



Decision Memo

Cartwright Allotment Water Project

USDA Forest Service
Tonto National Forest
Cave Creek Ranger District
Maricopa Arizona

Background

The Cartwright Allotment Water Project is located within the Cartwright grazing allotment on the Cave Creek Ranger District of the Tonto National Forest in Maricopa County, Arizona. The project area is approximately six miles north of Cave Creek, Arizona along Forest Service Road 24. The legal location of the project is Township 7N Range 5E (see Appendix A for project area map). The current grazing permit for the Cartwright allotment authorizes 350 cow/calf pairs, year-round, with yearling carryover.

In 2005, the Cave Creek Complex fire burned a substantial portion of the allotment, damaging or destroying numerous miles of rangeland fence and other range improvements. Following the fire, the allotment was put into non-use through a memorandum of understanding between the Forest Service and the permittee to allow range conditions to recover (February 2008). Subsequently, the base property (private property attached to the grazing permit) was sold and the new owner was granted the grazing permit for the allotment in the fall of 2009. Non-use agreements were continued as conditions improved and the new permittee completed repair/reconstruction of fences and other needed improvements. Cattle were slowly restocked onto the allotment beginning in 2017, and the permittee anticipates running the full permitted numbers (350 cow/calf pairs) for the 2020 grazing year (see full discussion on page 5).

During the long period of non-use, vegetation and range conditions have responded well. However, because there was no active grazing taking place, water developments, springs, and stock tanks were not maintained. As a result, most of the spring developments are no longer functional and many stock tanks are no longer holding water. Despite the permittee's best efforts to repair and reconstruct these improvements, available water across the allotment is intermittent at best. Scarcity of water on the allotment can reduce the distribution of cattle, thereby forcing cattle to congregate around riparian areas and the few available water sources. Lack of available waters on the allotment continues to challenge management of the allotment for proper animal distribution and forage utilization.

The Cartwright allotment is located in the middle of the Arizona Game and Fish Department's (Department) Game Management Unit 21. This game management unit has been identified in the Wildlife Habitat Enhancement Initiative where there is an effort to restore wildlife habitat and water sources for wildlife. The Tonto National Forest, the Department, Arizona Mule Deer Foundation, Arizona Public Service, volunteers, and ranchers have all partnered to help restore water for wildlife and livestock in this game management unit. The current grazing permittee's private property, the "base property" for the ranch near the center of the allotment, has a water claim from seven springs which would provide a portion of the water for the project and contribute to the collaborative effort.

In response to historic drought conditions experienced in 2018-2019, the Tonto National Forest worked with grazing permittees to develop and implement water projects to help mitigate the impact of drought.



These projects continue to help permittees plan for and respond to drought conditions while also providing the benefit of reliable water sources to local wildlife populations. The Cartwright allotment, however, did not develop any additional water sources during the 2018 effort and additional water sources are needed as described above.

Purpose and Need

The Cartwright Allotment is located in the Tonto National Forest Land and Resource Management Plan (Forest Plan) Management Unit 1F. This unit is described as a general management unit on the Cave Creek District with management emphasis on a variety of renewable natural resources with primary emphasis on wildlife habitat improvement, livestock forage production and dispersed camping. Livestock in this management unit are to be managed at Level D (Forest Plan page 68-1), which is described as;

Management seeks to optimize production and utilization of forage allocated for livestock use consistent with maintaining the environment and providing the multiple use of the range. From all existing range and livestock management technology, practices may be selected and used to develop cost effective methods for achieving improved forage supplies and uniform livestock distribution and forage use... Cultural practices may be combined with fencing and water developments to implement complex grazing systems and management methods (Forest Plan page 243).

Additional guidance can be found in Forest Service Handbook 2209.13, Chapter 90 (Grazing Permit Administration; Rangeland Management Decision making).

The Forest Plan also provides the following direction for managing wildlife habitat on page 41:

- Provide year-round water in big game key areas, focusing in areas of existing dirt tanks to minimize disturbance.
- Continue close coordination with State and other federal agencies for the benefit of plant and animal species.
- Maximize coordination with the Arizona Game and Fish Department regarding State listed species and their habitats.

Decision

I have decided to implement the following projects to increase the number of dependable water sources on the Cartwright Allotment through the construction of structural improvements including water lines, troughs and storage tanks. Installation of these improvements will make areas of the allotment usable to wildlife and livestock that were previously unusable due to a lack of water. This will improve distribution of livestock and decrease grazing pressure currently concentrated near existing water sources. The water developments will help distribute cattle in the uplands and out of riparian areas, provide reliable water for wildlife, and allow for proper rangeland management during drought and other environmental challenges (e.g. fire). No new roads are authorized with this project, and vehicle use for project activities will be limited to existing roads. These projects are depicted on the attached project map in Appendix A.

Specifically, this Decision authorizes the following:

Ashdale Pipeline

This decision authorizes the use of the existing well at the Ashdale administrative site. A storage tank will be placed at the well site to supply a new pipeline. The pipeline will be approximately one- and one-half miles long and will connect to two additional storage tanks and a total of six troughs. The pipeline at the



Ashdale well will be placed on the gentle slope above the historic site of the former Ashdale Ranger Station.

To avoid impacts to Cave Creek and the riparian area:

- The FS has recently installed a gauge on Cave Creek to monitor median monthly flow.
- During the calibration period of the gauge, the pump will be limited to no more than 10 gallons per minute, and, the well **will not** be used during the months directly preceding and during the time of seasonally lowest flows in Cave Creek (i.e., May, June, and July). Restricting pumped volume and season of use will protect instream flow in Cave Creek.
- The use of this well, regardless of amount, would only be permitted if there are no documented impacts to Cave Creek. If, at any time, it is determined that median monthly flow in Cave Creek is less than the Forest Service's certificated instream flow right, the volume of water permitted to be pumped may be reduced or eliminated to protect instream flows.

Quien Sabe Pipeline 1

A pipeline, approximately two miles long, will be fed from the private property at the Cartwright ranch using the permittee's water claim from seven springs. The pipeline will connect to three storage tanks with a trough at each storage tank location, and two additional troughs.

Quien Sabe Pipeline 2

A pipeline, approximately 1.8 miles long, will be fed from the private property at the Cartwright ranch using the permittee's water claim from seven springs. The pipeline will connect to two storage tanks with a trough at the storage tank location, which will feed two additional troughs.

Bronco Pasture Pipeline

A pipeline, approximately 2.6 miles long, will be fed from the private property at the Cartwright ranch using the permittee's water claim from seven springs. The pipeline will connect to four storage tanks with a trough at each storage tank location.

Machakatee Spring Pipeline

A pipeline, approximately 4.1 miles long, will be fed from the Machakatee spring. The pipeline will connect to one storage tank with a trough at the storage tank location, which will feed three additional troughs. The storage tank will also feed into Starvation Ridge tank (an existing dirt stock tank). One of the troughs on the pipeline will be placed in the footprint of Buzzard tank (an existing dirt stock tank) to provide reliable water when the tank is dry. A valve and meter will be installed on the new pipeline for livestock and wildlife use. The Forest Service's certificated water right is for multiple uses, including nearby recreation facilities, and is not to exceed 14,400 gallons per day and 16.12 acre-feet per year for all uses. The Forest Service will provide up to 4,500 gallons per day, or total use of up to 5.38 acre-feet per year, on the portion of the Forest Service water right for Machakatee Canyon that will be used for the permitted number of livestock and wildlife. A meter on the pipeline will ensure this amount is not exceeded because the Forest Service does not have the authority to authorize any amount over and above its water right of 14,500 gallons per day. The use of the water as described above is not anticipated to dewater the spring. The pipeline will be located on the south side of the canyon to avoid heritage resources.

Maggie Mae Spring Pipeline

A pipeline, approximately 0.6 miles long, will be fed from Maggie Mae spring. The pipeline will connect to two storage tanks, one of which will include an adjacent trough. Maggie May Spring has an existing concrete trough that is no longer useable. One storage tank will be close to the spring source and the other will be on top of the mountain with a trough. The spring source will be fenced to exclude cattle. This will help to better distribute water to the uplands and keep cattle from lingering in the wash. Troughs and tanks associated with Maggie May will not exceed 270,000 gallons of use per year or 1,000 gallons per day. A meter and valve will be installed at the spring source so that the Forest Service can better understand the output of the spring and ensure the Forest Service water right is not exceeded. The use of the water as described above is not anticipated to dewater the spring.

Design Features

This decision includes the following design features for resource protection:

- Pipeline will be laid on the ground and as often as possible, beside a road, trail or fence line.
- All water storage tanks shall have closed tops.
- All waterlines shall be no smaller than 1.25 inch diameter.
- Water troughs shall be kept at a useable height for livestock. A portion of the trough may be buried below grade to achieve this.
- All troughs and storage tanks will have a float valve or an overflow pipe, so they do not overflow at the trough location.
- All water troughs shall have escape ramps built of expanded metal or similar materials and extend to bottom of trough and sides. Ramp should be firmly secured to trough rim so not be knocked loose by animals. Access ramps shall be constructed of durable material such as concrete or metal. Slope will not exceed 45 degrees. Further design specifications may be required from “Water for Wildlife” by Taylor and Tuttle 2007.
- Poles, posts, or trough frames shall not be taller than trough or cross above trough.
- Waterline, air or drain vents shall be covered with fine mesh to prevent rodents or dirt from entering line. All above ground waterline supported structures will be maintained to keep pipe at gradient and prevent sagging.
- Water will be made available for wildlife year-round when possible, not exceeding any Arizona Department of Water Resources water right claims.
- All improvement components (e.g., cut sections of pipe, left over metal) used for construction shall be removed from Forest and properly disposed of.
- The storage tanks at Maggie Mae Spring will have a float valve so that excess water will remain at the spring source once the storage tanks are full.
- No new roads will be created, and vehicle use will be limited to existing roads.

Reasons for Categorically Excluding the Proposed Actions

My assessment is that this proposal falls within the categories of actions listed in the Forest Service National Environmental Policy Act Handbook (FSH) that are excluded from documentation in an Environmental Assessment or Environmental Impact Statement. This category is found in FSH 1909.15, section 32.2(6): Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction.

I have determined that there are no extraordinary circumstances associated with this project that would preclude the use of this category. This determination is based on the absence or the negligible level of adverse effects on the following resource conditions:

- a. **Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species** – The wildlife biologist conducted a small project biological evaluation and determined that Western Red Bat and Lowland Leopard Frog were present but the species were not affected nor was their population viability affected by the proposed action.
- b. **Flood plains, wetlands, or municipal watersheds** – The Forest hydrologist evaluated water resources for this project and determined there will be no significant effects from project actions as described in this decision.
- c. **Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas** – The project area is outside any of these areas. No further discussion of this resource is necessary.
- d. **Inventoried roadless areas or potential wilderness areas** – The project area is outside any of these areas. No further discussion of this resource is necessary.
- e. **Research natural areas** – The project area is outside any of these areas. No further discussion of this resource is necessary.
- f. **American Indian religious or cultural sites; and archaeological sites, or historic properties or areas** – Archaeological surveys were completed of the project area. Six sites were identified on or near the pipelines. This decision includes the mitigation measures outlined in the heritage inventory standards and accounting form resulting from these surveys and will eliminate effects to identified sites. Implementing this decision will have no effect to cultural resources.

Public Involvement

On September 16, 2019, a scoping letter was mailed out to nineteen individuals and organizations outlining the proposed action. Responses were received from five individuals and organizations. I considered all comments received. Responses to concerns raised in these comments are summarized here.

This decision does not change the authorized number of livestock or management direction in the existing decision that authorized grazing on the Cartwright Allotment. The current permit authorizes 350 head of cattle. The Cartwright Allotment was destocked, along with all other allotments on the forest, in 2001 due to severe drought conditions. It was restocked with 10 cows and 2 horses in 2003. The Cave Creek Complex Fire occurred in 2005, affecting several allotments, including Cartwright. This fire not only affected vegetation, water, and soil conditions, but also destroyed or damaged existing fences and water infrastructure used to distribute and manage cattle under the management direction found in the existing grazing authorization. The lack of water availability also affects native wildlife that are dependent on the added water to use more of their habitat further from riparian areas. The Cartwright Allotment was in non-use status while resource conditions were allowed to recover and range infrastructure could be repaired or replaced to effectively manage livestock. Livestock were returned to the allotment, starting slowly, in 2017 as infrastructure could be rebuilt and desired conditions were met. In 2017, 160 cattle were grazed for three months. In 2018, 60 cattle were grazed for 12 months. This is the same amount of animal unit months for both years. In 2019, 77 cows and 15 horses were grazed for 12 months. This project proposes the infrastructure to proactively better distribute cattle as livestock numbers are slowly increased to permitted numbers. No range improvements are proposed within any existing non-use pastures.



I recognize that not everyone agrees that livestock grazing is a valid use of National Forest Lands. However, as part of our multiple use mission, the USDA Forest Service is legally obligated to manage active grazing allotments and have been appropriated money by Congress to do so. As an agency, our discretion is in how we manage these allotments within existing law, regulations, and policies. Rangeland managers use the best available scientific information, as well as monitoring results and information obtained from staff, the grazing permit holder, and the public to adaptively manage rangeland resources to meet desired conditions on the landscape. This project does not attempt to re-evaluate or change the existing decision that authorizes livestock grazing on the Cartwright Allotment. The existing analysis has been added to the project web page for reference.

Range improvements such as fences and water infrastructure are often used to control where, and for how long, cattle are on specific areas of an allotment. Providing water in areas of an allotment where there is adequate forage, especially in the upland areas, allows grazing permittees use of available forage and is critical for proper distribution of the animals across the allotment. This helps to lessen impacts from cattle concentrating around fewer water sources and is an important part of protecting riparian areas. One commenter provided pictures of a fence in disrepair surrounding the Maggie May riparian area. While there is no indication from existing maps or lists of improvements that these springs were ever enclosed, the need to provide water outside of these areas is made that much more apparent. Additionally, fencing to protect Maggie May spring is included in the decision.

Water availability is also the most limiting resource for desert wildlife. According to the Arizona Game and Fish Department, providing additional water sources, especially at critical times of the year, helps improve population recruitment and overall health by reducing seasonal stress. Additionally, most of the funds for construction of range improvements generally come from private funds or partnerships through programs through the Natural Resource Conservation Service or the Arizona Game and Fish Department.

An article was submitted for my consideration entitled, *“Upland Water and Deferred Rotation Effects on Cattle Use in Riparian and Upland Areas,”* by John Carter, etc. *Society of Range Management, 2017.* This article reports on a study done in northeastern Utah. While northeastern Utah is a different climate regime than the project area, the article contains suggestions to sustain rangeland riparian areas that the Forest Service uses as part of rangeland management practices.

It was asked why the Forest Service didn't consider converting the forest's water right to Machakatee Spring to an instream flow water right instead of using this right for livestock or wildlife. The Forest Service did not consider this option because the State of Arizona does not currently have an established process for converting a certificated water right like that which is held by the Forest Service for Machakatee Spring to an instream flow water right. If such a process is established, the Forest Service may transfer any unused portion of its water right to an instream flow water right.

One commenter made an observation that when visiting the area, the soil felt spongy and was concerned this was evidence of highly erodible soil. Upon consultation with the Tonto National Forest's Soil Scientist, I believe this to be the result of natural processes related to the chemical makeup of rain water and the soils found in that area. In general, the slightly more acidic rain water interacts with the slightly more basic minerals in the sub-surface soils causing it to dissolve faster than soils found on the surface and giving it the appearance that it is eroding unevenly. This does not necessarily indicate that these soils are at any elevated risk for erosion.

Another concern raised in comments was the portion of the permittees water right for Seven Springs that is used to sell water to a bottled water company (60 acre-feet per year). The Forest Service has no claim to or control of the water right to Seven Springs, rather, the permittee has a water right claim for a total of



90 acre-feet to Seven Springs. While the forest does not have a competing claim to Seven Springs, it does hold a certificated water right for instream flows on Seven Springs Wash, downstream of where the permittee's current spring box and pipeline are located. The forest's water right to Seven Springs Wash is for 488 acre-feet of water per year and has a priority date of 9/27/1993.

The arrangement with the bottled water company predates the current permittee and was transferred with the sale of the private property. The original water right for Seven Springs was filed in 03/1978 with a priority date of 1866 and the use was for irrigation and stockwater. The current right is for 30 acre-feet (9.78 million gallons) of irrigation and 60 acre-feet (19.55 million gallons) of domestic. This change was made by Johnson Cattle in 2004 and approved by the Arizona Department of Water Resources; the Forest Service submitted a letter of protest to this change at the time. At about this same time the existing earthen ditch that was used to convey water for the permittee's water right was converted to a pipeline. There are no water resources concerns with the permittee's use of this water right for stockwatering infrastructure as described in this project as it is unlikely that the proposed water use associated with the infrastructure would exceed the 30 acre-feet claim for irrigation that the permittee holds.

This decision complies with the current Forest Plan and other laws, regulations, and policies. The process to revise the current Forest Plan is ongoing. Until the revision process is complete, any proposals made by the Tonto National Forest must only comply with the current Forest Plan. However, this decision does not foreclose any decisions to be made in the revision process, nor is this project anticipated to contradict future management under a revised forest plan.

Findings Required by Other Laws and Regulations

This decision is consistent with the Tonto National Forest Land Management Plan. The project was designed in conformance with the Forest Plan and other federal and state law, policy, and direction applicable to the resources present in the Tonto National Forest. *The National Forest Management Act of 1976 (Public Law 104-33, as amended)* requires the U.S. Forest Service to provide for biological diversity on National Forest Service lands consistent with overall multiple-use objectives and to maintain viable wildlife populations in the planning area. The Forest Plan discloses forestwide standards and guidelines and management area direction. Implementation of this decision will not violate any Federal, State, or local laws or requirements imposed for the protection of the environment including:

- Clean Water Act, as amended
- American Antiquities Act of 1906 and Historic Preservation Act of 1966
- Executive Order 11988 Floodplain Management
- Executive Order 11990 Protection of Wetlands

Implementation Date

This project is not subject to appeal. I anticipate implementing this project starting in early 2020.



Contact

For additional information concerning this decision, contact: Renae Cox, Rangeland Management Specialist, Cave Creek Ranger District, 40202 N. Cave Creek Rd., Scottsdale, AZ 85262, 480-595-3331.



Micah Grondin
Cave Creek District Ranger

12/31/19
Date

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Appendix A

Cartwright Water Project

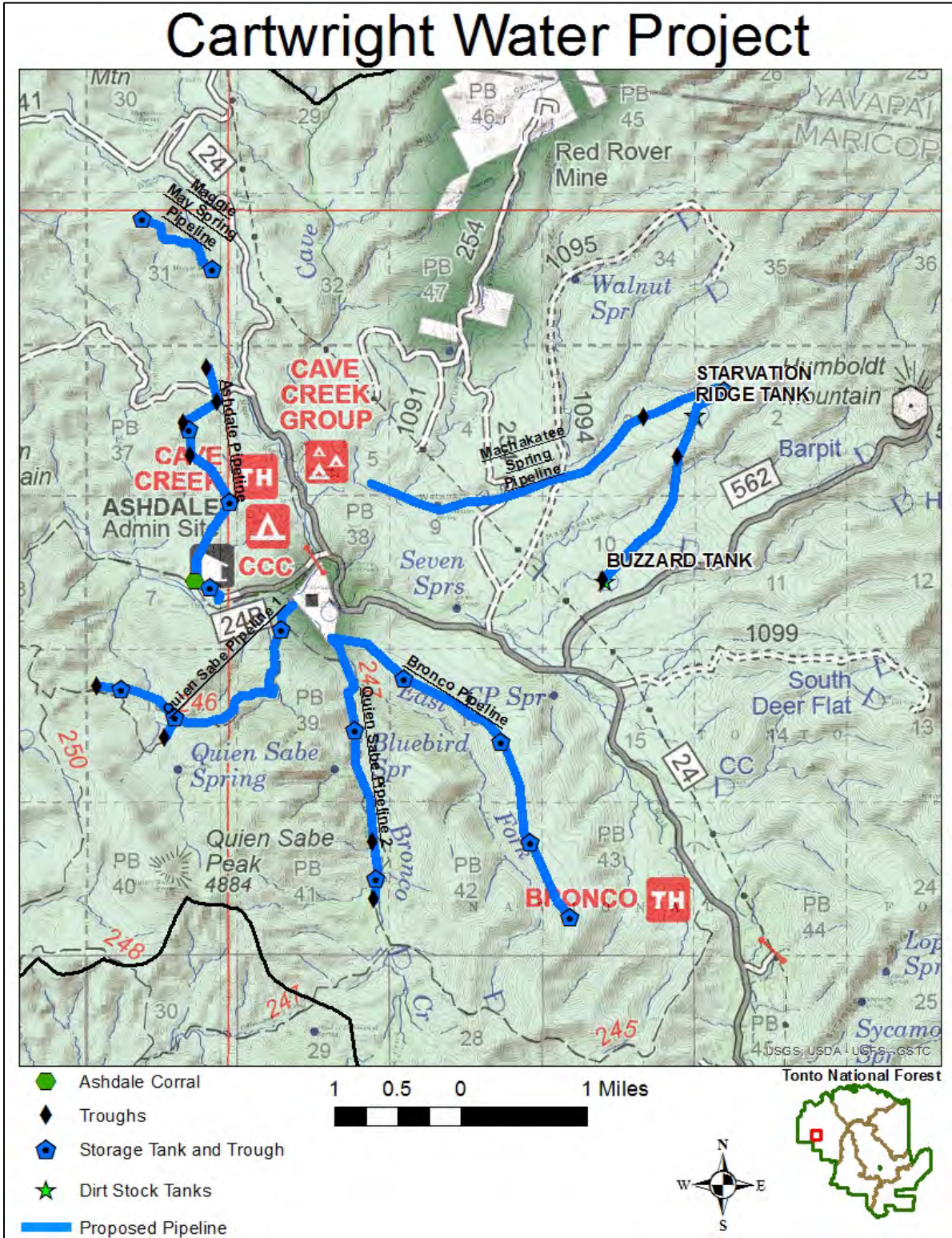


Figure 1: Map Showing Project Area and Improvement Locations.