Rapid Assessment of Cattle Impacts in Riparian Critical Habitat on the Gila National Forest in 2022

Cattle in Saliz Canyon on the Kelly Allotment, Spring, 2022

Prepared by the Center for Biological Diversity

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CENTER for BIOLOGICAL DIVERSITY

Because life is good.

BACKGROUND

Federal public lands in the Southwest harbor incredible biological diversity, including many threatened or endangered species dependent on healthy riparian habitat. Preservation of these species and protection of these federal lands is of significant public interest. Since our founding, the Center for Biological Diversity has led efforts to reform overgrazing on public lands, particularly as it relates to the health of critical habitat. One of our significant court challenges was a 1997 suit which argued that the Forest Service had failed to consider the effects of grazing on seven imperiled species including the Southwestern Willow Flycatcher (SWWF), the Mexican Spotted Owl, the Spikedace, and the Loach Minnow. In 1998, a settlement agreement emerged from this legal challenge, *Southwest Center for Biological Diversity v. U.S. Forest Service* (D. Ariz. CV-97-TUC-JMR), resulting in an order to remove cattle from hundreds of stream miles, including 23 allotments in the Gila.

The settlement commitments made by the Forest Service resulted in the placement of extensive exclosure fencing and agreements with permittees to remove cattle from these areas. Early assessment showed the rapid recovery of streamside herbaceous vegetation, cottonwood saplings in flood channels, willow recruitment along the river's edge and improved bank stability and integrity. This resulted in an on-going process of restoration in many miles of critical riparian habitat. Within the past several years, however, there has been a noticeable increase in trespass and feral cattle in areas within grazing exclosure areas.

Subsequently, surveys were done on 27 allotments in 2017, 9 allotments were spot checked in 2018, and 30 allotments were surveyed in 2019, including additional allotments that contained critical proposed or final critical habitat (Table 1). Each of these surveys showed large percentages of moderate to significant impacts from grazing where there should be none. In 2017, 72.5% of the 105 miles surveyed, in 2018, 61% of the miles surveyed and in 2019, 65% of the 134 miles surveyed, were moderately to significantly impacted. In 2021, 117 miles were surveyed on 22 allotments and 96.7 miles, (83%) were found to be moderately to significantly impacted by cattle. Cattle were observed and documented on over half of the allotments surveyed.[1,2,3]

Table 1. SPECIES WITH FINAL CRITICAL HABITAT (FCH) IN THE GILA NATIONAL FOREST	
Chiricahua leopard frog	**FCH**
Gila chub	**FCH**
Loach minnow	**FCH**
Narrow-headed garter snake	**FCH**
Northern Mexican garter snake	**FCH**
Southwest willow flycatcher	**FCH**
Spikedace	**FCH**
Yellow-billed cuckoo	**FCH**

In 2022, to determine if actions taken by the Gila National Forest have resulted in improvements in the health of riparian critical habitat and to assess whether trespass cattle are still accessing exclosure areas containing critical habitat, a rapid assessment survey was completed for 98.7 miles on 27 allotments. The specific objectives of this rapid assessment were to determine if cattle are present within riparian areas purportedly excluded from grazing on certain allotments and any areas containing critical habitat for the eight species listed above in the Gila National Forest. The specific purpose is to document the extent, frequency and intensity of impacts attributed to cattle across hydroriparian, mesoriparian, and xeroriparian habitats. Further objectives were to quantitatively evaluate these impacts in six specific categories using a rapid assessment survey, document these data with georeferenced photographs, and map the overall impact levels of cattle throughout the allotment drainages (Figure 1.).

This report contains a summary table of results for all allotments surveyed (Table 2.), individual descriptions and maps for each allotment, and hyperlinked photos to specific cattle impacts observed. The survey also includes comparative data for 2021 for each allotment and for the percentage of significant impacts by district compared to 2022 (Table 4a and 4b). All the data is stored in a GIS database containing hundreds of additional photographs. A thorough explanation of survey methods is included at the end of the report (Table 5 and Table 6).

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[1] Rapid Assessment of Cattle Impacts in Riparian Exclosures on the Gila National Forest Rapid, Center for Biological Diversity, March, 2018.
[2] Rapid Assessment of Cattle Impacts in Riparian Exclosures and Critical Habitat on the Gila National Forest, Center for Biological Diversity, January, 2020.
[3] Rapid Assessment of Cattle Impacts in Riparian Critical Habitat on the Gila National Forest, August, 2021.

RESULTS SUMMARY

In five of the six districts, moderate to significant negative cattle impacts still persist. Overall, **significant negative cattle impacts continue to exist on 42.6% of the miles surveyed. This is a substantial decrease in significant impacts when compared to 2021, which saw 70.7% of the miles surveyed as significantly impacted (Tables 4a & 4b). The most significant drop was in the Glenwood District, where significant impacts dropped from 75% of miles surveyed to 35% of miles surveyed.** There are also positive signs of vegetative regrowth in areas without current sign.

Overall, this 2022 survey found 42.1 miles of significantly impacted habitat, 11.9 miles of moderately impacted habitat, 44.3 miles of light impacts, and .6 miles were absent of any cattle impact (Table 2. & Table 3).

It is important to note that **cows or horses were seen on 12 allotments and are still negatively impacting many miles of riparian critical habitat-including on the Dry Creek allotment, which had seen no cow impact for several years prior**. In addition, soil compaction and denuded soils from grazing and trampling are still widespread across the landscape and there are sheared streambanks along many miles of the Gila River, San Francisco River, Saliz Canyon, and Negrito Creek. Browse pressure by cattle is still causing the full suppression of woody regeneration along miles of waterways and preventing the restoration of critical habitat.

The Center for Biological Diversity supports the immediate actions that were taken to remove cattle following real-time reports during this survey. Hopefully, this action resulted in an improvement in riparian conditions compared to the results reported here.

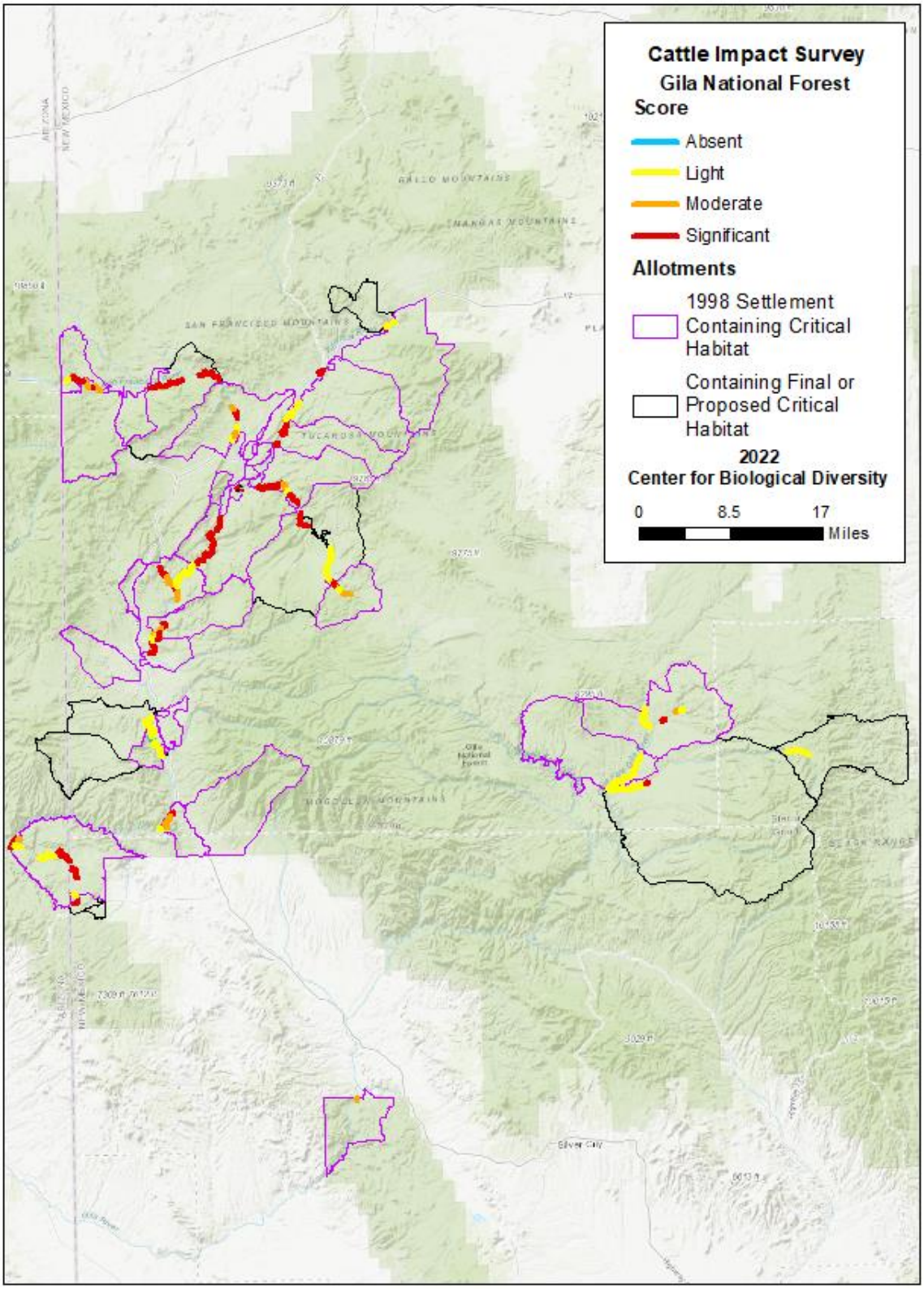


FIGURE 1. CATTLE IMPACTS WITHIN RIPARIAN AREAS WITH CRITICAL HABITAT IN GILA NATIONAL FOREST

TABLE 2. GILA NATIONAL FOREST: MILES OF CATTLE IMPACTS IN INDIVIDUAL ALLOTMENTS

District	Allotment	Drainage	Absent	Light	Moderate	Significant	Total
Black Range	South Fork	Diamond Creek		2.3			2.3
Glenwood	Alma	San Francisco River				**1.8**	1.8
	Citizen/Roberts Park	San Francisco River		2.4			2.4
	Devil's Park	San Francisco River		.4	.8	**1.9**	3.1
	Dry Creek	San Francisco River		1.0	1.6	**.4**	3.0
	Harden Cienega/Tennessee	Harden Cienega San Fran River		4.5	.3	**6.1**	10.9
	Harve Gulch/Bighorn	San Francisco River	.6	3.8			4.4
	Kelly	San Francisco River		4.3	2.9	**2.2**	9.4
Quemado	Govina/West Sand Flat	Tularosa		.7		**.2**	.9
	Laney	San Francisco River			.5	**7**	7.5
	Luna	San Francisco River		.5	1.9	**2.2**	4.6
Reserve	Alexander	Tularosa River		1.4		**.7**	2.1
	Cienega	San Francisco River		1.1	1.2	**1.2**	3.4
	Corner Mountain	Negrito Creek		1.0	1.1	**.8**	2.9
	Deep Canyon	Tularosa River		.7	.3	**2.3**	3.2
	Eagle Peak	Negrito Creek		.6	.7	**4.8**	6.1
	Frisco Plaza	San Francisco River/Tularosa		.7		**6.8**	7.5
	Lower Plaza	Tularosa River				**.3**	.3
	Negrito-Yeguas	Negrito Creek		3.7		**2.3**	6.0
Silver City	Gila River	Gila River			.2		.2
Wilderness	Diamond Bar	Diamond Creek		4.5		**.5**	5.0
	Jordan Mesa	East Fork Gila		7.3			7.3
	Taylor Creek	Taylor & Beaver Creek		3.4	.6	**.6**	4.6
Total Gila NF Surveyed Stream Miles			**Absent**	**Light**	**Moderate**	**Significant**	**Total**
2022			**.6**	**44.3**	**11.9**	**42.1**	**98.9**
2021			**9.8**	**10.6**	**13.8**	**82.9**	**117.1**

TABLE 3A. SURVEY MILES (2022) OF CATTLE IMPACTS ON THE GILA NATIONAL FOREST BY DISTRICT

2022

District	Miles/Absent	Miles/Light	Miles/Moderate	Miles/ Significant	Total/Surveyed	% of critical habitat significantly impacted by cattle
Black Range		2.3			2.3	**0%**
Glenwood	.6	16.4	5.5	12.5	35.0	**35.7%**
Quemado		1.3	2.4	9.3	13.0	**71.5%**
Reserve		9.2	3.2	19.3	31.7	**60.8**
Silver City			.2		.2	**0%**
Wilderness		15.1	.6	1.0	16.7	**5.9%**
Total	**.6**	**44.3**	**11.9**	**42.1**	**98.9**	**42.6%**

TABLE3B. OVERALL SURVEY MILES OF CATTLE IMPACTS ON THE GILA NATIONAL FOREST BY DISTRICT-2021

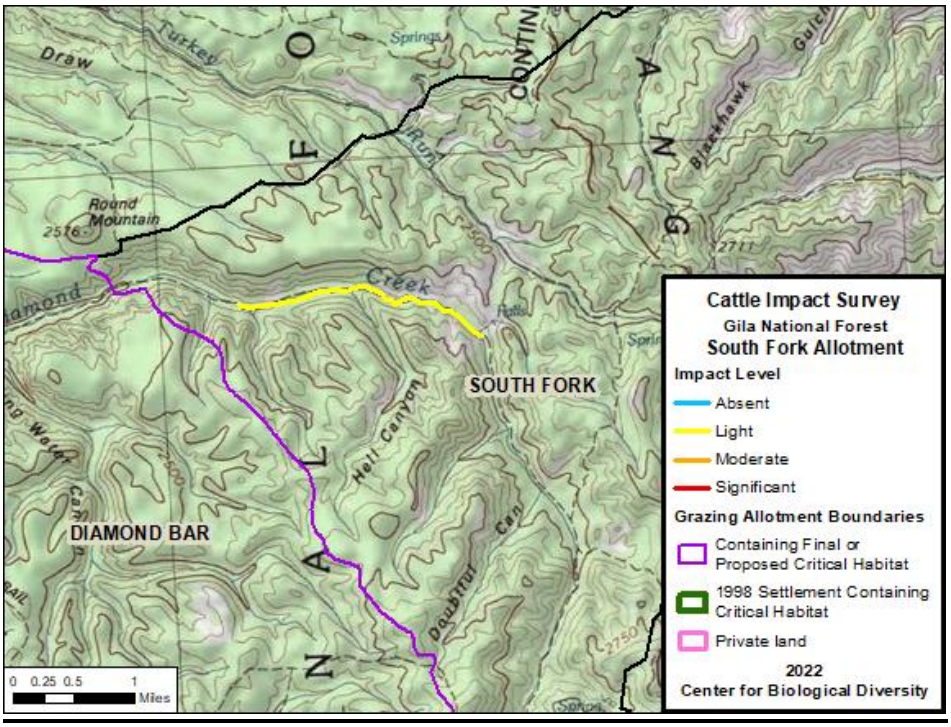
District	Miles/Absent	Miles/Light	Miles/Moderate	Miles/ Significant	Total/Surveyed	% of critical habitat significantly impacted by cattle
Black Range		.3		.5	.8	62.5%
Glenwood	5.7		1.4	27.0	35.7	75.6%
Quemado	3.9	2.6	2.2	10.7	19.4	56.3
Reserve	.2	4.1	3.6	31.3	39.2	79.8%
Silver City			0.8	7.2	8.0	90%
Wilderness		3.6	5.8	6.2	15.6	39.7%
Total	**9.8**	**10.6**	**13.8**	**82.9**	**117.1**	**70.7%**

*See methods section for specific grazing impact category descriptions and weighting table used to calculate overall level of impact ratings.

ALLOTMENT SURVEY DESCRIPTION

District: **Black Range**
Allotment: **South Fork**
Critical Habitat **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo**
Drainage: **San Francisco River**
Surveyed: **5/10/2022**
Cattle Seen: **No**

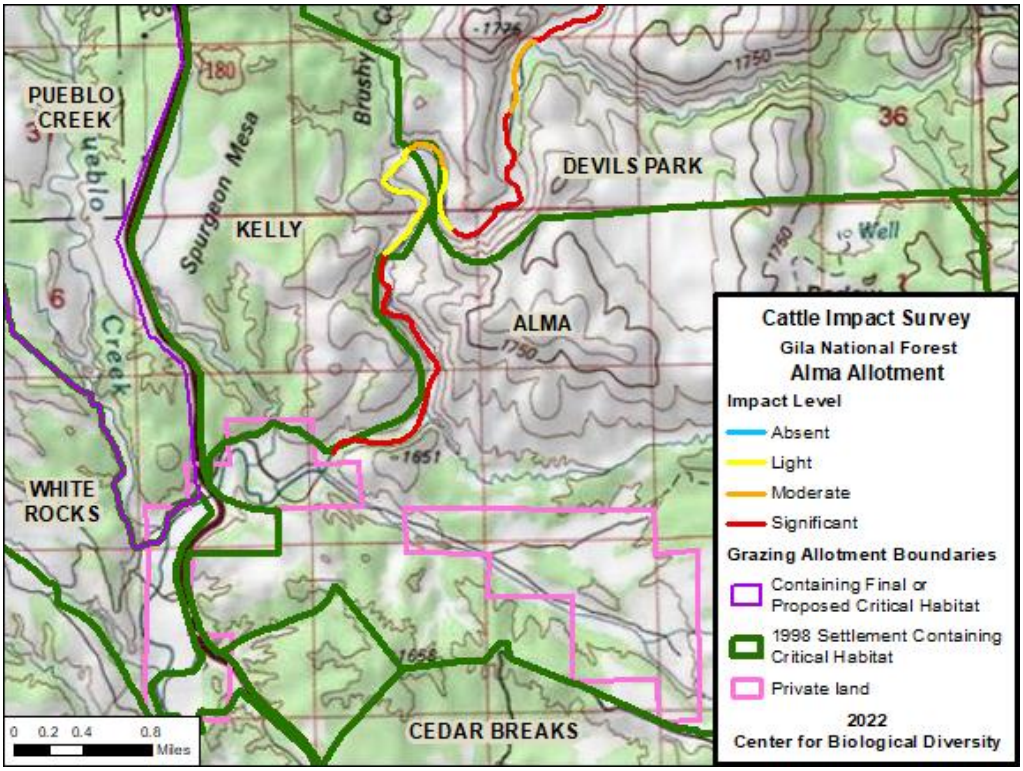
A short section of the South Fork allotment was surveyed from Turkey Run to near the boundary with the Diamond Bar Allotment. There were a few old cow pies and historic small pastures. Photo shows dense mixed conifer before the Black Fire (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		2.2 miles			2.2 miles
2021	NA				

District: **Glenwood**
Allotment: **Alma**
Critical Habitat **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo**
Drainage: **San Francisco River**
Surveyed: **3/16/2022**
Cattle Seen: **Yes**

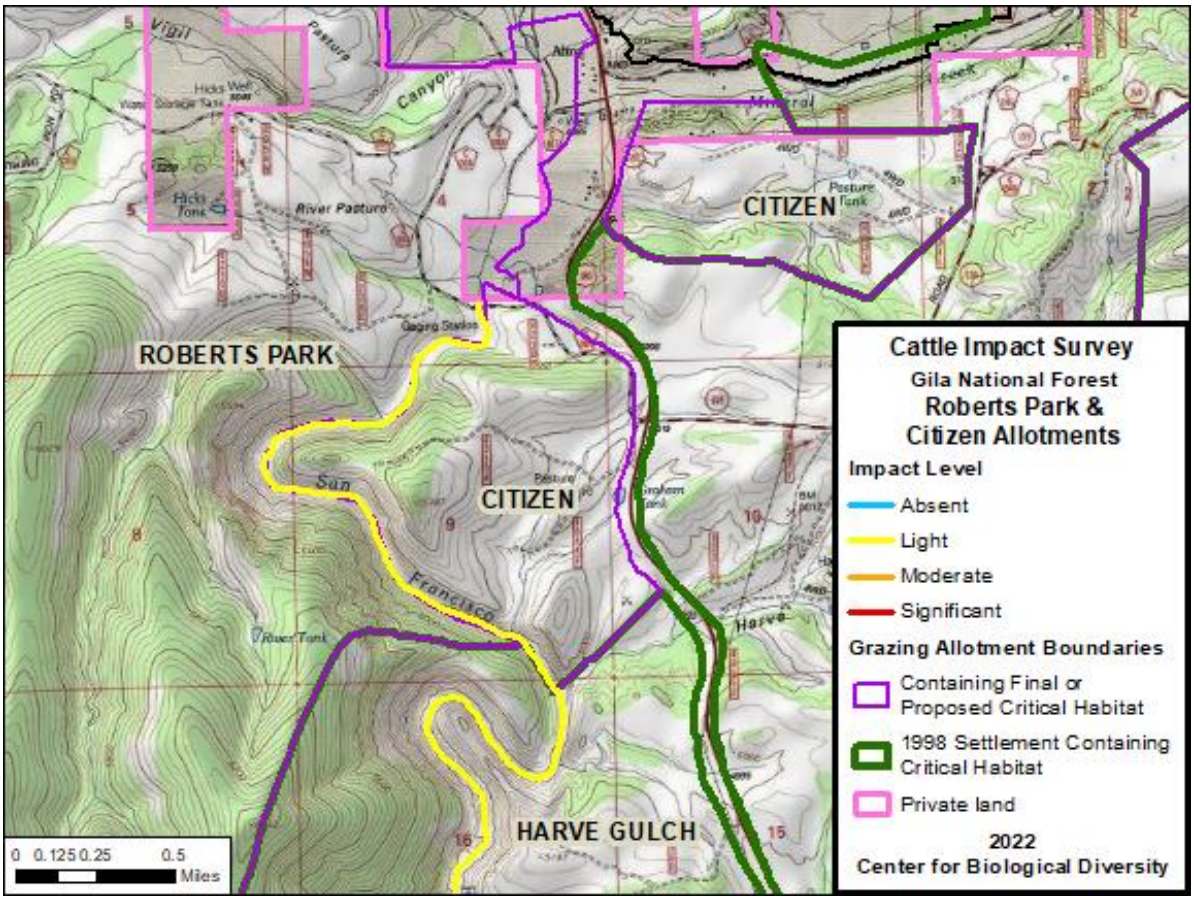
Despite being scoured by flood waters in 2021 there was ample sign of current cattle use. A total of seven cows were observed in the allotment on March 16th 2022, including four black cows and two calves with ear tags. There was one gray Brahman bull with no markings or tags. Fresh cow pies, cattle trails, and trampling along the banks of the river were pervasive (photo). In some areas, grazing was severe in patches (photo). There was no fencing to prevent the movement between private land on the southern end and the border with the Kelly Allotment to the north.



Year	Absent	Light	Moderate	Significant	Total
2022				1.8 miles	1.8 miles
2021				1.9 miles	**1.9 miles**

District: **Glenwood**
Allotment: **Citizen/Roberts Park**
Critical Habitat **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo.**
Drainage: **San Francisco River**
Surveyed: **3/15/2022**
Cows Seen: **No**

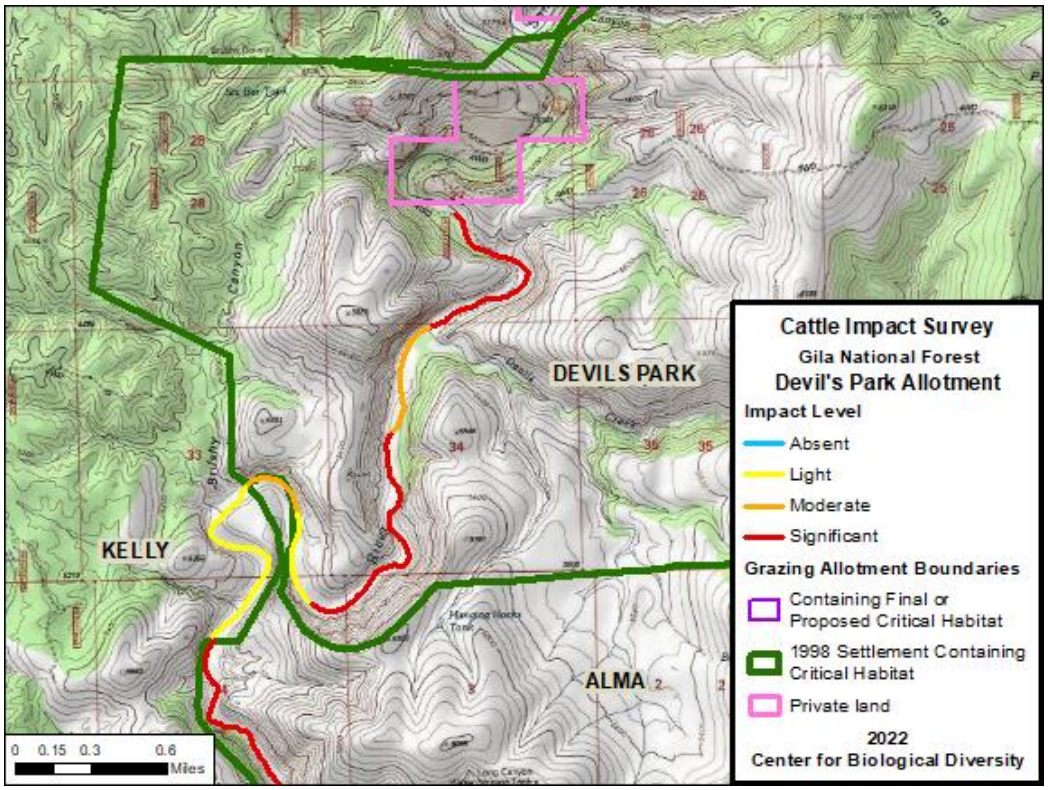
Flood waters from the 2021 monsoon season washed out old cattle and horse sign. The remaining sign was limited to higher benches of land (photo). There was limited new sign of grazing. Old grazing areas and trails are still evident but are slowly filling in with vegetation. Streambanks are still heavily eroded.



Year	Absent	Light	Moderate	Significant	Total
2022		2.4miles			2.4miles
2021				2.4 miles	2.4 miles

District: **Glenwood**
Allotment: **Devils Park**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Spikedace**
Drainage: **San Francisco River**
Surveyed: **3/16/2022**
Cattle Seen: **Yes**

The southern portion of the allotment exhibited worn trails and historic grazing areas with no fresh sign of cow activity-although historic impact was still significant in some areas. As the survey approached Devil's Creek, fresh sign became abundant and three cows and three calves were seen with green ear tags (Six Bars Ranch). Upstream, past Devil's Creek, there is ample evidence of severe and pervasive grazing (photo) and extensive browsing on woody vegetation. In this area, another group of five cows (Six Bars Ranch ear tags) and one bull (white tag-Kelly Ranch) were observed. Cows are crossing the river and widespread erosion and shearing of banks is occurring (photo).

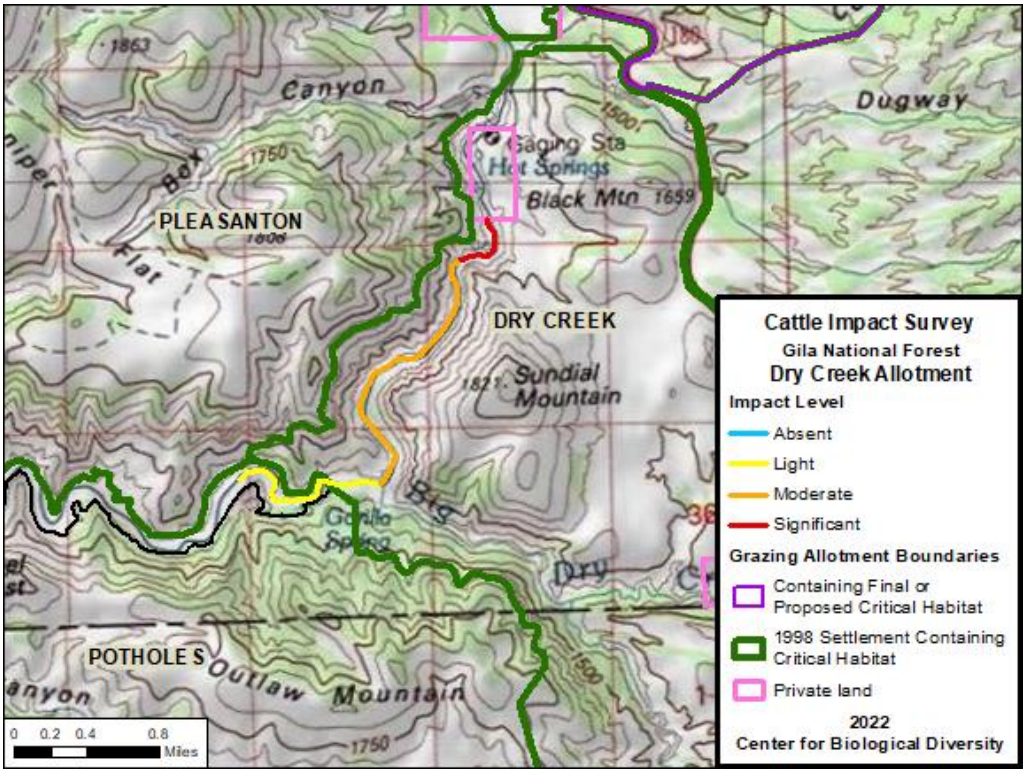


Year	Absent	Light	Moderate	Significant	Total
2022		.4 miles	.8 miles	1.9 miles	3.1 miles
2021				3.5 miles	3.5 miles

Highly degraded, and trampled soils with no streamside vegetation or woody regeneration on the Devil's Park allotment.

District: **Glenwood**
Allotment: **Dry creek**
Critical habitat: **Gila chub, Loach minnow, Southwestern willow flycatcher, Spikedace**
Drainage: **San Francisco River**
Surveyed: **5/1/2022**
Cattle Seen: **Yes**

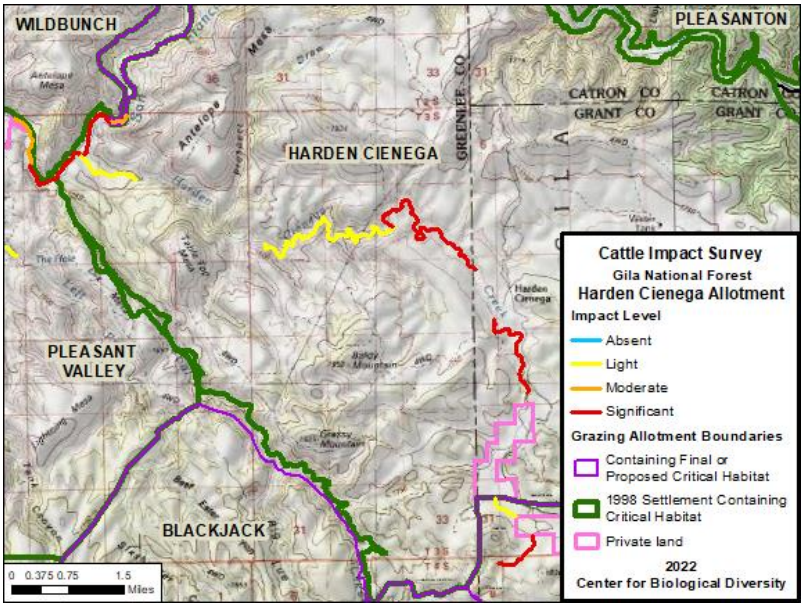
Most cattle sign was seen on the well-worn two-track road that follows the river upstream and downstream from the Big Dry confluence. Upstream from Big Dry, a black bull with horns was quickly encountered with an RS brand (photo). There was a large swath of healthy grasses that were recently grazed with many fresh cow pies. The bull was later seen feeding directly on the riverbank. There was fresh cow sign and grazing impacts continuing upstream until the boundary with private land (photo). Downstream of Big Dry Creek there was little recent sign but light impacts remain.



Year	Absent	Light	Moderate	Significant	Total
2022		1.0 miles	1.6 miles	.4 miles	3.0 miles
2021 (NA)					

District: **Glenwood**
Allotment: **Harden Cienega/Tennessee**
Critical habitat: **Gila chub, Loach minnow, Southwestern willow flycatcher, Spikedace**
Drainage: **San Francisco River, Harden Cienega Creek**
Surveyed: **3/30-31/2022 & 4/2/2022**
Cattle Seen: **Yes**

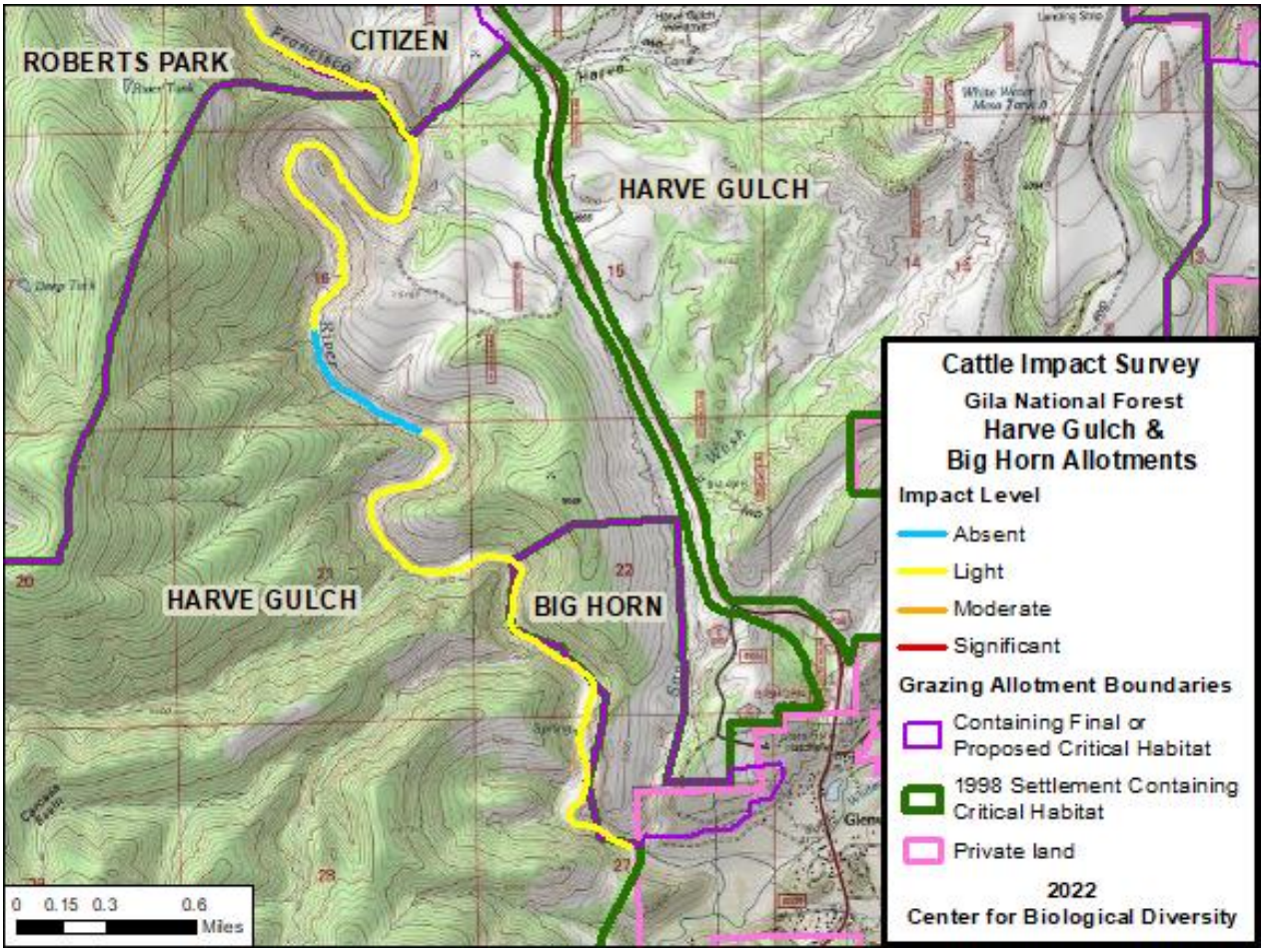
Along Harden Cienega Creek, downstream of private land in New Mexico, the area is heavily overgrazed and lacking streamside woody vegetation. Directly across the Arizona border, eight cows were seen in the riparian area (photo). Moderate to severe impacts continued downstream and around other water pools (photo). Impacts ceased at the beginning of the slot canyon. Along Harden Cienega Creek, upstream of private land, a total of six cows with yellow ear tags were seen within the riparian corridor with at least five more close by (photo). There are salt licks along the creek that are attracting cattle to the riparian edge. These areas are denuded of vegetation and heavily trampled (photo). Within the San Francisco River portion of the allotment there are multiple heavily grazed areas with recent impacts.



Year	Absent	Light	Moderate	Significant	Total
2022		4.5 miles	.3 miles	6.1 miles	10.9 miles
2021	4.6 miles		1.4 miles	**5.9 miles**	11.9 mi

District: **Glenwood**
Allotment: **Harve Gulch**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo**
Drainage: **San Francisco River**
Surveyed: **3/15/2022**
Cattle Seen: **No**

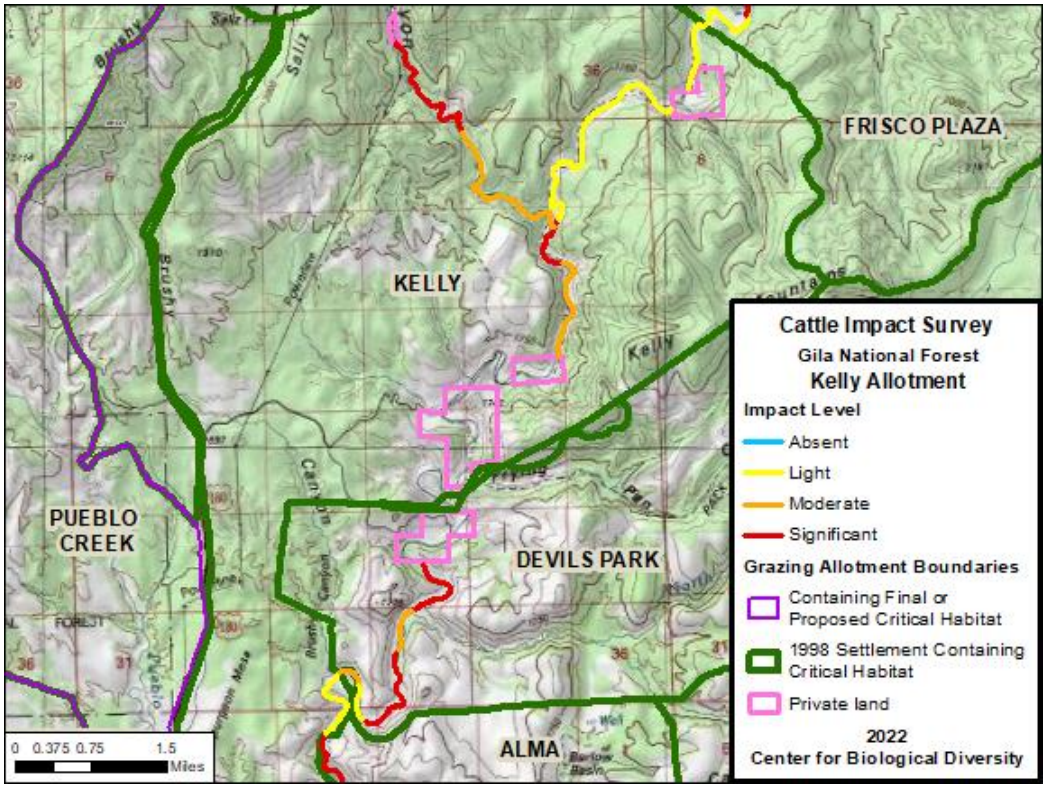
Cattle sign and impacts were limited to older sign including old cow pies, trails, haul out areas and some trampled banks (photo). The vegetation was generally tall and ungrazed.



Year	Absent	Light	Moderate	Significant	Total
2022	.6 miles	3.8 miles			4.4 miles
2021				**4.1 miles**	4.1 miles

District: **Glenwood**
Allotment: **Kelly**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo**
Drainage: **San Francisco River, Saliz Canyon**
Surveyed: **3/16/2022 & 4/12-13/2022**
Cattle Seen: **Yes**

On the southern end of the allotment where the Kelly meets the Alma and Devils Park allotments, impacts remain (photo), but cattle sign appears old and there was no sign of recent grazing. On the northern most end of the allotment, cattle sign along the San Francisco was light and restricted to areas near the confluence with Saliz Creek. Up Saliz creek, six cows-four black and two brown-along with six calves were seen grazing along the riparian edge. All had red ear tags (photo) (photo). Continuing up Saliz creek to the road boundary, grazing impacts continued and severe and pervasive trampling and shearing of the banks was present.



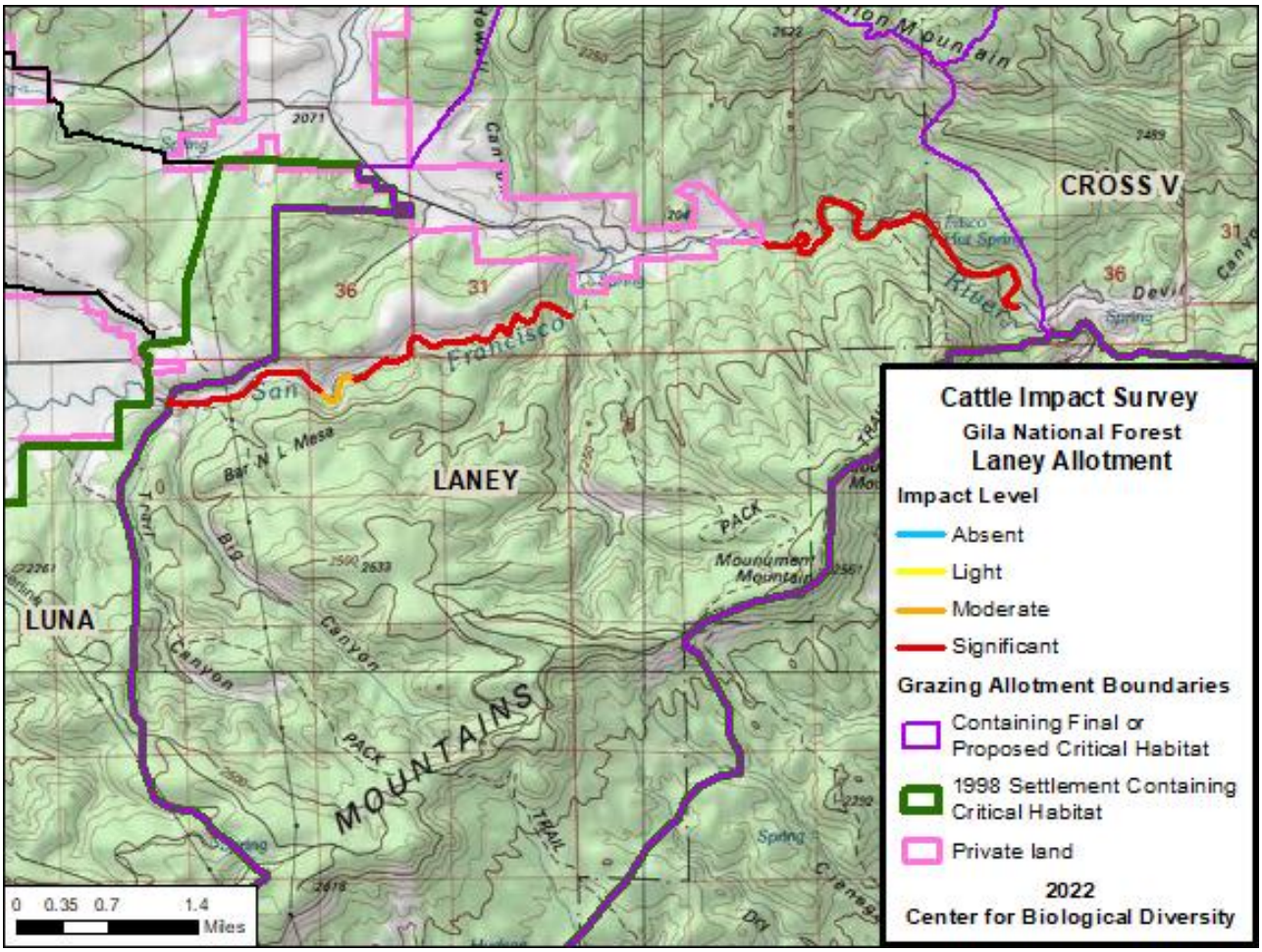
Year	Absent	Light	Moderate	Significant	Total
2022		4.3 miles	2.9 miles	2.2 miles	9.4 miles
2021	1.1 miles			9.3 miles	10.4 miles

District: **Quemado**
Allotment: **Laney**
Critical Habitat: **Narrow-headed garter snake, Southwestern willow flycatcher**
Drainage: **San Francisco River**
Surveyed: **4/3/2022 & 4/8/2022**
Cattle Seen: **Yes and Horses**

Western Section: Beginning at the far western edge of this survey area, 24 cattle were immediately encountered. These included brown, brown & white, and black cows, and one gray cow. The group also included at least 4 calves. Most cows in this group had yellow ear tags with no identifications (photo). Continuing downstream, a fence line had a gate that appeared deliberately open. Cows were seen moving downstream through the gate (photo). Where the canyon begins to narrow, there are examples of extreme bank trampling and degradation (photo). Where the canyon widens again and meets the private property boundary, there are areas of bare sand from sustained trampling and heavy used loafing areas. There are virtually no streamside willows or mature vegetation in the wider portions of the canyon (photo).

Eastern Section: Beginning at eastern boundary of the allotment, grazing and browsing pressures are severe with virtually no tall herbaceous vegetation or woody recruitment along the stream channel. An area of specific concern is the outflow of the San Francisco hot springs. This wet and steep hillside is severely trampled by cows. Continuing upstream, willow regeneration is absent and there are large areas denuded of topsoil (photo). Towards the end of this section, recent horse sign increases and there are heavily used trails leading to the edge of the water creating substantial and pervasive bank shearing (photo). Near the border with private property, six horses were observed grazing (photo).

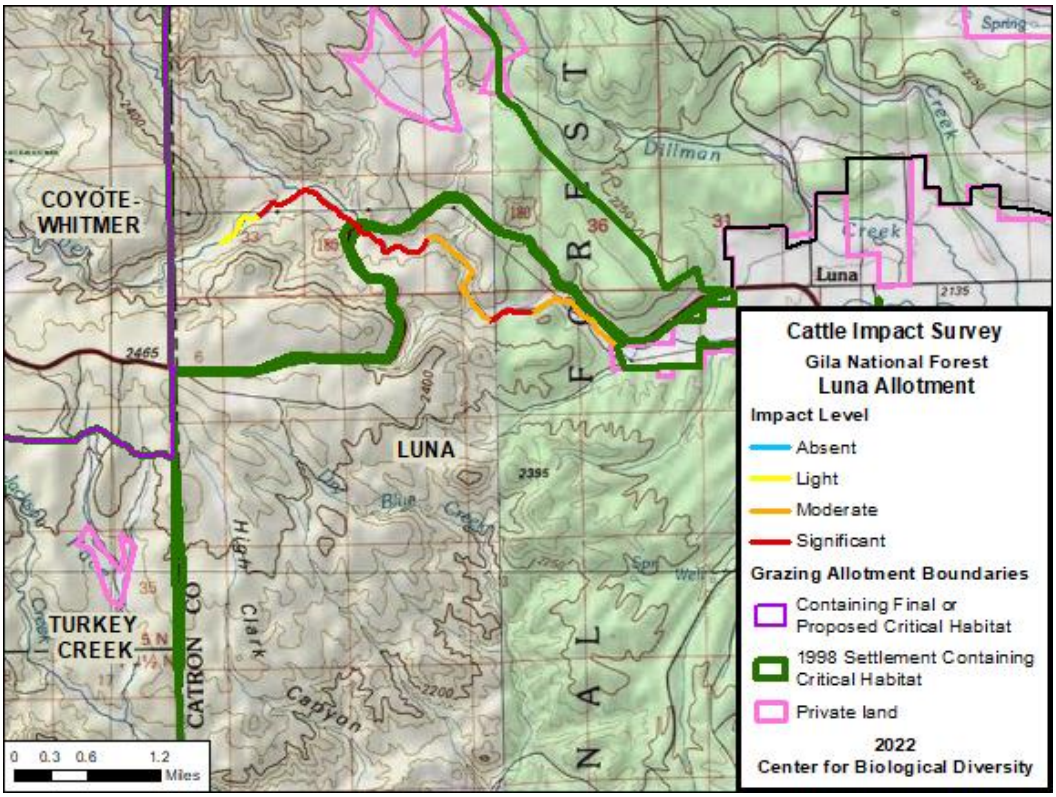
(See next page for Impact Map)



Year	Absent	Light	Moderate	Significant	Total
2022			.5 miles	**7.0miles**	7.5 miles
2021				**7.3 miles**	7.3 miles

District: **Quemado**
Allotment: **Luna**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace**
Drainage: **San Francisco River**
Surveyed: **4/2/2022**
Cattle Seen: **No**

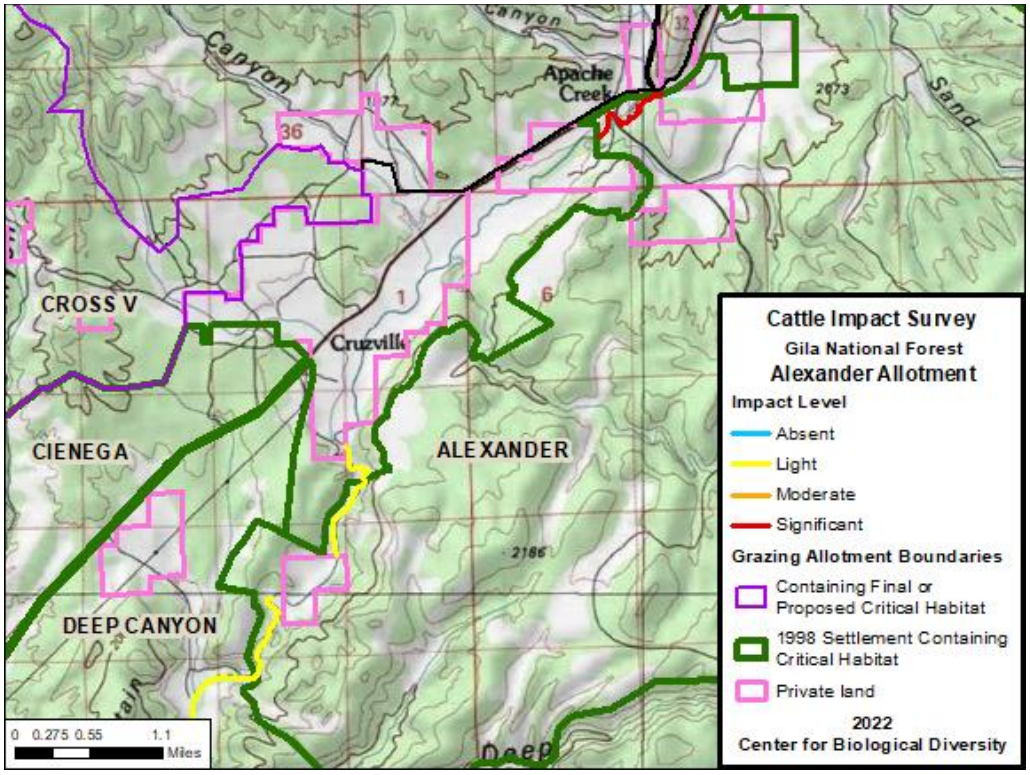
On the western side of the allotment, impacts continue to be significant with some relatively recent sign of trampling and degradation of the stream bank (photo). On the eastern side, conditions have improved on the San Francisco portion of the allotment and impacts were more moderate with less recent sign of cattle. Past grazing impacts are still evident (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		.5 miles	1.9 miles	**2.2 miles**	4.6 miles
2021	3.9 miles	2.6 miles	2.2 miles	**3.4 miles**	12.1 miles

District: **Reserve**
Allotment: **Alexander**
Critical Habitat: **Chiricahua leopard frog, Loach minnow, Narrow-headed garter snake**
Drainage: **Tularosa River**
Surveyed: **4/13/2022**
Cattle Seen: **No**

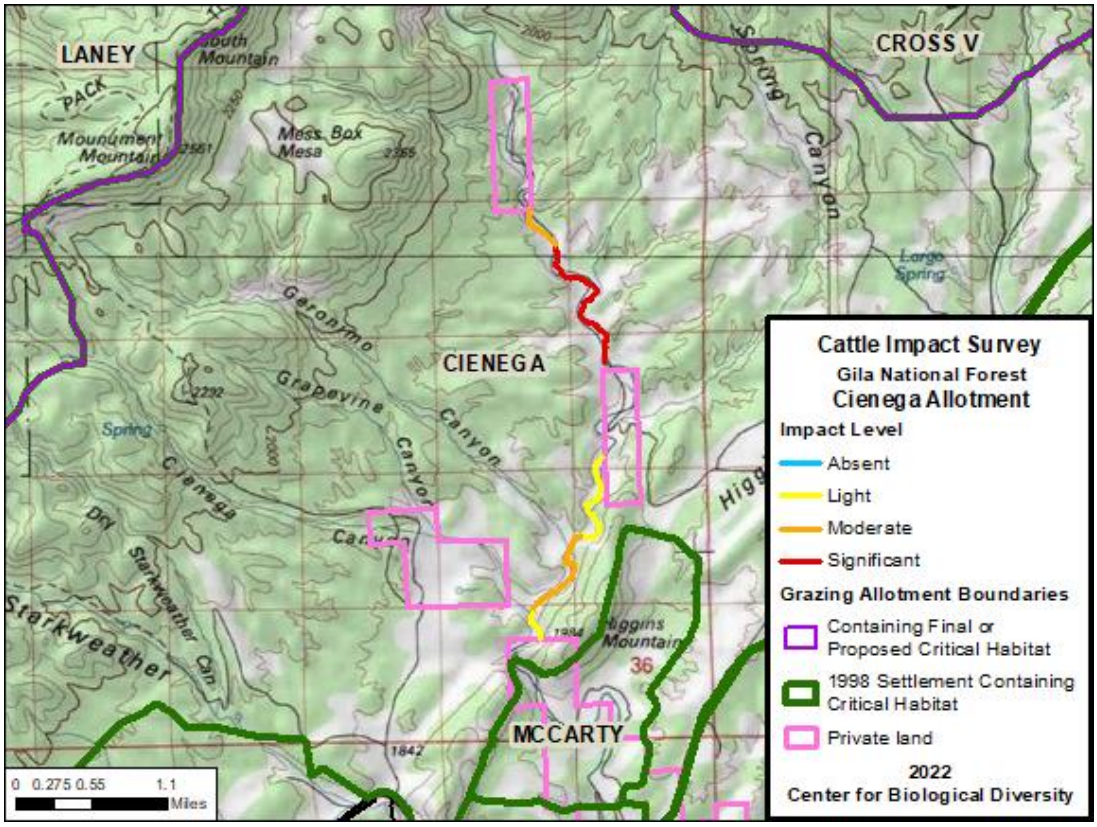
Older, light impacts remain on benches above the river (photo). On the upstream section of the allotment near Apache Creek Campground, the area is well fenced and show no recent signs of cattle but older impacts persist. Additionally, the area has severe and pervasive grazing and browsing impacts that appear to be from resident elk



Year	Absent	Light	Moderate	Significant	Total
2022		1.4 miles		**.7 miles**	2.1 miles
2021	.2 miles	.9 miles			1.1 miles

District: **Reserve**
Allotment: **Cienega**
Critical Habitat: **Chiricahua leopard frog, Loach minnow, Narrow-headed garter snake**
Drainage: **San Francisco River**
Surveyed: **3/17/2022**
Cattle Seen: **No**

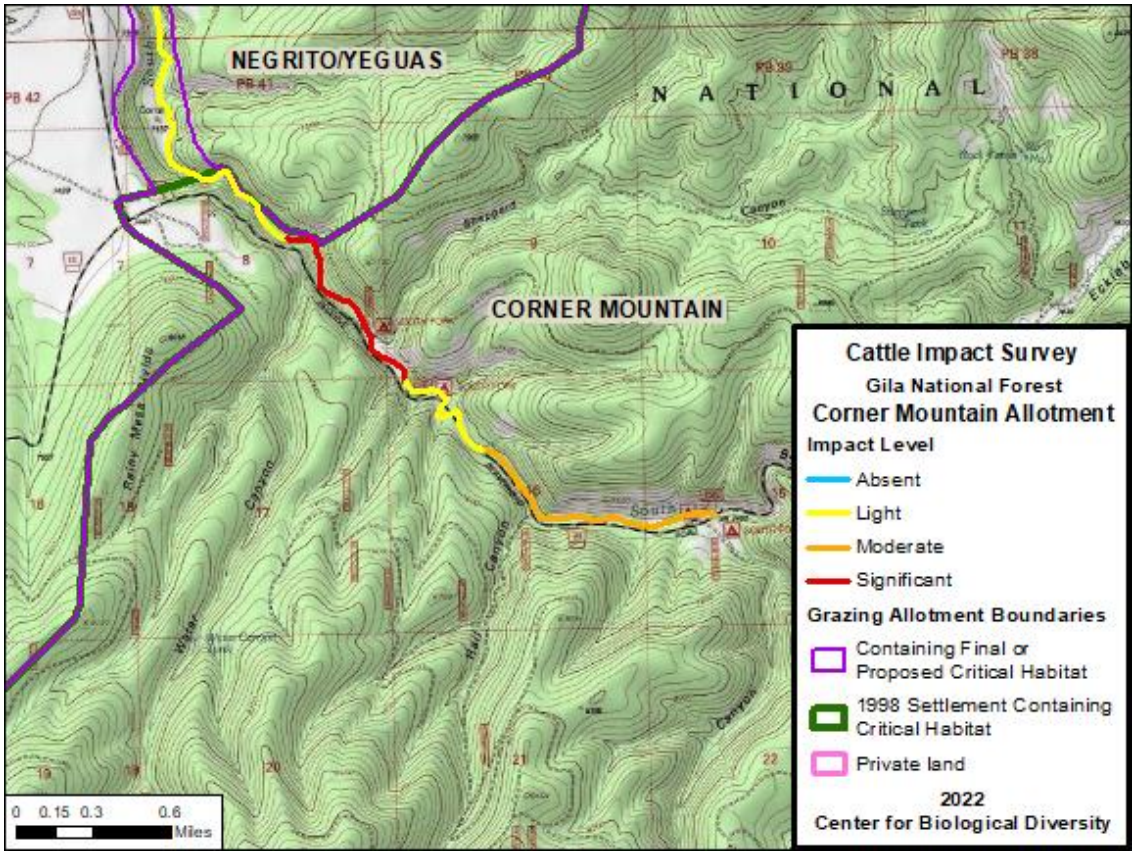
Almost no cow sign was seen in the southern portion of the allotment. Grasses were tall and only grazed in a few locations. Small willows were sprouting without browse pressure along the banks. In the northern section of the allotment there were multiple examples of current browsing and grazing pressure from cattle with shearing and chiseling of the riverbank (photo). Cattle sign became more recent moving downstream, approaching the private property boundary (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		1.1 miles	1.2 miles	**1.2 miles**	3.4 miles
2021				**3.5 miles**	3.5 miles

District: **Reserve**
Allotment: **Corner Mountain**
Critical Habitat: **Narrow-headed garter snake PCH**
Drainage: **Negrito Creek**
Surveyed: **4/14/2022**
Cows Seen: **Yes**

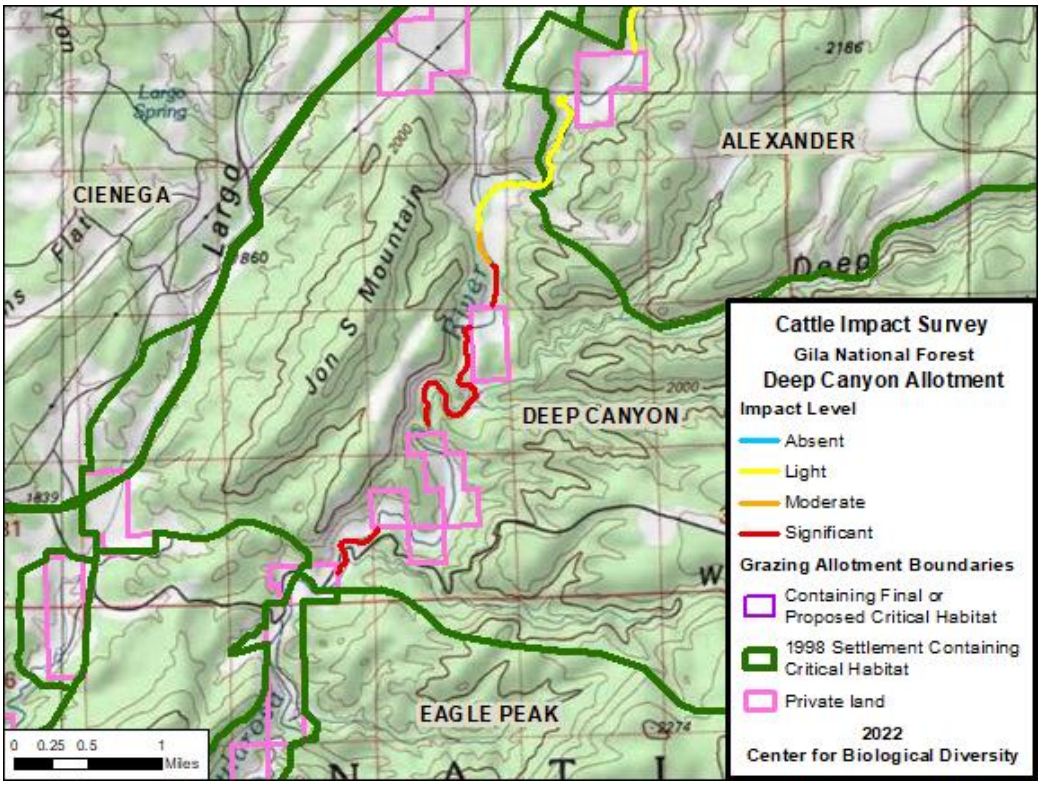
Cattle sign along the most northern stretch of allotment was spotty and light. But, as reported in all previous surveys, 2017, 2019, and 2021, in an area of springs and seeps near where the stream comes alongside the road, there is extensive rutting, ground disturbance, chiseling, and fresh feces in and around the springs (photo). It does not appear that any attempt has been made to keep cattle out of this critical habitat. Continuing south, impacts again decline, but fresh sign was seen near the Campground and three cows and one calf were seen in this area with red and yellow ear tags (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		1.0 miles	1.1 miles	**.8 miles**	2.9 miles
2021				**2.5 miles**	2.5 miles

District: **Reserve**
Allotment: **Deep Canyon**
Critical Habitat: **Chiricahua leopard frog, Loach minnow, Narrow-headed garter snake**
Drainage: **Tularosa River**
Surveyed: **7/19/21**
Cattle Seen: **No**

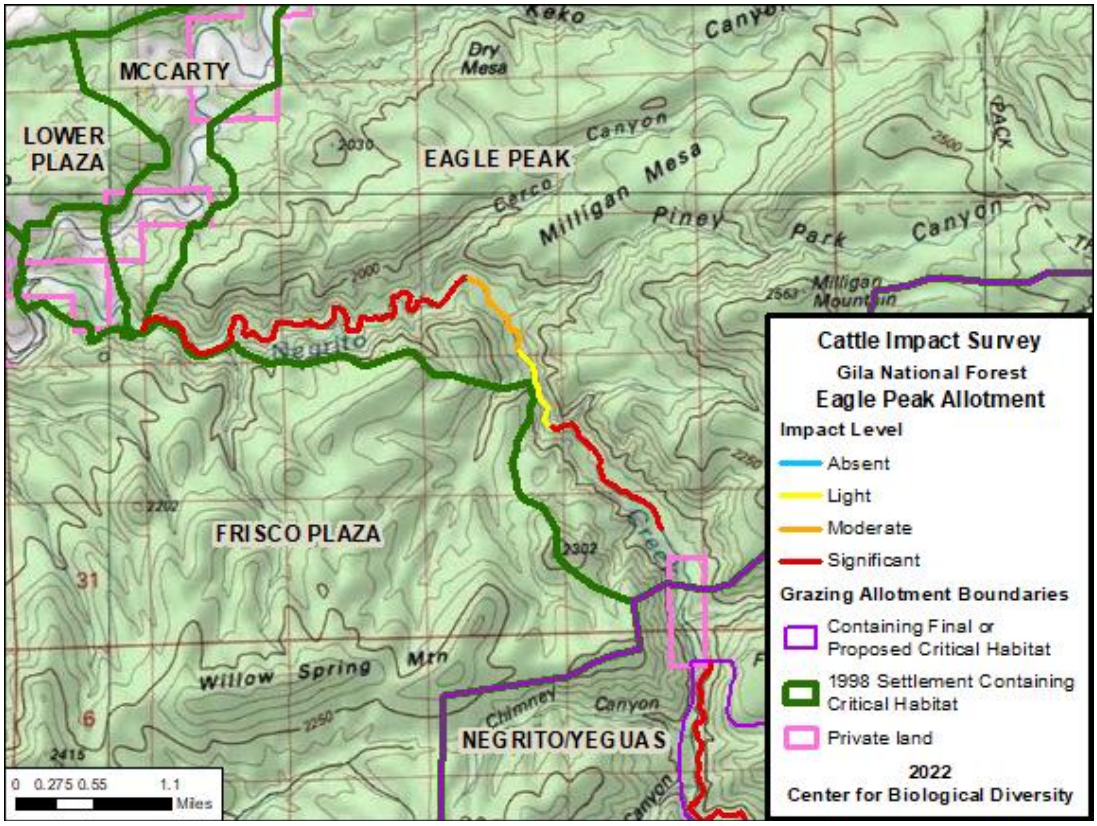
Within the northern section of the allotment, cattle sign was initially sparse. Moving south, impacts became pervasive and severe with grasses grazed to stubble and with riparian edges absent of woody recruitment (photo). Many fences were down on both public and private land allowing cattle to pass freely. Some areas showed extensive shearing and severe erosion with banks collapsing into the river (photo). On the downstream, southern side of the allotment, ground and vegetation disturbances were pervasive and severe with extensive, recent horse sign (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		.7 miles	.3 miles	**2.3 miles**	3.2 miles
2021			1.3 miles	**1.3 miles**	2.6 miles

District: **Reserve**
Allotment: **Eagle Peak**
Critical Habitat: **Loach minnow, Narrow-headed garter snake**
Drainage: **Tularosa**
Surveyed: **4/15/2022**
Cattle Seen: **Yes**

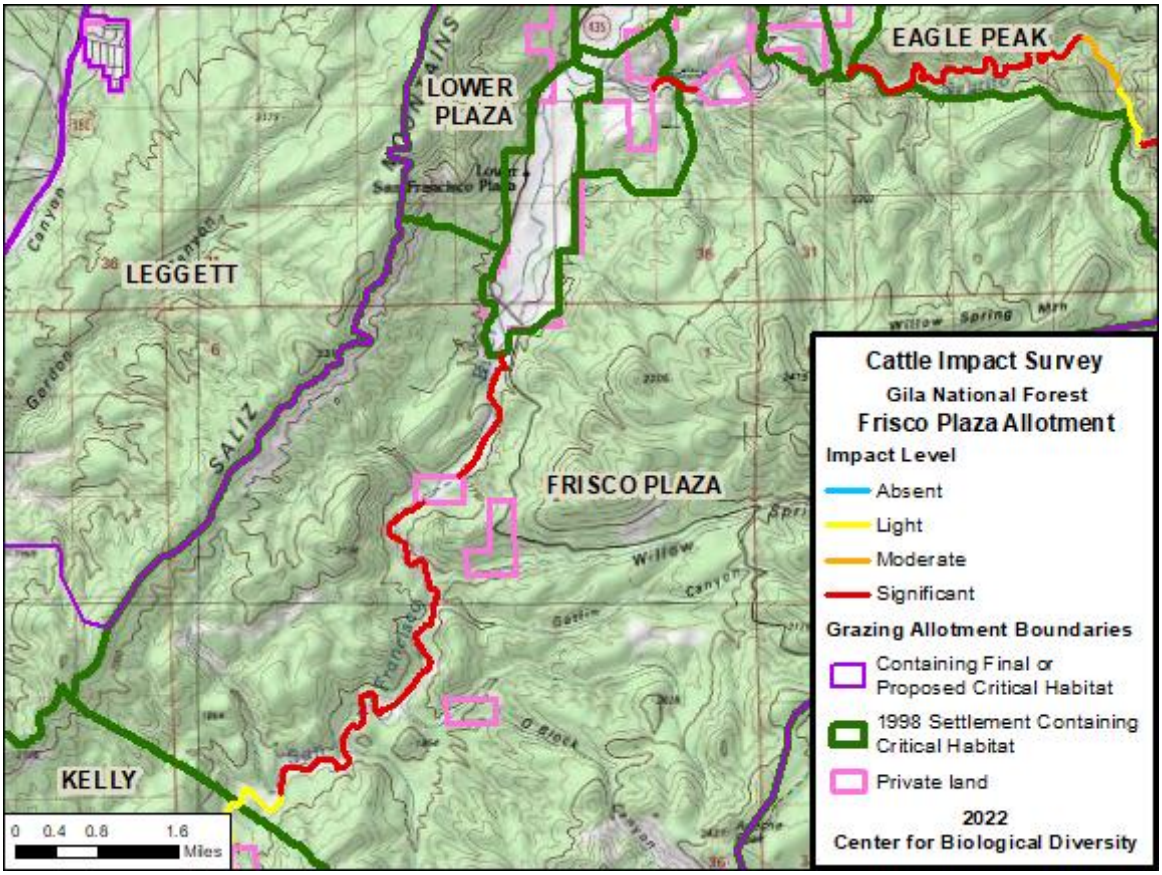
The western, downstream end of the allotment is densely forested and cattle impacts were initially limited to upland areas. Moving upstream. a black cow was seen, then within a mile another group of six cows were seen feeding at the creek edge-all with blue/green ear tags (photo). River gap fences were down and creek side vegetation is severely trampled, and stunted in the narrow canyon. Heavily used crossings are resulting in severe degradation and shearing of the banks (photo). When the canyon widens, cattle impacts lessen, then increase again to severe and pervasive towards the private property boundary.



Year	Absent	Light	Moderate	Significant	Total
2022		.6 miles	.7 miles	**4.8 miles**	6.1 miles
2021		1.3 miles		**5.1 miles**	6.4 miles

District: **Reserve**
Allotment: **Frisco Plaza**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Spikedace**
Drainage: **San Francisco River**
Surveyed: **4/12/2022**
Cattle Seen: **Yes**

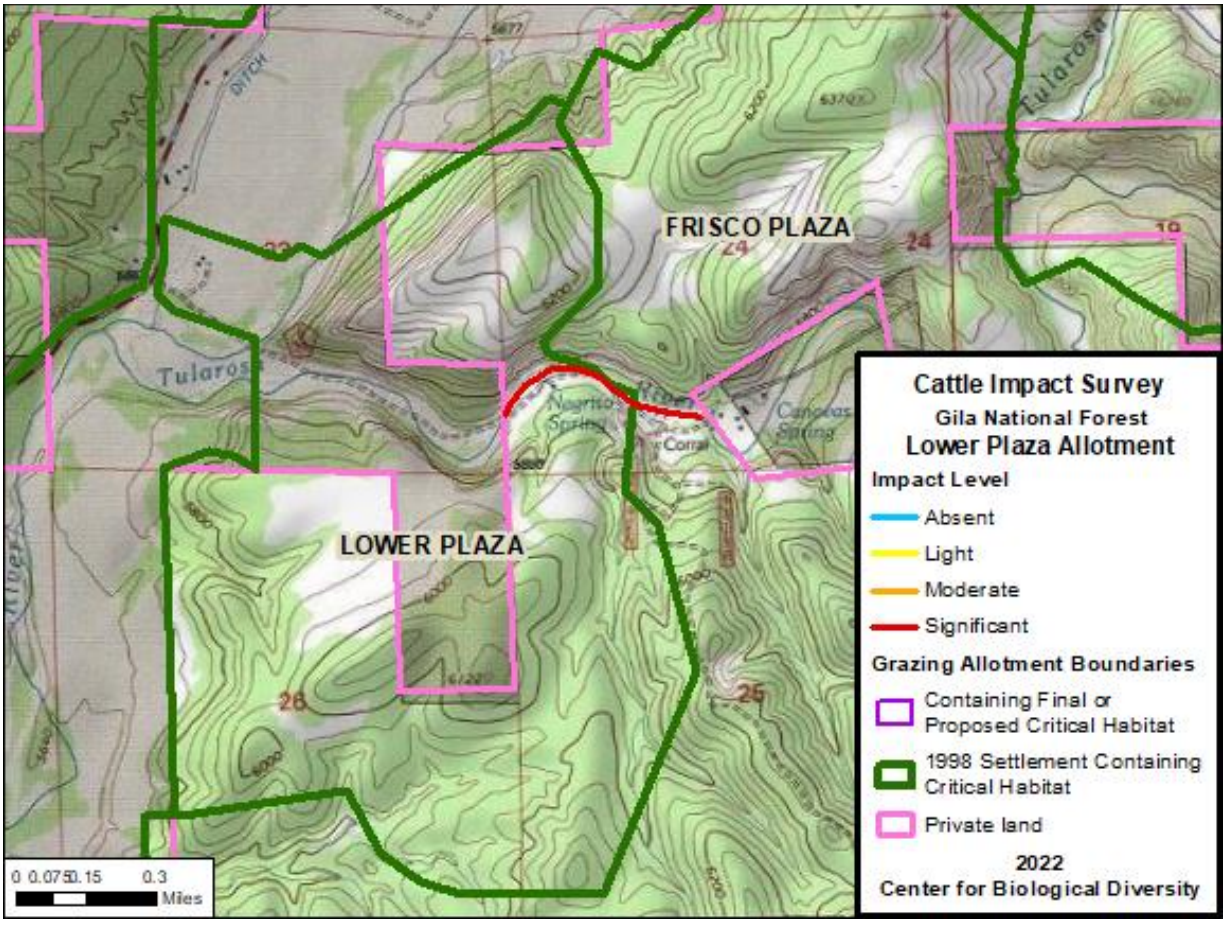
The majority of the allotment surveyed showed severe and pervasive impacts from recent cattle disturbance. Large swaths of the river corridor were overgrazed to the extent of creating sand dunes and eroding riverbanks (photo). Overgrazing and browsing has caused extreme degradation to the riparian edge (photo) (photo). Near the riverside corrals, a black cow with a white face was seen. Moving downstream, recent sign became spotty. Throughout the allotment gates were open and fences were down allowing cows to roam freely into exclosures.



Year	Absent	Light	Moderate	Significant	Total
2022		.7 miles		**6.8 miles**	7.5 miles
2021				**7.5 miles**	7.5 miles

District: **Reserve**
Allotment: **Lower Plaza**
Critical Habitat: **Loach minnow FCH, Narrow-headed garter snake (PCH), Spikedace**
Drainage: **San Francisco**
Surveyed: **4/15/2022**
Cattle Seen: **No**

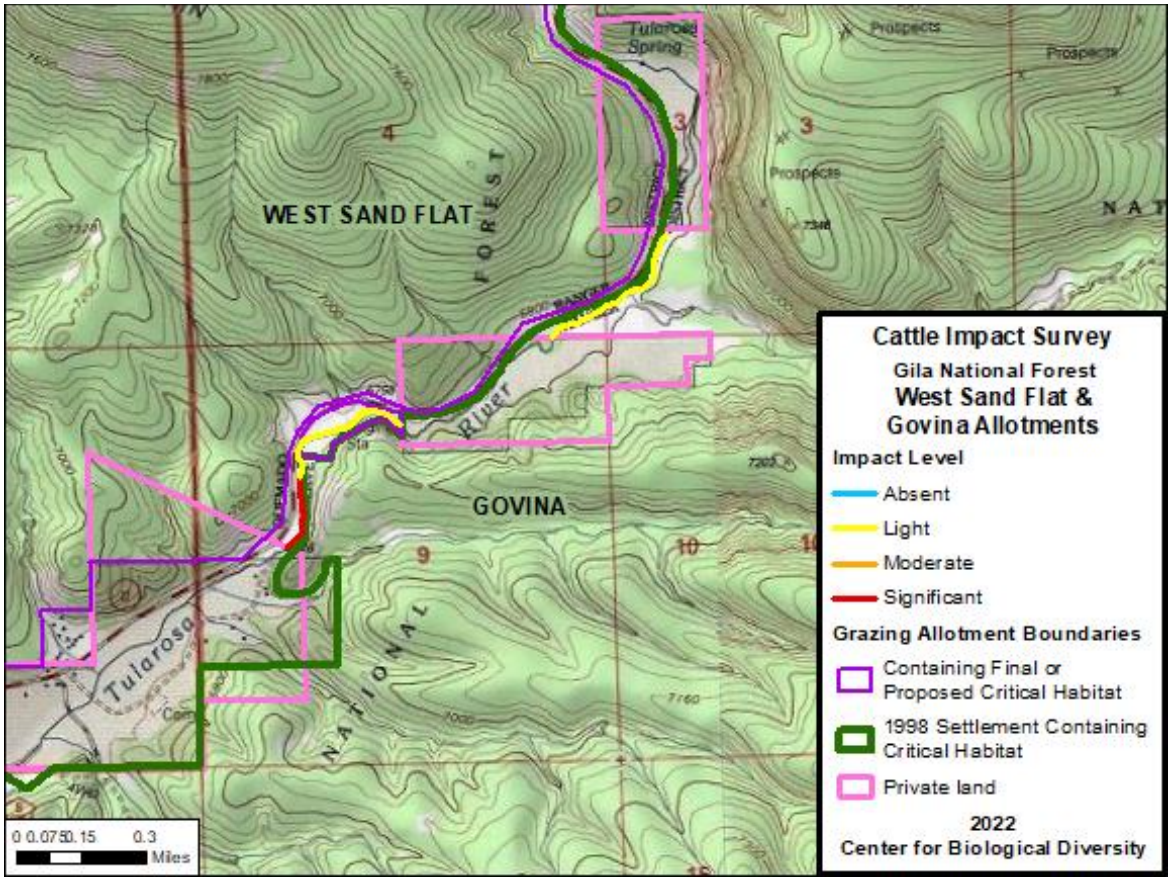
The survey consisted of a small section of lower Negrito Creek near the town of Reserve. There were multiple examples of moderate cattle damage including grazing, removal of streamside woody vegetation, ground disturbance and chiseling, resulting in an overall significant impact (photo).



Year	Absent	Light	Moderate	Significant	Total
2022				**.3 miles**	.3 miles
2021	No survey				

District: **Reserve**
Allotment: **Govina**
Critical Habitat: **Chiricahua leopard frog**
Drainage: **Tularosa River**
Surveyed: **4/13/2022**
Cattle Seen: **No**

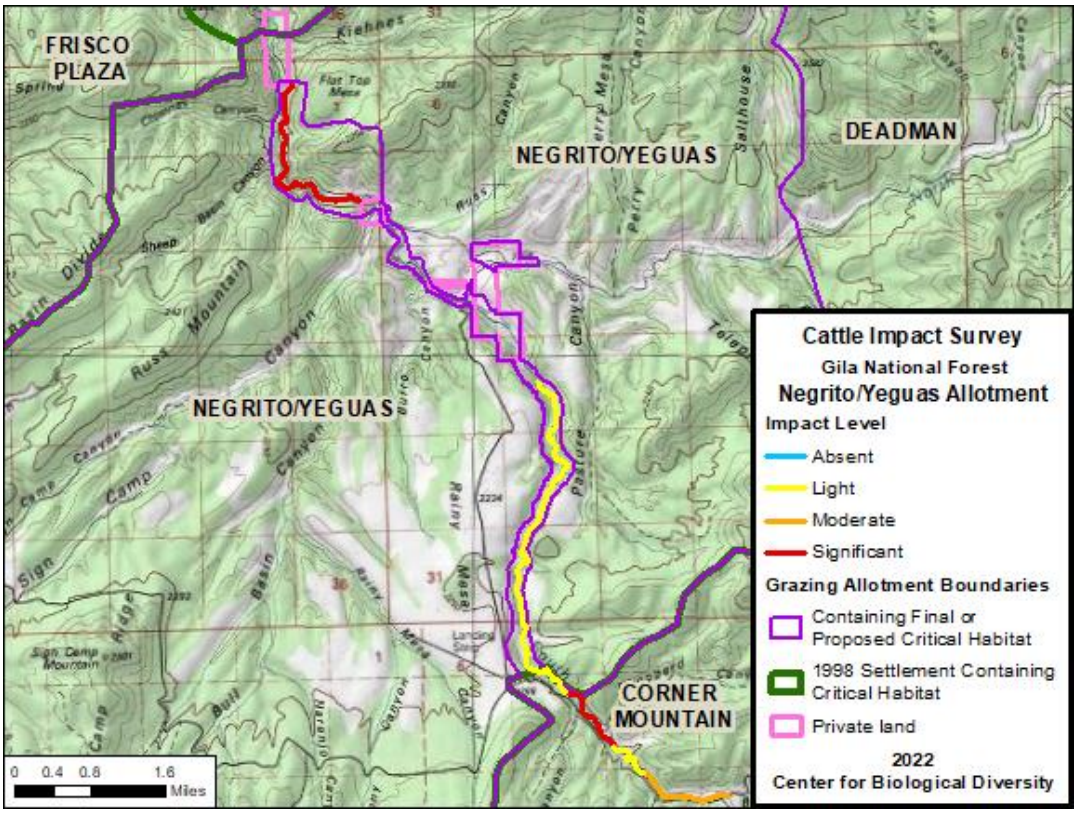
The downstream portion of the allotment was completely fenced off but still showed signs of severe grazing impacts (photo) (photo). There were large ruts at the riparian edge from cow and horse. Just upstream of these impacts, a fence that crosses the river appears to be keeping the livestock out. Everything upstream of the fence showed sign of historic grazing but all sign was old and the impact light.



Year	Absent	Light	Moderate	Significant	Total
2022		.7 miles		**.2 miles**	.9 miles
2021		.2 miles	.4 miles	**.3 miles**	.9 miles

District: **Reserve**
Allotment: **Negrito/Yeguas**
Critical Habitat: **Chiricahua leopard frog, Narrow-headed garter snake**
Drainage: **Negrito Creek, Burro Canyon, Shogun Canyon**
Surveyed: **4/14/2022**
Cattle Seen: **Yes**

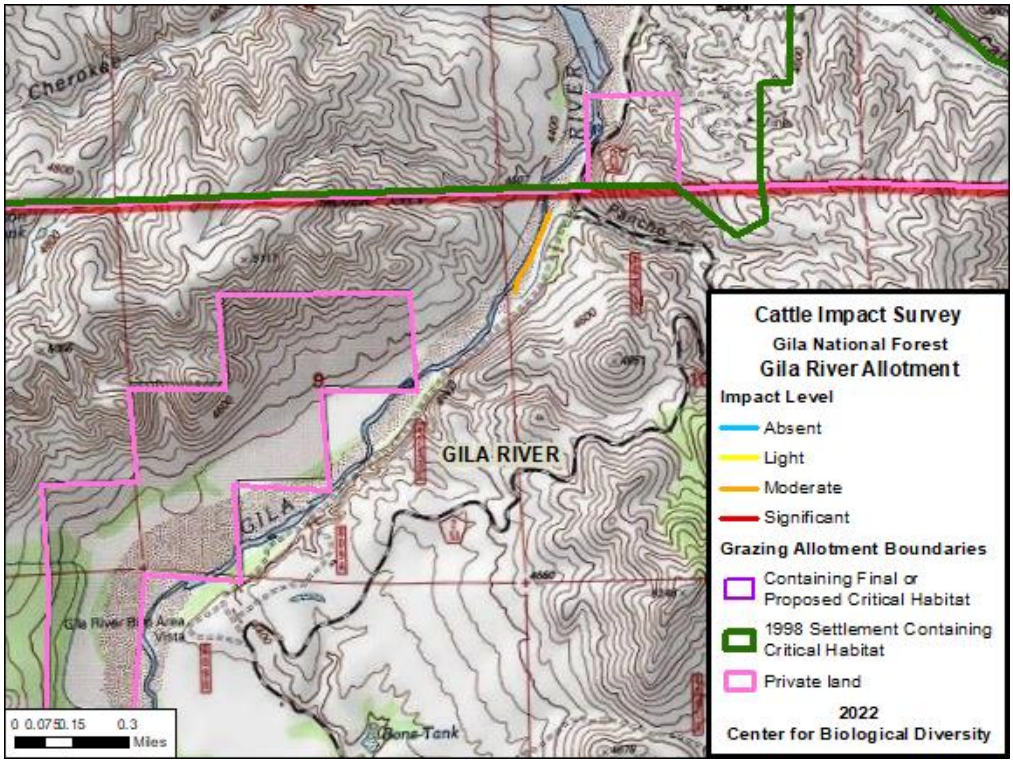
Beginning at the southern, upstream end of the allotment, cattle sign was light and old. Within ½ mile of the private property boundary in the center of the allotment, a black cow with a white face and a fairly young calf was seen with red ear tag (photo). The more northern section of the allotment, between two private property holdings, had more substantial impacts and streambank disturbance was pervasive and severe (photo). Mid-way between these properties, another eight, black cows (5) and calves (3) were seen in two different groups (photo). Grazing and browsing were moderate to severe for the remainder of the allotment and trampling around the creek edges is creating bank instability.



Year	Absent	Light	Moderate	Significant	Total
2022		3.7 miles		**2.3 miles**	6.0 miles
2021		1.7 miles	1.9 miles	**11.1 miles**	14.7 miles

District: **Silver City**
Allotment: **Gila River**
Critical Habitat: **Loach minnow, Narrow-headed garter snake, Southwestern willow flycatcher, Spikedace, Yellow-billed cuckoo**
Drainage: **Gila River**
Surveyed: **4/15/2022**
Cattle Seen: **Yes**

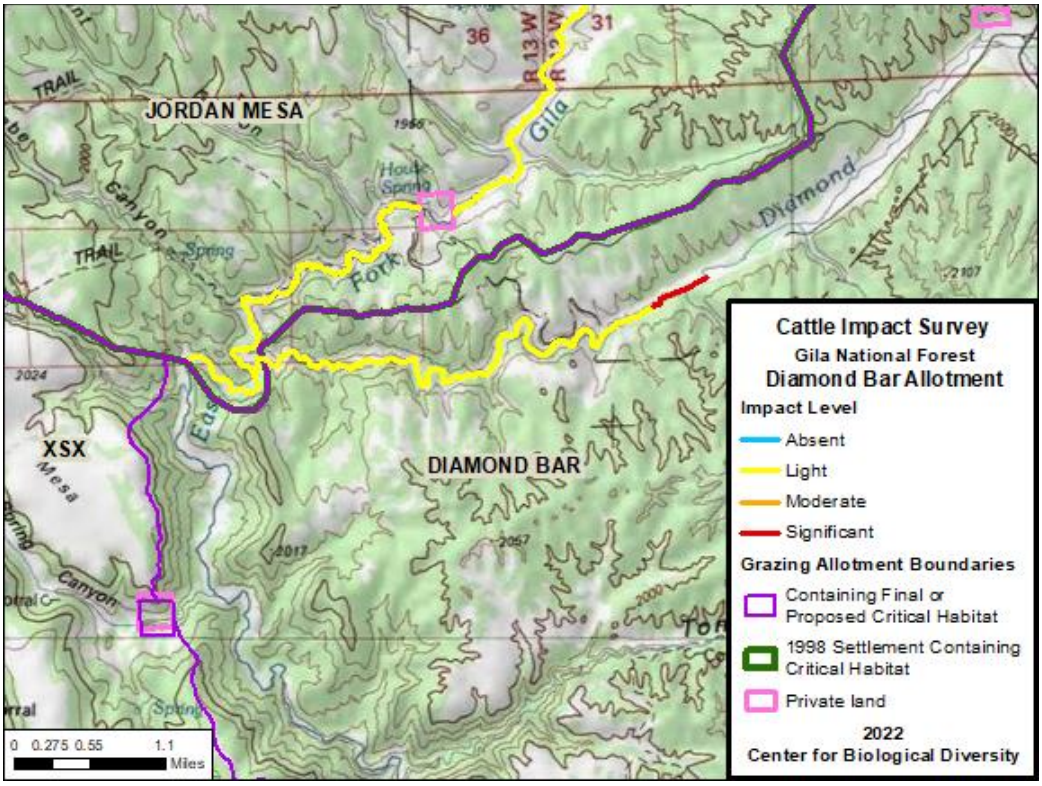
A small section of the allotment is represented in this year's survey. The water-gap fence at Pancho Canyon, at the upstream end of the allotment, was down and multiple cattle were seen in the river below the fence within the allotment exclosure. Three black cows with white patches/head with green ear tags were seen and one dark brown branded bull were seen and photographed (photo) (photo) .



Year	Absent	Light	Moderate	Significant	Total
2022			.2 miles		.2 miles
2021			.8 miles	**7.2 miles**	8.0 miles

District: **Wilderness**
Allotment: **Diamond Bar**
Critical Habitat **Chiricahua leopard frog, Loach minnow, Narrow-headed garter snake, Spikedace**
Drainage: **Diamond Creek**
Surveyed: **5/12/2022**
Cattle Seen: **Horses seen**

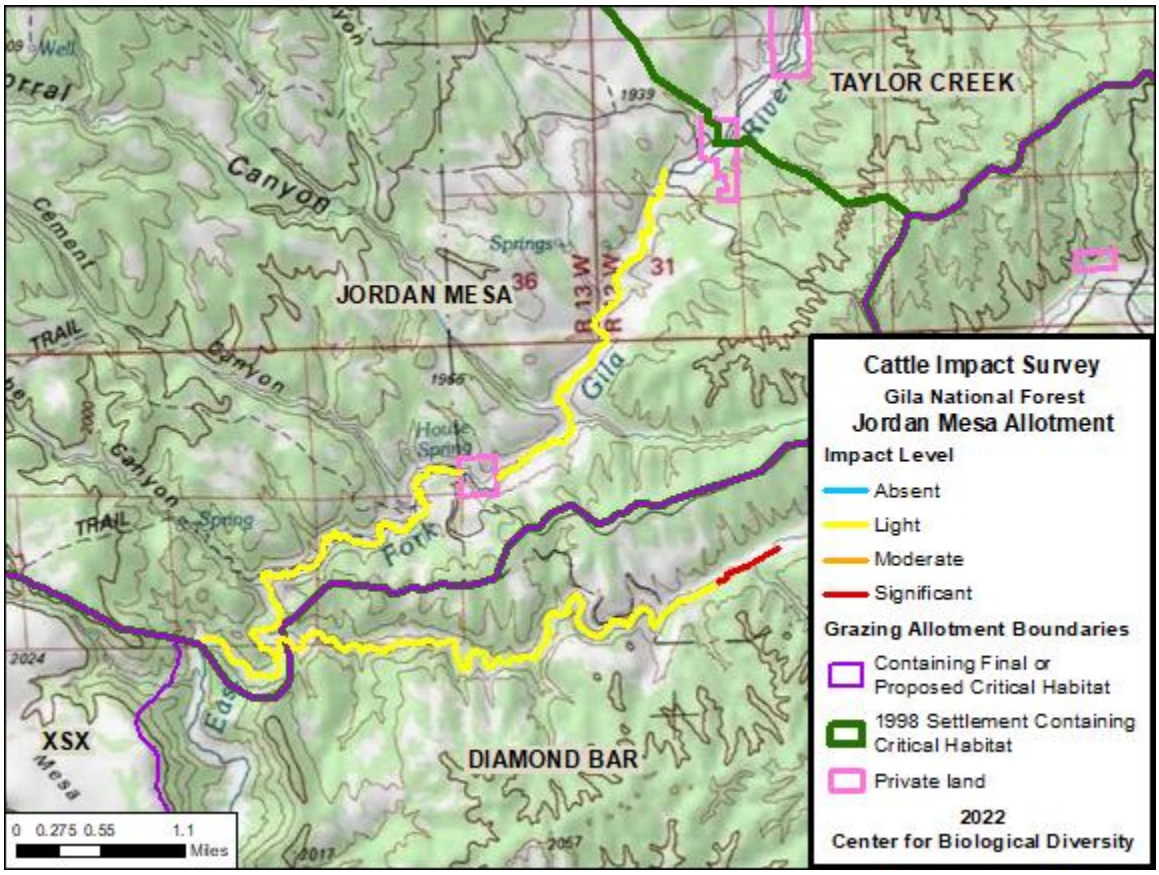
On the western end of the allotment, bordering Jordan Mesa, there were some historic pasture lands with old cow pies, but no recent damage. Sign remained old and impact light until the canyon opened-downstream of the private property boundary. In this area, the impacts are severe and pervasive. Grazing impacts created a uniformly short grass cover to near bear ground. Cattle sign was recent and the banks were trampled throughout the area (photo) resulting in multiple barren areas where vegetation could no longer grow (photo). In this area, seven horses and one mule were seen (photo).



Year	Absent	Light	Moderate	Significant	Total
2022		4.5 miles		**.5 miles**	5.0 miles
2021		1.4 miles	1.5 miles	**2.3 miles**	5.2 miles

District: **Wilderness**
Allotment: **Jordan Mesa**
Critical Habitat: **Loach minnow, Narrow-headed garter snake (PCH), Spikedace**
Drainage: **Gila River, East Fork**
Surveyed: **5/12/2022**
Cattle Seen: **No**

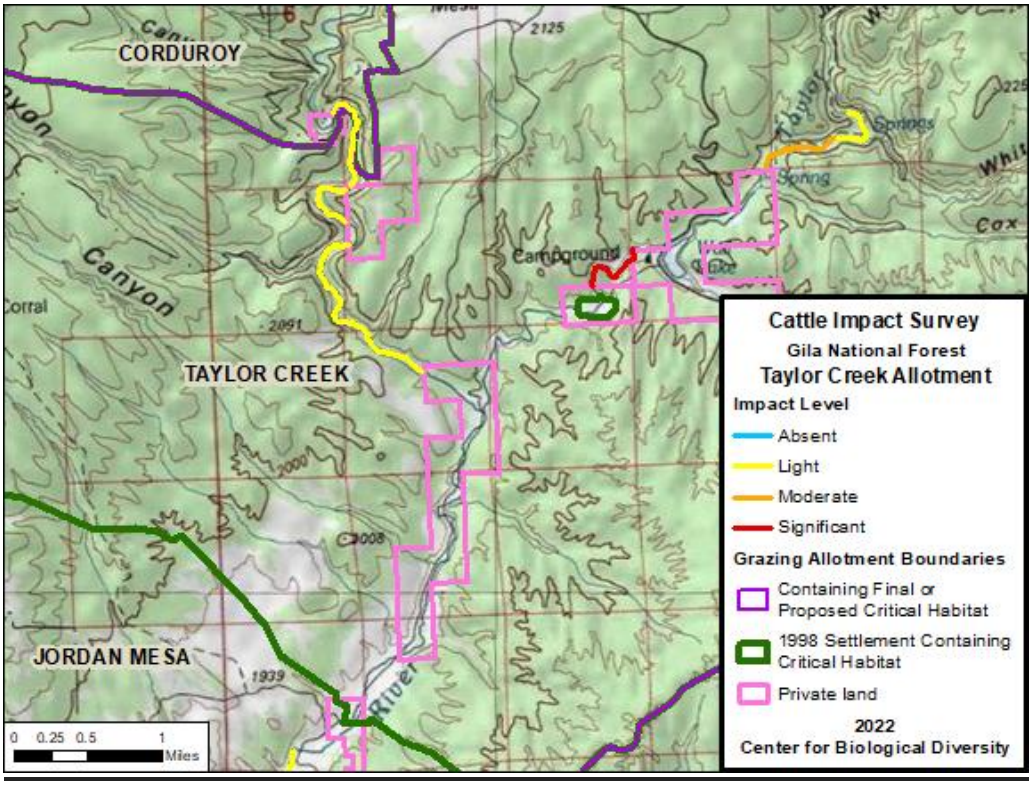
No current cattle sign was seen within the allotment. Light impacts persist from past grazing and trailing (photo). Woody recruitment not seen yet.



Year	Absent	Light	Moderate	Significant	Total
2022		7.3 miles			7.3 miles
2021		1.75 miles	2.5 miles	**2.6 miles**	6.8 miles

District: **Wilderness**
Allotment: **Taylor Creek Allotment**
Critical Habitat: **Chiricahua leopard frog, Loach minnow, Spikedace**
Drainage: **Beaver Creek and Taylor Creek**
Surveyed: **5/11/2022-**
Cattle Seen: **Horses Seen**

The Beaver Creek portion of the allotment was well fenced and grasses were ungrazed. No new cow sign seen. This is the first survey since 2017 that no cattle were seen inside the allotment. On the upstream side of Wall Lake on Taylor Creek, there was no recent sign of cattle but there were trampled banks at river crossings from horses (photo). Just downstream of Wall Lake is a small section of the allotment that is sandwiched between private land. This is the first year this section has been surveyed and it showed signs of severe ground disturbance with sheared creek crossings, moderate vegetation disturbances and patchy grazing (photo) . Trampled trails from cattle and horse are highly worn down (photo).

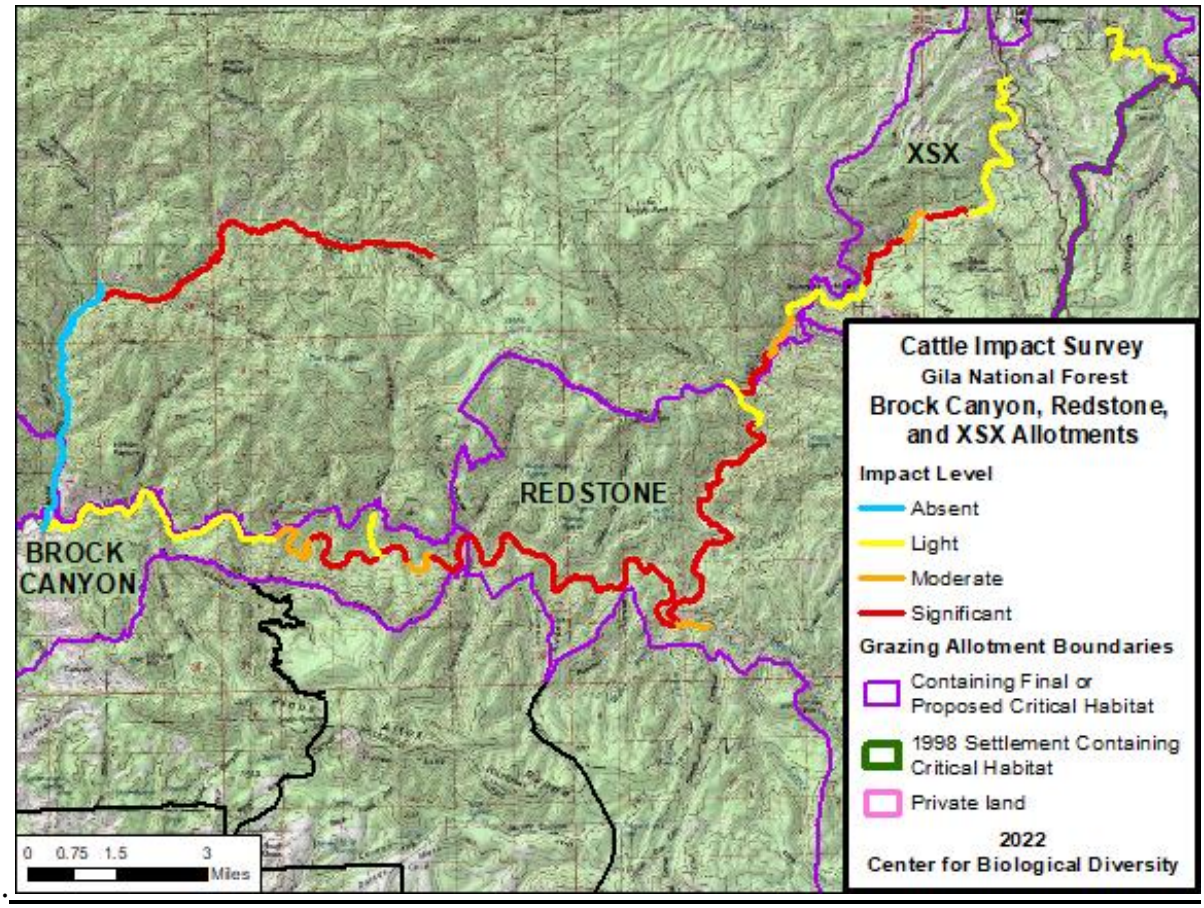


Year	Absent	Light	Moderate	Significant	Total
2022		3.4 miles	.6 miles	**.6 miles**	4.6 miles
2021				**1.4 miles**	1.4 miles

ADDENDUM

Survey of Wilderness Gila River Allotments: Brock Canyon, Redstone, XSX

Brock Canyon, Redstone and the XSX allotments are analyzed here separately since they are not included in the current settlement and are primarily being impacted by feral cattle. The Forest Service removed cattle from these allotments during the Fall of 2021 and the Winter and Spring of 2022. This survey was completed subsequent to these removal efforts in late May of 2022. In addition to the critical habitat miles on the Gila River, the survey covered Turkey Creek up to the intersection with Miller Spring Trail. Overall, less recent sign of cattle was seen than in previous surveys, but cattle are still present along the river in upper Turkey Creek and in the Miller Spring area. Cows are moving along Miller Spring Canyon. Impacts are still significant along many of the river miles surveyed.



Recent evidence of wallowing, trailing, and trampling of soils in upper Turkey Creek, May, 2022

ALLOTMENT	ABSENT IMPACT	LIGHT IMPACT	MODERATE IMPACT	SIGNIFICANT IMPACT	TOTAL MILES
Brock Canyon	.3 miles	6.3 miles	2.3 miles	3.8 miles	12.7 miles
Redstone		.7 miles	.6 miles	12.3 miles	13.6 miles
XSX		7.2 miles	.8 miles	1.9 miles	9.9 miles

METHODS

Data on cattle impacts in riparian areas with critical habitat were collected at ¼ mile to 1 mile segments in length. Within each segment, multiple photos of specific types of impacts were taken. Surveyors used the ARC-GIS compatible FIELD MAPS software to collect segment endpoint data. An interactive GIS database of georeferenced photo-points and segment impact data was created. Several hundred photos documenting cattle impacts are available within this database that validate the impacts and subsequent impact scores.

Surveyors walked the stream reaches of critical habitat in allotments and recorded the level of impact in the following six categories:

- Grazing impacts on herbaceous vegetation and grasses
- Browsing impacts on multiyear stems and near channel woody regeneration
- Ground disturbances from trailing, trampling, and wallowing
- Extent and pervasiveness of ground disturbances in exclosure reaches
- Intensity of streambank degradation
- Extent and pervasiveness of streambank erosion levels in exclosure reaches from cattle.

`For each of the six categories of cattle impact, detailed condition descriptors were determined based on pre-survey sample areas and field observations. Each level of condition was then assigned a severity level of 1-4 (Table 4, next page). At each segment endpoint, the severity level (score) was determined for each impact. A segment was rated 0 for a particular category if no evidence of impact was seen.

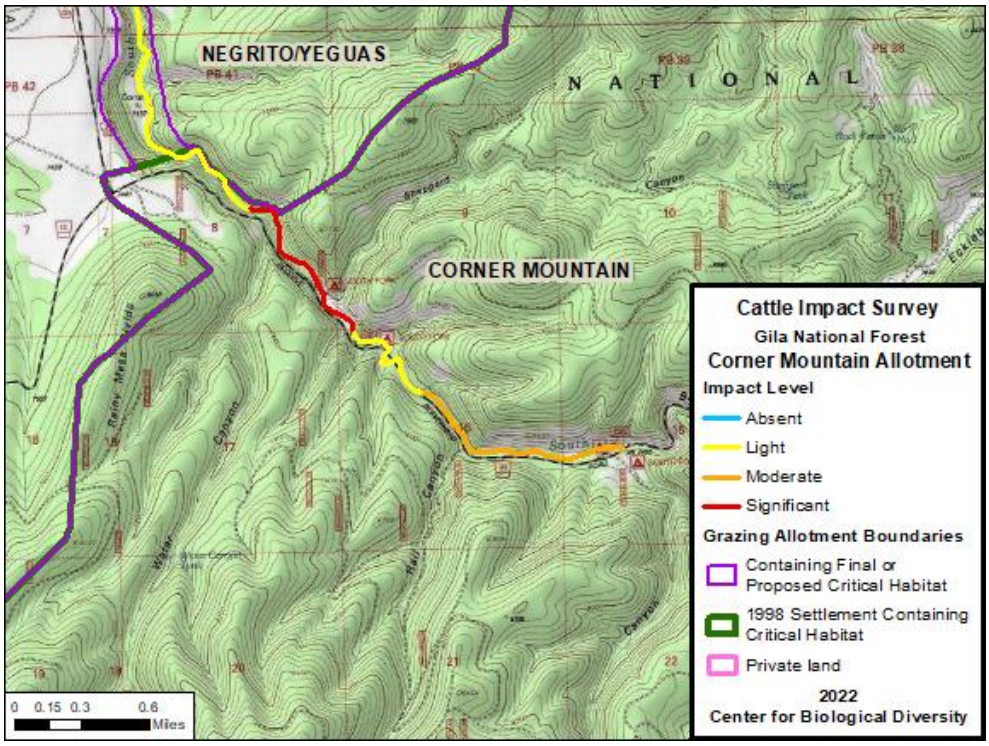
Table 4. Condition descriptors and severity scores for six cattle impact categories

Category	Condition: 1	Condition: 2	Condition: 3	Condition: 4
GRAZING EVIDENCE ON GRASSES AND HERBACEOUS GROWTH	**LIMITED** Less than 1% of the grasses impacted.	**LIGHT** Few to some patches of grazed area or selective grazing in patches.	**MODERATE** Multiple grass patches grazed, more than 20% of grass impacted in patches.	**SEVERE/HEAVY** Multiple patches grazed, low grass heights less than 1 inch. More than 30% grazed in patches
BROWSE PRESSURE/WOODY Stems	**LIMITED** Less than 1% of woody stems impacted	**LIGHT** Browsing limited to multiyear stems	**MODERATE** Browse pressure on near channel woody recruitment	**HEAVY/SEVERE** Multiple green-line or near channel recruitment browsed
GROUND COVER DISTURBANCE/INTENSITY	**LIMITED** Limited to transient evidence of use.	**LOW** Isolated trailing and cow trails developing.	**MODERATE** Multiple trails and the presence of wallows and rutting areas. Some bare soils.	**SEVERE** Trails, plus wallows, rutting and compaction leading to denuded ground and larger areas of bare soils.
GROUND COVER DISTURBANCE/EXTENT	**LIMITED** Few examples of disturbance.	**SCATTERED** Trails or disturbances in more than one location in segment.	**MODERATE** Trails meander through entire segment and there are multiple moderate level disturbances (see above).	**PERVASIVE** Multiple locations of disturbance and multiple types of disturbances, including severe moderate and low (see above).
STREAMBANK DEGRADATION/INTENSITY	**LIMITED** No visible signs, but other cattle impact on both sides of river that evidence crossing.	**LOW** Trails leading to streambank and water's edge.	**MODERATE** Trailing and trails creating unstable banks, some chiseling, or in low relief banks-muddy compaction	**SEVERE** Trailing leading to shearing and removal of a portion of the streambank leaving vertical surfaces.
STREAMBANK DEGRADATION/EXTENT	**LIMITED** Isolated example of streambank entry.	**SCATTERED** Bank degradation of any intensity in more than one location.	**MODERATE** Multiple examples of low and moderate bank degradation (see above).	**PERVASIVE** Multiple examples of low, moderate, and severe degradation (see above).

Subsequent to the field survey, each segment was then rated for its overall impact level based on a cumulative and weighted score of the six impact categories. Overall impact levels were categorized as absent, light, moderate, or significant, based on specific impact scores. Each survey segment was color coded for its overall impact level (see Table 5). Segments were linked together across the riparian miles. Based on these coded segments, a series of maps was made for each allotment surveyed (see map example below).

Table 5. Weighting table for *overall impact levels* of stream reach segments based on condition scores (0-4) from six categories of cattle impacts

ABSENT	LIGHT IMPACT	MODERATE IMPACT	SIGNIFICANT IMPACT
ALL ZEROS	ANY COMBINATION OF ONE'S & TWOS & ZEROS	AT LEAST (5) TWOS WITH ANY OTHER NUMBER	ANY TIME THERE ARE (3) THREES WITH ANY OTHER COMBINATION OF NUMBERS
		ANY COMBINATION OF TWOS, THREES, AND ONE'S	ANY COMBINATION OF NUMBERS WITH AT LEAST (1) FOUR
	(UNLESS (5) TWOS-` then moderate)	*(UNLESS (3) THREES-then significant)*	
BLUE	***YELLOW***	***ORANGE***	***RED***



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