transition to late and old stages.

Spruce/Aspen Spring Creek: Around 150 acres of mid seral stage and 200 acres of later mid should be allowed to succeed into later seral vegetation. The matrix which is now later mid and mid should also be made up of the late and old stages.

Acreage:

Spruce/Aspen Dry Creek	115
Spruce/Aspen Spring Creek	507
Private Spruce/Aspen Dry Creek	98
Private Spruce/Aspen Spring Creek	1,295

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
Spruce/Aspen Dry Creek	0	0	8	8	14	14	74	74	0	0
Spruce/Aspen Spring Creek	1	1	3	3	44	44	53	53	0	0

Mosaic Objective (Taken from lynx objective)

Patch Size	Early Grass-forb—young aspen 0-10 yrs	Early Mid Pole aspen—stem exclusion 10-40 yrs	Mid Aspen self thinning, conifer initiation, grass-forb increase 40-100 y	Later Mid Conifer overtops aspen, grass forb decline 100-150 y	Late Mature conifer, decadent aspen Becoming old growth 150+ y	Old Mature Spruce-fir, and under-story (tree) reinitiation Old growth 350~600y
% of Unit	5	10	15	10	40	20
Small				M	M	M
Medium				M	M	M
Large				M	M	M

*Use M to designate which stage is the Matrix

Mosaic Driver: Sage Grouse

Analysis: Sage Grouse Dry Creek: Around 370 more acres of early seral vegetation are needed. Early mid seral is within the desired range, but condition could be improved, or steps taken to prevent succession to later stages. Aerial photos show more trees than the landsat imagery classified as being present. Most of the new early patches should be medium or large size. The matrix stage should remain in early mid seral.

Sage Grouse Spring Creek: About 1,100 more acres of early seral, and 1,800 more acres of early mid seral stage are needed, wherever these can be created from mid and later mid stages. Condition within the early mid stage could also be improved, or steps taken to prevent succession to later stages. Most of the new early patches should be medium or large size. The matrix stage should remain in early mid seral.

Acreage:

Sage Grouse Dry Creek	2,653
Sage Grouse Spring Creek	7,472
Private Sage Grouse Dry Creek	55
Private Sage Grouse Spring Creek	9,386

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid/Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:								
Sage Grouse Dry Creek	1	1	90	93	0	4	1	8
Sage Grouse Spring Creek	0	0	60	61	2	3	4	38

Patch Arrangement and Size Distribution (% of Total Area for Each Seral Stage) M shows matrix

Patch Size Class	Early			Early Mid			Mid			Later Mid			Late/Old		
	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg	sml	mid	lrg
Sage Grouse Dry Creek	56	43	0	1	3	96	100	0	0	56	44	0	48	24	28
Sage Grouse Spring Creek	100	0	0	4	6	91	60	40	0	4	27	69	26	57	17

Mosaic Objective

patch size	early mainly grass and forbs may have a small % of shrubs	early-mid mainly sagebrush some grass and forbs	mid mature sagebrush with some young pinyon-juniper	Later mid/late/old growth mature pinyon- juniper with small percent of deciduous shrubs
% of unit	15	85	Should be confined to canyons or on shallow soils that are best suited to trees	
small 0-5 acres	20	M		
medium 5-20 acres	70	M		
large 20-100 ac.	10	M		

Mosaic Driver: Lynx

Analysis: Lynx Dry Creek: Early, early mid, and mid stages are all within 10% of desired acreages. However, there are around 8,100 acres too much later mid seral stage, and roughly 6,200 too few acres of the late/old stages. The matrix which is now in later mid seral should remain in this, or older seral stages. The distribution of earlier seral patches within this unit looks like it may be appropriate for “feeding habitat (for lynx) interspersed within denning habitat.

Lynx Spring Creek: Early, early mid, and mid stages are all within 10% of desired acreages. There are about 9,400 too many acres of later mid stage, and about 7,500 too few acres of late and old stages. The matrix which is now in later mid seral should remain in this, or older seral stages. The distribution of earlier seral patches within this unit looks like it may be appropriate for “feeding habitat (for lynx) interspersed within denning habitat.

Acreage:

Lynx Dry Creek	11,067
Lynx Spring Creek	13,047
Private Lynx Dry Creek	6,162
Private Lynx Spring Creek	5,635

Existing Seral Stage Proportions

Seral Stage percentages	Early %		Early mid %		Mid %		Later Mid %		Late/Old %	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Estimate range:										
Lynx Dry Creek	5	5	1	1	7	7	83	83	4	4
Lynx Spring Creek	4	4	1	1	11	11	82	82	2	2

Mosaic Objective

Patch Size	Early Grass-forb—young aspen 0-10 yrs	Early Mid Pole aspen—stem exclusion 10-40 yrs	Mid Aspen self thinning, conifer initiation, grass-forb increase 40-100 y	Later Mid Conifer overtops aspen, grass forb decline 100-150 y	Late Mature conifer, decadent aspen Becoming old growth 150+ y	Old Mature Spruce-fir, and under-story (tree) reinitiation Old growth 350~600y
% of Unit	5	10	15	10	40	20
Small				M	M	M
Medium				M	M	M
Large				M	M	M

*Use M to designate which stage is the Matrix