

Pine Creek/Sulphurbeds Allotment
LITTLE NORTH CREEK #5 (LNC5)
Riparian Browse Assessment

(1) May 8, 2008

(2) October 8, 2008

Little North Creek runs roughly southeast to northwest on the western boundary of the Pine Creek/Sulphurbeds Allotment. The canyon bottom has a gentle slope of about 3% in the narrow riparian area of Little North Creek #5. The site is a mix of juniper, bigtooth maple, Gambel's oak and narrowleaf cottonwood, with much bare ground (Figs. 1-2). The bank opposite the transect is essentially bare (Fig. 3). LNC5 is approximately 40' downstream from a utilization cage placed for the Tushar Collaboration in 2008, and approximately 200' west of the road (FR 118).

(1: 5/8/08) As of May 8, 78% of the tallest leaders of the 22 cottonwood <6' were browsed, and 100% were browsed or dead; 82% of the subleaders were browsed and 88% dead (Fig. 4). The ground was already largely bare (Fig. 2). Cattle were scheduled to be present in the pasture after leaving Sulphurbeds Pasture (at least by August 15, i.e., more than 2 months later than this survey) and were to leave when allowable use standards were reached or by Sept. 30, whichever comes first.

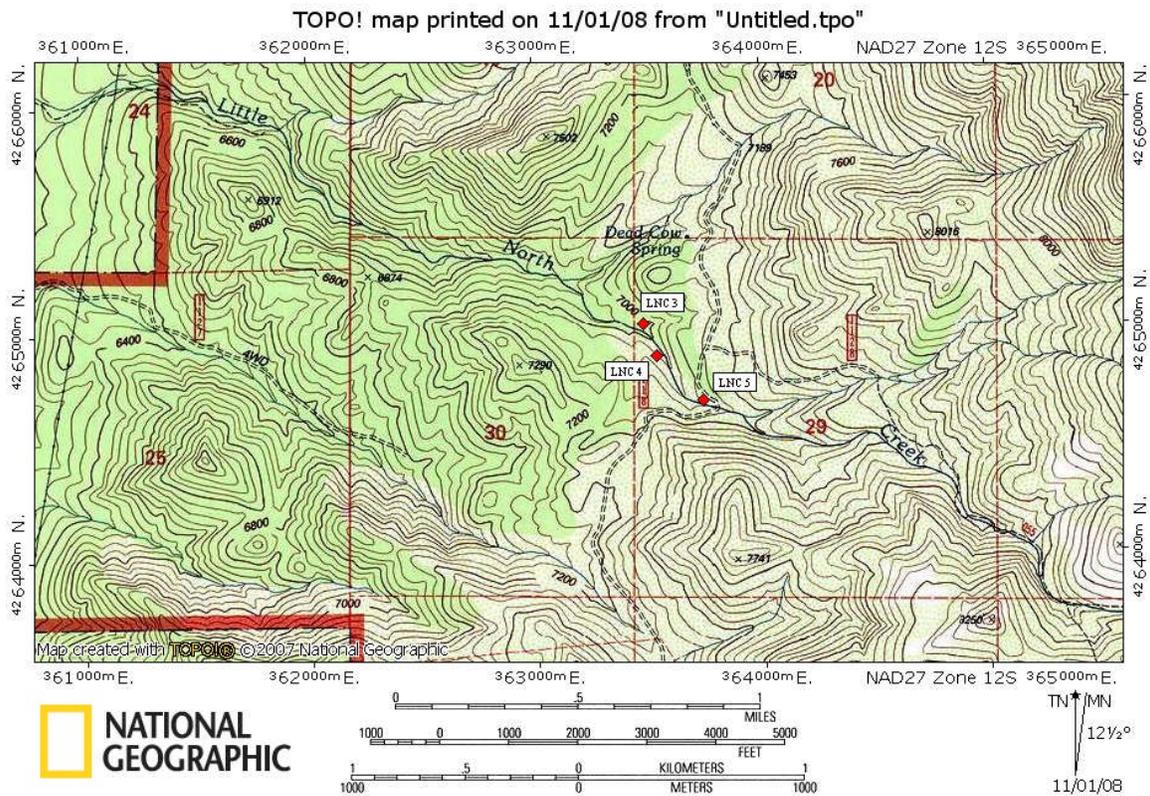
(2: 10/8/08) By October 8, 92% of the tallest leaders and 90% of the subleaders of cottonwood <6' were browsed (again, 100% of the tallest leaders browsed or dead) (Figs. 5-6).

The height classes of 4.1'-6' are essentially absent (except for one individual encountered; p. 4), and the few cottonwood >6' tall average diameters of 16" (p. 5). This means that this is a gallery with a few old cottonwood and essentially no recruits into the overstory.

Cottonwood of 3'-4' have average 4-5 leaders, indicating repeated consumption of the leaders (p. 6), which prevents the trees from reaching 6' or taller, above browsing height, and into the overstory.

Whether there is sufficient forage for cattle in the area of Little North Creek #3-#5 would seem a valid question (see "Further notes", pp. 2-3, and Little North Creek #3 and #4 reports).

While cattle were to have been removed from this pasture by Sept. 30, a dozen cows were photographed along the road crossing Little North Creek on Oct. 8.



Little North Creek Transect #5	(1) 5/8/08 Hoskisson/O'Brien (2) 10/8/08 Hoskisson/O'Brien
Fishlake NF/Beaver RD	Allotment: Pine Creek/Sulphurbeds Pasture: Little North Creek
Stake: 12 S E 363740 N 4264676 NAD CONUS 27 At east (upstream) end among Wood's rose across stream from large curleaf mt mahogany	Elevation: 7,147'
Aspect: SW	Animal sign: cow patties
Ave. Width of Riparian Area: 60', at which average distance the floodplain meets a slope to the NE.	
Dominant Vegetation: narrowleaf cottonwood, big tooth maple, ballhead waterleaf (<i>Hydrophyllum capitatum</i>), <i>Astragalus</i> sp., Utah juniper, Wood's rose, arrowleaf balsamroot, some sagebrush, much bare ground	
Other notes: Cottonwoods extend to the base of the canyon slope. All young cottonwoods are browsed. No riparian shrubs grow along the bank of Little North Creek.	
The transect was within reach A20-9 described in the 2003 Level II Riparian Inventory from Shell Valley Consulting (Petty, 2003). The report states: (1) "The mean Pfankuch (1978) stream score was measured at 92.8, which is considered "fair", although some of the reaches were rated as "poor", using the adaptation of the Pfankuch rating to Rosgen's stream type classification. The stream in these sections is suffering from the impacts of heavy grazing on	

the riparian areas. This results in low bank vegetation cover and vigor, mass wasting of the upper banks and bank cutting. These problems were considerable in reaches A20-1 through A20-3 and A20-6, A20-7, A20-11 and A20-12.”

(2) “Reaches **A10-6 through A20-10** are Mollisols. Areas of higher soil structure and organic matter were identified as Mollisols, however, due to compaction and loss of organic matter cycling the soils are losing structure. This is primarily due to cattle grazing.”

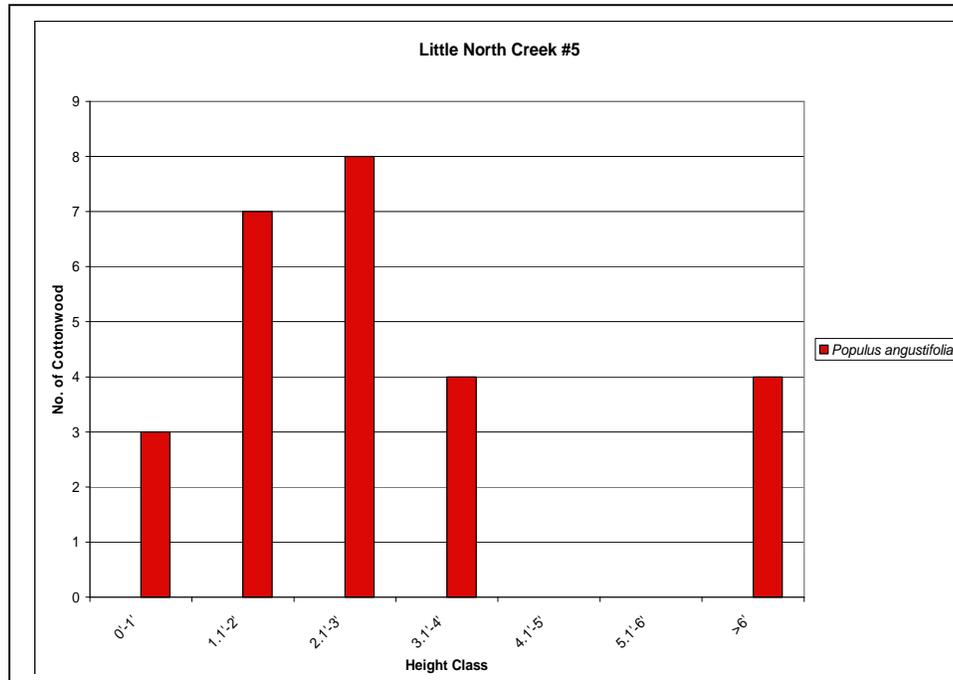
(3) “The lower and middle reaches show the impacts of continuous grazing, which were evident from the measured stubble height in the riparian of 1-3 inches, in reaches A20-8 and A20-12. . . Most of these measurements were made on Kentucky bluegrass and tufted hairgrass. Also documented were large barren areas **in reaches below A20-12** where cattle have removed all of the vegetation.”

The report recommended, “Better grazing management is needed on this st[r]eam as many areas are showing grazing over use. The cattle are confined to the riparian area in this watershed, as shrub growth is so heavy in the uplands that cattle cannot use them. Therefore, cattle spend most of their time on the riparian.”

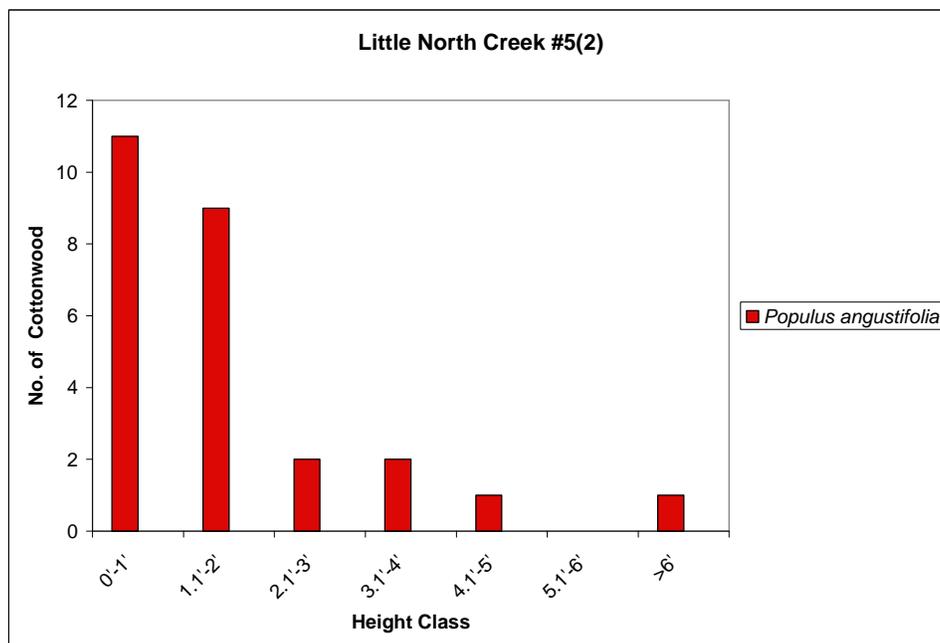
Petty recommends prescribed fire among the dense Gambel oak; “In addition, water developments located to water livestock on the slopes and mesas of the area would be needed, as well as better herding, and possibly riparian exclosures.” [*O’Brien note: Cheatgrass expansion would have to be considered as a potential result of prescribed fire at this 7,150’ elevation.*]

Questions: No cottonwoods are reaching maturity and have not for many years. Eventually the lack of cottonwoods will lead to further degradation of Little North Creek. **How will the Fishlake NF assure that cottonwoods will reach maturity?**

May 8, 2008



Oct. 8, 2008



May 8, 2008

4 *Populus angustifolia* >6': Ave. DBH 16.5"

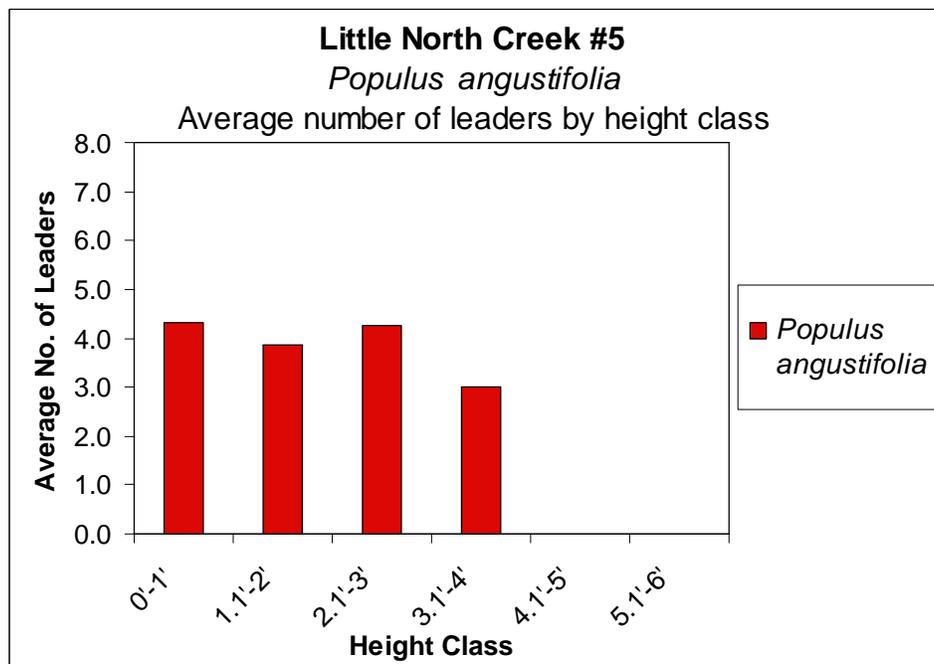
Little North Creek #5	
22 <i>Populus angustifolia</i> <6'	
	<i>Populus angustifolia</i>
% tall leaders browsed	77.8
% tall leaders browsed or dead	100.0
% subleaders browsed	82.4
% subleaders browsed or dead	88.2

Oct 8, 2008

1 *Populus angustifolia* >6': DBH 17"

Little North Creek #5(2)	
25 <i>Populus angustifolia</i> <6'	
	<i>Populus angustifolia</i>
% tall leaders browsed	92.0
% tall leaders browsed or dead	100.0
% subleaders browsed	90.1
% subleaders browsed or dead	90.1

May 5, 2008



Oct. 8, 2008

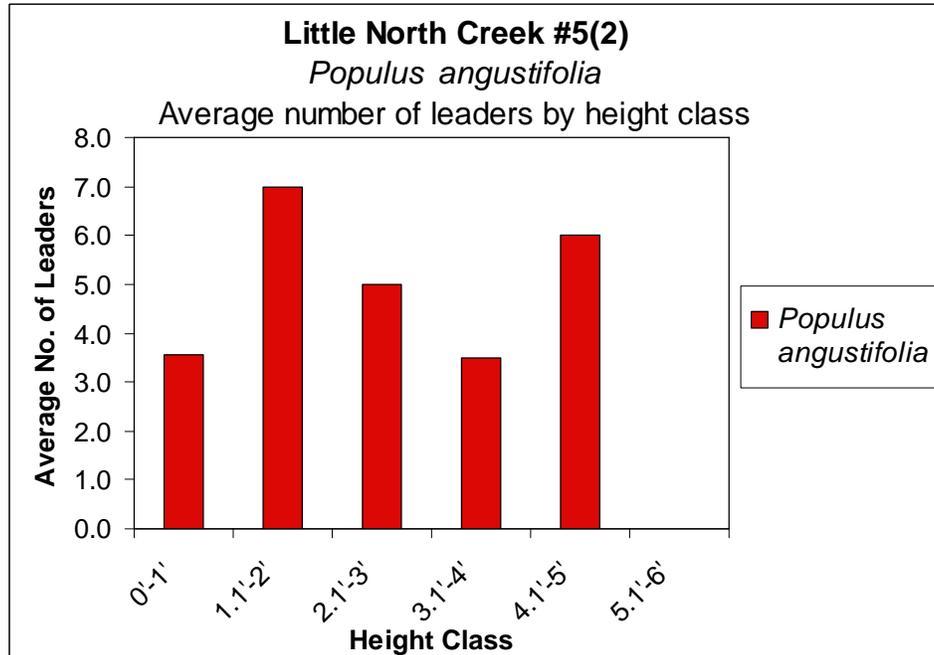




Fig. 1 (5/8/08) Little North Creek #5 baseline transect looking upstream. Gambel's oak and juniper present.



Fig. 2 (5/8/08) The ground is already largely bare in May, 2 months before cattle are to arrive



Fig. 3 (10/8/08) The south bank, opposite LNC5, is largely denuded.



Fig. 4 (5/8/08) By May, nearly all cottonwood leaders have been browsed.



Fig. 5 (10/8/08) One cottonwood browsed at 3" (left) and 1.5' (right)..



Fig. 6 (10/8/08) A patch of cottonwood <6', almost 100% browsed.

Reference

Petty, Jeff. 2003. Fishlake National Forest 2003 Level II Riparian Inventory: Little North Creek Area. Shell, WY: Shell Valley Consulting.

**Little North Creek #5
Riparian Grass/Grasslike Utilization
October 8, 2008**

Allotment: Pine Creek/Sulphurbeds

Pasture: Little North Creek

Creek/Stream: Little North Creek

2008 Annual Operating Instructions dates of livestock entry/exit: Cattle were scheduled to enter the pasture after leaving Sulphurbeds Pasture (at least by Aug 16), and to remain until allowable use standards were met, or by Sept 30, whichever comes first.

Surveyors: O'Brien and Hoskisson

Little North Creek runs roughly southeast to northwest on the western boundary of the Pine Creek/Sulphurbeds Allotment. The canyon bottom has a gentle slope of about 3% in the area of Little North Creek Transect #5. with much bare ground (Figs. 1-2), both in the open, and under Gambel's oak and juniper. The bank opposite the transect is essentially bare (Fig. 3).

This transect was read approximately eight days after cattle were to be moved from the pasture. Kentucky bluegrass was the dominant grass, but was sparse; only one other grass was occasionally encountered (likely *Deschampsia caespitosa*, but it is difficult to identify when browsed to 2.5"). No sedges or rushes were encountered.

A grass was encountered within 3" of the transect at 21 of the 125 transect points, i.e., 17% of the time. Most of the ground is bare (Figs. 2,4, and 5, above). The average height of Kentucky bluegrass was 2.1" (within the utilization standard of 1.5"), but many of the grasses were shorter than 1.5" (Fig.

Grass/Grasslike Utilization: 10/10/2008											
Kentucky Bluegrass (<i>Poa pratensis</i>)				Other Grasses				Sedges and/or Rushes			
Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N
2.1"	21	3"	3	1.5"	3	NA	0	NA	0	NA	0

Methodology note

The average height (inches) of a grass (or sedge or rush if it had been present) was measured every 2' from the creek (0') to 48' along the five browse transects. The grass nearest to, but no farther than 3" from, the transect point was recorded. Kentucky bluegrass was the major grass encountered, to which a Fishlake NF utilization standard (1.5" rather than 4" for hydric grass/grasslike species) is applied¹. No sedges or rushes were encountered.

¹ The four inch stubble height for hydric (i.e., adapted to a wet, but not flooded habitat) plants is part of the allowable forage utilization criteria that were revised through a Fishlake National Forest Plan amendment in 2002. These revised forage utilization

The droop height of plants accessible to large ungulate grazing was recorded separately from the droop height of the few plants inaccessible to grazing, e.g., at the base of a rock. Those grasses inaccessible were often laying down, with blades often much longer (e.g., 8"-10") than droop height (e.g., 2").



Fig. 7 (10/8/2008). Riparian grasses <1.5" tall (the red line is 1/5" on the 4" tall yellow tab).

criteria prescribe allowable use levels for both upland and riparian sites. As the Fishlake NF explains this: "The description for riparian areas is a uniform 4" stubble height. Reaching the 4" stubble height triggers the time to move livestock, either between units or off the allotment. These criteria allow no manipulation to plan use of expected regrowth—once the 4" stubble height is reached, livestock are moved, without the opportunity for twice-over use. Livestock are moved to the next pasture or removed from the allotment when any utilization threshold (upland forage utilization, stream bank alteration, riparian forage utilization, riparian vegetation stubble height, or riparian woody browse utilization) is reached. Meeting or exceeding one of these threshold levels initiates a move of livestock." (USFS 2006)

Fishlake National Forest riparian utilization standards include (USFS 2006):

Riparian hydric species:

4" triggers the time to move livestock between units or off the allotment

Riparian Emphasis Management Areas

6" triggers the time to move livestock between units or off the allotment

Non-hydric Sod-Forming Grass Species in Riparian Areas

1 ½ " Primarily Kentucky bluegrass--Triggers the time to move livestock between units or off the allotment