#### NRST FINDINGS AND RECOMMENDATIONS Argenta Cooperative Monitoring Group (CMG) July 27-30, 2015 Meeting

#### **EXECUTIVE SUMMARY**

As called for in the Settlement, the CMG met during the week of July 27<sup>th</sup> to collaboratively review and discuss a variety of activities and actions related to settlement implementation, including: proposed riparian-wetland enclosures (lotic), riparian/upland monitoring locations/methods, south boundary fence, stockmanship progress, and CMG function. The settlement directs National Riparian Service Team (NRST) to serve as convener and neutral third party on the allotment. The team is responsible for reviewing activities/issues, providing recommendations, and facilitating discussions. This report summarizes NRST findings and recommendations from the week.

Overall the CMG made good progress in building working relationships and improving ability to talk through contentious issues. Improvement can still be made for all members to fully support the approach and to openly and honestly communicate. The adaptive management plan focusing on stockmanship remains a work in progress, with lots of frustrations. Many of the key riparian areas were visited during the week, and most riparian use level triggers appeared to have been had been met or exceeded. As has been noted during past field trips and confirmed this week, NRST believes that most of the streams appear to have potential for relatively fast recovery with management or protection measures that focus on riparian health.

### **Riparian Exclosures & Monitoring Locations**

#### NRST Recommendations

- <u>Ratfink Canyon:</u> (1) Fence as proposed. (2) Although the Designated Monitoring Area (DMA) will be fenced and is not useful for monitoring use levels, it can be monitored to document stream improvement. At a minimum, install photo point monitoring to document recovery (this canyon experienced extremely high magnitude flooding this year causing substantial scouring and erosion). (3) Move cows out of this area. The CMG supported these recommendations.
- <u>Trout Creek:</u> (1) Do not fence at this time, and instead rely on improved stockmanship.
  (2) Install a new riparian DMA. (3) Move all cows out of this area because riparian triggers are exceeded. The CMG supported these recommendations.
- 3. <u>North Fork Mill Creek:</u> (1) Fence (temporary/permanent) and provide off-site water. (2) Riparian DMA is appropriate. (3) Move all cows out of this area because riparian triggers are exceeded. There was partial CMG support for these recommendations.

- Ferris Creek: (1) Install a permanent exclusion fence along with the south boundary fence. (2) Establish a new riparian DMA in Ferris Creek, and the Rock/Crumb/Hilltop area. (3) Move all cows out of this area because triggers were met and/or starting to be exceeded. There was partial CMG support for these recommendations.
- 5. <u>Mill Creek:</u> (1) Do not fence lotic (stream) section. (2) Do not use the DMA for midseason triggers or end of season use levels, instead establish an effective key upland key monitoring area. The rationale for this is that the stream reach where the DMA is located is highly altered by an adjacent mine haul road; this has severely limited its potential and makes it difficult to isolate the effects of livestock. (3) Begin to move all cows out of this area. There was partial CMG support for these recommendations.
- Fire Creek: (1) Fence the lower mile section, mechanical restoration of headcuts, and install water development/sheet flow spreader on private lands above BLM. (2) DMA is appropriate. (3) This was the most lightly used riparian area reviewed; livestock were removed before riparian triggers were met (with some stragglers). There was partial CMG support for these recommendations.
- 7. <u>Corral Canyon DMA:</u> (1) No fencing was proposed. (2) DMA is appropriate even though livestock trailing is increased because DMA is immediately adjacent to a road. (3) Although it was explained that cattle were not deliberately placed in this area, riparian use was apparent and the stubble height was probably in the 4-5" range (trigger close to being met). Given the lack of live water, it seems apparent that if cattle are placed here later in the year that these triggers will be very quickly exceeded, as a result, caution should be used if cattle are placed in this area again this season. The CMG supported these recommendations.
- 8. <u>The Park:</u> (1) Continue with lentic exclosure fence. (2) DMA is appropriate. (3) Although it was explained that cattle were not deliberately placed in this area, triggers have been met/exceeded. Do not place cattle in this area later in the year. There was partial CMG support for these recommendations.
- 9. <u>Slaven</u>: This site was not reviewed by the CMG; it may need to be visited during the August CMG meeting.

### **Upland Monitoring Locations & Protocols**

Prior to the CMG meeting, there had been disagreements expressed about how upland monitoring sites (key monitoring areas – KMAs) were located in the field, and the forage utilization monitoring protocols used (Key Forage Method s vs. Height-Weight Method). Both issues were reviewed and discussed as part of the July CMG meeting.

A new systematic approach to stratification and KMA site selection was developed by the District and NRST. The approach is similar to the stratification and DMA selection process outlined in the Multiple Indicator Monitoring Method (MIM) for Stream Channels and Streamside Vegetation Areas protocol. This was reviewed by the CMG both in the office and in the field. There was strong support from the CMG that this approach represents a major step forward; one that is applicable not only to the Argenta allotment, but also could potentially be expanded throughout the BLM and Forest Service.

The two competing upland monitoring protocols were also discussed. NRST recommendation is that the CMG more thoroughly review the science behind each protocol prior to the August CMG meeting. At that time, the CMG will further discuss and demonstrate each method and the NRST will make a recommendation on which protocol to use. NRST is currently working on a more detailed refinement of each method with an automated data module; this is intended to improve the quality of upland utilization data. It is likely that both protocols will be used in at least a few sites, for comparison purposes.

#### South Boundary Fence

The NRST recommends placing a boundary fence beginning on the south end of the Argenta Allotment to cleanly separate the Argenta and Carico Lake Allotments, and thereby prevent drift and promote better overall management.

### Stockmanship Progress

Low stress herd movement and placement marks a major change in practices of herding and moving stock. It is time intensive, and the large acreage and rugged terrain makes it a challenge to implement. NRST stockmanship instructor/coaches worked with permittees and riders during three separate weeks, and provided other coaching tools. Permittees are working hard, but are frustrated with the system and the shortened season that is resulting from riparian triggers being met and a lack of stock water.

### Cooperative Monitoring Group Function

The CMG has had a good start, overall, although relationships remain tenuous and tensions are often just under the surface when discussing a number of issues. Additionally, it has been stressed at several meetings now that our strategies and actions must be congruent with our beliefs and behaviors. Given the contentiousness that has characterized relationships in past, the CMG has shown good progress in being able to confront and professionally work together to resolve long-standing issues.

### INTRODUCTION

The Argenta Settlement Agreement (initiated June 24, 2015) outlines a number of goals related to the replacement of temporary closures with a short-term grazing management plan, including:

- Protection of important riparian-wetland areas
- Reliance on a grazing management strategy designed to improve resource condition through the stockmanship (riding and supplement use to allow for the 'fenceless' rotation of livestock)
- Use of implementation and effectiveness monitoring data to inform and improve management as part of the three-year trial period, as well as long-term allotment management planning
- Achievement of collaborative and effective working relationships among CMG.

As called for in the Settlement, the CMG met during the week of July 27<sup>th</sup> to collaboratively review and discuss a variety of activities and actions related to settlement implementation, namely: proposed riparian-wetland enclosures (lotic), riparian/upland monitoring locations/methods, south boundary fence, stockmanship progress, and CMG function. The settlement (recital 5) directs NRST to serve as convener and neutral third party on the allotment. The team is responsible for reviewing activities/issues, providing recommendations, and facilitating discussions. This report summarizes NRST findings and recommendations from the week.

During the week of July 27, the CMG reviewed and discussed the items below as directed by the settlement agreement. NRST findings and recommendations are outlined in the following section.

- <u>Proposed Riparian-Wetland Exclosures</u>: Section 7 of the settlement calls for the protection of critical riparian-wetland sites that serve as important wildlife habitat and water storage areas. Per the agreement, BLM has issued a proposed decision (July 23, 2015) authorizing lentic exclosures (and water haul sites settlement section 9). Section 7.14 directs the NRST and CMG to review and discuss (NRST is directed to provide recommendations) proposed lotic exclosures designed to protect riparian resources in the following areas: Ratfink Canyon, Trout Creek, North Fork Mill Creek, Ferris Creek, Mill Creek, Fire Creek, and Slaven.
- <u>Riparian & Upland Monitoring</u>: Section 5.6 of the settlement direct NRST and the CMG to review and discuss (NRST is directed to provide recommendations) the suitability of existing riparian and upland monitoring protocols and sites, and determine whether there is a need to adjust or add any monitoring locations to ensure representative information is being collected.

- <u>South Boundary Fence</u>: Section 8.1 of the settlement notes that the permittees and the NRST have expressed that the southern allotment boundary fence between the Argenta and Carico Lake Allotments is a priority; and directs BLM to issue a decision on this fence by December 31, 2015.
- <u>Stockmanship Progress</u>: Section 6.3 directs the NRST to work with permittees and BLM through education and coaching, as well as provide recommendations on the development and implementation of annual stockmanship plans.
- <u>Cooperative Monitoring Group Function</u>: Section 5 describes the formation and responsibilities of the CMG. The CMG serves as a fact-finding group, with opportunities for information sharing, education, and providing individual input into decision-making processes as part of this trial. The intent is to foster a more collaborative and cooperative working relationship between the parties.

### BACKGROUND

Although everyone involved would like to see immediate, measurable improvements in livestock management and riparian condition; it was recognized and discussed during settlement deliberations that the evaluation would be based on improvements over the three-year period, given the difficult start-up challenges for nearly all aspects of this pilot effort. Some of the key factors affecting the potential for success are discussed below.

The Battle Mountain Grazing District was only established in 1955, the last in the entire state of Nevada. The area within the Argenta allotment has been grazed continuously for probably 150 years, with little regard for range condition and/or riparian conditions and almost no active management as typically provided on most public land allotment in the western US. Conditions on the ground show that legacy of continuous grazing. Management is further complicated by the fact that allotment ownership is split with approximately half of the allotment within a checkerboard pattern of private lands.

No comprehensive management plan or overall assessment of land health standards on which permits are based exist for the Argenta allotment. Partly because of the large percentage of private lands within the Argenta, permittees report having very little past oversight or interaction with the BLM other than just the annual use plans and approvals. Generally, cattle have been turned out early in the year and distributed around various use areas during the season. Lower areas were typically used in the early spring and late fall/winter, while higher areas were used late spring to fall.

The settlement calls for an adaptive management strategy, featuring a stockmanship approach that allows for 'fenceless rotation' around the allotment. This management approach is new to all participants, and results are uncertain and unpredictable. Initial efforts by the permittees to

implement the 2015 stockmanship plan have been challenging and frustrating. The rugged terrain, large size, and low productivity of lands on the Argenta would make it challenging for any system to meet current standards. Under the current plan, it has proven extremely difficult to move large bunches of cattle around as intended.

Possibly the most significant challenge to managing the allotment under any system, however, is the lack of suitable off-stream/wetland water. The drought may have exacerbated difficult conditions, particularly the availability of suitable water for livestock. But the lack of improved water sources on BLM is also part of a legacy condition that renders effective livestock management very difficult. Developed water exists where possible on the private lands within the checkerboard land ownership pattern, but is inadequate for proper management of BLM and has been part of the cause of degraded riparian conditions.

In order for the stockmanship plan to have any reasonable expectation of success, there has to be adequate capacity of water available for a larger bunch of livestock to water efficiently and quickly and return to areas away from water to feed. Currently, when livestock water on BLM, they trail into the small stream sections, most of which are shallow with very few pools, and walk up and down searching for suitable watering locations. This creates heavy bank trampling and forage use, and increases the overall time they spend in riparian areas. Whether livestock drink from a creek such as described, or from a trough with piped clean water, they need the same amount of water daily (about 15-20 gallons/cow).

Additionally, there is minimal fencing on the allotment, and none are designed to manage individual areas. One of the key elements within the settlement agreement is the protection and improvement of critical lentic (riparian areas characterized by standing or subsurface water such as seeps, wet meadows, and ponds) and lotic riparian areas (flowing water systems or streams). The first round of lentic fencing proposals (and Ratfink) have been analyzed by BLM staff and are in the process for approval currently. After having been on the ground this past week (generally mid-season), the critical need for better protection of the riparian areas is plainly evident if livestock management on the allotment is to continue.

If anything was surprising to the NRST, it was that given that history of overuse, many riparian areas continue to demonstrate an opportunity for relatively rapid recovery with appropriate management. While it might be possible over time to use the stockmanship plan for recovery with no added improvements; the riparian areas, both lotic and lentic, are infrequent across the landscape and where they do exist, are very small.

Riparian areas in the initial stages of recovery, as a result of improved management or exclusion, are extremely vulnerable and only a few cows using them for even short periods will erase the gains of a given year and continually set progress back. A basic tenet of the NRST is "A few cows can keep a degraded riparian area bad, whereas riparian areas at proper

functioning condition or better can be managed to improve with proper livestock management designed to allow continued riparian improvement. The truth of this tenet was shown in several areas visited during the CMG July meeting.

While fencing is not a panacea, it is not reasonable to think riparian recovery can begin in the immediate future without some fences that exclude livestock from the riparian areas, and a provision of off-site water. Any fence constructed would fully meet all mitigation requirements for wildlife and cultural resources. Even more important than fencing is the need to develop livestock watering facilities away from streams, and with capacity to allow whatever bunch size is anticipated for the area to come to the tank/troughs, drink their fill and move on. This step alone will reduce riparian impacts, allow better utilization of uplands, and improved cattle performance.

In addition to the physical challenges to developing a new management system for the Argenta allotment, successful implementation also requires a cultural shift for BLM, permittees and other parties where problems and issues are worked out in a cooperative manner rather than unilateral actions and rebellious responses. The existing relationships between the permittees and Battle Mountain District make it difficult for the parties to work towards the common goal of successfully implementing the Settlement Agreement. It is too easy to fall back into the beliefs/behaviors that caused the closures and conflict in the first place.

# **NRST FINDINGS & RECOMMENDATIONS**

### Riparian Exclosures & Monitoring Locations (DMAs)

1. Ratfink Canyon

<u>Existing Situation</u>: At the time the permittee proposal for lotic exclosure fences was made, a DMA was present; the stream had small amounts of lotic flow located in a low elevation narrow canyon. In the past two weeks, a high intensity thunderstorm scoured and significantly eroded major portions of the stream channel, including the DMA. The magnitude of the event was great enough to move materials from the canyon well onto the flatter lands below the mouth of the canyon. The primary water source in the canyon is a spring development and trough on private lands. While the trough was not affected by the storm, the pipeline was uncovered for portions of its length and it is unknown whether there are breaks that will necessitate repairs prior to use.



Upper portion of blown-out channel and road on Ratfink – Torrent was fully across canyon bottom.



Coyote willow and rose remain rooted in channel, upper and lower banks to provide foundation for future recovery.

<u>Proposed Fencina</u>: While natural recovery will be slow due to the arid nature of the climate and deeply incised gulleys, virtually any livestock use on the few remaining shrubs will eliminate or greatly impair recovery. Coyote willow will sprout from its roots and spread rapidly if vigorous. NRST recommends continuing the proposal issued earlier in Round 1 of the Riparian Improvement Projects. Water trough is present on private land just above fenced area.

<u>DMA location</u>: There is no reason to replace the MIM DMA due to the long period necessary for channel evolution and recovery. Although the Designated Monitoring Area (DMA) will be fenced and not useful for monitoring use levels, if time is available, it can be monitored using MIM to document stream improvement (this can be initiated next year). At a minimum, install photo point monitoring to document recovery. Photo monitoring should be initiated immediately, repeated when the fence is constructed and then repeated at five year intervals.

**Progress on Adaptive Grazing Management:** Little discussion here considering site conditions.

# 2. TROUT CREEK

*Existing Situation:* The exclosure proposed by the permittees would encompass one mile of Trout Creek from the bottom of the DMA upstream. In the 1990's, an earlier exclosure was proposed and construction begun but not completed. It was much larger than current proposal and would have had the effect of creating a riparian pasture. Corner braces and gate braces adjacent to the "road" still remain. The presence of prehistoric cultural resources complicate any fence construction; however, mitigation seemed possible based on initial review.

<u>Proposed Fencing</u>: The NRST disagrees with the need for an exclosure as described or any other exclosure fence on public land in the drainage at this time. Two distinct perennial stream reaches bisect a large part of the basin above the DMA and small seep wetlands exist in the upper portions of the basin; this would render any exclusion fence impractical and ineffective. Fencing just the proposed one mile of Trout Creek would only serve to concentrate additional livestock use on the unfenced stream reaches on the northern tributary to Trout Creek and on the seep areas upstream. Cultural resource needs would also require considerable work to mitigate impacts of livestock trailing near any constructed fences, and likely cause need for a much larger area than proposed to be excluded, possibly a riparian pasture. Improved use of the stockmanship tools for managing livestock would provide the best likelihood for success for both protecting and improving riparian health. Off-stream water development should be pursued, particularly if opportunities are available on the private lands.

<u>DMA Location</u>: The DMA was located prior to the arrival of the current (now transferred) hydrologist. No records are available on whether or not the reach was stratified, nor documentation for how the DMA was selected. Based on MIM protocol, it is not an acceptable location for a representative DMA to measure trend, mid-season triggers or end-of-season stubble height. The rationale for this is the presence of two road crossings within the existing DMA that are influencing the stream and because it is topographically located in a trailing "funnel" for livestock moving back and forth to and from the upper basin.

The top of the DMA is located at the confluence of two perennial streams of similar size (the mainstem of Trout Creek and a north fork (or northern tributary to Trout Creek). NRST recommends the northern tributary, from the confluence upstream to where the canyon narrows, be stratified and new DMA be established on that reach.



DMA location on Trout Creek – shows "dish-shaped" channel form and moderate - heavy use of herbaceous vegetation near the channel. <u>Progress on Adaptive Grazing Management Plan</u>: Although no measurements were taken here or anywhere else during the week, there was general agreement that the mid-season stubble height trigger of 4 had been exceeded. Permittees had removed the majority of cows from this area, but small bunches remained.

# 3. North Fork Mill Creek

*Existing Situation:* Both lentic and lotic riparian areas occur in the upper North Fork; the lentic area was earlier analyzed for livestock exclusion fencing in the first round of analysis and proposed decisions. The seep/spring is an important area that serves as a critical natural riparian water storage site at the head of the North Fork of Mill Creek. The current proposal is to exclude much or all of the remaining lotic section below the spring within the BLM section with permanent fencing. Various alternatives were discussed including electric fencing, permanent let-down fence that would lessen the period where any impediments to wildlife, including sage grouse, would occur. Also discussed was the width of the exclosure; whether to just include the very narrow area between the stream and primitive road, or whether to include the total width of the valley floor, building fence on both sidehills. Another alternative would be to analyze and approve two separate approaches, a low impact electric fence proposal initially, and if that cannot be made successful, follow with permanent let-down fence. Here also, there are cultural resources that must be fully understood and mitigation provided that will eliminate impacts. While fences and posts provide potential perch sites for birds of prey, there are numerous existing perches on rock outcrops that are available; with normal wildlife mitigation no issues are added to threaten sage grouse or other wildlife.

<u>Proposed Fencing</u>: NRST recommends that fencing be constructed to provide opportunity for riparian recovery and health. This recommendation would provide for initial use of electric fence and providing water outside fence. The analysis would include a subsequent choice of moving to permanent let-down or standard fence if that proves unworkable. With exclusion from grazing, this stream would respond favorably and would gain a much needed "head start" on recovery. This is critical because there is some vertical instability (headcuts) on the private land reach immediately below the BLM stream reach. Improving the channel stability of the BLM reach by allowing stabilizing vegetation to expand as soon as it is feasible could help to resist headcut migration into the BLM reach. Regardless of any adaptive management strategy employed, it will likely be difficult to keep livestock off this stream reach without exclusion due to the fact that the BLM portion is relatively short and the uplands in this canyon are steep. As a result, the impact of just a small number of cows for even a modest amount of time would continue to keep the stream in a degraded condition.

Electric fencing on rangelands usually requires that animals become acclimated to it on lower pastures during the off-season. Electric fencing can be rapidly installed and removed, and powered by a solar panel generator with gas generator back-up. Initially, the fence would include only the lotic riparian and exclude the road. If permanent fencing is later necessary, it should include the whole valley floor, with small cattle guards on each end to avoid the

problem of gates being left open. Gates should be located near each cattle guard to allow removal of livestock if they should breach the fence.

Because this stream is so small and shallow with very few pools, livestock have difficulty finding suitable watering locations; this causes cattle to walk up and down the stream to search for good watering sites and creates increased bank trampling and forage use (this is not unique to North Fork Mill Creek; many other streams on the Argenta allotment are equally small and shallow and livestock are having the same effect). Fencing alone will not resolve the issue, off-stream water should be provided, in adequate capacity to allow cattle to come in, water, and move back to uplands.

<u>DMA location</u>: After review and discussion, it was determined that the DMA had been selected through proper use of the stratification and DMA location protocol within MIM. The CMG supported the site as representative under current management. It will retain value for documenting the rate of riparian improvement in the future, but should receive no grazing use once fenced. No other suitable DMA was noted in this use area.



Downstream view of North Fork Mill Creek, showing narrow lotic riparian band and valley floor



North Fork Mill Creek near the DMA, downstream view. Heavy use of herbaceous vegetation

<u>Progress on Adaptive Grazing Management Plan:</u> No measurements were taken, but it was obvious that the mid-season trigger of 4" stubble height had been exceeded. Like Trout Creek, cattle had been moved from the North Fork but a number were either missed or returned. Permittees planned to continue riding to clean up the remaining animals. In discussions, being able to move the untrained livestock as a unit has been difficult in the rugged terrain. While improvements are likely as more experience is gained, this season has proven to be a challenge for implementation of the grazing plan. Additionally, livestock from an adjoining allotment were on the North Fork before the authorized animals grazed there, and it was likely that earlier use alone would have exceeded riparian triggers.

## 4. Ferris Creek

<u>Existing Situation</u>: Permittees have proposed fencing on Ferris Creek in the Maysville Use Area, from the lower end of private land downstream to the boundary fence with the Carico Lake Allotment; a distance of about ¾ mile. The surrounding area has considerable acreage of relatively flat suitable grazing lands on both private and BLM. With unfenced private lands above and the stream running through, it would not be possible to manage the lower BLM section without fencing. Drift from the Carico Lake Allotment is believed to be an important impediment to successfully implementing the adaptive plan; the planned Ferris and Carico boundary fence will (should) eliminate that unplanned use.

This section of stream still has both herbaceous and woody stabilizing vegetation (sedges and willows) present and under proper management should show rapid recovery of both. Many areas along the stream at this location are willow dominated and there is considerable willow cover within the proposed fenced area. Because of this, it is anticipated that with exclusion, the herbaceous sub-reaches within the exclosure will show an increase in willow cover. Cultural resource protection will be required, but the flat nature of the reach provides ample opportunity to adjust the fence line to mitigate potential impacts. A DMA is also located within the proposed fenced area.



Ferris Creek DMA looking downstream. Willow cover increases below this reach and continues downstream for a considerable distance. Heavy use of herbaceous vegetation.

<u>Proposed Fencing</u>: The NRST recommends permanent exclusion fencing on the reach as the best way to accelerate riparian recovery, and also to provide for more effective livestock management. The stream flows through unfenced private lands before entering the BLM

reach. Because of the issue of drift between allotments and grazing units in the Ferris Creek area, NRST suggests that consideration be given to developing an agreement between the BLM, private landowners, and permittees that would fence the Argenta-Carico Lake allotment boundary with the fence placed on the private land (for some 6 miles) and about ¼ mile on BLM. This would eliminate any drift onto Argenta and serve to break up the Indian Creek use area to promote better overall management. The best scenario would be to do this boundary fencing project concurrent with the exclosure fence – this would minimize the potential effect of shifting additional use onto unfenced portions of Ferris Creek caused by installation of the exclosure fence alone.

<u>DMA location</u>: The existing Ferris Creek DMA will be within the fenced area and maintained to monitor long-term recovery – not for monitoring livestock use. As a result, there is a need to establish at least two additional DMAs in this use area. One could be established upstream from the existing DMA on BLM and at least one or two additional DMAs on the other streams in this use area (Hilltop Canyon, Crumb Canyon, Chicken Creek, and Rock Creek would be good candidates for this).

<u>Progress on Adaptive Grazing Management Plan:</u> Authorized livestock (20-40 head) were in the Ferris Creek area both early and late in the week, although the management plan indicated they should be there later in the season. In talking with the permittee, it was explained that the either dry or pregnant cows with no calves were put there with the idea they would stay until the remainder of the bunch joined them. Use in the riparian area has occurred, and was likely at or beyond the trigger on the DMA. Little willow browsing was noted, and there remained areas covered with vigorous stabilizers that if not grazed again this season might experience some herbaceous regrowth. At several points including here, permittees noted the difficulties of managing the "large herds" as the plan directs. This makes it even more important to avoid introducing small groups of animals before or after the use area is planned for grazing.

# 5. Mill Creek

*Existing situation:* The seep wetland area near the top of this reach on BLM was assessed in the initial round of riparian protection, and proposed for complete exclusion to protect this very important water production and natural riparian storage area. There is a short narrow stream reach adjacent to the seep area. A DMA is located on the stream just below the seep and is where mid-season and end-of-season use levels are intended to be assessed. This DMA was selected because it is the most sensitive riparian complex on BLM lands in this drainage. At the DMA, the riparian complex is relatively flat and dominated by herbaceous vegetation. The other riparian complexes on BLM lands in this drainage are not as sensitive to livestock and would not be appropriate for monitoring the effects of livestock management. They are primarily steeper stream reaches with a considerable component of willow and cottonwood with little herbaceous understory. However, the sensitive herbaceous complex where the DMA is located is immediately adjacent to a main mining haul road that is frequently bladed, with excessive road surface material pushed into the stream or carried into the channel during precipitation

events. This has created a stream reach that is highly altered with a limited opportunity for improvement and few management alternatives. The road severely limits the meander possibilities of the stream. The excess material and road surface run-off exceeds what the stream can process. While livestock use also contributes to the stream condition, the road essentially limits the potential for long-term riparian recovery.

The lowest section of Mill Creek, within and above the campground, has a series of headcuts that have degraded the stream. No evidence was observed that the lower headcuts were related to livestock use; the area has vegetation community of cottonwood, willow and other shrubs and little suitable grazing. More likely, the impact of excessive road sediments increasing the erosive power of stream flows along with thunderstorm events has led to the vertical instability.

<u>Proposed Fencing</u>: The NRST recommends that no fencing beyond the already proposed spring/seep area be constructed. Even that will require fencing directly along the road shoulder to fully contain the highly productive water storage area. That will require insuring the fence is located just below the shoulder toward the stream. It would be impractical and offer little benefit to fence the remaining lotic section within that reach. While there, the BLM staff reviewed the opportunity to move part of the already planned fence (away from the road) to beyond the small ridge for better mitigation of both cultural and sage grouse resources.

<u>DMA location</u>: The existing DMA was reviewed and while the stratification and location was properly done, the stream reach is too impaired by the road and from the continual deposition of road sediments to make an effective DMA. The MIM protocol discourages placing DMAs in locations where compounding activities make it difficult to establish cause and affect relationships. Because of the compounding influence of the road, it would be difficult to assess the effect of livestock grazing on this reach. It is also likely that this reach will always be in a low state of functioning-at-risk with little possibility for achieving an advanced ecological status. As long as the current road activities continue there is little/no value to investing in stream improvements to the lotic section. The recommendation for monitoring use indicators would be to establish an effective upland KMA in this use area. The existing DMA can be used into the future to monitor changes in the stream, but it is not appropriate to use the location for monitoring mid-season triggers or end-of-season stubble height. The only other possibly suitable riparian complexes are located on private lands.

<u>Progress on Adaptive Grazing Management Plan</u>: The permittee and consultant recognized the need to accelerate the management plan schedule, and begin to move out of this area. A total of 80 head previously in this use area had been removed from the allotment the previous week.



DMA location. Photo shows the proximity of the road to the stream and impacts created by the road.



Stream is between the seep wetland (left) area to be fenced and the main road (far right).



Incised lower section of Mill Creek not appropriate for a livestock DMA due to heavy brush and limited understory.

### 6. Fire Creek

*Existing Situation:* Fire Creek exhibited the best riparian health of all the reaches reviewed. There is approximately a one-mile reach from the BLM/private land boundary at the upper end and the fenced boundary to the east (lower end). At the top of the reach, a series of springs emerge (most/all) on private lands, providing water to a large wetland (1 acre plus) and a stream section below. The wetland area was proposed for fencing in round 1 of riparian protection analyses and needs to complete the decision process. Off-stream water will be developed on the private land, and piped using a solar pump to a trough on one of the low ridges south of the drainage; these water development activities need no BLM approval.

The area shows considerable value for prehistoric cultural resources during initial surveys, and this will need to be mitigated if fences are constructed. There are at least two other problems that need to be addressed in order to maintain riparian health. A series of small headcuts are present in the lower portion of the reach and continue upstream into the wetland. Mechanical repair of the headcuts is needed to reduce the risk of a major failure caused by a high intensity thunderstorm. Additionally, the upper end of the wetland on private land is at risk from high flows coming down the canyon. The use of a sheet flow spreader was discussed as a possible aide to reducing risk (sheet flow spreaders are structures that reduce the erosive energy of concentrated flows by distributing runoff as sheet flow).



Upstream view of a portion of Fire Creek lentic area. Springs emerge in this location at upper photo right. Livestock have used the area and been removed. Only a few stragglers remained during the NRST review.



Upstream (west), typical view of the lower lotic section, well-vegetated in bottom and on sides. Milkweed on mid-upper banks (arrow) attracting monarch butterflies, a species of international concern.

The permittee proposal reviewed was to continue fencing from the wetland down the lotic section to the lower boundary. This section is in a confined gully ranging in depth from 4-8 feet, with very steep sides. An alternative was discussed that would move the south side fence from near the creek to the ridgetop, and the north side high enough on the sidehill to avoid cultural resources. Steel pipe rails would be used at the upper end and on the level ground; possibly other sections, with standard BLM barbed-wire fences on the major portions. There was a good discussion about the added costs of the fence from the use of the steel rails. Several people expressed concerns that the costs were too great; one stated that it would be better to eliminate grazing there than spend \$100,000 on a steel pipe fence. There are numerous opportunities to involve partner agencies and groups on various portions of the project area. Given the complexity and need for a comprehensive project plan that considers all the needed elements; fence, headcut repair, sheet flow spreading, cultural mitigation and NEPA analysis for the portions of the project on public land, a project lead needs to be identified that can staff out the various needs and opportunities.

The permittee assigned to the use area strongly believes the entire project needs to be done as a package, and not just the wetland fencing. Part of his concern is that as long as the headcuts threaten the integrity of the lower stream and wetland, a thunderstorm similar to the one that caused the torrent in Rat Fink could blow out even the upper wetland. If the wetland alone is fenced, he believes livestock would be blamed for exacerbating the headcut risk below in that event, whether or not it is true.

<u>Proposed Fencing</u>: The NRST believes the total project should be considered high priority, but it is unlikely that the elements in the larger project can reasonably be planned and scheduled with those on private lands and the initial proposal for the wetland protection. It likely will take 12-18 months minimum to put together the planning, NEPA and financial plans. In the interim, NRST recommends moving forward with the original lentic area proposal, plus what can be completed on private lands, even if with electric fence instead of permanent fencing.

Mechanical restoration and stabilization of the headcuts is the highest priority project on lower Fire Creek public land as it addresses the greatest risk. NRST urges work with BLM, other conservation agencies, NGO's and others to accelerate planning for the headcut risk reduction.

<u>DMA location</u>: The team reviewed the current DMA and NRST found that the reach had been properly stratified, and the DMA was representative.

<u>Progress on Adaptive Grazing Management Plan</u>: Although no measurements were taken, there was general agreement that the mid-season trigger of 4" stubble height had not been exceeded. Average stubble height for stabilizing riparian species appeared to be 6-8 inches.

<u>Other</u>: Fire Creek is a very high value riparian-wetland area that is currently at risk. NRST recommends that this project be given immediate attention. Given there are multiple aspects to this project that will take time, a BLM project lead is needed to ensure this progresses in a

timely manner. This project and other important riparian projects strongly enforce the need to fill as soon as possible the vacant hydrologist position.

# 7. Corral Canyon

*Existing Situation:* The Creek in Corral Canyon is a small perennial stream adjacent to a two track road. The road does not appear to be creating riparian impacts and the stream has a presence of riparian-wetland vegetation. The channel at the DMA is not incised.

Proposed Fencing: No fence was proposed.

<u>DMA location</u>: The NRST reviewed the DMA location on Corral Canyon and agreed with the stratification and DMA location. The DMA is immediately adjacent to a road, but further down the character of the stream changes with more willow and other shrubs, and less herbaceous cover. It was likely the best available section even given the road location.

<u>Progress on Adaptive Grazing Management Plan</u>: Livestock use during this grazing season has been very light, possibly just cows trailing up the road. Although it was explained that cattle were not deliberately placed in this area, riparian use was apparent and the stubble height was probably in the 4-5" range (trigger close to being met). Given the lack of live water, it seems apparent that if cattle are placed here later in the year that these triggers will be very quickly exceeded, as a result, caution should be used if cattle are placed in this area again this season.



Corral Canyon DMA looking upstream. Riparian area has been used and is approaching triggers.



Corral Canyon DMA looking upstream, rushes and sedges present.

### 8. <u>The Park</u>

<u>Existing Situation</u>: This area has considerable opportunities for restoring a major wetland habitat. It is a large area with a mix of public and private lands, and cooperation is already occurring to advance restoration. One large fen/spring area is being proposed in round 1 for fencing on BLM, and just upstream, another will be fenced on private land. A third degraded wetland above these is also being considered depending on land ownership and willing landowners. Even though degraded, the entire area maintains important stabilizing riparian plants that could rapidly restore health with proper management.

*<u>Fencing Proposal</u>:* The primary recommendation is to continue with the currently planned fence projects. Longer term, strong consideration should be given to a public/private partnership whereby the entire Park area would be included in a riparian pasture that would provide positive control of timing, intensity and duration of grazing. The entire area over time should develop expanded wetland characteristics. With proper management, riparian-wetland plants will become more vigorous and productive, and the water holding capacity of the entire area can be greatly increased.

<u>DMA location</u>: The DMA location was observed and there was general agreement that the stratification and DMA selection was appropriate. Although there were few cows in the area, the 4" stubble height trigger was exceeded along the DMA.



Degraded BLM wetland/fen proposed for fencing in round 1 of riparian protection proposals. Foreground plants are iris, indicative of heavy grazing, soil compaction and drying site.



Degraded over-widened section of stream in The Park. Potential would be a sloping wetland, with no distinct channel. Stage is set for recovery – limited energy exists to widen/deepen the gully further and stabilizing riparian species are present (although limited in abundance). Recovery should occur once proper management is provided



DMA on stream in The Park (below the wetlands/fens and the gully in the above photo). Reach is seasonally dry in this photo but obligate riparian stabilizing plants still occupy the site.



Broad view of the park, showing the extent of potential riparian/ wetland areas that can be restored if managed for riparian recovery and livestock.

9. <u>Slaven</u> - This site was not reviewed by the CMG; it may need to be visited during the August CMG meeting.

# Upland Monitoring Locations (KMAs) & Protocols

Prior to the CMG meeting, there had been disagreements expressed about how upland monitoring sites were located in the field, whether or not there was bias in site selection, or if they were located too close to features that might not make the chosen site representative of the larger grazing area. A second issue of concern was related to the protocol used for upland monitoring. The Battle Mountain District has used the Key Forage method, stating that it is used throughout BLM Nevada. The other method is the Height-Weight method. Both issues were reviewed and discussed during the July CMG meeting.

#### **Upland Monitoring Locations**

Adam Cochran (BLM) and Steve Smith (NRST) developed a systematic approach to stratification and KMA site selection. The approach is similar to the stratification and DMA selection process outlined in the MIM protocol. The approach establishes a set of consistent, objective acceptance and rejection criteria using ecological sites, slope and distance to water sources (and other criteria) to identify strata that are candidates for key areas. This results in placing all possible key areas within a stratum and then uses a random point generator to locate the monitoring site; thereby minimizing bias associated with monitoring site selection. The proposed approach was presented to the CMG, and there was a healthy dialogue about the various features of the system within the CMG. CMG members voiced strong support, noting it was an excellent tool for helping first to randomly locate sites with a minimum of bias. They felt it would help resolve disagreements over perceived bias in monitoring sites selection; and issue that has festered on Argenta and other allotments. The protocol is being described and documented by Adam and Steve; a white paper will be made available to the CMG for review. If it this approach proves as successful as anticipated, it may become a tool adopted by both BLM and Forest Service units across the western U.S.

Upland monitoring site location is more complicated than in riparian areas, partly because they are not linear features like stream reaches. Uplands have more dimensions; there are different vegetation communities, elevations, slopes, patch sizes, etc. that must be accounted for. Each of these features is a separate layer in the digitized mapping system. By using Google Earth and other aerial imagery, the sites and features can be viewed in the office. However, the product ultimately needed to be ground-truthed in the field, to 'work the bugs out' and determine what kind of modifications may need to be made to improve the approach.

The CMG spent two days in the field testing how well the process worked in finding representative sites. The sites reviewed ranged from the lower elevation ranges to the upper elevations of the allotment. Overall, the results were excellent; although when coupled with the computer mapping that provides the initial screens on sites, it became necessary to develop a series of site-adapted "rejection-acceptance" criteria.

For example, one site was selected to be representative of a sage brush dominated ecological site; but when the random point was located in the field, it fell within a small patch of cheatgrass (an anomaly) not representative of the site. In that case, the initial site was rejected and relocated a certain distance straight upslope (in accordance with the draft approach); however, this placed the site on a slope greater than 30% (>30% is a rejection criteria). The proposed modification for this situation is to turn 90 degrees, and walk off the prescribed distance again. On this particular site, this resulted in placing the monitoring site in an appropriate plant community with no other rejection factors. Rejection factors also include major trails, small roads not visible on imagery, fire disturbed areas, and others.

The CMG also reviewed previously located monitoring sites that had been the subject of disagreement. To resolve issues with those, the test was whether or not the earlier identified sites met the rejection/acceptance criteria. At the end of two days, only one monitoring site remained an issue. The site was in the Horse Haven use area, where there is only one watering site provided by a well, and it provides water for a very large basin of relatively gently sloping rangelands. The selected (already established) monitoring point met all the criteria described; but there was concern over how much trailing would result in meeting the rejection criteria of "unrepresentative livestock concentration" and its proximity to burned areas and whether that was a consideration that needed to be added to the site selection criteria. Fire has burned a considerable amount of acreage in this basin and has created a mosaic of unburned "fingers" or

narrow polygons – the established key monitoring point is located within one of these fingers between burned areas and some trailing was apparent on the site. The established site was moved to this location from a ridge that was closer to the well – apparently for that reason. The previously established site was examined and found to be in a larger block of unburned area and not characteristic of the "finger" mosaic pattern landscape but it still appeared to meet the selection criteria. There was not agreement with the existing monitoring site location and a decision was made to re-stratify the landscape and locate the site in the landscape pattern that covers the most area in this basin (the finger pattern mosaic landscape or the larger blocks of sagebrush-grass).

There was no dispute on other sites, including several that were established earlier. Some of those were found to not meet the criteria and new locations will be developed using the protocol. Overall, the system was very successful in identifying sites, and with the insights gained from the field tests, some additional discriminating factors will make it even better.

## **Upland Monitoring Protocols**

Prior to the July meeting, the CMG had been asked to carefully review the literature and practical experiences gained by using the two monitoring protocols: Key Forage Species and the Height-Weight method. The CMG had good, open discussions about the benefits of each, and how they compared. One of the factors cited by several people was that the Height-Weight method was more quantitative in nature, and in the event of court challenge, could provide objective numbers to the court. BLM staff noted that the Key Forage method was the standard for Nevada BLM. The BLM agreed to review the literature and learn more about the Height-Weight method. The CMG decided to use both techniques for at least some of monitoring locations this fall to examine how the data compares. NRST is currently working on a more detailed refinement of each method with an automated data module; this is intended to improve the quality of upland utilization data. Additional discussion will occur on this topic during the August CMG field meeting; and NRST will recommend which method to use moving forward.

### South Boundary Fence

In preparation for BLM decision regarding the south boundary fence (settlement section 8.1), the NRST reviewed the proposed location during the July CMG meeting. The NRST upholds its recommendation to construct a boundary fence beginning on the south end to cleanly separate the Argenta and Carico Lake Allotments. NRST suggests that consideration be given to developing an agreement between the BLM, private landowners, and permittees that would fence the Argenta-Carico Lake boundary with fence placed on the private land (for some 6 miles) and about ¼ mile on BLM. This would eliminate any drift onto Argenta and serve to break up the Indian Creek use are to promote better overall management.

In the current season, there was evidence that livestock had 'drifted' onto the allotment prior to their authorized season of use. The riparian area in North Fork Mill Creek was already used, and riparian triggers were very close to being met (if not already met) prior to authorized Argenta livestock moving into the area. Given the emphasis on each permittee being responsible for their individual use area, this situation must be resolved.

### Stockmanship Progress

On July 27<sup>th</sup>, livestock had been on the allotment for less than a month. Permittees have been working to implement the scheduled rotations and stay within the assigned triggers. This is proving to be a difficult task, as was recognized when the agreement was being developed. Given the uncertainty associated with whether to not grazing would occur in 2015, time was limited to do the needed amount of training/coaching. Additionally, the delayed turnout coincided with haying, which caused further difficulties. Thus, the results to date have largely not been as positive as hoped. But, there have been clear examples of improvements from the way livestock were managed in the pre-closure period; and a lot of lessons are being learned that will help inform the end-of-season review and out-year planning. *For additional information and a more complete documentation of the work being done under the stockmanship approach, see Steve Cote's May and June reports (emailed to CMG July 28, 2015).* 

End of year monitoring of both upland and riparian sites will determine the initial results from which future management improvements will be measured during the subsequent two years. Everyone involved is learning a considerable amount that can contribute to the development of a full season of management in 2016. The continued drought, lack of adequate water resources and the degraded conditions of riparian areas that have been grazed for more than a century without regard for riparian health makes improvements in management (and ultimately resource conditions) difficult.

While no actual monitoring was conducted during the July CMG meeting, it was readily apparent that within-season triggers had been met or exceeded on several stream and wetland areas, and some upland sites. Permittees had moved herds out of those areas, but were having difficulty picking up all animals and moving them as a herd unit as they moved from a drainage or portion of a use area. They were also experiencing drift back into already used areas from 'bunch quitters' that leave the larger herd and return to where they may have been more comfortable; thus causing a constant need for continued riding and cleanup. Also, the process of low stress livestock handling is new to all of the permittees and their riders, and progress is not fast.

During discussions in the field during the week, there was concern expressed regarding the use of the supplement tubs and the potential impact they can create. Using the same tub locations each year can cause significant localized degraded concentration zones and sometimes new "roads" are created by vehicles driving to the tub site. These kinds of impacts can be detrimental to sage grouse – especially in priority habitat. The resulting discussion was that

tubs on the Argenta allotment will be moved each year and/or they will be located in areas that are already significantly disturbed and that efforts will be taken to avoid creating any kind of visible road to the tub site.

Even with all these initial problems, it remains the responsibility of the permittee to do the job they agreed to within the settlement. A discussion was held about the importance of removing livestock as triggers are approached. This is a clear obligation of the permittees to be monitoring and planning moves to avoid exceeding either riparian or upland triggers. Once triggers on all available portions of the use areas have been met (no use areas or portions remain that have not been grazed to the trigger levels), the livestock must be removed from the allotment regardless of calendar date. The scattering of animals on several use area is a problem that has accelerated trigger exceedance, and will prompt the need to remove livestock earlier than planned.

Within the next week, permittee consultants will monitor all use areas where triggers are thought to have been met/exceeded to document conditions. They will be taking stubble height measurements and placing 'regrowth cages' as needed to help determine (together with BLM's utilization cages) at the end of season what the total growth was, what the regrowth potential is, and whether or not the areas outside of the cages have been subjected to continued use. (See Evan's 8/3/15 email inviting CMG participation).

#### Updated Stockmanship Plans

Shortly following the July CMG meeting, Bob and Jack (permittee consultants) advised NRST on planned livestock moves. These are captured below.

1. TOMERA

In response to meeting or exceeding triggers, the Tomeras have been bringing cattle from North Fork and Trout, and Ferris, and the Park, into Indian Creek canyon (not Use Area), and then pushing them into Hilltop. Because of difficulties associated with keeping the cows together in a large herd in the Hilltop area they plan to stop pushing all the way over to Hilltop, and instead start using the Indian Creek portion of South Maysville. This is part of the original move to the 'late use area' per their 2015 Stockmanship Plan.

For the time being, the cattle will be split approximately 1/2 and 1/2 in the Hilltop canyon and Indian Canyon. Instead of constantly pushing back into Hilltop, they will focus on keeping cattle moved out of North Fork, Trout, Ferris, and the Park *riparian areas*. The Tomeras are hauling water, and are using the supplement tubs. The cattle are making good use of the tubs, and they will continue to use them as well as place the cattle on the new areas. When cattle come out of Hilltop and/or Indian canyon, they will go through Bateman and Slaven, and out.

#### 2. MERILUCH

Although no upland key area has been agreed to in the Horse Haven Use Area, the CMG observed considerable trailing out of the single well to the tub areas that are located in the burned/mostly cheatgrass portions of the Horse Haven Use Area. Although this trailing has also occurred in the past, it is believed to be more prevalent this year, due to the cattle moving in bunches between the well and the tubs. Options for remedying this will need to be discussed in December 2015 (or before) for the 2016 grazing plan.

In the next 8-10 days, the Meriluches will be locating water haul sites on private lands on the road to the Beowawe Highway (Whirlwind Valley Use Area), and will be hauling water to those sites. These sites take advantage of unused perennials and, more particularly, areas dominated by cheatgrass. Also, they expect that the mine will turn on the water source east of the Geothermal Plant (Whirlwind Valley Use Area), to make use of little-used forage in that vicinity. The "generator solar well" serving the Horse Haven and Whirlwind Use Areas (from which the trails are occurring), will be turned off and the reservoir drained to discourage further use by cattle in the area of the trailing.

#### 3. <u>FILIPPINI</u>

#### This will be inserted at a later date. An update will be provided to the CMG via email.

#### Cooperative Monitoring Group Function

The formation and initial meeting of the CMG was completed by July 8. During the July 8<sup>th</sup> CMG meeting, the settlement (and in particular the role of the CMG) was reviewed to ensure a common understanding. A set of ground rules for how the CMG would work together was approved, and the initial planning for the first field-based meeting (July 27<sup>th</sup> week) was completed. During the July 8 meeting, it was also stressed that all observations and monitoring results would be shared fully within the CMG. While the intent is for people to do things together; that is not always possible. It is important to share important information or even opinions as soon as possible (within 10 days) so it doesn't create the impression that people are sharing information only within their own circles. Additionally, an issue resolution form was finalized that described the process to be utilized where disagreement exists as noted in SA Section 12.

Given the contentiousness that has characterized relationships in past, the CMG has shown good progress in being able to confront and professionally work together to resolve longstanding issues including riparian monitoring tools and DMA locations, upland key area stratification and monitoring site identification, and protocols (not fully documented yet). Addressing fencing proposals for key lentic and lotic reaches also demonstrated the ability of CMG to work together even where disagreement remains. The CMG has had a good start, overall, although relationships remain tenuous and tensions are often just under the surface when discussing a number of issues. It will take time and practice to both listen with respect, and focus on solving the problems rather than attacking other CMG members. This also means that the BLM, permittees, and other CMG members need to hold each other to high standards, and to the extent possible eliminate the rumors and back-room discussions that are not supportive of success. If an issue exists, it should be checked out to the source, not circulated as rumor. Specific issues within the purview of the CMG should be vetted within the CMG before distributing questions and concerns to the broader group involved in the Argenta settlement. This can prevent perpetuating rumors and misinformation.

It has been stressed at several meetings now that our strategies and actions must be congruent with our beliefs and behaviors. In essence, whether think you can, or think you can't; either way you are right. There remains a lot of talk about the fact that the stockmanship plan is too difficult, and that the BLM/permittees will not pull their weight to ensure success. A shift is needed whereby CMG members acknowledge the difficulty this settlement presents for successful implementation, while also focusing on what needs to be learned/done to make it work.

Name	Monday	Tuesday	Wednesday	Thursday
Mike Lunn	X	X	X	X
Steve Leonard	Х	Х	Х	Х
Steve Smith	Х	Х	Х	Х
Mark Gonzalez	Х	Х	Х	
Adam Cochran	Х	Х	Х	Х
Alden Shallcross	Х	Х		
Bob Schweigert	Х	Х	Х	X
Jack Alexander	Х	Х	X (part day)	
Lynn Tomera	Х		Х	
Dan Tomera		Х		
Eddy Ann Filippini	X (Part day)	X (Part day)		
Sean Mariluch	X (part day)			
Ken Cole		Х	Х	Х
Sue Priest*	Х	Х		
Justin DeMaio*	X	X		
Gant Massey*				X

#### PARTICIPANTS

\* Sue Priest is a GBI riparian monitoring specialist working for Battle Mountain.

\* Justin DeMaio is a staff archaeologist on the district.

\* Gant is an environmental protection specialist and PhD botanist, came along because we needed an additional government UTV driver.