

## Vermont Pasture Condition Score Sheet

**This Job Sheet is adapted from the University of Maine Livestock Team Online Grazing Course.**

It was designed for use by persons with different levels of technical ability. It can be used quickly and without tools, to visually estimate the condition and trend on grasslands. For example, when asked for a %, the user should make their best visual estimate. The tool reminds the user to evaluate 10 items important to grassland condition/trend. With experience, condition/trend surveys will be quite consistent between users.

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Use the form to inventory up to 6 different fields or paddocks, or to record change on the same field or paddock for 6 years. Enter the Pasture Type for the site being evaluated (*permanent pasture, cultivated pasture, rotated paddocks, 1st cut hay pasture, hay/legume pasture, wet meadow, etc*). Acres can be the total acres in the field or the acres represented by the evaluation (multiple paddocks or pastures of similar characteristics can be lumped under one column).

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Record the date when the field assessment is conducted as well as the general local weather conditions for the three weeks prior to the assessment. Soil moisture and date (what period of the growing season is this?) should be considered since they are important attributes to the condition of forage at the time you conduct this assessment. When conducting the assessment, walk the entire pasture. Conduct the assessment in a location which is representative of the entire pasture. If there are significant sections of the pasture which have very different forage values, separate evaluations should be conducted for each section.

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### CATEGORY DEFINITIONS AND GUIDANCE:

**1) Plant Population** - See the list of Desirable, Intermediate and Undesirable species on page 2. Visually estimate the % composition by weight of each plant grouping and assign a weighted value. Desirable, intermediate and undesirable will vary with site, kind of grazing animal and intended use. If necessary to scientifically determine compositions by weight, use the procedure found on the following web University of Maine web site:

<http://www.umaine.edu/umext/pasture/Lessons/L1/appendixE.htm>

**2) Forage Plant Diversity** - The number of different kinds of forage plants that are well represented on the site. If only one kind of plant occurs, diversity is narrow; if six or more kinds are present, diversity is broad. With increased diversity, the pasture system is better buffered to environmental change. Diversity will change over the season.

**3) Plant Density** - Ignore undesirables and visually estimate density of living desirable and intermediate species that would be present at a two-inch stubble. Is there room for more desirable and intermediate plants?

**4) Plant Vigor** - Are the desirable and intermediate species healthy and growing at their potential? Some things to look for are; color, leaf area index, reproduction, presence of weeds, rate of growth and regrowth, etc. Strong, vigorous pasture recovers rapidly after grazing. Medium vigor pasture takes about one week longer to recover. Weak pasture does not recover or takes two or more weeks.

**5) Legumes in Stand** - Visually estimate the % composition by weight of the legumes present in the stand for the area being evaluated. Early season estimates may underestimate legumes. Bloat and nutritional issues with legumes should be considered. 30% is a good target.

**6) Intensity of Use** - Close and frequent use causes loss of vigor, reduces desirable species, and promotes erosion and runoff. Light use allows excessive residue buildup, blocks sunlight, and reduces palatability. Undergrazing may be as detrimental as overgrazing. Light: Forage allowed to regrow often to seedhead; weeds not grazed, spotty grazing pattern. Moderate: usually associated with managed grazing; forage is maintained above 2" and is not allowed to go to seed; fairly uniform grazing pattern. Heavy: Areas of less than 70% groundcover. Overgrazed areas are evident; consistently grazed at <2".

**7) Uniformity of Use** - Uniform grazing has all plants grazed to a moderate, uniform height throughout the field. Spotty grazing appears uneven, with some plants or parts of the field grazed heavily and others lightly. **Note: An area can be uniformly overgrazed and will not receive points.** A good walkover of the pasture is needed to assess this and other indicators.

**8) Soil Erosion** - Visually observe and collectively evaluate all types of erosion and determine the severity for the area being surveyed. Note areas on map with GPS unit if possible. Soil erosion often relates to intensity and uniformity of use.

**9) Woody Canopy** - Estimate the percent canopy (shaded area at noon) of woody cover over six feet tall. Woody canopy may promote uneven grazing, parasite and manure accumulation and compaction.

**10) Plant Residue (Dead and Decaying Plant Material)** - Appropriate residue provides adequate ground cover to retard runoff, returns nutrients to the soil, and provides a favorable microclimate for biological activity. Appropriate: 30-70% covered residue on the ground below forage canopy, little standing dead forage available to grazing animal. Excessive: heavy thatch (0.5"-1") present, 15-25% standing dead forage. Deficient: little or no identifiable plant residue present on soil surface. Less than 25% should be dead and standing for 'appropriate'. Consider this as an efficiency measure of the plant-carbon cycle within the soil--low numbers mean very slow carbon cycling. If plants are overgrazed there is little residue to recycle; it goes in the animal. If plant are undergrazed, there is potential to have carbon (residue) buildup. Therefore, both overgrazing and undergrazing result in low ratings.

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#### Values:

Where needed, use weighted values and interpolate. For example; if you can't decide between a value of 2 or 3 use a value of 2.5.

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#### Further Definitions:

**Desirable plants:** >80% good forage plants that are readily consumed, persistent and provide high tonnage for most of the growing season. Composition of plant species is approximately the same in the diet of the target animal as that found in the area being grazed by this animal. Desirable plants would include: Red Clover, White Clover, Birdsfoot Trefoil, Dandelion, Kentucky Bluegrass, Timothy, Orchard Grass, Brome Grass, various fescues, Perennial Ryegrass.

**Intermediate plants:** some undesirables that the livestock would not normally eat, or species when consumed provide low tonnage, lose quality fast or have short lived grazing use period. Intermediate plants would include: Chickory, Wild Mustard, Lanbsquarter, invasive shrubs (buckthorn, barberry, honey suckle), Phagmites, overmature Reed Canary Grass, overmature Tall Fescue.

**Undesirable plants:** desirable species are < 30% of the stand, mostly weedy annuals and or woody species. Composition of plant species is lower in the diet of the target animal than is found in the area being grazed by this animal. Undesirable plants would include: Buttercup, Thistle, Chickweed, Busdock, Ragweed, Bindweed, Smartweed, Pigweed, Velvetleaf, Nutsedge.

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#### Results:

**Very Good:** Very little change in management is needed but new innovations may still be appropriate.

**Good:** Improvements will benefit productivity; implement the most beneficial practice(s) first.

**Poor:** Changes are needed soon; a high return on investment is likely.

**Very Poor:** The system requires major inputs of time, management and expense; immediate changes are suggested.

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#### **Vermont NRCS Quality Criteria for Resource Management System (RMS) Conservation Planning**

This tool is used to help determine whether existing pasture systems meet the Resource Management System requirements of the Vermont NRCS Quality Criteria for the resource concern 'Plant Condition-Productivity, Health and Vigor'. A higher standard is applied to achieve RMS level when the farmer has indicated a concern related to production of high quality forage, or that there is currently a shortage of feed for the livestock. Therefore, the answer to question Q1 is very important in accurately reflecting the final answer to 'Does This Pasture System Meet VT NRCS RMS Quality Criteria?'

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Note: Individual fields may result in a low score while the entire system ranks favorably. Discussion should be initiated with the farmer regarding those fields and potential alternatives for improvement.

Pasture Condition Score Sheet: Determine Grassland Condition/Trend								
Owner/Operator:			Date Of Field Visit:					
Field Office :			Technician / Planner:					
Document general local weather conditions for the previous three weeks:					AVERAGE	DRY	WET	
Q1. Is production of high quality forage or lack of adequate livestock feed a stated priority concern of the farmer?	Field #:							
	Pasture Type:	Continuous Stocking	1st Cut Hay Pasture					
	Acres:							
CATEGORY	PARAMETER	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
1) Plant Population: The estimated % by weight is mostly:	Desirable Intermediate Undesirable	3 or 4 1 or 2 0						
2) Forage Plant Diversity: The diversity of forage plant species is:	Broad > 5 species Medium 4-5 species Narrow < 4 species	3 or 4 1 or 2 0						
3) Plant Density: Desirables and intermediates are:	Dense > 85% Medium 75-85% Sparse < 75%	3 or 4 1 or 2 0						
4) Plant Vigor: Desirables and intermediates are:	Strong Medium Weak	3 or 4 1 or 2 0						
5) Legumes In Stand: Percent of legumes by weight make up:	>40% 20-29%, 30-39% <10% 10-19%	3 or 4 1 or 2 0						
6) Intensity of Use: The degree and frequency is:	Moderate Light Heavy	3 to 4 0 to 2 0						
7) Uniformity of Use: The uniformity of grazing use is: <i>Note: uniformly overgrazed pasture = 0 points.</i>	Uniform Intermediate Spotty	3 or 4 1 or 2 0						
8) Soil Erosion: Sheet, rill, gully and streambank erosion is:	Slight Moderate Severe	3 or 4 1 or 2 0						
9) Woody Canopy: The canopy over 6 Feet High makes up:	<11% 21-30%, 11-20% 31% or Greater	3 to 4 1 or 2 0						
10) Plant residue: Dead and decaying plant material is:	Appropriate Excessive Deficient	3 to 4 0 to 2 0						
TOTAL SCORES by Field:								
Multiply 'Total Scores by Field' X Field Acres:								
(A.) Total Pasture Acres Evaluated:		(B.) Total Combined Score Total of All 'Scores by Field' X Field Acres		(C.) Final System Score Weighted average score for the grazing system (B divided by A):		Does This Pasture System Meet VT NRCS RMS Quality Criteria? (If Q1 is YES, the Final System Score (C.) must be 31 or greater, otherwise 21 or greater):		

PASTURE CONDITION SCORE SCALE: 0-10 = VERY POOR, 11-20 = POOR, 21-30 = GOOD, 31-40 = VERY GOOD