

**Field Review Walker Basin Allotment with V-V, USFS , UA Coop  
Ext and others- September 11, 2008  
Notes by Barbara Garcia, MRRD**

- **Present:**
- Heather Provencio, USFS,
- Jerry Mondell, Consultant
- Janie Agyagos USFS
- Lloyd Barnett, Consultant
- Robert Garcia, USFS
- Rory Steinke, USFS
- Amina Sena, USFS
- Laura Moser, USFS
- Barbara Garcia, USFS
- David Schafer , V-V
- John A Kaua, V-V
- Jeff Schalan, UofA CoopExt.
- Doug Tolleson, V-V
- Jim Sprinkle, UofA CoopExt.
- Larry Howery, UofA CoopExt.
- George Rule, UofA CoopExt.
- Wade Woodbury, V-
- Bopper Cannon, V-V
- Peggy Ingham, MDiamond
- Joe Hiller, UofA

**0900:** Began meeting at V-V headquarters. Heather Provencio, District Ranger, Red Rock Ranger District, emphasized the goal of the field review which was to look at V-V cattle production and range, heritage and natural resources together. The USFS would like to share the data we have to date and also gain knowledge/data from the V-V.

# 1st Stop Cedar Flats



Amina Sena, Hydrologist, Red Rock Ranger District passed out soils/watershed historic and existing assessment process maps and background information. Three stops were to be highlighted on the review.

# Cedar Flats, cont.



## Rory Steinke Forest Soils and Watershed Scientist discussed multiple data sets:

- How he determined the “colors” on the map that Amina handed out earlier in the morning, ie. Sat. soils, unsat. soils, etc.
- TES- Terrestrial Ecosystem Survey done 1988-1995 on Coconino NF. Rory personally mapped everything on Cedar Flats. Gave a huge thanks to U of A for championing the website where the 137 of TES mapping units can be readily accessible by all.

# Cedar Flat

## Discussions

- TES units cover all habitats from Cold, moist habitats like Spruce and Fir to Hot and dry habitats like the desert near Camp Verde.
- TES aids USFS by giving information on soil productivity thus allowing us to make management decisions/assessments.
- Rory took a large data set of TES units and aggregated them to a smaller set of units based on similarity.
- TES lists soil condition: Sat., Unsat. or inherently unstable. The TES extrapolates data over the entire forest so on site validation was needed and done through soil condition assessments.
- To address this, in 1994 the USFS looked at three soil functions:
  - a. The ability to infiltrate water ie compaction
  - b. The ability of soil to resist Erosion
  - c. Nutrient cycling
- Approximately 50 on-site assessments were made to evaluate all of the three functions listed above not just the original (pre 1994) data done on erosion. All was field validated.
- The Higher country came out to “Green”/”Sat.” Ponderosa Pine, Middle Elevation country came out to “Yellow”/”Impaired” Pinyon-Juniper, “Orange”/”Inherently Unstable or in the TES manual “Unsuitable”. This orange color also identifies areas that are naturally steep and no matter what is done will always have erosion. NOTE\* in mid-elevation alligator juniper per ecotones are satisfactory. Finally, low elevation “Red”/”Impaired or Unsat. (semi-arid desert). These are soils where there are concerns like compaction or nutrient cycling and erosion.

# Cedar Flat

## Discussions

- **Rory went over the data form that Region 3 uses and gave out handouts and examples to everyone.**
- There are three levels of analysis for the TES manual. First the Aerial interpretation maps are taken and digitized into a GIS. Then the following analyses are done:
  - 1. Observation points
  - 2. Full blown ecological assessment
  - 3. Three transects within each TES unit
- This data is peer reviewed by USFS personnel all the way up to the Regional Office
- Soil Horizon description/characteristics were discussed. Rory explained we have no long-term trend data but we are using historic vegetation data which indicates less desirable vegetation than what is at Cedar Flats now, for example, more snakeweed. Rory did also state that he has no hard data just personal observation over the many years he has seen the area.
- Dave Schaffer stated that Junipers in the area were measured 10 years ago and were 3-4 feet and now are taller and are taking more moisture.
- Rory stated that grassland soils could be more productive if not stressed.

## Cedar Flat Discussions

- Rory illustrated how soil condition assessments were done on every site. In site #1 there was no blocky structure, mostly granular and broken up. This indicates slightly impaired soils due to structure but on the positive end. For nutrient cycling what is capable on TES canopy 10-20% grasses, high composition of snakeweed with little to no litter.
- Diversity of grasses are present at Cedar Flats but not in correct/normal composition or productivity. Overall, these issues prompt management for change to promote desired condition.
- Jerry Mondell stated that pre-1990-actually in 1962 when he was District Ranger at Beaver Creek there was concern about the area. Condition and trend were done by Parker 3-Step. All was classified as potential range on Cedar Flat. 8,972 acres were chained at Cedar Flat and 800 acres or so were pushed. Windrows of 30-40' tall were seen and the area was burned in 1965. The area was then aerial seeded the following spring and chained again. At that time the area did not yield 100lbs production. Aerial photos of 50s-70s show all. Jerry thinks that the area (based on 50 years of Parker readings) and keeping in mind ups and downs over the years, is improving overall. He also said that during that time wildlife counts were: 19 Elk, 74 Pronghorn and a great deal more Mule deer and Whitetail deer.

## Cedar Flat Discussions

- It was asked of the USFS (Jim?) if and how the historic Parker 3 Step data was being used.
- Robert Garcia (USFS) stated that we are using the data and we are comparing it from year to year. However, can't use Parker 3 Step and TES together for comparison due to the fact that Parker 3 identifies frequency/hits and TES identifies canopy cover.
- RECAP DISCUSSION: What is the trend of Parker clusters (long-term trend)? Is the USFS using the correct data to interpret?
- Mr. Barnett? Stated the USFS needs to be looking at the cumulative effects of all things creating pressure at Cedar Flats.
- Dave Schaffer discussed the grazing regime at Cedar Flats: From mid-May to mid-June cows are present for 17-20 days. 180-190 head. The area is used to artificially inseminate cows. Cows before 2000 were using the North and South pastures but after 2000 use North pastures on the way up and the South pastures on the way down leaving strips of non-use areas for elk per USFS and AZGFD. At this time V-V also asked if they could break the cows up to manage for A.I. of 20-30 group animals for a total of 100-200 within each pasture. Once A.I. is done the cows go into one herd again. Jerry Bradley of the USFS agreed upon that.
- Water is a problem in Cedar Flat. Cows use the area more frequently but the V-V has not over-utilized the area. 35% utilization has been met based on the pamphlets the USFS gave them to use.

## Cedar Flat Discussions

- \*\* side note\*\* When western wheat grass turns blue V-V states range is “ready”
- (Jim?) A lot of elk use in the area. Cows could come off and there will still be no change in condition due to the elk. This area has the migratory herd to deal with in addition to the resident herd especially when the snow/weather is more extreme in the high country. There is also high use of the area by elk in the spring.
- It was discussed that vine mesquite and W. wheatgrass can handle variability-they are the only species that can take the “shrink” and “swell” dynamics of the area. There is some growth of these plants in the summer
- Rory asked if there is anyway to mitigate snakeweed? Anyway to control it?
- Dr. Rule and Jim stated that Snakeweed is heavily tied to climate and that perhaps a spring drought would help. Snakeweed is really cycling in nature.
- Rory asked “What did we get out of this first stop at Cedar Flats”?
- We don’t know if there is a need for change because we don’t have a good feel for trend? Monitoring is absolutely critical. We need to review the UA trend data thoroughly.

## Cedar Flat Discussions

- Dave Schaffer discussed the lack of water on Cedar Flats in more detail. Cattle distribution issues due to lack of water. Tank often goes dry. V-V wants to drill a well to improve distribution. Sometimes the pastures have been used when water was really scarce. Some years perhaps there was some over utilization due to drought. V-V tries to adaptively stock cows based on range condition. V-V would like to stay away from calendar dates on observation/utilization guidelines. V-V figures carrying capacity based on the low elevation country not the high country.
- Robert (USFS) asked the experts how would they use the Parker 3 Step cluster data? Robert explained how he is currently analyzing data.
- A: Dave? Look at aspects of hits on rock, bare soil, etc. Some is related to climate but long-term could look at soil surface protection to see if soil is becoming more compact or not etc.
- A: George Rule- thinks Robert is doing the right thing with the data. Point data and frequency data are best used with the attribute data thus being ecological. If the data is scored then just “cows” but if you use attribute data than it can be used for ecological integrity analysis.
- A: Look at frequency over time of grasses etc. Mix and match to get information.

# 2nd Stop Wikkiup Draw (12 Noon)



# Wikiup Draw, Stop #2



# Wikiup Draw, Stop #2



# Wikiup Draw discussions

- E. Wikiup pasture. Soils in unsat. but side slopes in better condition (impaired). Soils do not have nutrient cycling function at present time. Russian thistle is predominant vegetation. Lacking diversity composition. Large gully present for a long way down the pasture. Soil breaks into blocks. Current condition impaired. Concerns about the watershed and water quality because E. Wikiup drains into several areas including the Verde River. Adding more sediment and turbidity to the Verde. USFS recommends closure of the pasture or dramatic change in current grazing plan. Perhaps could try fencing or closing all three pastures.
- Heather (USFS) discussed that the agency is looking at TMR (Travel Management Review) on the area and cross country travel. USFS is proposing to close roads around Wikiup.
- Janie (USFS) discussed AZGFD and land owner challenges and attempts to decrease herd size of elk. Her personal observation based on many years of riding the area that elk bed down in the area but move down low to feed. Not sure if wildlife competition is an issue (additive) to what we are seeing in this pasture.
- In the greater area headwater control work is being worked on via grants (Peggy of MDiamond headed much of this work).

- Pete Hawkins of U of A and retired Hydro Dave looked at the area in the 1990s. At that time vine mesquite was present and definitely the area has the capability of it being there. After cows were gone or at least more rare. If we want more bank stability vine mesquite is great but in order for this plant to persist must be able to grow to at least 1' tall before it can be grazed.
- Dave Schaffer-Only use each pasture for 6-7 days/year in April. What is the USFS going to do to fix the problem if cows come out?
- Jim-road is contributing a lot to the problem.
- Historically the area has always had problems. 1960s the Regional Forester recognized the area and thought that if the cows were managed more closely up on the benches and sides things would improve. Seemed to work – Jerry Mondell
- Jerry-study plots were done by himself, Don Jaimison and Henry Pearson. 2 plots ground cover on deferred rest/rotation vs. no grazing for an 8 year period. Didn't see a lot of change at the end of those 8 years.
- Rory-how much trampling was observed along the gully?
- Not much unless that year they hayed and seeded the gully
- Dave (Hydro)-is seeing some progression on the gully since 1990s.
- Jim-When did gully start"

- Jerry- 1924 identified massive erosion on travel ways also in Beaver Ck. And Russell Wash.
- Rory- we know there is an ecological need for change. Road to administrative use only and repair it? Closure through TMR? Fence from grazing?
- Dave Schaffer-Doesn't have a problem fencing but wants to see a plan to fix the area. Regardless, the area will need to be heavily managed and is not going to recover naturally.
- The group discussed possible options for restoration. Questions asked: What is flow of area? Has it been modeled?
- Jim-there are bigger issues than just road closure (obliteration is maybe a better choice). Very slow recovery though.
- Heather discussed how difficult it is for USFS to commit to treat large acres of P-J or commit to one Hydro restoration project due to money issues.
- Peggy discussed the flip side that one can not obtain money for these projects unless the NEPA is done.
- Heather suggested that perhaps permittees or other interested parties pay for the NEPA. Regardless, the USFS will still be looking at opportunities in a smaller scale and will have NEPA review.

- V-V wants language to be open in the NEPA enough to have flexibility to do improvements. For example: move 1 fence to a different location after NEPA has been done due to better information or change in conditions.
- Heather- the USFS has to do what we say we will do in NEPA. We have to be realistic about what we can accomplish and what monies are available.
- Comments that mesquite is heavily encroaching the area. Additionally, it was discussed that the gully could be seen as a natural process? Are we managing vegetation to stop erosion or are we managing vegetation to increase all over integrity?
- Rory-Manage vegetation to improve soil productivity
- Discussion on the great amount of water that comes down the gully every year.
- Rory stated that Dr. Odum at NAU engineering could do some work to improve the gully but is uncertain of potential treatment effectiveness.
- Dave Schaffer- can we stop or slow the water by putting in another tank?
- Dave (Hydro)-would have to be a lake to slow it down.

- Jim: General comment before his departure- want to make sure that Dave Schaffer is involved from the beginning for problem and solution discussions.
- Heather- the USFS is at the beginning of the process and he will be involved. She also discussed that meetings of more than 6 people don't really work. Others in the audience disagreed.
- Dave Schaffer- concerned about Proposed Action (PA) and not being involved from the beginning. His impression was that V-V was not being asked or included in the data gathering.
- Heather-At this point, USFS at the beginning and the group needs to come together to come up with a PA or idea that will help and withstand legal scrutiny. The USFS hears arguments from both sides. Therefore, the USFS goes strictly on what the data is showing!
- Does cattle have a huge impact or is it a small contributor overall?

# 3rd Stop-Exclosure/Reference Point 1418 PM



- Willard Pasture reference point. TES 402 Juniper to semi-desert. Desired condition from inside of exclosure. Fluffy soil, diverse plant community.
- Amina and Rory used and area outside the exclosure near the road only to test and illustrate soil structure (1" or so plates) not to monitor.
- Discussion on making sure that areas of sampling are truly representative of area.
- A hole was dug on the northeast side of the exclosure on the outside. Debris piles (burms) and rock pedestals are evidence of erosion. Soil classification of 7-10" to be considered a grassland soil (dark soil). Not capable of as much production = alphas type.
- Q: Do small mammals create some of the soil pedestalling under the shrubs? How much?



- Soil compaction was illustrated outside and inside the enclosure and measured in lbs/square inch. On the inside = 100lbs/in<sup>2</sup> and on the outside = 275 lbs/in<sup>2</sup> (5+ samples per area).
- On the inside of the enclosure the soil is spongy. Would like to see more of this type of soil throughout allotment. Black gramma present, side oats and many ants indicating soil aeration.
- Caution should be used with enclosure as it is very artificial. In actuality it is very natural (what it should look like if there were no disturbances), but the point is we will never get away from no disturbance in outside sites.
- V-V cows are in Willard pasture in April. MDiamond has their cows in the area in Jan.-Feb.
- Wildlife analysis and discussion by Janie and Barbara (USFS)- There are over 50 species of threatened, endangered, sensitive or Coconino forest plan management indicators (MIS). All biotic communities are found on allotment. Difference between MIS and threatened, endangered and sensitive species analysis is that MIS accounts for Management Areas or habitat types. We also analyze migratory birds and general wildlife or species of special concern like black bear.

- Janie gave a brief overview of what species are on allotment. Discussed obligate species and differences in nest and foraging effects. Fish, frogs, snakes, PFAs (Post fledgling Areas for northern goshawk), MSO (Mexican spotted owl PACs-Protected Activity Centers), mice, voles, shrews, and turkeys to name a few. She informed the group about contacts with NAU, AZGFD and USFWS.
- Emphasized Pronghorn connectivity and fence lines being forest plan approved smooth wire with at least 18". Water areas important for lactating does and other wildlife like bats and frogs.
- Storage tanks will have screen tops and escape routes as per forest plan requirements.
- Walker Creek-fencing for fish---gaps need to be maintained
- Russell Wash is suitable for birds and currently does not have a very diverse plant community. PFC indicated non-functioning.
- Improve woody and herbaceous vegetation on Russell. Does anyone have any ideas on how to do this?
- Resident elk herd and migratory herd. Janie was aware of the elk conflict in the pine type but had never heard of it in the P-J.
- V-V built over 200 ramps with BCI (Bat Conservation International) monies in association with Mingus FFA Chapter and AZGFD. Willing to give to those in need, let them know where and when. Also if we can inform them of what this year's elk counts were.

- Laura Moser (invasive spp. coordinator USFS)-Rare and endangered plants: In the high country-Sunflower and Penstemon. Watch new fences and get surveyed prior to implementation. Low country-habitat for Arizona cliffrose (endangered) but no known populations. Will need to do surveys for new water developments. Mostly this occurs on steep/rocky slopes.
- Weeds- lovegrass-work together to keep populations low (roads are the vector) and the plant is a huge fire hazard.
- 2 starthistle types-SW rim of allotment (Gypsum and Winter heifer pastures). OHV use is spreading weeds. Biological control and hand pulling is being implemented and herbicide will be used next year. Surveys need to be done BEFORE ground disturbance.
- Archeology (Heather for Travis USFS)-only areas of concern are where cattle congregate

# 4th Stop-Fenceline @ V-V and MDiamond boundary.

- MDiamond looks really good
- Robert (USFS) Who else needs to be involved? Depending greatly on TES data and Mondell's data as well as current data Range Crew (USFS) collected to figure out how close we are to what should be here (vegetation wise). Relying heavily on Rory's soil report. Trying to figure out appropriate use in all three elevations. How should distribution/rotation be tweaked to fit 55% and desired condition. Please help anyone who has more data. Work together on this.
- Dave Schaffer- please use data that the ranch as provided. So far Robert has been using this data primarily for stocking rate and rotation.
- Close out- Heather: Thank you. Contact us. Share data.

