

Instructions for completing the cottonwood, aspen and willow browse measurements (Form_AspenCottonWillow_Riparian_Browse[4].doc)

Forest/District	Allotment	Pasture
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- Forest/District: Write the name of the National Forest and the Ranger District
- Allotment: Write the name of the allotment.
- Pasture: Write the name of the pasture. (Use allotment/pasture maps in your computer)

Site ID #	Recorder/Survey Team	Topo quad Elevation
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- Site ID#: Write down a site specific ID for the transect. Example: Little North Creek 1 would be LNC-1 for the first transect along the stream or riparian zone.
- Recorder/Survey Team: Write the names of all those participating in the monitoring.
- Topo quad: write down the name of the topographical map(s) covering the transect.
- Elevation: Write the elevation from the GPS at the beginning of the transect. If the elevation does not appear accurate because of steep terrain, qualify the number with a “?” and correct it with GPS points and TOPO! later

GPS beginning of transect (stake): E: N: Circle one: Upstream Downstream	GPS end of transect: E: N:	Circle one NAD CONUS 27 NAD 83 WGS84
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- **Check the GPS during the day to make sure it is on and there is battery power.**
- To choose the beginning of the transect first walk the stretch you are considering.
- Choose the most representative section(s) of the riparian area for transects.
- GPS/photograph beginning of transect: After placing a stake or marker at the beginning of the transect, record the GPS location of the beginning in UTM's and take a photo of the stake, showing where it is located, and the transect, looking toward the end.
- E is the easting or first set of numbers in the UTM location. This number is always six digits long (i.e. 123456) but will also show a 0 (zero) at the beginning in addition to the six digits.
- N is the northing or second set of numbers in the UTM location. This number is always seven digits long (i.e. 1234567)
- Circle whether the beginning of the transect is at the upstream or downstream end of the transect.
- GPS/photograph end of transect: write down the same information for the end of the transect, and take a photograph looking back toward the beginning of the transect.
- Your GPS should be set to NAD CONUS 27. Circle that on the form. If you do not know what datum your GPS is set for contact someone who can help you determine this and set the correct datum.

- Other photographs. Take photos representative of conditions representative of the vegetation along the transect. Take close-up photos of plants you are taking samples of, to assist later identification.

Description of stake location (e.g., E/N/S/W end of transect, nearest physical feature)	Aspect
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- Description of stake location: describe the location of the beginning of the transect and where the stake is placed. Describe the location of the stake (“at the northern base of an old cottonwood at the west end of the transect.”). Write the Site ID# on a strip of survey tape and tie the strip onto the stake before pounding it into the ground. Also label the strip as “plant survey” or similar note.
- Photograph the location of the stake.
- Aspect: Describe the aspect of the site, i.e. NE for the south side of a stream that runs from northwest to southeast.

Notes on site location, features

- Notes on site location, features: Describe the location. Include such items as dense vegetation, rock outcroppings, incised stream, openings such as meadows or small clearings, narrow canyon, wide canyon, nearby ORV routes, dispersed camp sites, spring developments, fences, pipes, etc. Note whether the site is unusual for the reach (e.g., is inaccessible to livestock because of unusually narrowness of the canyon).

Dominant vegetation on site (tree, shrub, forb, grass, grasslike species)

- Dominant vegetation on site: list the most populous plants on the site, e.g. Kentucky bluegrass, willow (determine species), water birch, spruce, fir, roses, bluebells, violets, snowberry, aspen, cottonwood, etc.
- Gather dominant plants (including grasses, sedges, or rushes) that you cannot identify with certainty and press them for later identification.
- Photograph both the unidentified plant as a whole and close-up of flowers, seed pods, etc. to aid in later identification.
- Do not guess at plant identifications without noting the lack of positive identification.
- Always get a sample of all willow species at the site. Be careful to notice whether multiple species of willows are present.

% Slope	Animal sign on site
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- % Slope: write down the slope and describe the area if the slope of the riparian area varies.
- Animal sign on site: list the scat and tracks of animals found in the near vicinity of the transect including both wildlife and domestic animals such as cattle. Take photographs to document unusual signs such as large bird tracks or cougar tracks. Record width and length of animal holes, bird tracks, etc. that are photographed.

Other notes

- **Other notes:** write down any other observations such as the dominance of bare ground, age (or size) and species of trees in the area, stream side vegetation, invasive species, etc.
- Take photographs to document comments.

Transect Number (e.g., LNC1-A)	Zone 1= In zone 0= Beyond zone	C,A,W: Species and Tallest Leader Foot segment	Tallest leader damage code (0,1,4,7)	Sub-leader(s) damage code C,A: leaders w/in 6" of tallest leader W: leaders w/in hoop (0, 1, 4, 7)	Damage Codes, plant (2,3,5,6,8-11)	If taller than 6' C/A: Circumf (in.) W: Width to nearest 0.5 ft,	Notes on individual plant

This section is the crucial part of all measurements. Each column will be discussed in detail. At the bottom of the first page is a chart of codes to be used in these columns.

0 = No Damage 1 = Leader browsed 2 = Branches Stripped 3 = Browsing plus branches stripped (replaces Basal Stem wound) 4 = Frost 5 = Disease	6 = Stem Wound 7 = Leader dead 8 = Plant dead 9 = Insects 10 = C, A: Stem broken W: Multiple stems broken	11 = Rodents
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Transect Number:

- Write the identifier of the perpendicular transect using the Site ID number from above and a letter from A to E. For example the first transect would be LNC1-A, the second transect would be LNC1-B, etc.
- The location of the perpendicular transects are determined using your random numbers table. Use the first two digits of the random number. For example if the random number is 143557, the first transect will cross the 100' transect at 14 feet from staked beginning of the transect. The next transect will be 20 feet from 14 feet, i.e., at 34'; then 54', 74' and 94'.
- If the first two digits of the random number are greater than 20 use the first digit to determine the first perpendicular transect. (e.g., 978235 would determine that the first transect will be at 9').

Zone:

- The “zone” means essentially the bank full area of the stream. This would be the normal high water mark for stream flow but not the flood zone. For deeply incised streams the zone includes the steeply graded and incised banks of the stream.
- Indicate with a 1 that the plant measured is within 1 foot of the zone or with a “0” that the plant is more than one foot beyond the zone.

C.A.W.: Species and Tallest Leader Foot segment:

- Indicate the species of tree with the first letter, [C]ottonwood, [A]spen, or [W]illow.
- Write down the height of the plant by indicating which one-foot increment on the range pole that the tallest leader lies within. Do not lift the tallest leader to place it against the range pole. Write down the height of its natural droop or position.
- The measurement will be 1 foot for all plants within the first foot of the pole, 2 for any plant with a height between the bottom and top of the 2 foot segment of the pole, etc. Thus a “1” signifies a plant 0.1’-1’ tall.
- If the plant is taller than 6 feet, indicate that with a “7”.
- If the plant is on a steep slope, place the range pole at the upslope base of the plant.

Tallest leader damage code:

- Write down the damage code from the table listed at the bottom of the first page (reproduced above).
- “0” means no damage, “1” indicates browsed, etc.

Sub-leaders(s) damage code:

- For cottonwoods and aspens write down the damage code for any sub-leaders (or secondary leaders). Only count the leaders that are within 6” of the height of the tallest leader. Use the 6 inch ruler to measure this. Sub-leaders are branches that are primarily growing vertically or adding height to the plant. Do not count branches that are horizontal or growing from leaders.
- For willows indicate the damage code for leaders within 6 inches of the tallest leader and within the 12 inch hoop placed over the tallest leader.

Damage Codes, plant:

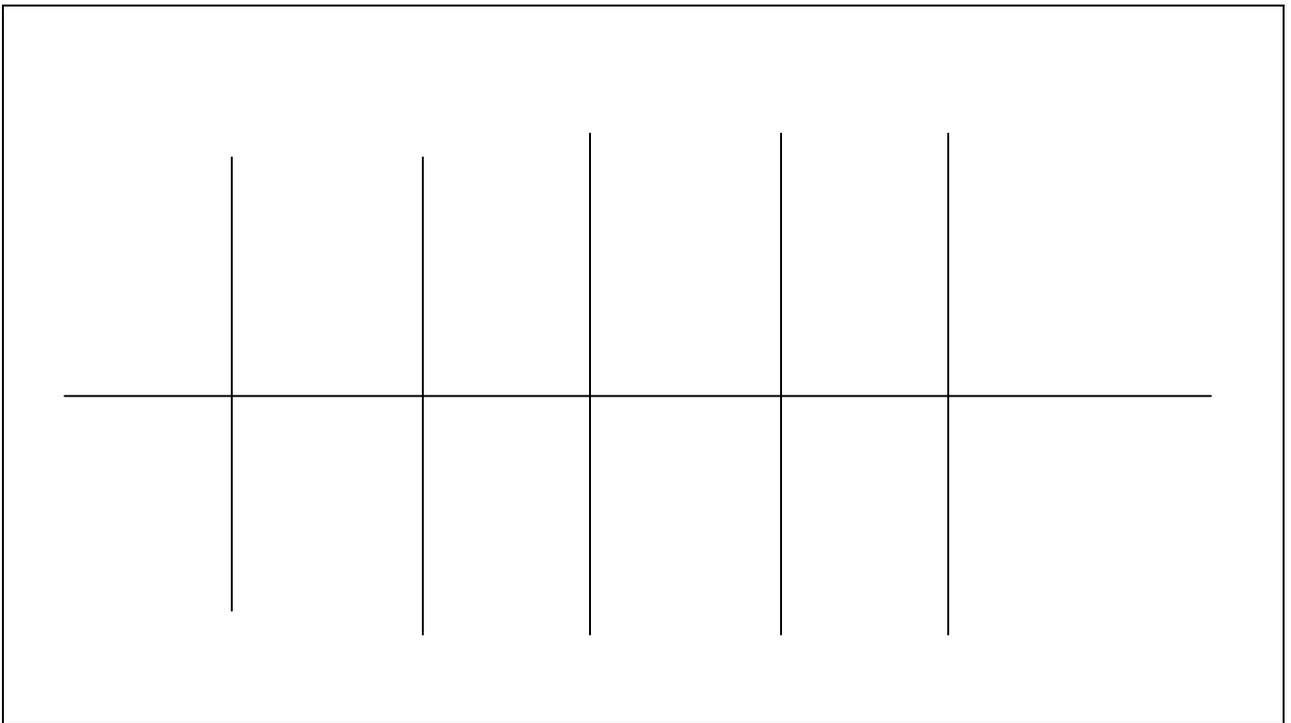
- Write down damage codes that indicate damage to the plant. The codes will be one or more of the following: 2, 3, 5, 6, 8, 9, 10, and/or 11.

If taller than 6’ C/A: W:

- If the tree is a cottonwood or aspen indicate the circumference or diameter at breast height. Use the small 10 foot tape measure to get this measurement.
- For willows measure the width of the plant (meaning all the leaders or branches of the plant) at breast height with the range pole. If it is wider than 6 feet then use the tape measure.

Notes on individual plants:

- Note anything unusual about each individual plant measured. This might include such things as large amounts of browsing below the leaders measured in column 5, the general health of the plant, “bushiness” from leaders being continually browsed, chlorotic (yellowish) leaves, etc.

Sketch of transect

Make a rough sketch of the transect indicating the location of the stream and the direction of north.