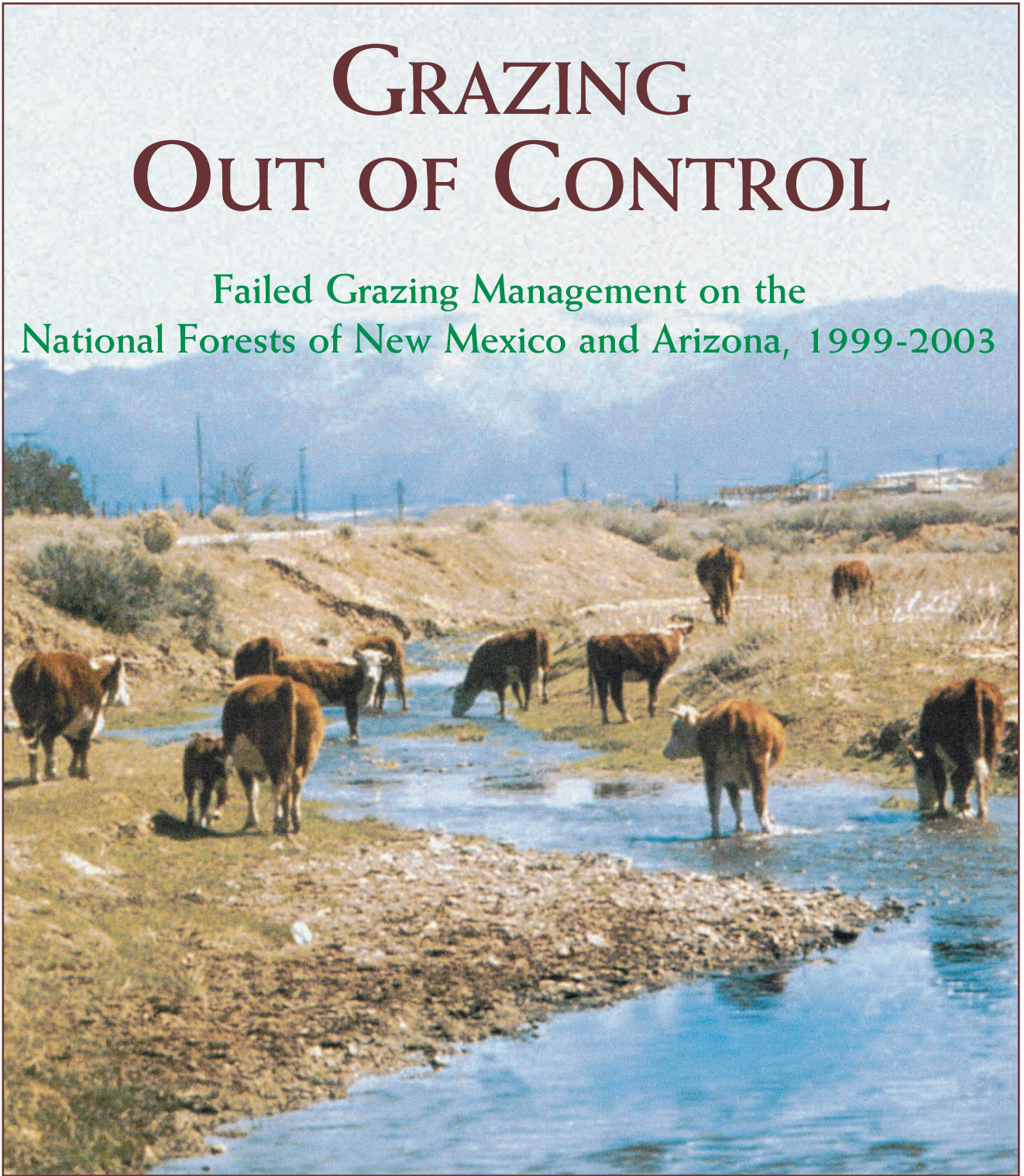


GRAZING OUT OF CONTROL

Failed Grazing Management on the
National Forests of New Mexico and Arizona, 1999-2003



A report by FOREST GUARDIANS
November 2004

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NOVEMBER, 2004



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EXECUTIVE SUMMARY

For more than a decade, as a part of our campaign to hold public lands ranching accountable to our Nation's environmental laws, Forest Guardians has been gathering information about the environmental and economic costs of ranching on public lands in the western United States. Up until 1996, the U.S. Forest Service in New Mexico and Arizona administered grazing on more than 20 million acres of national forests with very little annual oversight of the impacts of grazing of privately owned cattle on public lands.

However, that changed in 1996 when the Forest Service amended the Forest Plans for the eleven national forests in the Southwest, in large part to remedy environmental damage to forests, rivers, wetlands and grasslands as a result of decades of poor grazing management. The listing of the Mexican spotted owl as threatened under the Endangered Species Act precipitated these changes. The amendments called for the agency to monitor each grazing allotment to ensure compliance with forage utilization standards.

Using the Freedom of Information Act, Forest Guardians obtained the Forest Service's monitoring records from 1999 to 2003 for all grazing allotments. We used this information to investigate and document to what degree the U.S. Forest Service had implemented new requirements incorporated into the forest plan amendments.

We found that the Forest Service failed to monitor a significant number of allotments, and of those allotments monitored, utilization violations occur in significant numbers. The results for 1999-2003 show that the Forest Service failed to comply with standards on 50 percent to 75 percent of all allotments in any given year. The worst year was 1999, with 75 percent of allotments out of compliance. While there was an improvement over the next two years reducing that number to 50 percent in 2001, that improvement did not continue, and 57 percent were out of compliance in 2003.

The agency failed to monitor between 32 percent and 56 percent of allotments each year. The lack of monitoring was clearly at its worst in 1999 (56 percent) and gradually improved to only 32 percent in 2002. However that improving trend reversed, and the agency failed to monitor 39 percent of active allotments in 2003.

The total number of allotments with utilization violations has fluctuated from a high of 242 in 2002 to a low of 136 in 2003. There were no consistent trends in total violation throughout those five years.

Five forests, the Apache-Sitgreaves, Coronado, Lincoln, Prescott, and Tonto had 50 percent or more allotments out of compliance for all five years of the study. The two forests with the fewest allotments, the Kaibab and Coconino, had 50 percent or fewer allotments out of compliance for all five years of the study. Three forests, the Coconino, Coronado and Gila, showed general trends toward improving their rate of compliance, while only the Lincoln showed a consistent increase in the number and percentage of allotments out of compliance.

For the years 2001-2003, we also reviewed allotment compliance to assess whether or not an allotment had undergone an allotment specific environmental review in compliance with the National Environmental Policy Act (NEPA). In 2001, the Forest Service violated either the monitoring or the forage utilization requirements on 52 percent of the non-NEPA allotments. In 2002, approximately 62 percent of the non-NEPA grazing allotments were out of compliance with these standards. In 2003, 56 percent of the non-NEPA allotments were out of compliance.

The statistics are strikingly similar for the allotments that have gone through the NEPA process. All told, from 2001 to 2003, the Forest Service violated one of the grazing standards required by the 1996 Amendments on between 40 and 63 percent of the grazing allotments that had gone through NEPA.

In addition, for the years 2001-2003, we reviewed monitoring compliance on allotments with habitat important for the Mexican spotted owl. In 2001, the Forest Service either failed to monitor or allowed overgrazing in violation of the forage utilization standards on 173 of the 416 (42 percent) active allotments with owl habitat. In 2002, the agency violated the monitoring or forage utilization standards on 232 of the 385 (60 percent) active allotments with owl habitat. In 2003, the agency violated the grazing standards on half of the allotments by failing to monitor or allowing overgrazing on 195 of the 390 active allotments with owl habitat. In sum, even though these allotments are considered by the Forest Service to be most important for the Mexican spotted owl, the agency violated the monitoring and forage utilization standards at nearly the same rate as it violated the standards on all allotments in the national forests of the Southwest.

Finally, the limited monitoring data focused on riparian areas shows that, with the exception of the Tonto National Forest and a few other seemingly random allotments scattered across the Region, the agency has generally failed to monitor riparian areas within grazing allotments. In discussions with agency officials, they admit that they simply lack the resources to perform extensive riparian monitoring.

In assessing both monitoring and utilization violations, we gave the agency significant leeway. The study considered an allotment “monitored” even if there was only one visit to one pasture or key area in the allotment when the allotment had multiple pastures and key areas. The study accepted all recorded measurements, including those based on the “ocular” method, as monitoring. The study also gave the agency leeway as to which allotments were considered in violation or “out of compliance.” In respect to utilization standards, only those allotments that were 5 percent over the specified standard were considered out of compliance. The study also ignored requirements for permittees to maintain the fences bordering or within allotments, neither were notations of unauthorized or trespass cattle considered out of compliance.

INTRODUCTION

Livestock production is, by far, the most geographically widespread use of our western public lands, covering over 260 million acres of National Forests, National Grasslands, Bureau of Land Management (BLM) lands and state-owned lands. Of the 18.9 million acres in the eleven National Forests in Arizona and New Mexico, active grazing occurs on allotments covering approximately 17.7 million acres.¹

The scientific community increasingly acknowledges the significant ecological and economic costs of livestock grazing. In fact, domestic livestock production in the West is one of the leading causes of declines in water quality, declines in wildlife through loss of vegetation and habitat, and of species endangerment. Livestock grazing can lead to the loss of native grasses, the invasion of exotic plant species including noxious weeds, erosion of topsoil, and problems with forest regeneration. It can also lead to stream widening and loss of function, streambank shearing, streambed sedimentation, and desertification through water table declines. These direct impacts to rivers and streams in turn lead to loss of fish spawning areas and the subsequent decline of fish populations.

The Forest Service both authorizes livestock grazing and attempts to minimize the impacts of grazing through its Rangeland Management Program.² In recognition of the landscape-wide environmental damage due to livestock grazing, in 1996, the Forest Service amended the Forest Plans for the eleven national forests in the Southwest to improve the health of ecosystems. Though the new grazing management scheme was developed to benefit many different ecosystems and species, the agency developed the new plans specifically to ensure the viability and recovery of the Mexican spotted owl and northern goshawk. The Forest Service's 1996 plan, among many other things, incorporated a three-pronged approach to improve grazing management described in the U.S. Fish and Wildlife Service's (FWS) Recovery Plan for the Mexican Spotted Owl (MSO).

The amendments required the Forest Service to:

- Impose grazing standards on each allotment, which are typically expressed as a "forage utilization" figure that prescribes the percentage of the plant's biomass that may be consumed by the cattle.³ (MSO Recovery plan at 94.)
- Monitor each grazing allotment to ensure compliance with the forage utilization standard. (*Id* at 94.)
- Restore or maintain riparian areas to good condition. (*Id* at 90. Riparian areas are ecologically important areas that border rivers and streams.)

¹ USDA Forest Service, Southwestern Region, Biological Assessment for the Continuing Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region. April 2004.

² Federal regulations (starting at 36 CFR 221.1(a)) authorize the Forest Service to administer and protect "range resources" and regulate grazing use.

³ Utilization is defined as the percentage, by weight, of a year's growth of a plant that is consumed by grazing animals.

Using the Freedom of Information Act (FOIA), Forest Guardians obtained the Forest Service’s monitoring records from 1999 to 2003 for all grazing allotments. We used this information to investigate and document to what degree these new requirements incorporated into the forest plan amendments were being implemented. The results of this investigation showed significant numbers of allotments were not monitored, and of those allotments that were monitored, violations occur in significant numbers.

SUMMARY OF RESULTS

This study focuses on the second requirement noted above, whereby the Forest Service must monitor each grazing allotment to ensure compliance with the forage utilization standard. While there is still debate over whether new Forest Service standards are sufficient to reverse the longstanding ecological degradation resulting from livestock grazing, we found that the agency has some form of grazing standard(s) associated with almost every allotment. The third requirement, that the Forest Service restore or maintain riparian areas to good condition as soon as possible, has proven difficult to study, as “good condition” is not clearly defined, and data we have received from the Forest Service regarding the effects of grazing on rivers and streams is limited.

To simplify the study, we asked two basic questions for each allotment on which grazing was authorized on any given year:

- 1) Did Forest Service specialists monitor forage utilization on the allotment that year?
- 2) If an allotment had monitoring information, was forage utilization on the allotment within set standards or in violation of those standards?

If the Forest Service had either failed to monitor, or if excess use occurred, we considered the allotment “out of compliance” with forest plan requirements.

The results we found were startling, and are summarized in Table 1 below.

TABLE 1: ACTIVE ALLOTMENTS OUT OF COMPLIANCE 1999-2003

Year	Total active allotments	Allotments with no monitoring	Allotments with forage utilization violations	Total allotments with no monitoring or with forage utilization violations	Total Percentage of allotments out of compliance
1999	897	502	170	672	75%
2000	858	389	185	574	67%
2001	869	283	153	436	50%
2002	787	248	242	490	62%
2003	781	308	136	444	57%
Total	4192	1730	886	2616	62%

The combined results for these five years show that from 50 percent to 75 percent of all allotments were out of compliance in any given year. The worst year was 1999, with 75 percent of allotments out of compliance. While there was an improvement over the next two years, reducing that number to 50 percent in 2001, that trend did not continue.

The results also show that the agency failed to monitor between 32 percent and 56 percent of allotments each year. The lack of monitoring was clearly at its worst in 1999 (56 percent) and gradually improved to where the agency failed to monitor 32 percent in 2002. However that improving trend reversed, and the agency failed to monitor 39 percent of active allotments in 2003.

The total number of allotments with utilization violations has fluctuated from a high of 242 in 2002 to a low of 136 in 2003. The percentage of allotments with forage utilization violations can be examined in two ways. The first is to examine the percentage of the total active allotment with violations. The second is to examine only those allotments with monitoring information to see what percentage have utilization violations. This is important to consider as the highest number of allotments with violations occurred in the year where the greatest percentage had been monitored.

TABLE 2: ACTIVE ALLOTMENTS WITH UTILIZATION VIOLATIONS

Year	Total active allotments	Allotments with forage utilization violations	Percentage of total allotments with forage utilization violations
1999	897	170	19%
2000	858	185	22%
2001	869	153	18%
2002	787	242	31%
2003	781	136	17%
Total	4174	886	21%

Over the five years from 1999 to 2003, there is no apparent trend in the percentage of active allotments with utilization violations; however, over these years from 17 percent to 31 percent of active allotments had violations. (See Table 2.) Similarly, there was no clear trend in the percentage of those allotments with monitoring information that had utilization violations, but overall for the five years, grazing on 36 percent of allotments violated utilization standards, annually ranging from 26 percent to 45 percent. (See Table 3.) Existing monitoring data showed a total of 886 violations over those five years, but given the overall lack of monitoring data, it is impossible to know on how many allotments utilization violations actually occurred. Assuming 36 percent of all allotments

monitored had violations, one could project that if every allotment were monitored, 1502 violations would have occurred for the five-year period.

TABLE 3: MONITORED ALLOTMENTS WITH UTILIZATION VIOLATIONS

Year	Total Allotments with monitoring	Allotments with forage utilization violations	Percentage of total allotments with forage utilization violations
1999	395	170	43%
2000	469	185	39%
2001	586	153	26%
2002	539	242	45%
2003	473	136	29%
Total	2462	886	36%

PROCESS AND PROCEDURE

From 1999 to 2004, Forest Guardians filed dozens of FOIA requests to the Forest Service seeking, “any and all forage utilization monitoring conducted on grazing allotments” throughout the region for the years 1999 through 2003. The information was then reviewed to see which allotments had monitoring information and for those that did have information, which showed utilization violations when compared to the annual operating instructions (AOI) or annual operation plan (AOP) for each allotment. (We also obtained these AOIs and AOPs through FOIA.) This information was then entered into our grazing allotment electronic information database. This database contains and tracks information about every grazing allotment in the Southwestern Region with the exception of the national grasslands managed by the Cibola National Forest. Among other things, the database contains data entry points for each allotment concerning whether monitoring was or was not performed in each year from 1999 to 2003, whether or not monitoring showed a violation of forage utilization standards in each of those years, and whether monitoring showed damage to any riparian areas.⁴

It is important to note that with respect to both monitoring and violations, we gave the agency significant leeway. Actual monitoring requirements vary from allotment to allotment. They are usually stricter and clearer for allotments that have undergone NEPA. However, for all allotments it is generally recommended that the grazing utilization of each allotment be measured three times each year: 1) within the month prior to the start

⁴ Allotments with riparian areas that showed excess utilization were considered “out of compliance” for this study.

of livestock grazing, to insure there has been sufficient growth to protect resource values; 2) at least once while livestock are on the allotment (generally around the mid-point of the grazing season) to prevent excess utilization; and 3) within a month after livestock are removed for a final measurement of actual utilization. Further, most allotment management plans recognize that in order to be effective, monitoring should occur within each pasture of each allotment and within each key area of each pasture.

For the purpose of this study, we considered any recorded visit to an allotment that measured or discussed either utilization or general forage and allotment conditions as monitoring. The study considered an allotment “monitored” even if the visit occurred well before or well after the grazing season. The study also considered an allotment “monitored” even if there was only one visit to one pasture or key area in the allotment when the allotment had multiple pastures and key areas. There are also numerous recognized agency protocols to measure forage utilization by livestock. However, the agency also recognizes that utilization is often measured using the ocular method, whereby the agency’s range staff “measure” utilization by looking at the use of an area and recording their best professional guess as to the utilization of that area. This study accepted all recorded measurements, including those based on the ocular method, as monitoring.

This study also gave the agency leeway as to which allotments were considered in violation or “out of compliance.” For instance, although permittees are generally required to maintain the fences bordering or within allotments, we did not conclude that a violation had occurred even when monitoring records noted that fences were down or in ill repair. Nor were notations of unauthorized or trespass cattle considered violations. We deemed allotments to be non-compliant only when information revealed an absence of utilization monitoring or clear utilization violations. . In respect to utilization standards, only those allotments that were 5 percent over the specified standard were considered out of compliance. For instance, if an allotment had a 40 percent utilization standard for a given year, the allotment had to have been utilized at 45 percent or more to be considered out of compliance. Even if the allowable utilization was given as a range, the allotment still had to have utilization 5 percent over the high side of the range (50 percent or greater if the utilization standard was 35 percent to 45 percent) to be considered out of compliance.

RESULTS BY FOREST

Five forests, the Apache-Sitgreaves, Coronado, Lincoln, Prescott, and Tonto had 50 percent or more allotments out of compliance for all five years of the study. The two forests with the fewest allotments, the Kaibab and Coconino, had 50 percent or fewer allotments out of compliance for all five years of the study. Three forests, the Coconino, Coronado, and Gila, showed general trends toward improving their rate of compliance, while only the Lincoln showed a consistent increase in the number and percentage of

allotments out of compliance. Tables 4 to 8 below show the forest-by-forest breakdown of the figures presented in the summary above.

Only the Prescott National Forest showed a steady increase in the percentage of allotments monitored, although both the Coronado and Gila showed generally consistent trends toward increased monitoring. No forest showed any consistent trend in total allotments with utilization violations, nor any consistent trend in the percentage of allotments monitored with utilization violations.

TABLE 4: ALL ACTIVE ALLOTMENTS (1999)

National Forest	Total allotments grazed in 1999	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	98	37	38%	36	73	74%
Carson	65	52	80%	6	58	89%
Cibola	82	66	80%	2	68	83%
Coconino	32	5	16%	11	16	50%
Coronado	166	85	51%	31	116	70%
Gila	110	84	76%	19	103	94%
Kaibab	29	10	34%	2	12	41%
Lincoln	98	45	46%	12	57	58%
Prescott	61	38	62%	10	48	79%
Santa Fe	74	50	68%	6	56	76%
Tonto	82	30	37%	35	65	79%
Total	897	502	56%	170	672	75%

TABLE 5 ALL ACTIVE ALLOTMENTS (2000)

National Forest	Total allotments grazed in 2000	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	86	28	33%	33	61	71%
Carson	56	32	57%	15	47	84%
Cibola	78	42	54%	10	52	67%
Coconino	35	6	17%	4	10	29%
Coronado	164	93	57%	16	109	66%
Gila	106	40	38%	30	70	66%
Kaibab	36	7	19%	3	10	28%
Lincoln	92	54	59%	4	58	63%
Prescott	61	30	49%	14	44	72%
Santa Fe	72	35	49%	8	43	60%
Tonto	72	22	31%	48	70	97%
Total	858	389	45%	185	574	67%

TABLE 6: ALL ACTIVE ALLOTMENTS (2001)

National Forest	Total allotments grazed in 2001	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	90	15	17%	31	46	51%
Carson	68	11	16%	10	21	31%
Cibola	76	21	28%	10	31	41%
Coconino	31	0	0%	8	8	26%
Coronado	182	82	45%	13	95	52%
Gila	100	29	29%	20	49	49%
Kaibab	33	4	12%	1	5	15%
Lincoln	91	53	58%	7	60	66%
Prescott	62	25	40%	14	39	63%
Santa Fe	72	17	24%	17	34	47%
Tonto	64	26	41%	22	48	75%
Total	869	283	33%	153	436	50%

TABLE 7: ALL ACTIVE ALLOTMENTS (2002)

National Forest	Total allotments grazed in 2002	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	83	26	31%	33	59	71%
Carson	58	9	16%	26	35	60%
Cibola	75	33	44%	21	54	72%
Coconino	28	1	4%	7	8	29%
Coronado	169	67	40%	22	89	53%
Gila	106	17	16%	37	54	51%
Kaibab	32	4	13%	6	10	31%
Lincoln	85	53	62%	8	61	72%
Prescott	51	16	31%	26	42	82%
Santa Fe	69	21	30%	31	52	75%
Tonto	31	1	3%	25	26	84%
Total	787	248	32%	242	490	62%

TABLE 8: ALL ACTIVE ALLOTMENTS (2003)

National Forest	Total allotments grazed in 2003	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	83	17	20%	26	43	52%
Carson	57	43	75%	8	51	89%
Cibola	76	32	42%	10	42	55%
Coconino	29	0	0%	2	2	7%
Coronado	159	63	40%	16	79	50%
Gila	112	22	20%	26	48	43%
Kaibab	31	9	29%	4	13	42%
Lincoln	91	63	69%	10	73	80%
Prescott	40	8	20%	12	20	50%
Santa Fe	72	27	38%	21	48	67%
Tonto	31	24	77%	1	25	81%
Total	781	308	39%	136	444	57%

RESULTS: NEPA VS. NON-NEPA REVIEWED ALLOTMENTS

The Forest Service's widespread lack of compliance with the grazing standards is consistent across all allotments, regardless of whether or not the allotment had standards established pursuant to the rigorous and informed site-specific environmental analysis as required under NEPA. Even for those grazing allotments where the agency has yet to establish standards via an allotment specific environmental analysis, the agency is nevertheless required to monitor as a result of informal consultations with the U.S. Fish and Wildlife Service (FWS), a requirement put in place to protect the MSO and other species listed under the Endangered Species Act.

In the course of developing a lawsuit challenging the Forest Service's grazing program in the Southwest, we reviewed allotment compliance with respect to NEPA status for the years 2001 to 2003. In both scenarios, (with and without site-specific NEPA) the Forest Service proclaims and the FWS assumes in a 2003 biological opinion that the Mexican spotted owl is protected by a vigilant Forest Service monitoring program that is implemented regardless of how the utilization standard has been applied.

Forest Service documents demonstrate that in 2001, the agency failed to carry out any formal forage utilization monitoring on 247 of the 715 (35 percent) active allotments that had not gone through NEPA by April 15, 2001. Similarly, in 2002, the agency failed to carry out any monitoring on 188 of the 626 (30 percent) active allotments that had not gone through NEPA by April 15, 2002. In 2003, the agency did not monitor on 239 of the 604 active non-NEPA sufficient allotments, constituting 40 percent of these allotments. (See Tables 9 to 11 below.) The Forest Service's failure to perform any monitoring on more than 30 percent of the non-NEPA sufficient allotments from 2001 to 2003 contradicts the assumption of monitoring by the FWS.

Moreover, on those allotments without NEPA where the Forest Service actually monitored grazing in 2001 to 2003, the agency's own records show that grazing routinely violated the applicable standards. Forest Service documents show that the agency allowed overgrazing on 27 percent of the non-NEPA sufficient allotments the agency monitored in 2001. In 2002, 46 percent of the monitored non-NEPA sufficient allotments had forage utilization violations. Finally, Forest Service documents show that 28 percent of the monitored non-NEPA sufficient allotments had forage utilization violations in 2003.

All told, the Forest Service violated the forage utilization or monitoring standards on more than half of the allotments that had not gone through NEPA from 2001 to 2003. As demonstrated below, in 2001, the Forest Service violated either the monitoring or the forage utilization requirements on 52 percent of the non-NEPA allotments. In 2002, approximately 62 percent of the non-NEPA grazing allotments were out of compliance with these standards. In 2003, 56 percent of the non-NEPA allotments were out of compliance.

Tables 9 to 11 below show these results in detail for non-NEPA allotments.

TABLE 9: ALLOTMENTS WITHOUT NEPA (2001)

National Forest	Total allotments grazed in 2001 w/o NEPA	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	60	9	15%	26	35	58%
Carson	55	9	16%	10	19	35%
Cibola	53	19	36%	7	26	49%
Coconino	28	0	0%	8	8	29%
Coronado	163	75	46%	13	88	54%
Gila	86	28	33%	14	42	49%
Kaibab	33	4	12%	1	5	15%
Lincoln	67	38	57%	4	42	63%
Prescott	57	25	44%	13	38	67%
Santa Fe	57	15	26%	15	30	53%
Tonto	56	25	45%	17	42	75%
Total	715	247	35%	128	375	52%

TABLE 10: ALLOTMENTS WITHOUT NEPA (2002)

National Forest	Total allotments w/o NEPA grazed in 2002	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	54	16	30%	26	42	78%
Carson	50	7	14%	23	30	60%
Cibola	51	20	39%	17	37	73%
Coconino	26	1	4%	7	8	31%
Coronado	143	60	42%	20	80	56%
Gila	87	13	15%	27	40	46%
Kaibab	28	4	14%	5	9	32%
Lincoln	60	39	65%	5	44	73%
Prescott	47	14	30%	25	39	83%
Santa Fe	53	13	25%	24	37	70%
Tonto	27	1	4%	22	23	85%
Total	626	188	30%	201	389	62%

TABLE 11: ALLOTMENTS WITHOUT NEPA (2003)

National Forest	Total allotments w/o NEPA grazed in 2003	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	50	11	22%	19	30	60%
Carson	48	36	75%	7	43	90%
Cibola	51	19	37%	8	27	53%
Coconino	26	0	0%	2	2	8%
Coronado	133	55	41%	15	70	53%
Gila	91	20	22%	18	38	42%
Kaibab	28	9	32%	2	11	39%
Lincoln	65	44	68%	7	51	78%
Prescott	37	8	22%	11	19	51%
Santa Fe	50	19	38%	12	31	62%
Tonto	25	18	72%	1	19	76%
Total	604	239	40%	102	341	56%

The statistics are strikingly similar for the allotments that have undergone a site-specific environmental analysis pursuant to NEPA, even though the Forest Service proclaims and the FWS consistently assumes⁵ that these allotments are fully compliant with the requirements of the 1996 amendments.

The data clearly shows otherwise. For example, in 2001, 36 of the 154 NEPA compliant allotments, or 23 percent, were not monitored at all. The Forest Service’s compliance was worse in subsequent years. In 2002, the agency failed to monitor 60 out of 161 NEPA compliant allotments, constituting 37 percent of these allotments. In 2003, the agency failed to monitor grazing on 69 of 177 allotments that had gone through NEPA, constituting 39 percent of the NEPA compliant allotments grazed in that year.

On those allotments that were monitored, the Forest Service allowed overgrazing on at least 21 percent – and as high as 41 percent – of the NEPA allotments during those three years. In 2001, for example, the Forest Service allowed excessive grazing on 25 of the 188 NEPA allotments (21 percent) that it monitored. In 2002, the agency allowed excessive grazing on 41 of the 101 NEPA compliant allotments it monitored, constituting approximately 41 percent of the allotments it monitored that year. In 2003, the agency allowed excessive grazing on 34 of the 108 NEPA compliant allotments, constituting 31 percent of the allotments monitored that year.

⁵ The FWS assumption that the Forest Service will be complying with monitoring standards for grazing allotments are included in numerous biological opinions as to the effects that continued grazing will have on endangered species. This assumption is being challenged by Forest Guardians with the help of Earthjustice in respect to the Mexican spotted owl.

TABLE 12: ALLOTMENTS WITH NEPA (2001)

National Forest	Total allotments w NEPA grazed in 2001	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	30	6	20%	5	11	37%
Carson	13	2	15%	0	2	15%
Cibola	23	2	9%	3	5	22%
Coconino	3	0	0%	0	0	0%
Coronado	19	7	37%	0	7	37%
Gila	14	1	7%	6	7	50%
Kaibab	0	0	0%	0	0	0%
Lincoln	24	15	63%	3	18	75%
Prescott	5	0	0%	1	1	20%
Santa Fe	15	2	13%	2	4	27%
Tonto	8	1	13%	5	6	75%
Total	154	36	23%	25	61	40%

TABLE 13: ALLOTMENTS WITH NEPA (2002)

National Forest	Total allotments w NEPA grazed in 2002	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	29	10	34%	7	17	59%
Carson	8	2	25%	3	5	63%
Cibola	24	13	54%	4	17	71%
Coconino	2	0	0%	0	0	0%
Coronado	26	7	27%	2	9	35%
Gila	19	4	21%	10	14	74%
Kaibab	4	0	0%	1	1	25%
Lincoln	25	14	56%	3	17	68%
Prescott	4	2	50%	1	3	75%
Santa Fe	16	8	50%	7	15	94%
Tonto	4	0	0%	3	3	75%
Total	161	60	37%	41	101	63%

TABLE 14: ALLOTMENTS WITH NEPA (2003)

National Forest	Total allotments w NEPA grazed in 2003	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	33	6	18%	7	13	39%
Carson	9	7	78%	1	8	89%
Cibola	25	13	52%	2	15	60%
Coconino	3	0	0%	0	0	0%
Coronado	26	8	31%	1	9	35%
Gila	21	2	10%	8	10	48%
Kaibab	3	0	0%	2	2	67%
Lincoln	26	19	73%	3	22	85%
Prescott	3	0	0%	1	1	33%
Santa Fe	22	8	36%	9	17	77%
Tonto	6	6	100%	0	6	100%
Total	177	69	39%	34	103	58%

All told, therefore, from 2001 to 2003, the Forest Service violated one of the grazing standards required by the 1996 amendments on between 40 and 63 percent of the grazing allotments that had undergone a site-specific environmental analysis pursuant to NEPA. The tables above set out the number of NEPA allotments with violations for each of these three years.

RESULTS: ALLOTMENTS WITH SUITABLE HABITAT FOR THE MEXICAN SPOTTED OWL

We also reviewed monitoring compliance with respect to the status of the Mexican spotted owl for the years 2001 to 2003. The Forest Service, not surprisingly, proclaims that its monitoring program is more vigilant in areas with habitat for the Mexican spotted owl, as these areas are considered most important for the species' recovery. Using Forest Service information, we identified 499 allotments with suitable habitat for the MSO and marked them as such in our database. The data in Tables 15 to 17 below demonstrate that these allotments are also woefully out of compliance.

In 2001, the Forest Service either failed to monitor or allowed overgrazing in violation of the forage utilization standards on 173 of the 416 active allotments with owl habitat. Thus, the agency violated the grazing standards on approximately 42 percent of these allotments. In 2002, the situation worsened. The agency violated the monitoring or forage

TABLE 15: ALLOTMENTS WITH MEXICAN SPOTTED OWL
SUITABLE HABITAT (MSO-SH) 2001

National Forest	Total allotments w/MSO-SH grazed in 2001	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	39	3	8%	18	21	54%
Carson	41	3	7%	8	11	27%
Cibola	42	10	24%	6	16	38%
Coconino	25	0	0%	6	6	24%
Coronado	70	26	37%	7	33	47%
Gila	56	6	11%	15	21	38%
Kaibab	18	2	11%	1	3	17%
Lincoln	34	12	35%	7	19	56%
Prescott	17	1	6%	4	5	29%
Santa Fe	56	12	21%	14	26	46%
Tonto	18	7	39%	5	12	67%
Total	416	82	20%	91	173	42%

TABLE 16: ALLOTMENTS WITH MEXICAN SPOTTED OWL
SUITABLE HABITAT (MSO-SH) 2002

National Forest	Total allotments w/MSO-SH grazed in 2002	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	33	7	21%	16	23	70%
Carson	36	4	11%	17	21	58%
Cibola	42	18	43%	14	32	76%
Coconino	22	0	0%	7	7	32%
Coronado	67	25	37%	12	37	55%
Gila	60	9	15%	26	35	58%
Kaibab	18	2	11%	3	5	28%
Lincoln	30	8	27%	5	13	43%
Prescott	14	4	29%	7	11	79%
Santa Fe	53	16	30%	24	40	75%
Tonto	10	1	10%	7	8	80%
Total	385	94	24%	138	232	60%

TABLE 17: ALLOTMENTS WITH MEXICAN SPOTTED OWL
SUITABLE HABITAT (MSO-SH) 2003

National Forest	Total allotments w/MSO-SH grazed in 2003	Total with no monitoring	Percentage with no monitoring	Total with utilization violations	Total allotments out of compliance	Percentage of allotments out of compliance
Apache-Sitgreaves	37	3	8%	14	17	46%
Carson	34	25	74%	7	32	94%
Cibola	44	17	39%	7	24	55%
Coconino	24	0	0%	2	2	8%
Coronado	62	29	47%	7	36	58%
Gila	62	5	8%	5	10	16%
Kaibab	18	4	22%	3	7	39%
Lincoln	33	15	45%	7	22	67%
Prescott	11	0	0%	1	1	9%
Santa Fe	56	20	36%	17	37	66%
Tonto	9	6	67%	1	7	78%
Total	390	124	32%	71	195	50%

utilization standards on 232 of the 385 active allotments with owl habitat, constituting 60 percent of these allotments. In 2003, the agency violated the grazing standards on half of the allotments by failing to monitor or allowing overgrazing on 195 of the 390 active allotments with owl habitat. In sum, even though these allotments are considered by the Forest Service to be most important for the Mexican spotted owl, the agency is violating the monitoring and forage utilization standards at nearly the same rate as it is violating the standards on all allotments in the national forests of the Southwest.

FURTHER CONSIDERATIONS:

THE LIMITS OF UTILIZATION MONITORING

This study looks exclusively at grazing utilization monitoring. However, when studying the effects of livestock grazing on ecological systems, utilization monitoring can provide only a small part of the picture. The focus and intent of forage utilization standards is for making range management adjustments. The Interagency Technical Reference (ITR) notes that, "Residual measurements and utilization data can be used: (1) to identify [livestock] use patterns, (2) to help establish cause-and-effect interpretations of range trend data, and (3) to aid in adjusting stocking rates when combined with other

monitoring data.”⁶ Significantly, the ITR does not indicate that utilization monitoring can be used to predict overall ecological health.

Utilization monitoring does not measure a wide variety of key factors that affect water quality and wildlife habitat, including (but clearly not limited to) soil compaction from trampling livestock, soil erosion, the extent of destruction of microbiotic soil crusts, soil water storage, changes in species compositions (both flora nor fauna), and the spread of invasive or noxious plants. Utilization monitoring also fails to consider the effects of livestock grazing on water quality and the function of rivers and streams. In fact, the utilization monitoring system currently employed by the Forest Service throughout the Southwestern Region does not distinguish between non-native invasive species and native species.

Utilization monitoring is put in place to prevent excess utilization, which has been shown to cause a variety of environmental impacts. However, given the additional effects of livestock grazing not measured by utilization, the likelihood remains that even compliance with utilization standards can still allow for significant negative affects. Feller and Brown note that,

grazing at levels deemed acceptable according to clipping experiments may cause loss of the thermal-moderating layer at the soil surface, desiccation and compaction of the soil, reduced water infiltration, and loss of soil through wind and water erosion. These changes in turn create a micro-environment that is inhospitable to the original native grass species and invites the invasion of opportunistic plant species that are adapted to more open conditions, drier, thinner, and/or harder soils, and greater extremes of soil temperature; in short, desertification occurs. Furthermore, utilization limits designed to protect the health of individual plants generally do not leave sufficient residual vegetation to carry a fire. A grassland that is "well-managed" by conventional standards may be taken over by shrubs and trees, and eventually depleted of grass, because of the effective exclusion of fire by grazing. Moreover, even moderate levels of grazing may tip the competitive balance between plants that are highly palatable to livestock and those that are less so, thus altering rangeland composition.⁷

This study does not attempt to address the question of whether utilization monitoring is sufficiently protective of the ecological health of grazing allotments. We raise the point only to show that while both monitoring and preventing utilization violations are critical to protecting our national forests, it should not be assumed that they are the only issues involved in management of the public land grazing system.

⁶ Interagency Technical Reference. 1996. Utilization Studies and Residual Measurements. Cooperative Extension Service, USDA. Forest Service, USDA. Natural Resource Conservation Service, USDI. Bureau of Land Management.

⁷ Feller, Joe M. and David E. Brown. "From Old-Growth Forests To Old-Growth Grasslands: Managing Rangelands For Structure And Function." 42 Ariz. L. Rev. 331.

LACK OF WATER QUALITY AND RIPARIAN DATA

As noted above, the amended forest plans require the Forest Service to restore to or maintain riparian areas in good condition. This is critical as livestock degradation of streams and streamside vegetation can be severe. Livestock grazing removes vegetation that holds streambanks together, and livestock can also trample stream banks (often referred to as streambank shearing) thus causing sedimentation. Livestock grazing can even change the character of streams. As streambanks are sheared, the stream widens, becomes shallower, and water temperatures increase. These shallow, sediment filled, warmer streams are less attractive or even uninhabitable to many native fish species.

Monitoring data obtained from the Forest Service shows that, with the exception of the Tonto National Forest and a few other allotments elsewhere, the agency has generally failed to monitor riparian areas in grazing allotments. In discussions with agency officials, they admit that they simply lack the resources to perform extensive riparian monitoring.⁸ Again, we raise the point only to show that simply improving utilization monitoring and preventing violations are not the only needs for improving the management of the public land grazing system.

Current monitoring practices are not focused on protecting riparian areas. The Forest Service definition of “key areas” where utilization is to be measured makes it clear that key areas are not to be close to water. Key areas are focused on maintaining the forage that is “key” to livestock, not on protection of riparian areas. Thus, even if utilization monitoring does improve, without riparian-specific protective standards and monitoring we are left without knowledge of the effects of grazing on these important and vulnerable areas. Wildlife biologists widely recognize these streamside areas are critical to the survival of many species of wildlife. Thus the lack of knowledge of the effect of grazing utilization on streamside vegetation, flora species diversity, stream bank shearing, sedimentation, and other effects of grazing in riparian areas is a major omission when considering the effects of grazing on wildlife.

Livestock manure and urine also enter streams and lakes (directly or through runoff) and can spread infectious water-borne diseases to water supplies. State environmental agencies occasionally survey water quality in the vicinity of grazing allotments, but the Forest Service does not include water quality monitoring as part of its monitoring program.

NO SET CRITERIA FOR RESPONDING TO VIOLATIONS

What happens when the Forest Service does find utilization violations? Unfortunately, there are no set guidelines to determine the agency’s response to grazing excesses. The decisions regarding if and how to respond to utilization violations are left to the hands of

⁸Sept. 28, 2004. Personal communications with David Stewart (Director of Rangeland Management, Region 3) and Peter Gaulke (Regional Environmental Coordinator).

individual ranger districts on each national forest. Generally, the local range staff makes recommendations to the district ranger, who has the ultimate responsibility to respond. If violations are found during the season of use, the districts usually call the permittees to have them move their livestock to another pasture or remove them entirely from the allotment. However, unplanned early moving or removing cattle can often take two weeks to a month or more after the agency gives notice, allowing for further excess utilization and severe environmental damage in the interim.

If violations are found after the permitted season of use, occasionally adjustments are made to livestock numbers or season of use of the following year, but generally this only occurs when violations are numerous and prolonged. More often than not, the rancher is allowed the same season and numbers the following year, and the agency often allows two or more years of violations before taking action.

NO DROUGHT POLICY

Keeping with the decentralized decision-making structure of the Forest Service, despite requests by numerous environmental groups, there is no regionwide policy on how to adjust grazing management practices to respond to the prolonged drought throughout the Southwest. Drought compounds the effects of grazing by reducing growth and limiting available forage. Most plant species that do survive the drought are “stressed” so that even limited grazing can kill the plant. Grazing in areas with dry soils also increase the potential for erosion, and consistent hot weather will increase cattle’s use of streams and rivers, which they enter to drink from and keep cool. Only three of the eleven forests have any sort of statement or policy on the management of grazing during drought. Of the three, the Tonto’s drought policy gives the most guidance, but final decisions as to its implementation are still left at the district level. It is unlikely that existing grazing standards will be sufficient to protect most areas during drought, and any failures to monitor or allowing utilization violations will certainly compound the limited protection provided by these standards.

TRESPASS AND UNAUTHORIZED LIVESTOCK

This study does not consider the levels or impacts from trespass or unauthorized cattle. Forest Service allotments in the Southwest are generally 10,000 acres or more in size, and include many miles of external and pasture fences and numerous gates and cattleguards. Maintaining this infrastructure is generally the responsibility of the permittee, but as it is spread out over the landscape, such maintenance can be difficult to sustain. Trespass livestock come from neighboring ranches or allotments and wonder through open gates or inadequate fencing onto an allotment. Unauthorized livestock are owned by the permittee, which are on the allotment they are leasing, but are there at the wrong time or in the wrong place.

Although both trespass and unauthorized use are common and could be considered permit violations, documentation of both is limited, so we did not include them in this study. However, both can cause serious problems, and both can create difficulties for the agency without the cooperation of the permittee. For example, cattle from the Pleasant Valley allotment on Apache-Sitgreaves National Forest have trespassed on the Hickey allotment for over a year. Despite numerous letters to the permittee, which led to the cancellation of the Pleasant Valley permit on August 30, 2004 and the subsequent issuance of a “Notice of Impoundment,” to date the cattle have yet to be removed.

CONCLUSION

The Forest Service’s failure to monitor grazing use on literally hundreds of grazing allotments across the Southwest demonstrates that the agency has little idea of the impacts of its grazing program on national forest lands, waters and wildlife. This failure is compounded by an even more widespread failure to monitor streamside areas that are critical to wildlife survival in the arid Southwest.

Monitoring data that is available shows that the agency allows widespread violations of set utilization standards it has established for domestic livestock grazing. In addition, instead of taking action by requiring ranchers to move or remove livestock from areas that are approaching the set limits, the Forest Service often takes action only after violations occur and often fails to act even when violations do occur. Further, except in extremely rare cases where violations are widespread and appear intentional, there is no penalty for the violation of utilization standards.

It is clear that part of the management failure and the failure to monitor is due to a lack of resources. The agency’s budget is simply insufficient to hire the personnel needed to monitor all allotments and key areas as required. This is partially due to grazing fees that are too low to cover the costs of the grazing program. This lack of funds and personnel has led to a movement to increase reliance on ranchers to monitor utilization and move their livestock before violations occur. However, while some ranchers are willing to perform some monitoring, their training is limited. This “fox guarding the henhouse” scenario often leads ranchers to graze their livestock up to – and past – the standards that are set to protect wildlife and water quality.

This comprehensive analysis shows that the current Forest Service management program for grazing has failed on the national forests of New Mexico and Arizona. The agency has failed to gather the information necessary to make informed decisions. It has failed to set in place policies that prevent consistent violations of standards and guidelines. Most importantly, it has failed to protect the health and well being of our national forests.

RECOMMENDATIONS

- Failure to even visit 30 to 50 percent of grazing allotment in any give year should not be deemed acceptable. If the U.S. Forest Service cannot fund the required monitoring for the grazing program, it should be requesting sufficient funds from Congress. If sufficient funds are not allocated, the agency should begin to close allotments that have not been monitored or are too expensive to monitor.
- Over 30 percent of allotments that have been monitored show violations. This is likely to continue until the Forest Service develops a consistent enforcement policy. For example, a utilization violation for a certain key area should call for a percentage reduction in livestock numbers or season of use in the following years, based on the degree of excess use found in the violation. Consistent violations should lead to predetermined long-term reductions in stocking levels via permits or annual authorizations.
- Riparian areas are critical for protecting wildlife and water quality. Based on our review of the records, grazing of riparian areas routinely results in environmental damage. Given their importance, the long history of damage due to livestock grazing and the absence of current information, we believe that national forest streams and wetlands should be placed off-limits to domestic livestock production. At an absolute minimum, allotment pastures with streams and wetlands should not be grazed unless there is annual monitoring and that monitoring does not reveal any environmental damage and/or water quality degradation.
- Wildlife, soils and vegetation within our national forests are all more vulnerable during times of drought. The Forest Service should develop a clear and consistent Southwest regional drought policy that will mandate changes in livestock management during drought that protect the wildlife, soils, and water on our publicly owned national forests.
- Congress should pass new legislation that allows for the voluntary buyout of grazing allotments throughout the Southwest. Compensation from allotment buyouts allows the land to heal and gives ranchers greater economic flexibility. Voluntary buyout is more likely to occur in allotments with management conflicts. As allotments are closed through the buyout, the monitoring required will be reduced, allowing the agency to monitor a higher percentage of grazing allotments.