

Report	Comments/Need to Address
	<p><i>Note: In all reports summarized here, an attempt has been made to signal 2011 additions to these reports (a number of which were begun in 2008 or 2009). Some typos have since been discovered and will be corrected when the reports are posted on the Grand Canyon Trust website.</i></p>
TEN MILE ALLOTMENT	
Lower City Creek Pasture	<p>This is a photo/update to the 2010 photo report. We believe this pasture to be lacking sufficient resilience, composition, ground cover, and production to bear economically, socially, or ecologically sustainable livestock grazing</p>
Price Spring Exclosure	<p>Completed for the 2010 season, this exclosure shows particular, obvious improvements: (1) aspen recruitment (Figs. 1-2); (2) sagebrush/shrub understory densification (Figs. 3-4); (3) fenceline contrasts (Figs. 5-8); and (4) aggradation of the deeply incised spring seep (Figs. 9-10; compare with Fig. 11 in 2006)</p>
Price Spring Exclosure Photo Points	<p>In 2010, the year the Price Spring Exclosure fence was completed, 23 photopoints were established with a t-post within the exclosure on a grid. In 2011, the Trust re-visited the photopoints and established six additional photopoints in riparian areas (not covered in the 23 grid-based photopoints. Most upland photopoints may not reveal significant changes for several years, particularly because such photos may be best suited to macro-changes (e.g., increased shrub understory). The most obvious change visible in the photopoints is the aspen growth.</p>
Aspen Range Cage	<p>Established in Ten Mile pasture in 2009, the pasture was scheduled to be grazed at 30% in 2011. Some aspen inside the cage have health problems, but others are gaining height. Outside the range cage, total vegetation cover (36%), was much less than half that inside the range cage (82%); bare ground was more than four times as high at 28% (6% inside range cage).</p>
Mountain Mahogany Range Cage	<p>When ground under plants is included, bare ground is 7% inside and 32% outside the range cage. Mt mahogany browse was 5%/0% on tall leaders/subleaders. Outside 69% of all mountain mahogany encountered were inaccessible to cattle since they are growing inside sagebrush bushes or dead sagebrush skeletons, and not extending above (See Fig 25). The browse on these shrubs was 15%/94% on tall leaders/subleaders. (see Figs. 22, 23).</p> <p>In 2009 the tallest mt. mahogany inside the cage was one individual between 2.1' and 3'; In 2011, <u>six</u> mt mahogany were 2.1'-3'; and one 4.1'-5'. It is that 4.1'-6' height that seems to be lacking in the area where not fenced. Two of the 13 mt mahogany outside the exclosure are as tall as 2.1'-3'.</p>

Riparian Range Cage	The permanent riparian enclosure remains inside the larger Price Spring enclosure. Bare ground with no plant cover overhead decreased from 14% outside the small enclosure in 2009 (before the larger enclosure was constructed in 2010) to 0% in 2011. This illustrates the potential of a wet meadow like this for essentially 100% ground cover by native species.
Sagebrush Range Cage	Ten Mile pasture was grazed with a utilization limit of 30% in 2009 and 2011; rested in 2010. Bare ground outside the enclosure was 43%, double that inside the enclosure (20%). Overall, vegetation cover has apparently increased 2009-2011 from 44% to 55% inside the enclosure, while remaining the same (39%) outside, although in 2010, the year Ten Mile Pasture was rested, vegetation cover outside the enclosure was 58%. Compare Figs. 13 and 16.
PINE CREEK/SULPHURBEDS ALLOTMENT	
Pine Creek #1	<p>This is the fifth transect reading since establishment in 2008. By October 2011 the enclosure fence had been broken on the south side of the enclosure and the site had been grazed. The enclosure has been trespassed by cattle every year 2008-2011, and thus browse of cottonwood inside and outside the enclosure cannot be reliably compared. Outside the enclosure, there appears to be almost no recruitment of aspen <6' into the 5.1-6' class;</p> <p>The enclosure was described in the 2003 Level II Riparian Inventory: "Riparian grazing enclosures on reaches A21-2 and A21-9 were examined, and vegetation inside this structure [sic] is meeting potential, although the condition of vegetation in surrounding riparian areas was less than desirable."</p> <p>The enclosure is not functioning, and Pine Creek conditions remain under stress from grazing, ORVs, and dispersed camping. Decisions need to be made about Pine Creek management.</p>
Pine Creek #2	<p>This transect was visited before and after cattle entry in 2011. Pine Creek pasture was to be utilized at a 30% limit. The browse on the cottonwood showed a clear increase in October (76% of tall leaders browsed or dead) vs 20% in July, and 84% of subleaders browsed (Oct) vs. 47% (July).</p> <p>The Pine Creek riparian conditions (e.g., denuded banks, houndstongue, spring entrained within the trail, incised creek, heavily-browsed cottonwood <6') documented in the photo essay submitted for the 2010 review continue in 2011. Over-use of Pine Creek has continued (e.g., Figs. 12-13)</p>

Twitchell #1	<p>The vegetation growth along the transect was abundant compared to previous years, likely due to the fire in the area and two years of rest from livestock grazing. No willow leaders showed browsing, and only 15% of the subleaders were browsed.</p>
Twitchell #2	<p>After three years of rest, there is vigorous establishment of willow (Figs. 12-18) on the post-fire sediment brought in 2010 (Figs. 10-11) and fresh gravel brought during early 2011 floods. Browse was negligible on Booth's willow (0% browse of tallest leaders; 10% on subleaders). Aspen was browsed a bit more (6% tallest leaders; 25% on subleaders). In 2008, the subleaders of both had been browsed over 91%. Height distribution of Booth's willow appears to be moving toward six feet, when top leaders will be less vulnerable to browse (compare 2009, 2010, and 2011 height distribution charts)</p>
Mountain Mahogany Range Cage	<p>Between 2010 and 2011 inside the range cage, one of the three curlleaf mt. mahogany moved from <2' to <3' and another from <6 to >6'. Outside the range cage, two of the three curlleaf mt. mahogany that were <4' in 2010 are still <4, but the third was measured at <3' in 2010..</p> <p>Between 2009 and 2011, bare ground within the enclosure has decreased from 53% to 29%; outside, bare ground has remained the same at 61% and 62%. Plant cover in 2011 was measured at 56% inside the cage; 27% outside . No exotic species were encountered on the transect within the cage.</p>
Sagebrush Range Cage	
Riparian Range Cage	<p>Little North Creek riparian area streambanks, at least in this reach, are not in good condition, and decisions should be made about it (See Figs. 17-(both)21's (oops.)</p> <p>The Little North Creek Pasture was to be utilized at 30% for the second year in 2011.</p> <p>Inside range cage (LNC #5): There were 26 cottonwood sprouts within the 16' X 16' range cage, 9 of which are between 4.1' and 6'. Fourteen percent of tall leaders were browsed; 22% of subleaders. In 2008, before this site was caged, tall leader/subleader browse was 92%/ 90%.</p> <p>Outside (LNC #3) Although this pasture was at 30% utilization for the second time this year, browse of the tallest leaders was once again high: 70%; browsed (75% in 2009; 25% in 2010) but only 9% subleaders browsed (83% in 2009 and 62% in 2010). The graminoids were closely grazed.</p> <p>The aspen inside/outside graphs show that range cage cottonwood are gaining recruitment. Of the 23 cottonwood, two have joined a third that are > 6', three are now 5.1-6', and six are 4.1-5'. Outside the cage, only one of 46 cottonwood <6' is taller than 4'.</p>

SOUTH BEAVER ALLOTMENT	
Birch Creek Exclosure/Big Twist Creek Comparison	<p>The photographs and woody plant demography charts in this 2011 quantitative assessment report show the stark contrast between Big Twist Creek and Birch Creek in the exclosure.</p> <p>It is recommended that Big Twist Pasture be rested two years, and then utilization be reduced to 30%. A one-quarter acre riparian exclosure should be established on a particularly vulnerable area and annually monitored, along with points outside the exclosure, to document whether and how quickly the area recovers during the rest and after grazing is reduced to 30% utilization.</p>
South Creek Cottonwood Patch	<p>A patch of 95 cottonwood sprouts in 2008 was reduced to 79 in 2009 and 8 in 2010 when the pasture was to be rested, but was grazed. Browse each year was 80%-100%. In 2011, after the South Creek riparian fence was built, 67 sprouts were present, up to 3' tall, with almost zero browse.</p> <p>The patch is vulnerable to browsing and the adjacent dispersed camping site. We recommend temporarily caging the patch for two years to allow for recruitment, and closure of the stream-side dispersed camping site to allow for regeneration of the cottonwood gallery.</p>
South Creek #1	<p>The riparian fence built in 2011 on the south side of South Creek does not reach the area around South Creek #1. In 2011, however a permittee took non-use for personal convenience for 545 head months (121 head of cattle), a reduction 23% in the allotment use.</p> <p>In 2011, tall leaders showed 27% browse (55% in 2010 when the pasture was to be rested, but cattle sign was present).Subleader browse was 53% in 2011 (79% in 2010).</p> <p>The streambank within South Creek #1 has excessive bare ground (Figs. 10 and 12) and the meadow below South Creek still appeared to be heavily used (Fig 13) and the ORV route next to the stream continues to erode and generate sediment into the stream. Is this acceptable to the District?</p>

South Creek #2	<p>A riparian fence was built on June 17, three months before this reading. There was no browse on tall leaders, but subleaders were 75% browsed, which is similar to earlier years. It is not clear whether this is wild ungulate browse earlier in the year. There was also a 23% reduction of the number of cattle on the pasture this year due to a non-use of one permittee. Appropriate levels of recruitment are still lacking. The site may improve over time if the fence is maintained.</p>
South Creek #3	<p>In 2011, the browse was 5% on tall leaders (29% in 2009), and 10% on subleaders (43% in 2009). Height class distribution is improved over 2008, but similar to 2009-2010, except for a possible increase in 2.1-3' sprouts. Bare ground continues to be a concern, particularly in areas directly adjacent to the creek (Figs 14 and 16).</p>
South Creek #4	<p>Despite the drift fence and delayed entry, cow pies were noted on South Creek #4; though not noted at South Creek 1-3, and browse levels on the aspen along South Creek #4 remained about the same as 2009. In 2011, there was 62% browse on tall leaders (77% in 2009) and 70% browse on subleaders (78% in 2009). Recruitment is still lacking.</p> <p>If the riparian fence is to help with cottonwood recruitment under current grazing, it will have to be maintained.</p>
South Creek #5	<p>In 2010 the pasture was to be rested, but cattle sign indicated significant use. In 2011, post riparian fence, there was 0% browse on tall leaders of the 91 narrowleaf cottonwood on the transect (33% in 2010) and 12% browse on subleaders (67% in 2010). Browse of aspen tall leaders in 2011 was 11% (60% in 2010) and 14% on subleaders (76% in 2010). The height distribution of the cottonwood is beginning to move into 4.1-5' tall and many more cottonwood are 3.1-4' tall in 2011 than 2010. The tallest aspen on the transect in 2010 was 2.1-3'; in 2011, one was 3.1-4' and one was 4.1-5' tall. The number of leaders is generally low (1-2) for aspen, which indicates the leader is being able to grow beyond the subleaders.</p> <p>If these cottonwood and aspen can rise above 6' in the next two years, a healthy young cottonwood stand will have been established.</p>