

Woodland Planning Worksheet

5-May-05

USDA - NRCS

Field Sheet for Determining Yields on Woodlands

Cooperator: P/T reference site

Ecological Site Name: _____

1/4 Section ____ Section ____ T ____ R ____

Planner: Zac Orton

Plot Size: _____

Worksheet Number: _____

Plot Shape: Rectangle ____; circle ____; Square ____;

Date: 7-28-16

Zigzag

Site Index: _____

Tree Species: Pinon & Juniper

1	2	3	4	5	6	7	8	9	10	11
No.	Distance Between Trees	Tree Height	Age of Tree	DBH Taken at 1 ft. 4.5 ft.	Average Crown Width	Foliage Density	Basal Area	Volume in Cords	Number of Posts	Pounds Airdry
1	18	18		8"	5'					H
2	4	7		3"	2'					H
3	9	15		6"	8'					H
4	21	17		8"	3'					H
5	8	17		6"	6'					H
6	2	20		10"	7'					H
7	20	8		8"	4'					H
8	7	7		3"	2'					H
9	30	3		2"	1'					H
10	4	9		3"	4'					H
11	8	25'		24"	15'					H
12	4	5		2"	2"					P
13	20	10'		6"	7'					H
14	12	15'		6"	4'					H
15	22	15'		12"	10'					H
16	50'	4'		1"	2'					P
17	10'	4'		2"	2'					J
18	25'	8'		4"	5'					P
19	10'	7'		5"	4'					H
20	24'	1'		1"	1'					J

Total	304									
Aver.	15.2									
Total /Acre	188									

Volume in Cords per Acre	
Volume in Cords per Acre per Year	
Number of Posts per Acre	
Estimated Number of Posts per Acre per Year	
Reproduction on plot under 4 1/2 feet	
% Under 4 1/2 feet of Crown	

Tree Species:

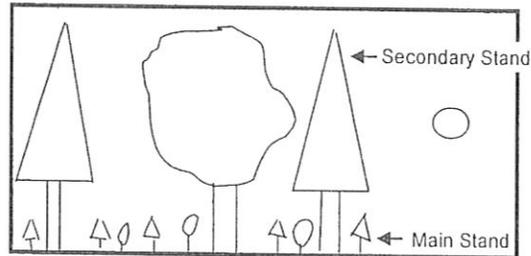
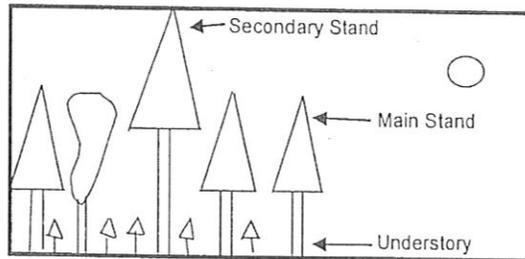
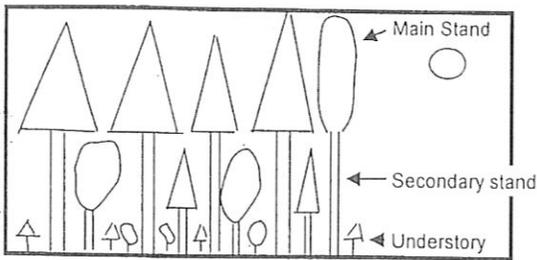
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9										
10										
11										
12										
13										
14										
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16										
17										
18										
19										
20										

Total										
Aver.										
Total /Acre										

Volume in Cords per Acre	
Volume in Cords per Acre per Year	
Number of Posts per Acre	
Estimated Number of Posts per Acre per Year	
Reproduction on plot under 4 1/2 feet	
% Under 4 1/2 feet of Crown	

Type of Stand

Select the type of stand that is being inventoried
Place a mark in the appropriate circle



Columns

- 2- Measure the distance between trees and record to the nearest 1/10 foot.
- 3- Measure height of tree and record to the nearest 1/2 foot
- 4- Get ages of enough trees in the transect to get average age of each stand and the age spread of the community
- 5- Measure the diameter of each tree and record to the nearest 1/10 inch. For Junipre and Pinion this measurement is taken at 1 foot from the ground. For all other trees this measurement is taken 4/5 feet from the ground (=Breast Height). Mark at top of column where measurement was taken.
- 6- Measure the average crown spread of each tree and record it to the nearest 1/2 foot. If the trees are not uniform in shape, measure the tree in two directions at right angles to each other and determine the average
- 7- Determine whether the foliage is Dense; Medium; or Sparce and record D; M or S for each tree.
- 8- Get the Basal area from the Woodland Management book page W-117.
- 9- Get the Volume in Cords from the Woodland Management book page W-113
- 10- Record the number of posts that can be taken from each tree. Posts should be at least 8 ft. long and 3 inches minium top diameter and reasonably straight.
- 11- Look up pounds of air dry production on yield tables.

Plot Sizes

Zigzag -	Number of trees per acre = $43560 / \text{The average tree spacing squared. Example } 43560 / (12 \times 12) = 303 \text{ trees per acre}$
Rectangle -	$1000 \text{ ft.} \times 4 \text{ ft. } 4 \frac{1}{4} \text{ inches} = 1/10 \text{ ac.}$ $500 \text{ ft.} \times 4 \text{ ft. } 4 \frac{1}{4} \text{ inches} = 1/20 \text{ ac.}$
Square -	$66 \text{ ft.} \times 66 \text{ ft.} = 1/10 \text{ ac.}$ $20 \text{ ft. } 1 \frac{1}{2} \text{ in.} \times 20 \text{ ft. } 1 \frac{1}{2} \text{ in.} = 1/100 \text{ ac.}$
Circular -	Radius of circle = 11.78 ft. = 1/100 ac. Radius of circle = 37.23 ft. = 1/10 ac.

Worksheet # Sagebrush/grass

Pasture _____

Ecological Site _____

Ranch/Landowner Mine

Rangeland Management Specialist: Zac Orton

Date: 7-28-16

1	2	3	4	5	6	7	8	9	10	11																																																								
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	Lbs/ac Forage	Proper Use Factor	Lbs/ac Climax (from ESD)	Lbs/ac Allowable for Similarity Index	circle one: CLIPPED or OCULAR ESTIMATE																																																							
Grasses and grass likes	<u>Needle Thread</u>	<u>30</u>									LOCATION Section: _____ Township: _____ Range: _____ MLRA: _____ Office: _____ Soil: _____ Slope: _____ Exposure: _____ Elev. _____ GPS Coordinates NAD83: N: _____ E: _____ (P)% of Normal Production: _____ APPARENT TREND Circle One: Rangeland or Planned <table border="1"> <tr> <th>Indicators</th> <th>+</th> <th>0</th> <th>-</th> </tr> <tr> <td>Plant Vigor</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>Reproduction</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>Composition Change</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>Litter & Mulch</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>Soil Surface Cond</td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>App Trend:</td> <td>UP</td> <td>N/A</td> <td>DOWN</td> </tr> </table> GROUND COVER <table border="1"> <tr> <th>100 points dot count</th> <th>1st Raindrop Impact</th> <th>Sub Canopy</th> </tr> <tr> <td>Bare</td> <td><u>34</u></td> <td></td> </tr> <tr> <td>Rock</td> <td></td> <td></td> </tr> <tr> <td>Bio Crust</td> <td></td> <td></td> </tr> <tr> <td>Litter</td> <td><u>6</u></td> <td></td> </tr> <tr> <td>Grass</td> <td><u>10</u></td> <td></td> </tr> <tr> <td>Forb</td> <td><u>2</u></td> <td></td> </tr> <tr> <td>Shrub</td> <td><u>44</u></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> </tr> </table>	Indicators	+	0	-	Plant Vigor			X	Reproduction		X		Composition Change			X	Litter & Mulch		X		Soil Surface Cond		X		App Trend:	UP	N/A	DOWN	100 points dot count	1st Raindrop Impact	Sub Canopy	Bare	<u>34</u>		Rock			Bio Crust			Litter	<u>6</u>		Grass	<u>10</u>		Forb	<u>2</u>		Shrub	<u>44</u>		Total		
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	<u>Fescue</u>	<u>120</u>																																																																
	<u>wire grass</u>	<u>30</u>																																																																
	<u>cheatgrass</u>	<u>10</u>																																																																
Forbs																																																																		
Shrubs	<u>Sage brush</u>	<u>3500</u>																																																																
	<u>Rabbit brush</u>	<u>500</u>																																																																
	<u>Sage wood</u>	<u>100</u>																																																																
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(15) Similarity Index ((12/14) * 100) (14) Production for this site from ESD (13) Total Annual Production (8) Total Forage Production (12) Total allowable

Notes: SB = weight unit = 25g production x 14 units x 10 = 3500 good reference
 Fescue = weight unit = 3g production x 4 units x 10 = 120 good maybe high
 - Note: ~~SB~~ cover could be as high as 50.
 Shrub

Worksheet # Meadow - wet

Pasture _____

Ecological Site _____

Ranch/Landowner _____

Rangeland Management Specialist: Joe Orton

Date: 7-28-16

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	<u>Roughs</u>	<u>500</u>																																																																
	<u>Sedges</u>	<u>580</u>																																																																
Forbs	<u>Sunflower</u>	<u>100</u>																																																																
	<u>Bull Thistle</u>	<u>10</u>																																																																
	<u>Other Forbs</u>	<u>100</u>																																																																
Shrubs	<u>None</u>																																																																	
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(15) Similarity Index ((12/14) * 100) (14) Production for this site from ESD (13) Total Annual Production (8) Total Forage Production (12) Total lbs allowable

Notes: Folbed in half hoop = 154g x 20 = 3,080 - good estimate
- Meadow area. No sense in doing transect. Dense grass meadow

Worksheet # Meadow-dry

Pasture _____

Ecological Site _____

Ranch/Landowner Mint

Rangeland Management Specialist: Zac Orton

Date: 7-28-16

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Grasses and grass likes	<u>kuhn</u>	<u>300</u>									<p>circle one: <u>CLIPPED</u> or OCULAR ESTIMATE</p> <p>LOCATION</p> <p>Section: _____ Township: _____ Range: _____ MLRA: _____ Office: _____ Soil: _____ Slope: _____ Exposure: _____ Elev. _____ GPS Coordinates NAD83: N: _____ E: _____ (P)% of Normal Production: _____</p> <p>APPARENT TREND</p> <p>Circle One: Rangeland or Planned</p> <table border="1"> <tr> <th>Indicators</th> <th>+</th> <th>0</th> <th>-</th> </tr> <tr> <td>Plant Vigor</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Reproduction</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Composition Change</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Litter & Mulch</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Soil Surface Cond</td> <td></td> <td></td> <td></td> </tr> <tr> <td>App Trend:</td> <td>UP</td> <td>N/A</td> <td>DOWN</td> </tr> </table> <p>GROUND COVER</p> <table border="1"> <tr> <th>100 points dot count</th> <th>1st Raindrop Impact</th> <th>Sub Canopy</th> </tr> <tr> <td>Bare</td> <td></td> <td></td> </tr> <tr> <td>Rock</td> <td></td> <td></td> </tr> <tr> <td>Bio Crust</td> <td></td> <td></td> </tr> <tr> <td>Litter</td> <td></td> <td></td> </tr> <tr> <td>Grass</td> <td></td> <td></td> </tr> <tr> <td>Forb</td> <td></td> <td></td> </tr> <tr> <td>Shrub</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> </tr> </table> <p>USE HISTORY</p> <p>Kind and Class of Animal: _____ Season of Use: _____ Burning History: _____ Present Utilization: _____ % of Key Species Key Species: _____ Estimate Harvest Efficiency: _____ %</p> <p>LANDSCAPE DATA</p> <p>Topography(Terrain): Broken:___ Rolling:___ Flat:___ Miles to food:___ cover:___ water:___</p>	Indicators	+	0	-	Plant Vigor				Reproduction				Composition Change				Litter & Mulch				Soil Surface Cond				App Trend:	UP	N/A	DOWN	100 points dot count	1st Raindrop Impact	Sub Canopy	Bare			Rock			Bio Crust			Litter			Grass			Forb			Shrub			Total		
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	<u>sedal</u>	<u>250</u>																																																																
	<u>Kent Blue</u>	<u>50</u>																																																																
Forbs	<u>Yarrow</u>	<u>10</u>																																																																
	<u>Other forbs</u>	<u>50</u>																																																																
	<u>fruit etc</u>	<u>20</u>																																																																
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Notes: half hoop = weight = 30 x 20 = 600 - good estimate - higher is some spots.
- little brush species. Encroaching on meadow area

Departure from Expected	Code	Instructions for Evaluation Sheet, Page 2
None to Slight	N-S	(1) Assign 17 indicator ratings. If indicator not present, rate None to Slight.
Slight to Moderate	S-M	(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.
Moderate	M	(3) Assign overall rating for each attribute based on preponderance of evidence.
Moderate to Extreme	M-E	(4) Justify each attribute rating in writing.
Extreme to Total	E-T	

Indicator	Rating	Comments
1. Rills	S H N-S	
2. Water-flow Patterns	S H N-S	
3. Pedestals and/or Terracettes	S H N-S	
4. Bare ground <u>< 15%</u>	S H N-S	
5. Gullies	S H N-S	
6. Wind-scoured, blowouts, and/or deposition areas	S N-S	
7. Litter movement	S N-S	
8. Soil Surface resistance to erosion	S H B N-S	
9. Soil Surface loss or degradation	S H B N-S	
10. Plant community composition and distribution relative to infiltration	H N-S	
11. Compaction layer	S H B N-S	
12. Functional/structural groups	B N-S	Some Rabbit brush / sage encroaching
13. Plant mortality/decadence	B N-S	
14. Litter amount	H B N-S	
15. Annual production	B N-S	
16. Invasive plants	B N-S	Some Rabbit brush / sage encroaching
17. Reproductive capability of perennial plants	B N-S	

E-T	M-E	M	S-M	N-S	

S (10 indicators):
Soil & Site Stability
Rating: _____

E-T	M-E	M	S-M	N-S	

H (10 indicators):
Hydric Function
Rating: _____

E-T	M-E	M	S-M	N-S	

B (10 indicators):
Biotic Integrity
Rating: _____

Note: Overall N-S departure from ESD. Good reference site for dry meadow. Some rabbit brush encroaching.

Worksheet # U-06-wet

Pasture _____

Ecological Site _____

Ranch/Landowner Mine

Rangeland Management Specialist: Zac Orton

Date: 7-28-16

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	Sedge	200																																																																
Forbs	Forbs	10																																																																
Shrubs	Rabbit brush	50									USE HISTORY Kind and Class of Animal: Season of Use: Burning History: Present Utilization: _____ % of Key Species Key Species: Estimate Harvest Efficiency: _____ % LANDSCAPE DATA Topography(Terrain): Broken:___ Rolling:___ Flat:___ Miles to food:___ cover:___ water:___																																																							
	Passion olive	200																																																																
	Willow	100																																																																
TOTALS		100%																																																																
(15) Similarity Index ((12/14) * 100)		(14) Production for this site from ESD	(13) Total Annual Production	(8) Total Forage Production	(12) Total allowable																																																													

Notes: Grass hoop = 104 x 20 = 2,080 lbs/ac
Encroaching FB on this site.

