

MONITORING REVIEW
FOR
HUSSEY UPLAND RESTORATION
PROJECT



Neilson Natural Resources Consulting, Inc.
62123 Chandler Loop
La Grande, Oregon 97850
541-910-4999
fbneilson@aol.com

Project Description

A watershed restoration project was completed in 2005 and 2006 in the Malheur River Watershed approximately 12 miles north of the town of Drewsey, Oregon on lands owned by Jeff Hussey. (See Location Map) The project was to install a well, cross fences, and change management in native grass stands and restore the native vegetation to a higher environmental condition nearer climax.

Grant funding was sought from the Oregon Watershed Enhancement Board (OWEB) and the cooperator contributed to the effort with in-kind services and other appropriate means. The streams and drainages affected are the head waters for the Malheur River which are on the State of Oregon 303(d) list which are not meeting temperature or biological criteria and are contributing sediment to downstream water systems.

Site Description

The project location is Township 19 South, Range 36 East, Section 18, Latitude N43°54'27" Longitude W118°20'11" for a total of 1500 acres.. (See Location and Vicinity Map) Primary land use in the project area is grazing. The vegetation was characterized by a high percentage of Wyoming Big Sagebrush and Western Juniper interspersed with native vegetation. There were 3 photo monitoring plots established within the project area on three separate Ecological Sites. (OWEB Effectiveness Monitoring Reports)

Below is the original inventory of vegetation in the upland and meadow ecological sites that the study plots were established in. Attached in this document is the range inventory for current vegetation, production by weight, species composition, species comparison to climax species, site condition and erosion rates. Also the health assessment, trend, soil site stability, hydrologic function, and biotic integrity is included.

ECOLOGICAL SITE	COMMON NAME	SCIENTIFIC NAME
UPLAND	GRASS	
	IDAHO FESCUE	Festuca idahoensis
	BLUEBUNCH	Agropyron spicatum
	WHEATGRASS	Poa secunda
	SANDBERG BLUEGRASS	Sitanion hystrix
	SQUIRREL TAIL	Bromus tectorum
	CHEATGRASS	Agropyron desertorum
	CRESTED WHEATGRASS	
	FORBS	
	YARROW	Achillea lanulosa
	WILD ONION	Alliums spp.
	LUPINE	Lupinus spp.
	LOCOWEED	Oxytropis viscida
	SHRUBS	
	BIG SAGEBRUSH	Artimesia tridentata
	GREEN RABBITBRUSH	Chrysothamnus viscidiflorus

Upland Ecological Site



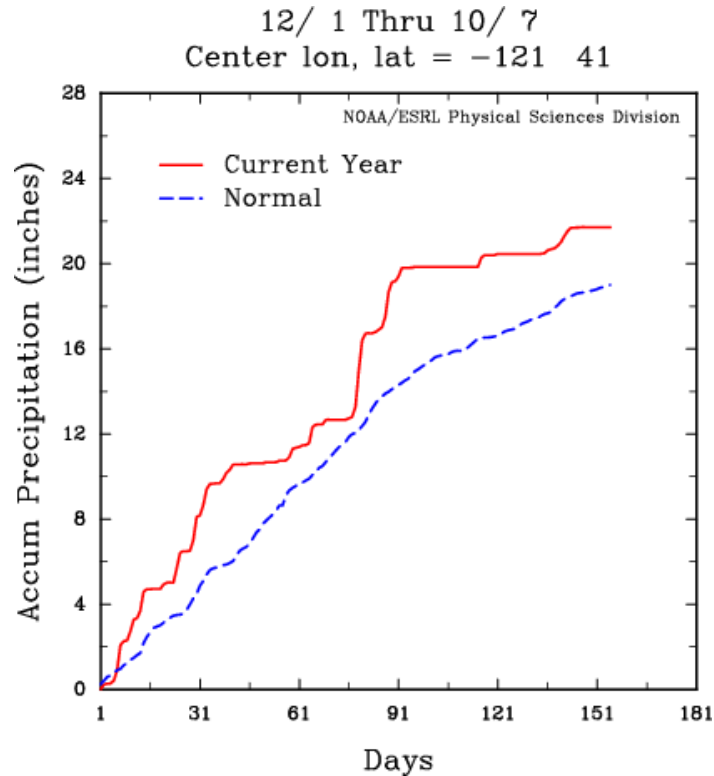
Wet Meadow Ecological Site



Jackson Creek



As of the date of completion of the project there has been no maintenance items performed. The project still meets the goals of the original grant agreement. There are some concerns by the author on AUM's removed this year and what is available for good health.



I ran a report from NOAA/ESRL Physical Sciences Division on precipitation amounts in the project area and felt that because the annual precipitation was significantly lower than normal that vegetative production was lower than normal and in the future maybe an adjustment in AUM's harvested would be appropriate.

Contextual Overview

1. Manipulation of Vegetation (grazing management)

Manipulating vegetation by implementing a grazing management system in remnant aspen, mountain big sagebrush, bunchgrass and riparian communities is a natural part of the ecology of the ecological sites on the Hussey Ranch. These communities have lost or are losing watershed function because these ecological sites are becoming a more xeric community. The problems associated with current management can be solved by developing water, management fences, and timing of grazing.

Problems to Be Addressed

Specific Problems	Root Cause(s) of the Problem
Changes in Plant Community Composition	European settlement introduced changes into the various ecosystems that contribute to the sagebrush and juniper expansion. Fire suppression and grazing decreased vegetative competition, encouraging growth of shrubs with safe sites for sagebrush and juniper seedling establishment, and providing another vector for seed dispersal. It also allowed for invasions of non-native annual plants, such as cheatgrass and various non-native forbs to invade appropriate ecological sites.
Changes in Soil Surface Conditions	A decrease in vegetation opens soil to more exposure from wind and water influences. Erosion becomes severe with sheet, rill, and gully erosion occurring due to the lack of vegetation and litter.
Changes in Site Hydrology	Sagebrush and Juniper uses significant amounts of water through transpiration which decreases the amount of understory vegetation. The impact is two fold in that soil moisture is lost through transpiration and then erosion increases and what water there is runs off and limits moisture infiltration.
Changes in Spring, Seep, and Stream Flow	Sagebrush and juniper transpiration is a major problem with rangelands that are becoming fully developed mono-cultures. Sagebrush and Juniper can use upwards of 75 percent of the soil moisture which decreases (as an example) a 12 inch precipitation area into a 3 inch precipitation area.
Changes in Wildlife Habitat	A mosaic of plant communities and seral stages with tree, shrub, and herbaceous components resulting in a more diverse landscape increasing structural, biological, and habitat diversity are lost as ecological sites become Wyoming Big Sage and Western Juniper mono-cultures.
Changes in Forage Production	Under story productivity, cover, biomass, diversity, and growth rate of other vegetation declines as Sagebrush and Juniper vegetative cover increases.

Project Description

Specific Problems	Measurable Objectives	Proposed Practices, Detailed Descriptions, and Root Causes
Changes in Plant Community Composition	<ul style="list-style-type: none"> • *Create a mosaic of plant communities and seral stages with tree, shrub, and herbaceous components resulting in a more diverse landscape increasing structural, biological, and habitat diversity. • Reintroduce management into the identified plant communities with 65 percent to 85 percent of the identified upland communities to change range health to good or better to create a mosaic of seral stages. • Reestablish bunchgrass-mountain big sagebrush communities through the reintroduction of management. 	<ol style="list-style-type: none"> 1. Work with land owner to implement a Deferred rotation grazing system in an efficient cost effective manner. Install cross fencing and develop water according to: <ul style="list-style-type: none"> • Appropriate plan • Land owner agree to implement Plan • Plan for whole ranch is developed and implemented 2. Adequate rest is implemented to restore desirable plant community, vigor, and system stability. 3. Livestock water and fencing will be developed to improve distribution. 4. Management after implementation is an important component of the total plan to keep desirable plants in good numbers and vigor.
Changes in Soil Surface Conditions	<ul style="list-style-type: none"> • Increased understory will also increase litter to an acceptable level. • Reduce erosion to natural levels 	

Changes in Site Hydrology	<ul style="list-style-type: none">• *Enhance and protect the integrity of watershed function, improve watershed stability, and decrease accelerating erosion by reestablishing diverse plant communities. Increase vegetation cover, litter, and reduce the amount of exposed soil.	
Changes in Spring, Seep, and Stream Flow	<ul style="list-style-type: none">• Maintain or improved water quality striving toward meeting the State of Oregon water quality standards.• Enhance the aesthetic quality of Jackson Creek with the reintroduction of management by creating a diverse landscape.	

<p>Changes in Wildlife Habitat</p>	<ul style="list-style-type: none">• Maintain and/or improved vegetation conditions beneficial to fish habitat in Jackson Creek and tributary streams with special considerations for Great Basin Redband Trout.• Improve riparian condition and maintain or improve stream functionality by expanding hydric herbaceous and deciduous riparian woody species within communities currently encroached by western juniper.• Improve and/or maintain grassland and riparian communities to create diverse habitat for wildlife species. Create and maintain a dynamic mosaic of seral stages that will meet the forage requirements for elk, mule deer, antelope, sage grouse, neotropical birds, other mammals, amphibians, and reptiles. (It should be noted that the land owner manages these lands for livestock grazing. Good condition, and well managed rangelands and riparian areas can work together to meet	
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	requirements for both cattle and wildlife).	
Changes in Forage Production	<ul style="list-style-type: none">• Increase amounts and quality of forage for livestock.• Improve distribution of livestock.• Increase grazing opportunities through proper management.	

* Applies to all categories

Conclusion

Scores are rated from 1 to 5 with 1 being None to Slight and 5 being Extreme. Another way of viewing this is 1-2 is Good, 3 is fair, and 4-5 is poor.

Site #1: Soil Site Stability is a 1.7, Hydrologic Function is 1.8 and Biotic Integrity is 1.9. The range site is therefore determined to be in good condition with a slight upward trend.

Site #2: Soil Site Stability is a 1.7, Hydrologic Function is 1.8 and Biotic Integrity is 1.9. The range site is therefore determined to be in good condition with a slight upward trend.

Site #3: Soil Site Stability is a 1.7, Hydrologic Function is 1.8 and Biotic Integrity is 1.9. The range site is therefore determined to be in good condition with a slight upward trend.

As mentioned earlier in the text, the land owner did a good job of managing but normal stocking rates were somewhat high for the amount of forage at this point. Precipitation was significantly short this year and forage amounts did not develop as in a normal year. Stocking rates should be followed closely while these sites are trying to heal with the change in management. Private lands always take the brunt of grazing when precipitation changes cause changes in federal grazing permits.

**OWEB Effectiveness Monitoring Report – Fence,
Water Development, Grazing Management**

OWEB Grant #: 205243

General Information:

Grantee: OWEB
Reviewer: F. Neilson

Date of Initial Evaluation: 5/16/2005
Date of Review: 7/3/2007

Treatment Site Characterization:

Location: N43°54'27.9" W118°20'11.4"
Ecoregion: (Northern Basin) High Lava Plains
Ave. Annual Ppt: 9-12" Elevation: 3,810ft Aspect: None
Landscape Position: Bottom of Drainage
Dominant Soil: Depth 5-12" Texture: Surface: Loam Subsurface: Clay
Plant Association: ARTRT/ECI2/AGSP/FEID
Soil Limitations for Management: Claypan in subsoil.

Treatment Description:

Objective: Improve watershed health by improving distribution through fencing, water developments and management. The results would be less erosion, better water quality and quantity, improved infiltration, overland flow, and sediment yield.

Date(s) of Treatment: Spring/Summer 2006 Acres Treated: 2140

Time Spent: 2 Months

Method of Treatment: Installation of Practices

Slash Disposal: NA

Cost of Initial Treatment:

Post-Treatment Burn: Date: Method:

Seeded: Date: Method:

Species Seeded:

Cost: Burning: Seeding:

Treatment Evaluation:

Method of Evaluation: Rangeland Inventory Worksheet (NRCS) Measured

Describe method(s) used: Inventory of Trend, Health Assessment, Similarity Index, Growth Curve, Cover Estimates, and Stocking Rates

Permanent Plot Established: Y Photo Plot Established: Y

Results of Evaluation:

Pre-treatment conditions:

Pre-treatment canopy cover:

Trees: 0 Forbs: 10 Stones/Gravels: 0

Shrubs: 0 Cryptogams: 2 Bare Ground: 8

Grasses/Grass-likes: 75 Litter: 5

Grazed? Y Rest/Deferment: Y Timing: Spring/Fall Duration: 1 Month

Evidence of Overland Flow: Y

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: None If yes, what were the flows?

Post-treatment conditions:

Current canopy cover:

Trees: 0

Forbs: 12

Stones/Gravels: 0

Shrubs: 0

Cryptograms: 2

Bare Ground: 4

Grasses/Grass-likes: 74

Litter: 8

Slash/downed trees:

Grazed?

Rest/Deferment:

Timing:

Duration:

Evidence of Overland Flow:

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: No

If yes, what were the flows?

Conclusion: This is a meadow site that has had rotated grazing for 3 years now. Notice how dry the meadow is. The spring and summer of 2007 has been one of the driest years in history.

NORTH



SOUTH

**OWEB Effectiveness Monitoring Report – Fence,
Water Development, Grazing Management**

OWEB Grant #: 205243

General Information:

Grantee: OWEB

Reviewer: F. Neilson

Date of Initial Evaluation: 7/16/2005

Date of Review: 7/3/2007

Treatment Site Characterization:

Location: N43°54'27.9" W118°20'11.4"

Ecoregion: (Northern Basin) High Lava Plains

Ave. Annual Ppt: 9-12" Elevation: 3,810ft Aspect: None

Landscape Position: Upland

Dominant Soil: Depth 2-4" Texture: Surface: Loam Subsurface: Rock

Plant Association: ARTRW/AGSP/STTH2

Soil Limitations for Management: Shallow.

Treatment Description:

Objective: Improve watershed health by improving distribution through fencing, water developments and management. The results would be less erosion, better water quality and quantity, improved infiltration, overland flow, and sediment yield.

Date(s) of Treatment: Spring/Summer 2006 Acres Treated: 2140

Time Spent: 2 Months

Method of Treatment: Installation of Practices

Cost of Initial Treatment: \$13,514

Treatment Evaluation:

Method of Evaluation: Rangeland Inventory Worksheet (NRCS) Measured

Describe Method(s) used: Inventory of Trend, Health Assessment, Similarity Index, Growth Curve, Cover Estimates, and Stocking Rates

Permanent Plot Established: Y Photo Plot Established: Y

Results of Evaluation:

Pre-treatment conditions:

Pre-treatment canopy cover:

Trees: 12 Forbs: 3 Stones/Gravels: 0

Shrubs: 35 Cryptograms: 2 Bare Ground: 8

Grasses/Grass-likes: 30 Litter: 2

Grazed? Y Rest/Deferment: Y Timing: Spring/Fall Duration: 1 Month

Evidence of Overland Flow: Y

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: None If yes, what were the flows?

Post-treatment conditions:

Current canopy cover:

Trees: 12

Forbs: 3

Stones/Gravels: 0

Shrubs: 35

Cryptograms: 2

Bare Ground: 8

Grasses/Grass-likes: 30

Litter: 2

Grazed? Y Rest/Deferment: 3 Seasons Timing: Spring or Fall

Duration: Depending on production

Evidence of Overland Flow: Slight

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: No

If yes, what were the flows?

NORTH



SOUTH

**OWEB Effectiveness Monitoring Report – Fence,
Water Development, Grazing Management**

OWEB Grant #: 205243

General Information:

Grantee: OWEB
Reviewer: F. Neilson

Date of Initial Evaluation: 7/16/2005
Date of Review: 7/3/2007

Treatment Site Characterization:

Location: N43°54'27.9" W118°20'11.4"
Ecoregion: (Northern Basin) High Lava Plains
Ave. Annual Ppt: 9-12" Elevation: 3,810ft Aspect: East
Landscape Position: Upland
Dominant Soil: Depth 30+" Texture: Surface: Loam Subsurface: Loam
Plant Association: ARTRW/AGSP/STTH2/POSE
Soil Limitations for Management: moisture.

Treatment Description:

Objective: Improve watershed health by improving distribution through fencing, water developments and management. The results would be less erosion, better water quality and quantity, improved infiltration, overland flow, and sediment yield.
Date(s) of Treatment: Spring/Summer 2006 Acres Treated: 2140
Time Spent: 2 Months
Method of Treatment: Installation of Practices
Slash Disposal: NA
Cost of Initial Treatment: 13,514

Treatment Evaluation:

Method of Evaluation: Rangeland Inventory Worksheet (NRCS) Measured
Describe method(s) used: Inventory of Trend, Health Assessment, Similarity Index, Growth Curve, Cover Estimates, and Stocking Rates
Permanent Plot Established: Y Photo Plot Established: Y

Results of Evaluation:

Pre-treatment conditions:

Pre-treatment canopy cover:

Trees: 0	Forbs: 5	Stones/Gravels: 0
Shrubs: 40	Cryptograms: 5	Bare Ground: 11
Grasses/Grass-likes: 34	Litter: 5	

Grazed? Y Rest/Deferment: Y Timing: Spring/Fall Duration: 1 Month

Evidence of Overland Flow: Y

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: None If yes, what were the flows?

Post-treatment conditions:

Current canopy cover:

Trees: 0

Forbs: 5

Stones/Gravels: 0

Shrubs: 40

Cryptograms: 5

Bare Ground: 11

Grasses/Grass-likes: 74

Litter: 5

Grazed? Yes Rest/Deferment: Rotation Timing: Spring or Fall

Duration: Depending on available forage.

Evidence of Overland Flow: Yes

Springs and/or seeps; indicator species in the area of influence of the stand:

Long Term measurement of flow: No

If yes, what were the flows?

Conclusion: Upland site.

NORTH

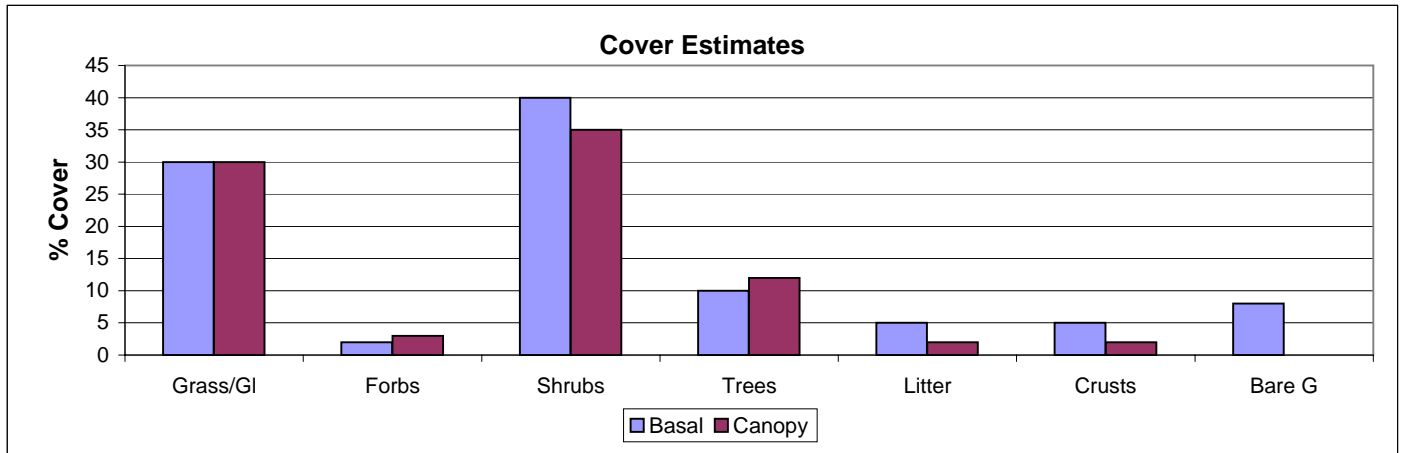
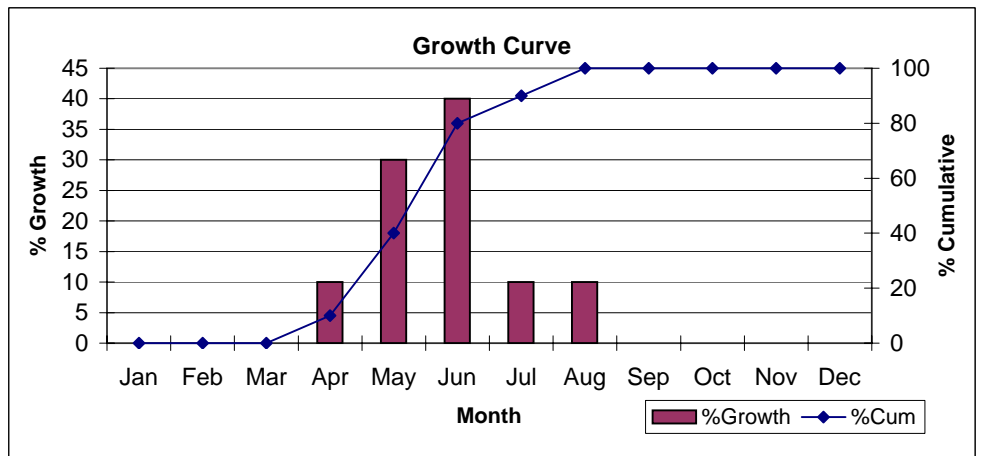


GENERAL INFORMATION		GROWTH CURVE			STOCKING RATES						
		Month	%Growth	%Cum	Lbs/Acre	% Used	Useable	Use Cum	H.E	AUMs/Ac	AUM Cum
Client	Jeff Hussey	Jan	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Write Up	#2	Feb	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Date	7/16/2007	Mar	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Tract		Apr	10	10	15.8	60	9.5	9.5	25	0.00	0.00
Field	#2	May	30	40	47.5	60	28.5	38.0	25	0.01	0.01
Section	7, 18, 19	Jun	40	80	63.4	60	38.0	76.0	25	0.01	0.02
Township	19 South	Jul	10	90	15.8	60	9.5	85.5	25	0.00	0.03
Range	36 East	Aug	10	100	15.8	60	9.5	95.0	25	0.00	0.03
Waypoint		Sep	0	100	0.0	60	0.0	95.0	25	0.00	0.03
Latitude		Oct	0	100	0.0	60	0.0	95.0	25	0.00	0.03
Longitude		Nov	0	100	0.0	60	0.0	95.0	25	0.00	0.03
Elevation		Dec	0	100	0.0	60	0.0	95.0	25	0.00	0.03
Eco Site	Shallow 9-12"										
Eco Site #	010XC035OR										
Veg State											
Soils											
Planner	F. Neilson										

COVER ESTIMATES									
Type	Grass/GI	Forbs	Shrubs	Trees	Litter	Crusts	Bare G	Total	
Basal	30.0	2.0	40.0	10.0	5.0	5.0	8.0	100.0	
Canopy	30.0	3.0	35.0	12.0	2.0	2.0	N/A	84.0	

CLIPPING DATA	
Grams Clipped	66.0
Conversion Factor	9.6
Subtotal	633.6
% Clipped	500.0
Green Wt	126.7
Reconstituted Wt	158.4

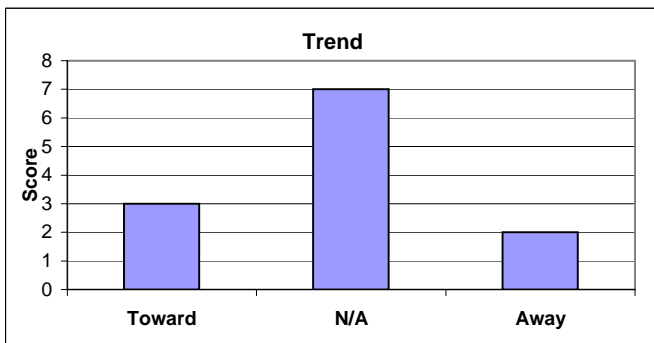
SIMILARITY INDEX	
Annual Production	600.0
Lbs Allowable	108.9
Similarity Index	18.1



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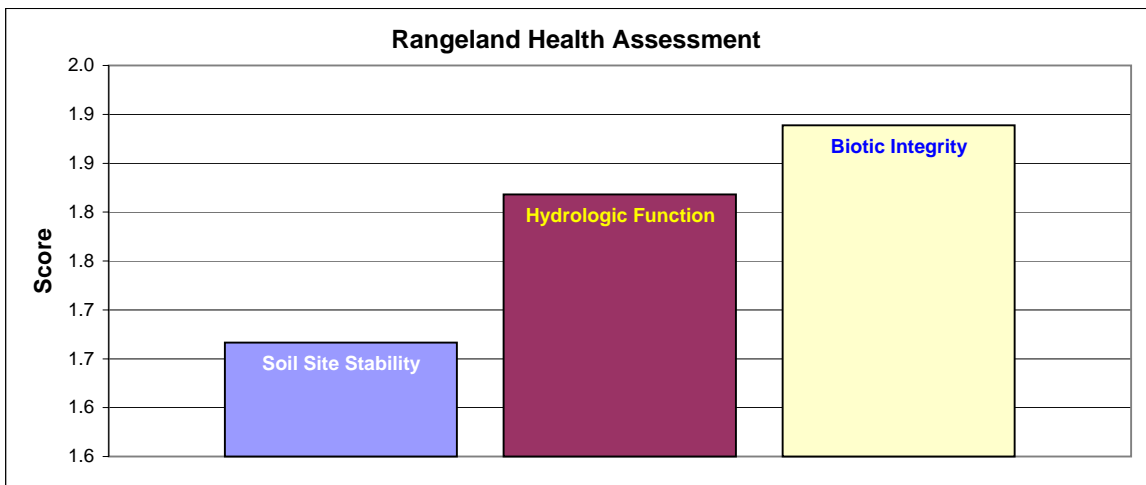
TREND DETERMINATION						
Attribute	Enter "1"					
Vigor	Good		Fair	1	Poor	
Seedlings	Many		Some	1	None	
Decadant Plants	None		Some	1	Many	
Litter/residue	More		OK		Less	1
Invasive Plants	None		Some	1	Many	1
Soil Erosion	Slight		Mod	1	Severe	
Soil Crusting	Slight	1	Mod		Severe	
Soil Compaction	Slight		Mod	1	Severe	
Bare Ground	Less		OK	1	More	
Gullies/Rills	None	1	Few		Many	
Soil Degradation	Slight	1	Mod		Severe	

SUMMARY			
	Toward	N/A	Away
Trend	3	7	2
Check:	12		!!!!



HEALTH ASSESSMENT			SSS		HF		BI	
Indicator	Rating	Value	Wt	V*Wt	Wt	V*Wt	Wt	V*Wt
1 Rills	NS	1	1	1	1	1		
2 Water Flow	SM	2	1	2	1	2		
3 Peds/Terrs	SM	2	1	2	1	2		
4 Bare Ground	SM	2	1	2	1	2		
5 Gullies	NS	1	1	1	1	1		
6 Wind Scour	NS	1	1	1				
7 Litter Movement	NS	1			1	1		
8 Soil Resistance	NS	1	1	1	1	1	1	1
9 Soil Loss	NS	2	1	2	1	2	1	2
10 Infil & Runoff	M	3			1	3		
11 Compaction	M	3	1	3	1	3	1	3
12 F/S Groups	SM	2					1	2
13 Mortality	SM	2					1	2
14 Litter Amount	SM	2			1	2	1	2
15 Annual Prod	NS	1					1	1
16 Invasive Plants	SM	2					1	2
17 Reproduction	SM	2					1	2
Sum				9		15.0	11	20.0
Rating Value						1.7		1.8
Rating				Slight to Moderate		Slight to Moderate		Slight to Moderate

Attribute		Departure from Expected	Rating	Value
Soil Site Stability	SSS	None to Slight	N-S	1
Hydrologic Function	HF	Slight to Moderate	S-M	2
Biotic Integrity	BI	Moderate	M	3
		Moderate to Extreme	M-E	4
		Extreme	E	5



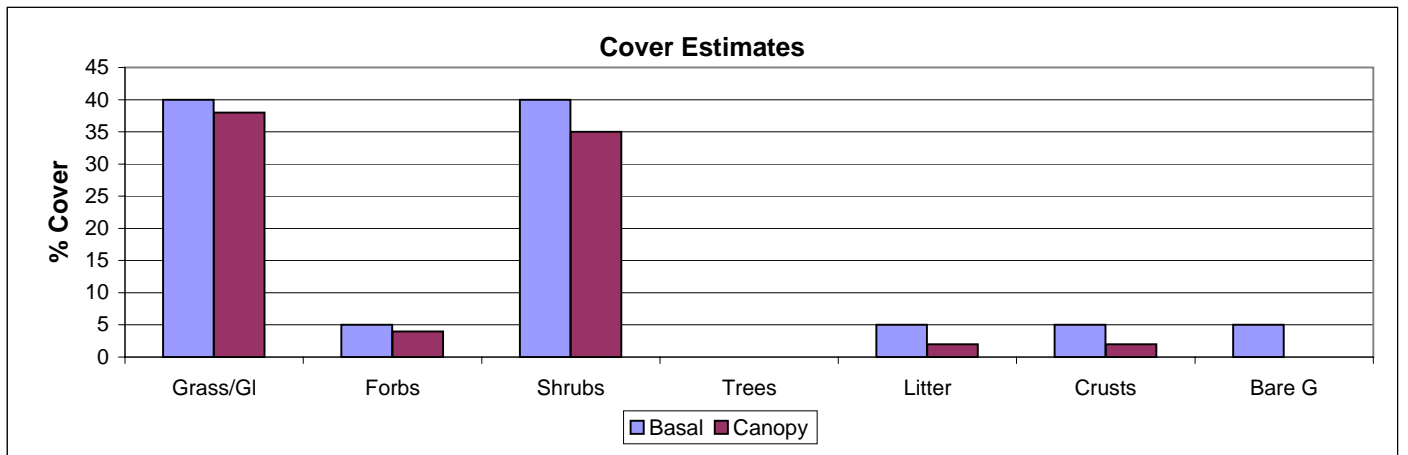
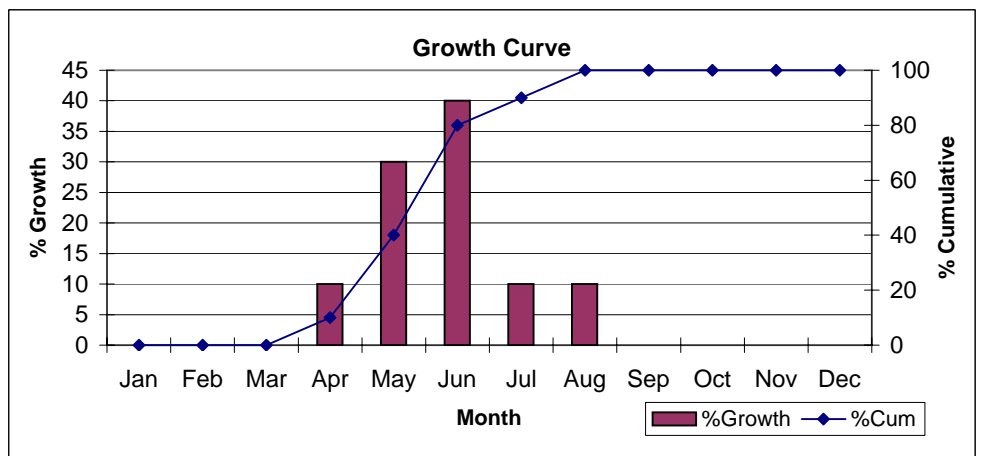
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GENERAL INFORMATION		GROWTH CURVE			STOCKING RATES						
		Month	%Growth	%Cum	Lbs/Acre	% Used	Useable	Use Cum	H.E	AUMs/Ac	AUM Cum
Client	Jeff Hussey	Jan	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Write Up	#5	Feb	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Date	7/16/2007	Mar	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Tract		Apr	10	10	127.5	60	76.5	76.5	25	0.02	0.02
Field	#1	May	30	40	382.5	60	229.5	306.0	25	0.07	0.10
Section	7, 18, 19	Jun	40	80	510.0	60	306.0	612.0	25	0.10	0.19
Township	19 South	Jul	10	90	127.5	60	76.5	688.5	25	0.02	0.22
Range	36 East	Aug	10	100	127.5	60	76.5	765.0	25	0.02	0.24
Waypoint		Sep	0	100	0.0	60	0.0	765.0	25	0.00	0.24
Latitude		Oct	0	100	0.0	60	0.0	765.0	25	0.00	0.24
Longitude		Nov	0	100	0.0	60	0.0	765.0	25	0.00	0.24
Elevation		Dec	0	100	0.0	60	0.0	765.0	25	0.00	0.24
Eco Site	Clayey 9-12"										
Eco Site #	010XC021OR										
Veg State											
Soils											
Planner	F. Neilson										

COVER ESTIMATES									
Type	Grass/GI	Forbs	Shrubs	Trees	Litter	Crusts	Bare G	Total	
Basal	40.0	5.0	40.0	0.0	5.0	5.0	5.0	100.0	
Canopy	38.0	4.0	35.0	0.0	2.0	2.0	N/A	81.0	

CLIPPING DATA	
Grams Clipped	102.0
Conversion Factor	10.0
Subtotal	1020.0
% Clipped	100.0
Green Wt	1020.0
Reconstituted Wt	1275.0

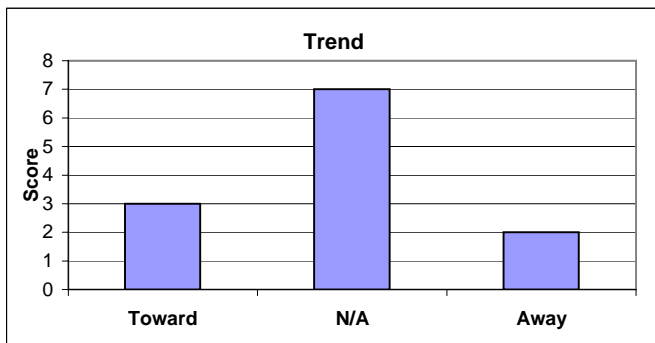
SIMILARITY INDEX	
Annual Production	1000.0
Lbs Allowable	601.8
Similarity Index	60.2



NOTES:

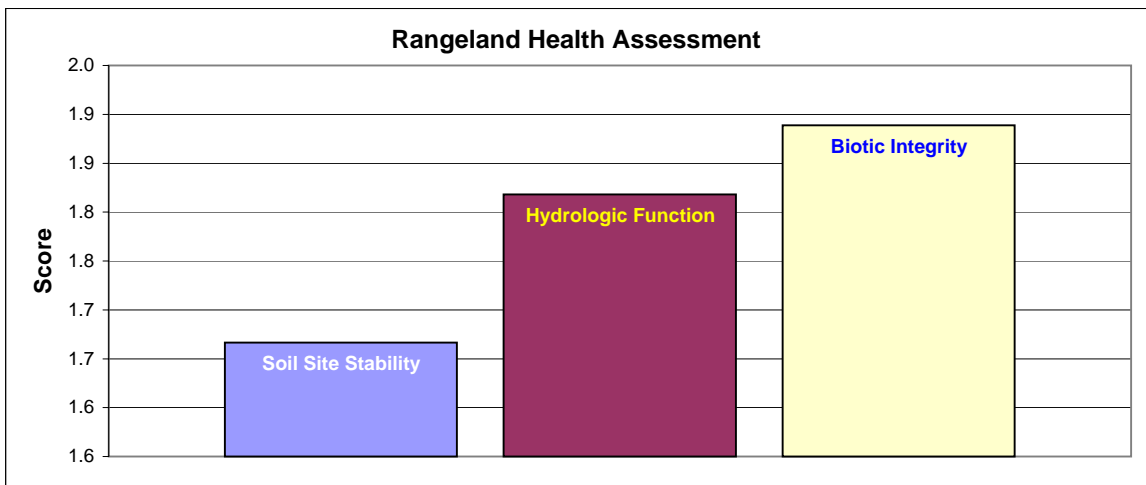
TREND DETERMINATION						
Attribute	Enter "1"					
Vigor	Good		Fair	1	Poor	
Seedlings	Many		Some	1	None	
Decadant Plants	None		Some	1	Many	
Litter/residue	More		OK		Less	1
Invasive Plants	None		Some	1	Many	1
Soil Erosion	Slight		Mod	1	Severe	
Soil Crusting	Slight	1	Mod		Severe	
Soil Compaction	Slight		Mod	1	Severe	
Bare Ground	Less		OK	1	More	
Gullies/Rills	None	1	Few		Many	
Soil Degradation	Slight	1	Mod		Severe	

SUMMARY			
	Toward	N/A	Away
Trend	3	7	2
Check:	12		!!!!



HEALTH ASSESSMENT			SSS		HF		BI	
Indicator	Rating	Value	Wt	V*Wt	Wt	V*Wt	Wt	V*Wt
1 Rills	NS	1	1	1	1	1		
2 Water Flow	SM	2	1	2	1	2		
3 Peds/Terrs	SM	2	1	2	1	2		
4 Bare Ground	SM	2	1	2	1	2		
5 Gullies	NS	1	1	1	1	1		
6 Wind Scour	NS	1	1	1				
7 Litter Movement	NS	1			1	1		
8 Soil Resistance	NS	1	1	1	1	1	1	1
9 Soil Loss	NS	2	1	2	1	2	1	2
10 Infil & Runoff	M	3			1	3		
11 Compaction	M	3	1	3	1	3	1	3
12 F/S Groups	SM	2					1	2
13 Mortality	SM	2					1	2
14 Litter Amount	SM	2			1	2	1	2
15 Annual Prod	NS	1					1	1
16 Invasive Plants	SM	2					1	2
17 Reproduction	SM	2					1	2
Sum			9	15.0	11	20.0	9	17.0
Rating Value				1.7		1.8		1.9
Rating			Slight to Moderate		Slight to Moderate		Slight to Moderate	

Attribute		Departure from Expected	Rating	Value
Soil Site Stability	SSS	None to Slight	N-S	1
Hydrologic Function	HF	Slight to Moderate	S-M	2
Biotic Integrity	BI	Moderate	M	3
		Moderate to Extreme	M-E	4
		Extreme	E	5



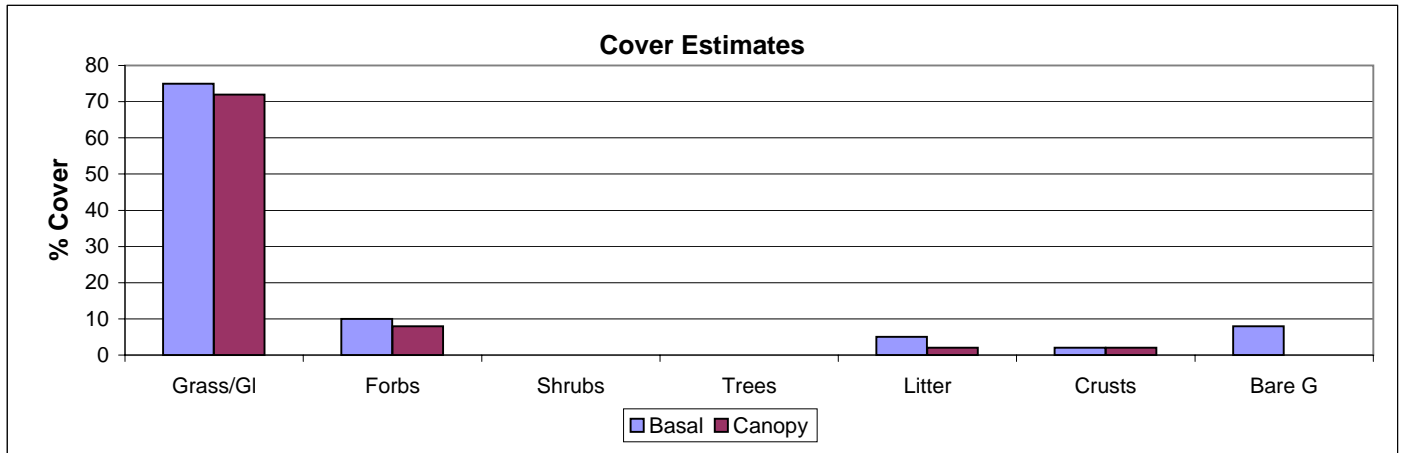
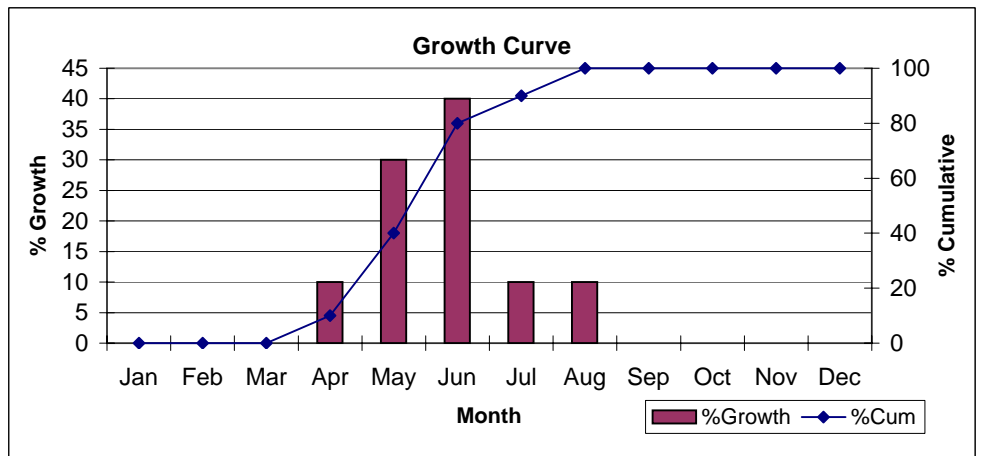
NOTES:

GENERAL INFORMATION		GROWTH CURVE			STOCKING RATES						
		Month	%Growth	%Cum	Lbs/Acre	% Used	Useable	Use Cum	H.E	AUMs/Ac	AUM Cum
Client	Jeff Hussey	Jan	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Write Up	#3	Feb	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Date	7/16/2007	Mar	0	0	0.0	60	0.0	0.0	25	0.00	0.00
Tract		Apr	10	10	279.0	60	167.4	167.4	25	0.05	0.05
Field	#2	May	30	40	837.0	60	502.2	669.6	25	0.16	0.21
Section	7, 18, 19	Jun	40	80	1116.0	60	669.6	1339.2	25	0.21	0.42
Township	19 South	Jul	10	90	279.0	60	167.4	1506.6	25	0.05	0.48
Range	36 East	Aug	10	100	279.0	60	167.4	1674.0	25	0.05	0.53
Waypoint		Sep	0	100	0.0	60	0.0	1674.0	25	0.00	0.53
Latitude		Oct	0	100	0.0	60	0.0	1674.0	25	0.00	0.53
Longitude		Nov	0	100	0.0	60	0.0	1674.0	25	0.00	0.53
Elevation		Dec	0	100	0.0	60	0.0	1674.0	25	0.00	0.53
Eco Site	Loamy Bottom										
Eco Site #	010XY005OR										
Veg State											
Soils											
Planner	F. Neilson										

COVER ESTIMATES									
Type	Grass/GI	Forbs	Shrubs	Trees	Litter	Crusts	Bare G	Total	
Basal	75.0	10.0	0.0	0.0	5.0	2.0	8.0	100.0	
Canopy	72.0	8.0	0.0	0.0	2.0	2.0	N/A	84.0	

CLIPPING DATA	
Grams Clipped	248.0
Conversion Factor	10.0
Subtotal	2480.0
% Clipped	100.0
Green Wt	2480.0
Reconstituted Wt	2790.0

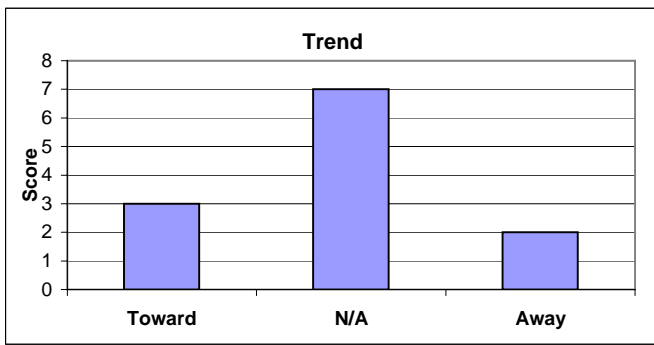
SIMILARITY INDEX	
Annual Production	2500.0
Lbs Allowable	1162.0
Similarity Index	46.5



NOTES:

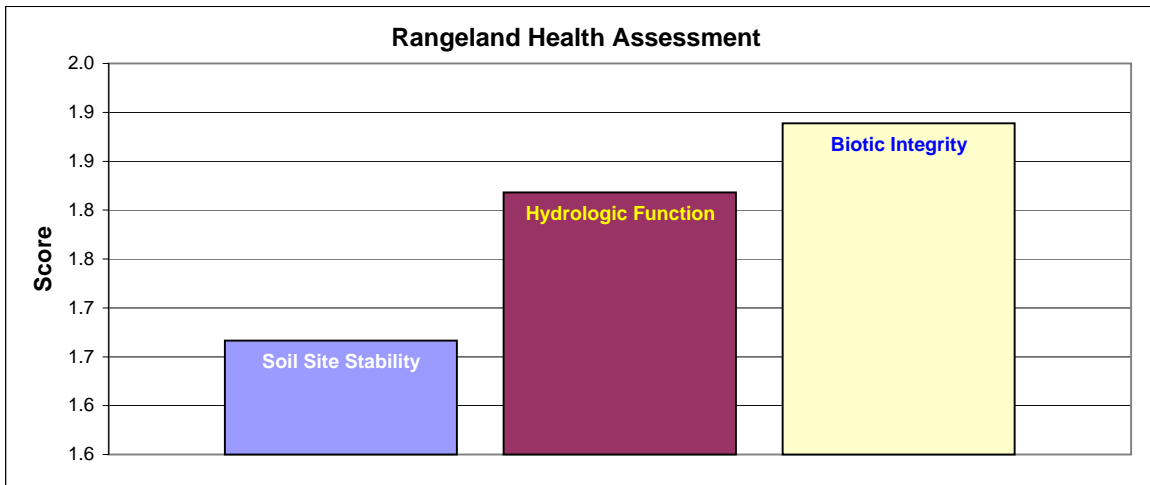
TREND DETERMINATION						
Attribute	Enter "1"					
Vigor	Good		Fair	1	Poor	
Seedlings	Many		Some	1	None	
Decadant Plants	None		Some	1	Many	
Litter/residue	More		OK		Less	1
Invasive Plants	None		Some	1	Many	1
Soil Erosion	Slight		Mod	1	Severe	
Soil Crusting	Slight	1	Mod		Severe	
Soil Compaction	Slight		Mod	1	Severe	
Bare Ground	Less		OK	1	More	
Gullies/Rills	None	1	Few		Many	
Soil Degradation	Slight	1	Mod		Severe	

SUMMARY			
	Toward	N/A	Away
Trend	3	7	2
Check:	12		!!!!



HEALTH ASSESSMENT			SSS		HF		BI	
Indicator	Rating	Value	Wt	V*Wt	Wt	V*Wt	Wt	V*Wt
1 Rills	NS	1	1	1	1	1		
2 Water Flow	SM	2	1	2	1	2		
3 Peds/Terrs	SM	2	1	2	1	2		
4 Bare Ground	SM	2	1	2	1	2		
5 Gullies	NS	1	1	1	1	1		
6 Wind Scour	NS	1	1	1				
7 Litter Movement	NS	1			1	1		
8 Soil Resistance	NS	1	1	1	1	1	1	1
9 Soil Loss	NS	2	1	2	1	2	1	2
10 Infil & Runoff	M	3			1	3		
11 Compaction	M	3	1	3	1	3	1	3
12 F/S Groups	SM	2					1	2
13 Mortality	SM	2					1	2
14 Litter Amount	SM	2			1	2	1	2
15 Annual Prod	NS	1					1	1
16 Invasive Plants	SM	2					1	2
17 Reproduction	SM	2					1	2
Sum				9		15.0	11	20.0
Rating Value						1.7		1.8
Rating				Slight to Moderate		Slight to Moderate		Slight to Moderate

Attribute		Departure from Expected	Rating	Value
Soil Site Stability	SSS	None to Slight	N-S	1
Hydrologic Function	HF	Slight to Moderate	S-M	2
Biotic Integrity	BI	Moderate	M	3
		Moderate to Extreme	M-E	4
		Extreme	E	5



NOTES: