User Trail Census Manual
Daniel Boone National Forest

(*version 3/17/05*)

*Minimum length to qualify as a user trail = 50'
*Minimum length to change Distance to Cliff, Condition Class, or Use Type = 200'
*Minimum length to nest a step grade or muddy trail point feature = 20'

This manual describes procedures for conducting a census inventory and some resource condition assessments necessary to document changes in the condition of user trails. It was developed for user trails within the Daniel Boone National Forest.

For the purposes of this manual, user trails are defined as any path or route of travel that is not an official USFS trail. User trails are linear areas of disturbed vegetation, surface litter, or soils caused by human travel that are at least 50' in length. Sections of trail with excessive grade (>25%) or mud can be recorded by nesting in point features. Areas of steep grades and mud must be a minimum of 20' in length.

Under the INFRA database system, user trails would be classified as Concentrated Use Areas (CUA) under the Developed Recreation module if a constructed feature is present (i.e. sign, fence). A CUA is simply any area that has some sort of USFS investment (sign, fence). The inventory of user trails will help the Stanton RD meet their INFRA goals for Concentrated Use Areas.

Certain features can be inventoried by nesting point features. Point features available include:

- Steep grades >25%, minimum length 20 feet.
- Muddy Trail, minimum length 20 feet.
- Creek X-ing
- Multiple Path Area (for areas of multiple social trails < 50' in length)
- Trail Junction
- End Trail
- Graffiti
- White-haired Goldenrod
- Large Trash

Use this census form to record all user trails in the LAC project. When conditions change (other than foot, distance to cliff, or condition class) as you walk along user trail, segment the linear feature. Segments must be at least 200' in length.

Expected protocol will be for surveyors to map trails as linear features with the Trimble GPS unit. As points are encountered such as campsites, they will be nested as point features (close linear trail feature & open campsite point feature). Record point feature information and then close point feature. Continue linear user trail feature.

1) **Date**: Trimble unit automatically records.

2) **Time**: Trimble unit automatically records.

3) **Distance to Cliff:** Select correct category for distance from cliff. If you are unsure of distance, pace or shoot rangefinder to cliff to get distance. A cliff is defined as rock that is nearly vertical and greater than 10 feet tall and 100 feet wide. Measure distance from back of rockshelter or base of cliff. If you are at a spot where you are working down a steep slope from the top of a cliff to the bottom, code the location as **Top 0-100'**. Once you are clearly at the bottom of the cliff, code your location as **Base 0-100'**. Distance to cliff is being measured because accuracy of cliff locations is difficult in GIS. A Distance to Cliff segment must be a minimum of 200' in length.

Top 0-100' **Base 0-100'** **Other**

4) **Condition Class**: Record a User Trail Condition Class using the descriptions below. A condition class segment must be a minimum of 200' in length. If a user trail is underlain entirely by bedrock record "Bedrock" for this item.

Class 0:	User Trail barely distinguishable; no or minimal disturbance of vegetation and /or organic litter.
Class 1:	User Trail distinguishable; slight loss of vegetation cover and /or minimal disturbance of organic litter.
Class 2:	User Trail obvious; vegetation cover lost and/or organic litter pulverized in primary use areas.
Class 3:	Vegetation cover lost and/or organic litter pulverized within the center of the tread, some bare soil exposed.
Class 4:	Nearly complete or total loss of vegetation cover and organic litter, bare soil widespread.
Class 5:	Soil erosion obvious, as indicated by exposed tree roots and rocks and/or gullying.
Rock:	User trail is on bedrock or asphalt.

5) **Use Type:** Select the correct category for evidence of use you observe on the user trail. Evidence can be OHV tire tracks, bike tracks, horse hooves, or other visual id. A Use Type segment must be a minimum of 200' in length.

Foot OHV Horse MtnBike OHV/Horse OHV/MtnBike Horse/MtnBike Other

POINT FEATURES TO USE WHEN MAPPING USER TRAILS:

Steep Grade >25%: Nest steep point feature when you find sections of trail with grades >25% for a minimum of 20' in length. Enter the total length of steep section (feet). Also enter the substrate type – rock or soil or steps (you can use steps regardless of whether substrate is rock or soil. Steps should be rare on user trails).

25-40% **>40%**

Length

Rock **Soil** **Steps**

Muddy Trail: Nest muddy point feature when you find sections of trail with mud for a minimum of 20' in length. Also enter the total length of mud section (feet). Only count sections of tread with seasonal or permanently wet and muddy soils that show imbedded foot prints (>1 inch). Omit temporary muddiness created from recent rain. The objective is to include only tread segments that are frequently wet or muddy enough to divert trail users around the problem, often leading to an expansion of trail width.

Length

Creek X-ing: Nest creek x-ing feature for all crossings of perennial streams. Record type of crossing – bridge, culvert, ford, or other. Record the extent of erosion – stable, active 1 bank, active 2 banks (active erosion means soil is washing into stream). Record width of trail tread in feet – how wide is the tread at water's edge (trail tread is the actual travel surface of the trail). The objective here is to assess erosion caused by human use.

Bridge **Culvert** **Ford** **Other**

Stable **Active 1 Bank** **Active 2 Banks**

Width

Multiple Path Area: Use when you are in an area with multiple social trails that are less than 50' in length. This can be used in areas where there are social trails but due to being <50' they do not qualify as a user trail. Sometimes, there can be a spaghetti network of social trails.

Trail Junction: Nest a trail junction point feature anywhere there is a trail junction. These junctions could be with other system trails or, more likely, with user trails. This feature will help surveyors know where they need to return to an area to find trails.

End Trail: Use when you reach the end of trail that does not connect with other trails. If the trail connects with another trail, do not use this point feature.

Graffiti: Nest a graffiti point feature when you encounter graffiti along a trail not associated with a destination point, rockshelter, or climbing area. Enter extent of graffiti as square footage.

Square Footage

White-haired Goldenrod: Nest a WhG point feature if you encounter the plant along a user trail (within sight).

Large Trash: Nest a Large Trash point feature if you encounter a large amount of trash along the user trail not associated

with another feature such as a campsite. Do not count minor instances of micro trash. Some = up to one 10 gallon trash bag. Heavy = greater than one 10 gallon trash bag.

Some Heavy

Constructed Feature Present: Select the type of constructed feature along the user trail or in general vicinity (within sight). The purpose of the constructed feature should be related to this user trail. The following constructed feature information is collected to support INFRA database requirements. User trails are classified as Concentrated Use Areas within the Developed Recreation module. Select the type of constructed feature along the user trail or in general vicinity (within sight). The purpose of the constructed feature should be related to this user trail.

Fence Sign Gate Other

Definitions for condition:

- Good/Annual Maintenance – Cost to repair is no more than 20% of replacement value. Select this option for recently installed features and ones that are in good condition. Select this option if a sign is missing on a gate/fence or if a birdhouse needs a new sign attached (assuming birdhouse condition is good).
- Repair – Cost of repair is between 21%-50% of replacement value.
- Replace – Cost of repair is >50% of replacement value.
- Decommission – Select this option when the feature needs to be removed and not replaced.

		Fence	Sign	Gate	Other		
Fence_Purpose:	**Cultural Resource**	**WhG**	**Cult&WhG**	**Safety**	**Other**		
Fence Type:	**Chainlink**	**Woven Wire**	**Wood**	**Other**			
Fence Length:	**(Type # in feet)**						
# Signs on Fence:	**0**	**1**	**2**	**3**	**4**	**5+**	
Fence Condition:	**Good/Ann_Maint**	**Repair**	**Replace**	**Decommission**	**Other**		
Sign Purpose: ..	**No Camping**	**Do Not Enter**	**Interp**	**Safety**	**Other**		
Sign Type:	**Plastic**	**Aluminum**	**Wood**	**Fiberglass**	**Birdhouse**	**Other**	
Sign Size:	**<1 square foot**	**>1 square foot**					
Sign Condition:	**Good/Ann_Maint**	**Repair**	**Replace**	**Decommission**	**Other**		
Gate Purpose: .	**Old Road**	**Stop Illegal Use**	**Other**				
Gate Type:	**Metal gate**	**Wood Bollards**	**Other**				
Gate Length: ...	**(Type # in feet)**						
Gate Condition:	**Good/Ann_Maint**	**Repair**	**Replace**	**Decommission**	**Other**		
Other Type:	**(Type in type)**						
Other Condition:	**Good/Ann_Maint**	**Repair**	..... **Replace**		**Decommission**	**Other**	

Comments: Use the generic point feature or a log book to make an informal list of comments concerning the user trail: note any assessments that you felt were particularly difficult or subjective, problems with monitoring procedures or their application to this particular user trail, suggestions for clarifying monitoring procedures, descriptions of particularly significant impacts beyond user trail boundaries (quantify if possible), excessive litter, human waste, or any other comments you feel may be useful.