



### RaDAR Data Collection Instructions:

- Select areas ½ to 1 mile from water, fences, roadways, and slopes of less than 15%; mark with steel post or gps coordinate.
- Record direction of transect (heading).
- Write pasture name, date, transect number, and additional information on dry erase board.
- Take a landscape photo with dry erase board in transect direction; Take a ground-level photo with two meter ruler bent in half at right angle.
- Mark point of boot for the following step-point assessment:

1		2	
B	5.5	L	3.75
BOGR1		POPR	
11		12	
R	1.5	V	8
MUTO		YUCCA	
		BOCU	

- 1) Record ground cover category with each pace (“V” vegetation, “L” litter, “R” rock, “B” bare ground).
- 2) Record plant species with nearest grass upon vegetation hit or nearest grass species upon other ground cover hit.
- 3) Record height of plant species (stubble height; lift leaves vertical, measure from ground to leaf tip to nearest ¼ inch)
- 4) Clip all vegetation within sampling hoop every 20<sup>th</sup> point and place in bag for drying:
  - a) completely dry all bag contents.
  - b) weigh each bag with contents, subtract bag weight without contents, and record vegetation weight.
- 5) Count and record encountered feces 3 feet on each side of transect (pellet count) of cattle, horses, elk, and deer.
- 6) Dig a hole every 20<sup>th</sup> point to a depth of 12 inches and record when moisture is encountered (if not, record 13 inches).
- 7) If exclusion cages are present, use sampling hoop to clip and weight vegetation inside and outside of cage (weigh as described in #4).
- 8) Record any other observations in the notes section (i.e., disturbances, invasive plants, recent fires or flooding).
- 9) Record Sampling Hoop Conversion Factor: (hoop circumference 3.5 ft = 100; 4.9 ft = 50; 5.5 ft = 40; 7.77 ft = 20; 11 ft = 10).

### Height Classes of Common Species & Minimum Stubble Heights

Extra Short (¾ inch)			Short-Mid (2.5 inches)			Mid (4 inches)		
BOGR1*	Blue Grama*	Bouteloua gracillis*	AGRC	Crested Wheatgrass	Agropyron cristatum	AGIN	Intermediate Wheatgrass	Agropyron intermedium
HIBE	Curly Mesquite	Hilaria belangeri	AGSM	Western Wheatgrass	Agropyron smithii	ARAR	Arizona Threeawn	Aristida arizonica
MUTO	Ring Muhly	Muhlenbergia torreyi	ARIST	Threeawns	Aristida	BLTR	Pine Dropseed	Blepharoneuron tricholepis
			ARPA	Wooton’s Threeawn	Aristida pansa	BOCU	Sideoats Grama	Bouteloua curtipendula
			ARPU	Purple Threeawn	Aristida purpurea	BRIN	Smooth Brome	Bromus inermis
			BOER	Black Grama	Bouteloua eripoda	DAGL	Orchardgrass	Dactylis glomerata L.
			FEOV	Sheep Fescue	Festuca ovina L.	DAIN	Timber Oatgrass	Danthonia intermedia
			PLJA	Galleta	Pleuraphis jamesii	DAPA	Parry’s Oatgrass	Danthonia parryi
			JUNCU	Rush	Juncus spp.	DECA	Tufted Hairgrass	Deschampsia caespitosa
			KOCR	Junegrass	Koeleria cristata	ELEL	Squirreltail	Elymus elmoides
			KOMA	Praire Junegrass	Koeleria macrantha	FEAR	Arizona Fescue	Festuca arizonica
			LYPH	Common Wolftail	Lycurus phleoides	FETH	Thurber’s Fescue	Festuca thurberi
			MUMO	Mountain Muhly	Muhlenbergia montana	MUVE	Screwleaf Muhly	Muhlenbergia straminea
			MUHL	Muhly	Muhlenbergia spp.	ORHY	Indian Ricegrass	Oryzopsis hymenoides
			MUWR	Spike Muhly	Muhlenbergia wrightii	PHPR	Timothy	Phleum pratense
			POFE	Muttongrass	Poa fendleriana	SCSC	Little Bluestem	Schazachyrium scoparium
			POPR	Kentucky Bluegrass	Poa pratensis	SPCR	Sand Dropseed	Sporobolus cryptandurs
			PLMU	Tobosa	Pleuraphis mutica	STIPA	Needlegrass	Stipa spp.
Short (1.5 inches)								
BOAR	Needle Grama	Bouteloua aristoides						
BOGR	Blue Grama	Bouteloua gracillis						
BOHI	Hairy Grama	Bouteloua hirsuta						
BRTE	Cheatgrass	Bromus Tectorum						
CAREX	Sedge	Carex spp.						
BOBA	Six-week Grama	Bouteloua barbata						
Tall (8 inches)								
ANDRO	Bluestem	Andropogon spp.						

\* Bouteloua gracillis is placed in extra short when in sod form, and short when in bunchgrass form