

Date: July 27, 2007

Participants: Alma Winward
Don DeLong
Geoffory Anderson

Notes by: Don DeLong

Purpose of Trip:

We met at the parking lot at the national forest boundary just outside of Alpine shortly after 9:00 a.m. UTM coordinates are in NAD 27.

After an unusually hot and dry summer that started nearly a month early this year, it has been raining the last several days, including a heavy rain yesterday (July 26th). The weather for our trip was cloudy to overcast and comparatively cool.

At the parking lot, I told Alma that I was hoping to get his impressions of the overall conditions of the riparian zone of the Little Greys River, the comparative effects of the different factors influencing its condition (see handout), and his assessment of the effects of livestock grazing and suggestions on adjustments in livestock grazing we might consider. I did not discuss the handout other than to say that it provides a listing of the main factors that appear to be affecting ecological conditions in the drainage (as well as other drainages in the Greys River Ranger District).

Driving along the Greys River, I asked Alma generally about the extent to which the Greys River and Little Greys River stream channels are entrenched if at all. We spoke briefly about different scenarios and, afterward, he said he felt they may be slightly down-cut in some areas, but not to any large degree. When he was fishing here as a child, he recalls many more logs in the river, which may have contributed to stream channels that are higher than what they are today.



We stopped briefly along the Little Greys River just above the confluence with the main-stem. I asked his opinion of the river at this point. The stream channel and associated annual floodplain was dominated by cobble-size and larger rocks, with some willows and other vegetation (Picture 1). Alma responded that it is likely suitable condition here relative to potential.

We then stopped about where Skull Creek passes under the road where there are grassy areas on both sides of the road. At the sight of a willow situated a little ways into the opening on the south side of the road (Picture 2), away from the willows bordering Skull Creek, Alma pointed out there are three classes of willows. I only wrote down two of them: clumpy willows and willows that spread by their root systems

Picture 1. UTM coordinates 0510430 N, 4777140 E



Picture 2. UTM coordinates 0510630 N, 4777734 E



Picture 3. UTM coordinates 0511474 N, 4777740 E

e went on to say that stems in clumpy willows typically live about 9-19 years, while their roots may live several hundred years. This means that an older plant will have numerous dead stems with a large number of various-aged live stems intermixed with the dead stems. Therefore, the presence of dead stems is a natural and expected part of willows of this type, and they help protect growing stems from browsers and from mechanical damage from cattle.

I brought up that we have both recreationists and livestock affecting these types of openings along the road, and that it may be difficult to separate out the effects of either one. Alma also recognized that firewood collection was playing a role as well.

We briefly stopped at another opening where recreationists and cattle were having obvious effects (Picture 3). He observed that grazing pressure was high.

At another opening where we stopped, an ATV trail went up a hill to the north, but otherwise did not appear to be used extensively by recreationists. Alma assessed the lack of sagebrush in the inner part of the opening (Pictures 4



Picture 4. UTM coordinates 0512368 N, 4777514 E



Picture 5. Same site as Picture 4

and 5) tells us there is probably a seep of some sort that keeps the ground too wet for sagebrush. This assumes that the lack of sagebrush is natural and not caused by livestock or recreationists. If sagebrush is kept out due to higher soil moisture, *Deschampsia* and associated vegetation should dominate the site. The presence of geranium tells us that the site is not totally soaked. At present,

the grassy area appears to be dominated by bluegrass species, indicating past over-use by livestock, and indications are the area was heavily used this year.



Picture 6. *Salix melanopsis*

At a dispersed camping area in a willow thicket, Alma pointed out a newly classified species of willow (*Salix melanopsis*) (Picture 6). It was apparently broken out from coyote willow (*Salix exigua*). In contrast to serrated leaves of Booth's willow (*Salix boothii* Dorn), as an example, the leaves of *S. melanopsis* have raised points along the margins. As we left this camping area, he also pointed out *Salix lasiandra* (whiplash willow) along the road just east of the turnout to the campsite (Picture 7). This species is tree-like, growing up to 30 feet tall. One or more main stems remain alive and the branches die after several years, to be replaced by new branches. He said this is an important species to many wildlife species.



Picture 7. Whiplash willow. UTM coordinates: 0512631 North, 4777418 East

As we drove along the Little Greys River, I brought up cottonwood recruitment, asking about what types of things we should be looking at. I mentioned that there are quite a number of places along the Greys River where recruitment of cottonwood appears to be occurring, but that I hadn't paid as much attention along the Little Greys River). He said cottonwood recruitment typically happens during large flood events and that stands end up being of the same age. If this is occurring, there probably are no concerns. He asked whether I've noticed browsing pressure on cottonwood seedlings/saplings, and I told him I had not looked at this but that nothing has jumped out at me.

I also asked about whether he thought the Little Greys River was too large of a system to allow beaver dam complexes to be built up. I pointed out that beavers have been building dams in the main channel, but that high spring flows are breaching most if not all of them. I was wondering if it were possible for a complex of dams to be built up, which would slow water movement and spread the energy enough to prevent the breaching of dams. Alma said he'd guess this was probably would not happen here.



Picture 8.



Picture 9. UTM coordinates: 0517862 N, 4777044 E.

We briefly looked over a meander in the river where cattle grazing effects were observed (Picture 8). Alma said willows looked to be okay, but the understory was still being affected. He said the banks should have more of a slope to them (i.e., they should not be as steep; see also Picture 9) and sedges should be prevalent on the green-line. There currently is little growing along the 'green-line.'

At a site with silver sagebrush (Picture 10), Alma said silver sagebrush sites indicate high potential for production (e.g., 2,000 pounds/acre) and diversity (e.g., 35 or more plant species grow here. On the site we were looking at, Alma said it looks as though rizomatous species predominate and that cattle grazing has taken the vegetation down.



Picture 10.



Picture 11.

At a site along the river (Picture 11), Alma said that sedges should be following the points down to the waters edge quicker than they appear to be, and

At the next stop, we spent a fair amount of time walking along the waters edge and out into the willow community. Alma first pointed out the prevalence of red-top (*Agrostis stolonifera*) (Picture 12), which as a shallow root system and the lower-than-expected prevalence of sedges and rushes. Alma pointed out three species of sedges: Nebraska (*Carex nebrascensis*), beaked



Picture 12. Alma Winward pointing out red-top. UTM coordinates: UTM coordinates 0511467 N, 4777742 E)



Picture 13. Alma Winward pointing out Drummond willow. Same UTM coordinates as Picture 12.

(*Carex rostrata*), and water (*Carex aquatilis*). He said all of these species should be doing much better on this site. Alma then pointed out some mannagrass (*Glyceria striata*), which he said is also good for the system (it has wavy ‘branches’ in the spikelet). A rush was also present, but it was not Baltic rush (*Juncus balticus*).



Alma observed Booth, whiplash, Geyer (*Salix geyeriana*), streambank, Drummond (*Salix subcoerulea*), and yellow (*Salix lutea*) willow on this site (Picture 13). He characterized the willow community as having no shortage of willows and good regeneration. However, he felt vegetation should be moving out to the waters edge a little quicker on point bars. Alma said that it is obvious this is a ‘violent’ system, but was not clear whether it was natural or whether it was caused by sheep-grazing effects higher in the watershed (he said he has not seen the upper watershed). He said there is too much sediment and that plants should be able to keep the ground covered away from the stream channel. Sedge species at drier end of spectrum may naturally occur in these situations (Picture 14), but sedges should be here. We are 2-3 feet above the water surface in the river. High flows make it harder for sedges to establish, but they should be here.

Picture 14.

Sedges are getting eaten off and young willows are being heavily browsed. Alma said that the area probably would benefit from a year of rest from cattle grazing periodically. Geoffroy said this was tried years ago, but it did not last long.



Picture 15.

Alma pointed out three stages of ‘succession’ from recently formed rock bar along river (foreground of Picture 15) to one on which vegetation appears to have been developing for 4-5 years (middle), and the oldest (furthest away in Picture 15). He observed that the oldest site should be well stabilized with sedges, rushes, and grasses such as mana grass. Picture 16 shows extensive root system of willows. Horsetail roots are shown in Picture 17. Picture 18 shows the force of water eating into bank, but willows are helping to hold the bank together. However, the point on the opposing shoreline needs to keep up in to keep the stream channel from widening. Point bars keeping up with erosion on the opposing bank is key in steeper gradients.



Picture 16



Picture 17.



Picture 18.

At a site where the permittees put up an electric fence, there is a silver sagebrush (mountain silver sagebrush) flat with smooth brome (Pictures 19 and 20). Cattle are taking more vegetation than he remembers (he had made similar comments at other sites). Smooth brome apparently was seeded in the 1960s; it is okay in meadows, but does not provide any bank-holding benefits. Shrubby cinquefoil is also present; it indicates a slightly wetter situation than silver sagebrush. Alma saw Nebraska, water, and beaked sedge along the green-line. He felt this meadow has great potential, but that it is being held down.



Picture 19. UTM coordinates 0522217 N, 4770793 E



Picture 20.

Bank trampling was apparent as was a thin green-line of sedges (Picture 21). Alma pointed out water buttercup in the deposition zone up next to a bank; he said these plants are important for starting the process of plant colonization and the initial building of banks (Picture 22).



Picture 21.



Picture 22.

We briefly stopped where the herder had erroneously placed salt blocks in the riparian area near the intersection of Little Greys River and McCain Roads (bare spots in Picture 23). Alma said the streambanks, stream channel, and off-channel areas are in good condition.

At the first culvert on McCain Road, we stopped briefly and discussed the situation (Picture 24. Alma said vegetation was being grazed too closely, particularly on the streambanks.



Picture 23. UTM coordinates: 0522937 N, 4770735 E.



Picture 24. UTM coordinates: 0523266 N, 4771201 E.



Picture 25.

Near the McCain guard station (Picture 25). Alma said the portion of the meadow near the road historically was likely a silver sagebrush/*Deschampsia* meadow. Now the understory is dominated by smooth brome.

On the way back down the river, we stopped to look at a Wolf's willow (*Salix wolfii*) stand and what appeared to be a relatively intact graminoid community (Picture 26). Alma thought these communities looked to be in fairly healthy condition.



Figure 26. ; UTM coordinates: 0522408 N, 4770770 E.