

Date Creek Ranch Coordinated Resource Management Plan

Ranch/Allotment Name

Date Creek Ranch, State Grazing Lease 05-3320

Coordinated Plan Participants

Owner: Kim Knight
Natural Resourced Conservation District: Triangle
Natural Resources Conservation Service: Prescott Valley Field Office
Arizona State Land Department: Prescott Field Office
Farm Service Agency County Office: Flagstaff

Description of Ranch and Location

The Date Creek Ranch is located approximate 15 miles northwest of Congress, Arizona. State Highway 93 bisects the ranch diagonally from the SE to the NW. The northeast side of the ranch consists of steep mountains with narrow canyons, soils are shallow and the surface can be very rocky with numerous rock outcrops. The southwestern side of the ranch is a sloping alluvial fan with relatively deep soils and few rocks on the surface. Elevations range from 2500 feet in the south to 3500 feet in the Date Creek Mountains in the northeast portion of the ranch.

Vegetation in the alluvial fan landform is dominated by creosote with little perennial herbaceous understory. Joshua tree, yucca and various cacti also grow in this area. The more mountainous area consists of creosote, paloverde, mesquite, Joshua tree, yucca, range ratany, buckwheat and ocotillo. Perennial herbaceous undergrowth can consist of big galleta, tobosa, black grama and threawn grass species. Desert marigold and globemallow are the major perennial forbs. With average or above average winter precipitation spring annuals such as filaree and foxtail production can be over 1,000 pounds/acre.

The northwestern part of the ranch is the transition between the Sonora and the Mojave deserts. Areas in this part of the ranch have both Saguaro cacti, an indicator plant of the Sonora desert, and Joshua trees, an indicator plant of the Mojave Desert.

The perennial stream Date Creek flows through the northern portion of the ranch. Willows, cottonwoods and an understory of Bermuda and other grasses and forbs make up the vegetation component along Date Creek. The invasive tree salt cedar is becoming established near the headquarters and in the lower reaches west of headquarters. Salt cedar is not listed as a noxious weed by the Arizona Department of Agriculture; however, it is listed as a noxious weed by the U.S. Department of Agriculture. This highly invasive species is known to cause change in ecological conditions that tend to eliminate native species and reduce water deliver, due to its ability to transpire large amounts of water during the growing season. Salt cedar has negatively impacted Date Creek resources. Date Creek is the only flowing water in this part of the desert and wildlife rely heavily on these waters.

Annual precipitation on the ranch is 10-12 inches with much of this coming during the monsoon season (June 15 - September 30). Temperatures on the ranch in the summer can be over 100 degrees.

Land Status

Private Controlled	650 Acres
State Trust Land	37,089 Acres
Total	37,739 Acres

Benchmark Condition

The resource concerns identified and noted in the area include:

- Plant Condition – Productivity, Health and Vigor
- Plant Condition -- Noxious and Invasive Plants
- Domestic Animals – Inadequate Stock Water.

Water development is planned for the Martin Grazing Cell, in the southern portion of the ranch. Developed water is necessary in this area to take advantage of the annual forage this area can produce in normal and above normal winter precipitation years.

A brush management project is planned for reducing the density of the invasive tree salt cedar in Date Creek.

Brush management projects are planned to improve the bio-diversity of a particular area. These projects are called brush management but the target species can be both brush or trees. These areas have a targeted plant species such as salt cedar that is increasing in density and population. These plant species are usually called invasive. Once the populations of these invasive species reaches a certain amount and begins to dominate the area, bio-diversity is impacted. This impact is evident in the lack of different types of plants and their amounts in the vegetation community found in the area. The values this area has in wildlife habitat, forage production, watershed condition, recreational opportunities or other values may change as the invasive species increases and other plants disappear. Without a brush management project to help restore bio-diversity, the change in the above mentioned values can impact a larger area as the invasive species increases. The intervention in the form of a brush management project is necessary because the process of invasive species "taking over" will usually happen if no action is taken to prevent it.

Goals

- Improve species composition, diversity and structure for the desired plant communities needed to protect the land and support the planned land uses.
- Provide adequate vegetative cover to improve water quality, prevent accelerated erosion, prevent excess runoff, and provide adequate cover for wildlife.
- Maintain the long-term health and diversity of wildlife populations.

- Maintain a self sustaining economically feasible ranching operation.

Objectives

The objectives of the CRMP participants are to:

- Increase plant productivity in areas closer to the reliable watering facilities.
- Provide reliable water to pastures within the grazing system.
- Have greater control over the movement and distribution of livestock within the allotment.
- Implement prescribed grazing which provides grazing and rest periods in each pasture that will allow grazed plants to re-grow, regain vigor, produce seed, and establish new plants when climatic conditions are favorable.
- Install fencing and water developments as needed to control timing and distribution of livestock grazing.
- Establish permanent monitoring sites to monitor long term changes to the plant community and determine if plant community goals are being achieved.

Plan/Schedule of Improvements

The practices identified in this plan to address the resource concerns are:

1. Install 17,000 feet (3.2 miles) of above ground pipeline. This pipeline will connect Green Tank in section 26, T.10N, R.6W, to Martin Tank in section 1, T.9N, R.6W.
2. Install four 5,000 gallon storage tanks at Martin Tank location in section 1, T.9N, R.6W.
3. Install a 1,000 gallon trough at the Martin Tank location.

This water improvement will provide water to the middle of Martin Pasture Cell. This 6,772 acre cell is divided into 9 paddocks. The developed water will service all 9 paddocks in this cell. Livestock will be concentrated at high densities for short time frames when annual forage is available.

The other practice is:

4. Implement brush management to control the amount of salt cedar trees in a 10 acre area in Date Creek. Salt cedar is impacting the resources in Date Creek by decreasing bio-diversity in the area. Salt cedar is able to out-compete other plants for sunshine, nutrients and water. As these other plants disappear over time as a result of this competition, salt cedar can spread into the spaces they once occupied in the landscape. As this process continues, salt cedar will start to dominate the area. The current resources such as wildlife habitat and livestock forage of Date Creek are dependent on the amounts and the different types of vegetation that grow there. If vegetation in Date Creek is changed, these resources will change. Salt cedar needs to be controlled to prevent this from happening.

The cut stump method will be used to treat salt cedar. This method consists of salt cedar trees being cut near the ground surface and then the stump is sprayed with an herbicide right after the cut is made. This method is very selective. Each individual salt cedar tree is located and cut, then the stump treated with herbicide. Only enough herbicide is sprayed to completely cover the stump and not allowed to puddle or run down the stem into the ground or water. Salt cedars can be treated by this method with non-targeted trees adjacent to them not affected by the treatment.

The Natural Resources Conservation Service (NRCS) is responsible for the specifications and designs for these practices. The NRCS will certify completion of all practices installed.

The Arizona State Land Department (ALSD) is responsible for cultural resource clearances and the processing of permits required for placing improvements on State Trust land.

The producer is responsible to construct the practices identified in the NRCS plan and EQIP contract and follow the standards and specifications associated with each practice. The producer will obtain all necessary permits to place the improvements before a practice is implemented and is responsible for maintenance of the practices for the life of the practice.

The above 4 practices are listed in the 2012 Environmental Quality Incentive Program (EQIP) contract between the NRCS and the Date Creek Ranch. The water improvement practices in this contract are scheduled to be installed in 2014 and the brush practice is schedule for 2013. The practices can be implemented as soon as all permits are obtained and all designs and other preliminary work are completed.

Alternatives

Alternatives to address the inadequate water for livestock and wildlife in the Martin Grazing Cell and the present density of salt cedar in Date Creek are:

1. No action
2. Develop water in the Martin Grazing Cell for livestock and wildlife to be able to utilize forage in the cell. Treat 10 acres of the invasive tree salt cedar by the cut stump method in Date Creek on private land.

Alternative 1 plans no change from current conditions and the Martin Grazing Cell will continue not to be grazed by livestock due to the absence of developed waters. Additional grazing pressure is put on the forage plants in the other pastures without the use of Martin Grazing Cell. This additional grazing pressure can impact the health and vigor of these plants. Alternative 1 does not address this resource concern.

Alternative 1 also does not address the resource concern of the invasive plant salt cedar from increasing in density in Date Creek. Stefan and Kim Knight, the managers of the Date Creek Ranch report that the salt cedar in Date Creek has increased in numbers and density. Kim reports she can remember Date Creek without any salt cedar trees when she was a little girl growing up

on the ranch. There are many examples in Arizona where salt cedar is now the dominant vegetation on the banks of washes, streams and rivers such as Little Colorado, Verde, Gila, Big Sandy. The increase in salt cedar has reduced the bio-diversity in these locations and has had significant impacts on their resources.

Alternative 2 will result in dependable developed water for livestock and wildlife use in the Martin Grazing Cell. A grazing schedule can plan for use of the Martin Grazing Cell when forage is available and reduce grazing pressure on the other pastures of the ranch.

In Alternative 2, the invasive plant salt cedar will be controlled using the cut stump method in Date Creek. This control will reduce the spread of salt cedar and also reduce its impact on the riparian resources in Date Creek. This project is on private land in the Date Creek Home Pasture. An Intergraded Pest Management Plan will be written for this project.

Alternative 2 is the preferred alternative in this plan.

Prescribed Grazing Plan

The current authorized use on State Trust land is 339.7 animal units per year. This is 4,076 animal unit months (AUMs). The ranch is stocked significantly below this number due to the continuation of drought conditions. In 2012, the ranch has a total of 225 head of cattle. This number can fluctuate throughout the year depending on the amount of rain the ranch receives and the forage production as a result of those rains. During times when numbers need to be reduced, additional cattle are sold and/or additional pastures are rented to remove cattle off of the ranch onto these rented pastures. Also, during times when feed is more abundant, when possible, the ranch is stocked higher by buying more cattle or keeping more replacement heifers. Market prices are always unpredictable and any management decision to buy or sell is only out of extreme necessity and is not a routine practice for the ranch. Leasing additional pasture is also dependent on market prices and not planned as a routine management practice. Cattle numbers are kept at a number where the above practices are only used in extreme situations.

Controlled Private	0 AUMs	650 ac
State Land	4076 authorized AUMs	37,089 ac

Planned Grazing Rotation

The ranch practices a high intensity/short duration grazing schedule over the 6 grazing cells on the ranch. The 6 cells are Blue Tank, Black Hill, Sheep, Alamo, Pool and Martin. There are several paddocks in each of these cells; also there are several individual pastures that are used as special use pastures and may not be included in the grazing cell pasture rotation but scheduled individually. Cattle are rotated through the paddocks of the cells according to grazing levels and goals of the ranch. Rotations are subject to monthly and yearly adjustments according to precipitation in the cells and throughout the whole ranch. The overall general goal of this grazing system is to sustain the grazing and other resources on the ranch. Intense planning of their grazing system along with other management practices is necessary to account for the very hot and dry climate the ranch is located in. Some years, an extended drought can produce very little

forage over the entire ranch. It takes best management practices to continue to operate during those times.

The southern portion of the ranch is more dependent on annual plant growth to provide significant forage and grazing systems cannot be followed in these areas without the rains producing this forage.

The Martin Grazing Cell where the water development in this plan will be located is proposed to be used for 60 to 90 days during the year depending on rainfall and forage production.

Date Creek Home Pasture is a very small pasture and used for special purposes.

Monitoring Plan

There have been several years of monitoring conducted on the ranch by the ASLD Prescott Field Office and the ranch. This monitoring has been on established transects in key areas of the ranch. The NRCS agrees to participate in this monitoring.

Pasture Inventory and Assessment

The Pasture Inventory and Assessment section in this plan is intended **only** for the Martin Grazing Cell and Date Creek Home Pasture, where physical or management practices in the EQIP contract are installed or implemented. On the pasture with EQIP contract items, only those resource concerns are listed which the physical or management practices address; also, the improvements listed to address these resource concerns may contribute but do not completely solve the resource concern associated with them. All resource concerns in these pastures are not addressed in the Pasture Inventory and Assessment Concern list.

Pasture Name: Martin Grazing Cell and Date Creek Home Total Pasture Acres: 6,812

Pasture Ownership Acres: Private Owned: 40; State Trust land: 6,772

Pasture Resource Concern Assessment / Used for NRCS Planning

Major Landforms	Bottom Soils (Along streams and washes)	Upland Soils
Soil Erosion		
Soil Condition		
Water Quality		
Water Quantity	X	X
Water Distribution	X	X
Water Runoff/Flooding		
Plant Composition	X	X
Plant Structure/Cover		
Plant Productivity	X	
Noxious/Invasive Plants	X	
Listed Plants		

Plan Approval

We, the undersigned, have participated in the development of the Coordinated Resource Management plan, concur with the plan and those responsibilities assigned to us, and will act to implement it to the best of our ability.

Name	Representing	Date
<i>Stephen M. Williams</i>	ARIZONA STATE LAND DEPARTMENT	9/19/2012
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Name	Representing	Date
Stephen M. Williams	ARIZONA STATE LAND DEPARTMENT	9/19/2012
BATS	USDA-NRCS	9/19/2012
Kim Knight	Date Creek Ranch	10/5/2012

Conservation Plan Map Date Creek Ranch

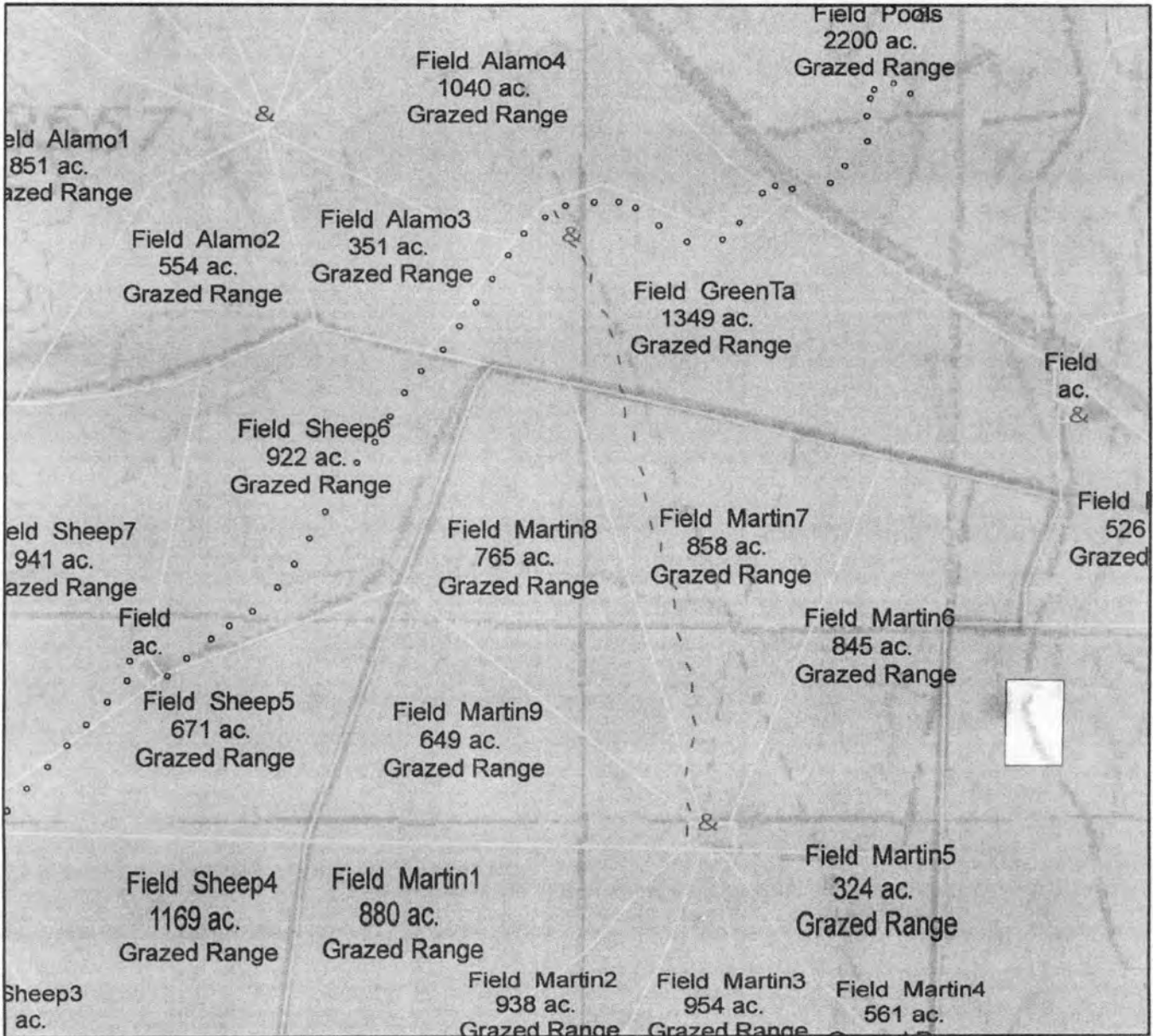
Customer(s): KIM KNIGHT

Agency: USDA-NRCS

District: TRIANGLE NATURAL RESOURCES CONSERVATION DISTRICT

Field Office: PRESCOTT VALLEY SERVICE CENTER

Legal Description: Green Tank is in Sec. 26 - T10N - R8W



Legend

Practice name

- & Watering Facility
- ° PipelineAlignment
- MartinTankLine
- Salt Cedar Control
- Consplan

ownership_az025

- <all other values>
- CATEGORY**
- Private
- State Trust

