Final Decision Notice and Finding of No Significant Impact for the Rain Tank Allotment Grazing Reauthorization Project

USDA Forest Service
Tusayan Ranger District
Kaibab National Forest
Coconino County, AZ

Introduction

This Decision Notice and Finding of No Significant Impact documents my decision on the Rain Tank Allotment Grazing Reauthorization Project. This Decision Notice incorporates all previous information in the Rain Tank Allotment Grazing Reauthorization Project Environmental Assessment (EA) and information included in the project record. Project documents are available at https://nfs.fs2c.usda.gov/r03/kaibab/projects/65491.

In 2019, a grazing permit was issued to the Rain Tank Cattle Co., an entity of the Havasupai Tribe, to graze cattle on the Rain Tank allotment, located on the Tusayan Ranger District of the Kaibab National Forest (KNF). Prior to that, the allotment had been vacant from permitted livestock from the years 1997 – 2019. During that time much of the existing infrastructure on the allotment had fallen into a state of disrepair, limiting functionality of water catchments and fence lines. The purpose of this project is to continue authorization of livestock grazing on the Rain Tank Allotment in a manner that ensures livestock management activities are consistent with other resources in alignment with the KNF Land and Resources Management Plan (Forest Plan) and the direction to move ecosystems toward their desired conditions. The Final Environmental Assessment (EA) documents the effects analysis of two alternatives to meet this need.

Decision and Reasons for the Decision

Based upon my review of all alternatives, I have decided to implement Alternative A (the Proposed Action), as described below. I have selected Alternative A because, compared to the No Grazing alternative, Alternative A best supports Forest Plan and other existing direction related to the management of the Rain Tank allotment and effectively protects resources in the allotment through protection measures, monitoring and adaptive management. In addition, Alternative A best promotes the management of resources that are also identified as objects within the Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument.

Components of Selected Alternative

The proposed action, referred to as Alternative A, consists of four components: authorization, improvements, management practices, and conservation measures and monitoring. The proposed action follows 2023 guidance from Forest Service Handbook 2209.13, Chapter 90 (Grazing Permit Administration; Rangeland Management Decision Making).

Table 1. Proposed specifications for Livestock Authorization on the Rain Tank Allotment in relation to Current Management

Proposed Action	Details	Change from Current Management	Number of Acres Impacted by Construction of New Structural Improvements
Permitted Animal Unit Months (AUMs)	1,400 to 3,500 AUMs	Change from the currently permitted 1,970 AUMs to a range in permitted AUMs to add flexibility on an annual basis based on resource conditions, such as precipitation, vegetative growth, and other rangeland condition indicators determined by monitoring	N/A
Season of Use	April 1st – October 31st	None	N/A
Permitted number of head	200 - 500	Proposed range differs from the currently permitted 280 cow/calf pairs	N/A
Grazing System	Deferred rotational grazing	None	N/A
Forage Utilization Guideline	Conservative level of utilization (30-40%)	None	N/A
Seasonal Utilization Guideline	Conservative level of seasonal utilization (30-40%)	None	N/A
Pipeline extension and repair	Approximately 1.2 miles of newly constructed buried or surface pipeline	New Construction	Approximately 1.5 Acres
Water catchment installation	1 in Wheat Pasture, and 1 in Rain Tank Pasture	New Construction	Approximately 5 Acres
Water storage tanks and troughs along reconstructed pipeline	Up to 2 additional storage tanks and 4 troughs	New Construction	Approximately 6 Acres
Installation of boundary fence	Approximately 2.5 miles of new boundary fence construction near the Town of Tusayan	New Construction	Approximately 5.5 Acres

Authorization

The proposed action is to reauthorize livestock grazing on the Rain Tank allotment under the following terms and conditions. Proposed permitted numbers would be 200 to 500 cow/calf pairs for a seven-month period (totaling 1,400 to 3,500 AUMs) (Table 1). The proposed increase to the upper limit is based off a

carrying capacity analysis that was completed in the year 2024, inspired by methods from Holecheck (2010), driven by data from the Rangeland Analysis Platform and the Rocky Mountain Research Station's Rangeland Production Monitoring Service (RPMS). To prepare the proposed action for this analysis, the Kaibab NF utilized remote sensing data from RPMS to collect biomass available for livestock grazing and model forage supply across the allotment. The model considered three climate-based scenarios (drought year, average year, and high precipitation year) and incorporated a 40 percent forage utilization threshold. Additionally, grazeable acres were identified through a grazing distribution analysis that accounted for allotment water supply, locations, and topography. The calculated forage supply was then compared to forage demand to determine the total available AUMs. The model indicated a capacity of 500 cow/calf pairs (equivalent to 3,500 AUMs) in an average year, which serves as the upper limit for the proposed action. The biomass data collected from RPMS was ground-truthed by field-collected production data.

The Forest Service defines a single Animal Unit Month (AUM) as the amount of forage needed to sustain one animal unit for one month. An animal unit is a mature cow that weighs about 1,000 pounds, either with or without a calf up to six months old, or its equivalent.

Based upon this analysis, annual authorized livestock numbers will vary within the proposed range based on existing resource conditions, including precipitation, available water, predicted forage production for the year and the previous annual or seasonal utilization levels. Adjustments to the annual authorized livestock numbers and AUMs (increase or decrease) may occur during the grazing year, based on conditions, or range inspections, or both. Adjustments are documented in the Annual Operating Instructions (AOI) and will be determined based on the monitoring and conditions from the previous year, with the goal of bringing the pastures towards the desired conditions for livestock grazing and other resources within the Forest Plan. Forage use will be managed at a level corresponding to conservative use levels (30 to 40 percent) to provide for grazed plant recovery, increased plant vigor, and retention of herbaceous litter to protect soils and provide forage and herbaceous cover for wildlife.

A new 10-year term grazing permit will be issued for the allotment in accordance with Forest Service Manual (FSM) 2231.03 for the numbers and terms displayed in Table 1. The term grazing permit will identify the number, kind, and class of livestock authorized and the season of use as required by Forest Service policy (FSM 2231.11). A permit will also identify the total AUMs authorized for the Rain Tank allotment. The number and class of livestock and the season of use will be allowed to vary in response to resource conditions and management objectives. Annual use will not exceed the total AUMs authorized or the season of use identified in the permit. The new grazing permit would be issued within 90 days of final agency action following this decision (FSH 2209.13(94) and Forest Service Region 3 Supplement 2209.13-2016-1).

Consistent with Forest Service Handbook (FSH) guidance 2209.13, 94, a new allotment management plan (AMP) will be developed for the allotment and will be incorporated into any term grazing permit issued. The AMP will specify the goals and objectives of management, management strategies, range improvements, and monitoring requirements and will incorporate an adaptive management strategy described below. The use of coordinated resource management plans will be encouraged where the coordinated use of intermingled private, state, and federal lands is conducive to more effective management.

On an annual basis, the Forest Service and permittee will continue to meet and jointly prepare written AOI prior to each grazing year (FSH 2209.13) to set forth:

- The maximum permissible grazing use authorized on the allotment for the current grazing season and the numbers, class, type of livestock, and timing and duration of use.

- The planned sequence of grazing on the allotment, and the management prescriptions and monitoring that will be used to make changes.
- Structural and non-structural improvements to be constructed, reconstructed, or maintained and who will be responsible for these activities.
- Allowable use or other standards that will be applied and followed by the permittee to properly manage livestock.
- Monitoring for the current season that could include, among other things, documentation demonstrating compliance with the terms and conditions in the grazing permit and AMP.

Improvements

Proposed structural range improvements to better support livestock distribution and pasture reliability include installation of two new water harvesting catchments and the reconstruction and extension of an existing water pipeline with associated storage tanks and troughs. This pipeline will be supplied from an existing water source off of National Forest System (NFS) lands and will be buried where possible. A new segment of the boundary fence of the Rain Tank pasture will also be installed near the town of Tusayan.

The maintenance of existing improvements will continue as needed. The responsibility for maintenance of range improvements is typically assigned to the permittee in the terms and conditions of each grazing permit (FSM 2244.03) and will be identified annually in the AOI. These improvements (Fig. 1) are proposed in the context of adaptive management, meaning they have been identified as possible practices to assist in the achievement of desired conditions:

- An existing but non-functioning polyethylene pipeline will be reconstructed and extended by 1.2 miles. This new pipeline will run from the existing Rain Tank stock tank (currently being used and is located off NFS lands) to existing livestock handling facilities located near Ranger Tank. Up to two water storage tanks and four troughs will be placed along the pipeline at appropriate locations. Portions of the non-functioning pipeline that are currently above-ground will be removed from NFS lands. The legal description of proposed water pipeline improvements is T. 30 N., R. 3 E., sec. 34; T. 29 N., R. 2 E., sections 4, 5, 7, 8, 18; and T. 29 N., R. 1 E., sec. 24.

- Two new water harvesting catchments will be installed. These catchments will consist of the localized construction of a catchment apron, wildlife-friendly exclosure fencing, water delivery pipeline, water storage, and trough. The legal description of proposed improvements is T. 30 N., R. 2 E., SE ¼ of sec. 4 and T. 31 N., R. 1 E., NW ¼ of sec. 28.

- Two and a half miles of new fence will be constructed on the boundary between the Rain Tank pasture and the Town of Tusayan. The legal description of proposed improvements is T. 30 N., R. 2 E., sec. 24. This is an allotment boundary fence that will provide additional ease of management, allow for use of that pasture, thereby increasing grazing capability on the allotment, and will be constructed with wildlife-friendly designs.

This is an evolving project, and additional structural improvements may be necessary to achieve management objectives in the future. Heritage, wildlife, and other appropriate resource clearances for both the improvements and the access to the improvement(s) will be obtained before implementation of any future improvements. Improvements may be authorized as necessary to achieve desired conditions and management objectives. In the case that changing circumstances require structural improvements or management actions not disclosed or analyzed herein, further interdisciplinary review will occur.

Examples of future improvements may include, but are not limited to:

- Additional pasture division fencing
- Cattle guards on existing roadways

- Holding trap development
- Livestock handling facilities development
- Grazing enclosures
- Development of additional pipelines and troughs
- Development of additional water harvesting catchments
- Wildlife water development
- Base stations for virtual fencing

Management Practices and Conservation Measures

Under the proposed action, livestock grazing will continue under conservative grazing utilization guidelines in accordance with the Forest Plan, and regular growing season rest or deferment that will provide for grazed plant recovery. This management will allow for increased plant vigor and retention of sufficient herbaceous vegetation to protect soils and to provide herbaceous cover for wildlife.

Livestock grazing will follow a deferred use and rest rotation system, allowing pastures adequate rest or growing season deferment before being grazed again. Additionally, pastures will not be grazed at the same time each year, allowing for the phenological (natural lifecycle) development of grazed functional groups over time (i.e., cool-season plant species, warm-season species, forbs and browse species).

Adaptive Management

Adaptive management uses documented results of management actions (monitoring) to continually modify management to achieve specific objectives including but not limited to maintaining or moving towards desired conditions as stated in the Forest Plan (USDA Forest Service 2014). Adaptive management will be tied strongly to the drought management strategy, which is described in the following section. Management results will be assessed with both short and long-term monitoring (i.e. implementation and effectiveness monitoring) as defined in the monitoring section below. In addition, Forest Plan monitoring will be conducted across a larger landscape with random site selection, which may only assess a subset of allotments and may or may not include the Rain Tank allotment. Adaptive management provides flexibility to adjust livestock numbers and timing of grazing so that use is consistent with current productivity and is meeting management objectives. Under the adaptive management strategy, the specific number of livestock authorized, specific dates for grazing, class of animal and modifications in allotment use may be administratively modified as necessary and appropriate based on programmatic monitoring. Administrative changes will be documented and implemented in the AOI, which are made part of the term grazing permit. Adaptive management also includes monitoring and analysis to determine whether identified structural improvements are necessary or need to be modified.

If monitoring results indicate degraded conditions, a condition-based adaptive management strategy, such as that found in the EA and in the Watershed Specialist Report would be employed. Additional soil condition monitoring and adaptive management actions as recommended by the Forest Watershed Program could be necessary if specific soil condition indicators are impacted. The need for those measures will be evaluated on an annual basis and incorporated into the Allotment Management Plan.

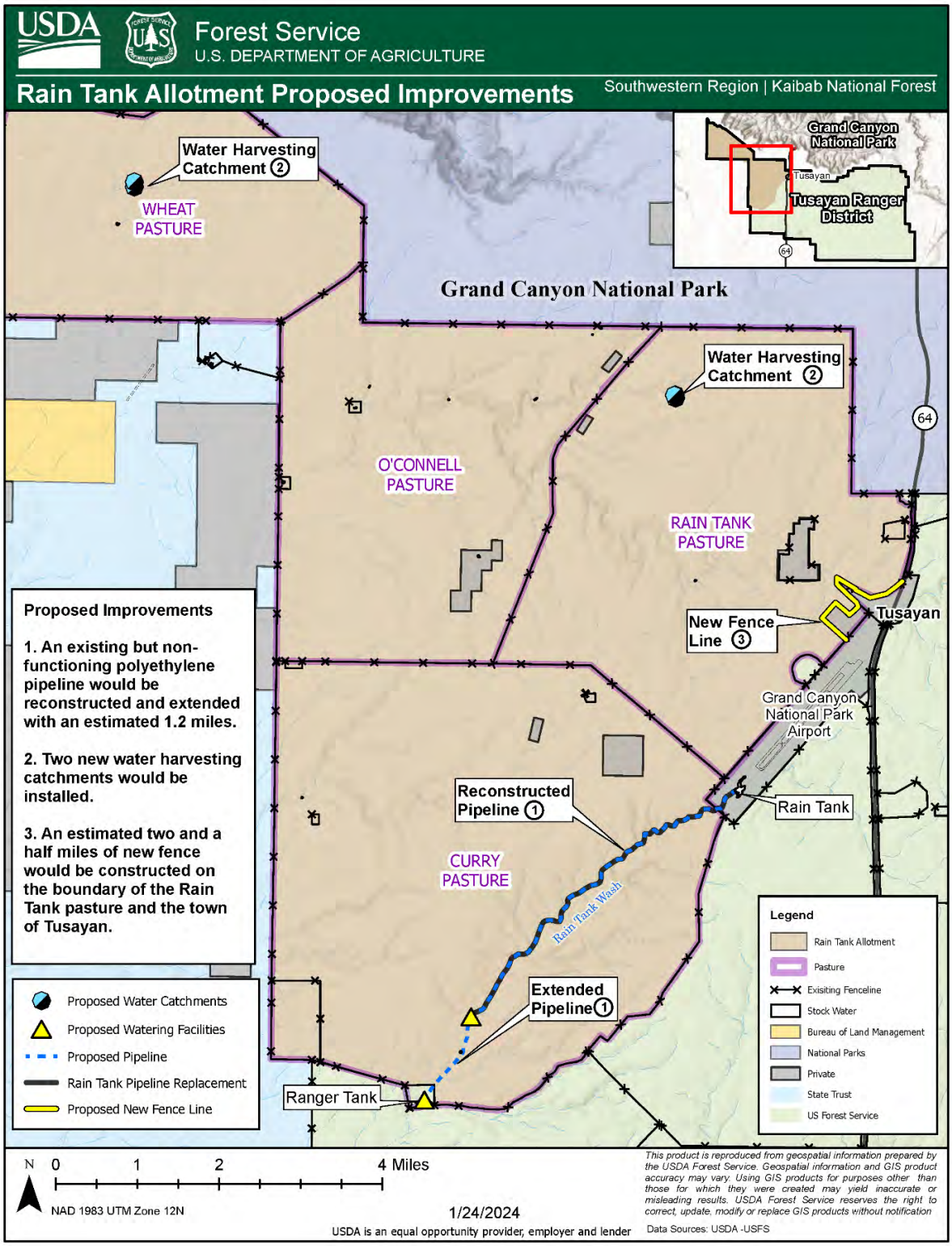

Figure 1: Proposed new Range improvements.

Drought Preparation

Drought is an inevitable occurrence in the southwestern United States. Land managers and grazing permittees must plan for drought as a normal part of management and business. The Standardized Precipitation Index (SPI) is a unit of measure that compares recent precipitation values for a period of interest with long-term historical values to assess moisture conditions in each area (NOAA.GOV). In the Southwestern Region (Region 3), any time the SPI reaches a value of minus 1.00 or less for the preceding 12-month period, grazing allotments should be evaluated for existing drought conditions. Many factors are considered when devising management actions on National Forests in Region 3 in response to drought. Such factors include the number of different plant species present, past grazing use, timing of grazing, intensity of management, and conditions of improvements to support grazing activities. These factors along with precipitation data provide flexibility to the Responsible Official to make decisions based on recommendations from District specialists. Rangeland management specialists use direction provided in the Region 3 Supplement to Forest Service Handbook 2209.13, the Grazing Permit Administration Handbook, and 12-Month SPI to assess soil and vegetation conditions. Using the SPI as a baseline and combining it with site-specific information from allotment inspections and monitoring data, rangeland management specialists can make a determination for necessary management actions and review adaptive management alternatives to determine the best course of action.

Region 3 and Kaibab NF drought management policies identify numerous adaptive management actions for mitigating grazing effects during drought. The District Range Program will conduct annual monitoring of the allotment to collect forage production and forage utilization data. Annual monitoring will help inform the management actions that could be used on the Rain Tank allotment during periods of drought. The following are examples of management actions that could be used with appropriate monitoring:

1. Reduce authorized AUMs. Reductions may be necessary prior to the permitted season of use and/or during the permitted season of use.
2. Shorten season of use. Depending on the severity of potential drought or distribution of livestock water and authorized AUMs, a reduced grazing season may be necessary.
3. Reduce forage utilization and/or seasonal utilization levels. Depending on the severity of the drought and the authorized AUMs, reduced forage utilization and/or seasonal utilization levels will likely result in shortened pasture use periods.
4. Graze pastures only once during the same grazing season.

Pastures may need complete rest from livestock use. Pasture resting periods will depend on the severity of a given drought. Livestock use of planned rested pastures due to drought will not be authorized. In addition, management actions in response to drought as described above may result in an early exit from the Rain Tank allotment.

Monitoring

The objective of monitoring is to determine whether management is being properly implemented and whether the actions are effective at achieving or moving toward desired conditions. Rangeland monitoring is separated into two categories: effectiveness monitoring and implementation monitoring. These two types of monitoring are needed to interpret effects of management on rangelands. As effectiveness monitoring provides the long-term trend and data associated with various attributes related to upland vegetation, the implementation monitoring helps evaluate the uses, actions, and/or stressors that took place on the same benchmark sites and the surrounding areas. Assumptions can be made by using the data from these two data sets to help determine why certain attributes in long term monitoring are or are not changing over time and thus inform decision making in adaptive management.

Effectiveness monitoring includes measurements to track condition and trend of vegetation, soil, and watersheds. Monitoring will be done following procedures described in the Guide to Rangeland Monitoring and Assessment and the Region 3 Rangeland Analysis and Training Guide (USDA & DOI 2013). This data is interpreted to determine whether management is achieving desired resource conditions, whether changes in resource conditions are related to management, and to determine whether modifications in management are necessary. Effectiveness monitoring will occur at five-to-ten-year intervals, or more frequently if deemed necessary. Examples of effectiveness monitoring measurements include, but are not limited to plant frequencies by species, relative plant compositions by species, point ground cover, soil and watershed condition assessments, and repeat photography. Monitoring occurs at established permanent monitoring points.

Implementation monitoring will occur on an ongoing basis and will include, but not be limited to, forage utilization measurements, forage production, range readiness, plant phenology, livestock counts, and range improvement inspections. An allotment inspection will include all of the attributes along with field observations such as cattle behavior and distribution description, grazing permit compliance checks, invasive species populations, soil and watershed conditions, recreation uses, wildlife observations, and general resource conditions.

Utilization measurements are made following procedures found in the Interagency Technical Reference and with consideration of the Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands (Smith et al 2016). Utilization will be monitored on key forage species, which are perennial grasses that are palatable to livestock. At a minimum monitoring will include use in key areas but may include monitoring outside of key areas. Utilization on non-grass species (forbs, shrubs, and trees) may also be measured if appropriate for the site, in particular Tusayan rabbitbrush will be included as a key species in utilization monitoring where it is known to occur (currently within one site in the Curry pasture). Utilization may be monitored both during the grazing season (seasonal use) and at the end of the growing season (annual utilization). Forest Service rangeland management specialists will be responsible for monitoring livestock grazing utilization. Over time, changes in resource conditions or management may result in changes in livestock use patterns. As livestock patterns change, new key areas may be established, and existing key areas may be modified in cooperation with the permittee.

Records of livestock numbers, movement dates and shipping records will be tracked by the permittees and will be provided to the District Range Staff annually.

Specific Monitoring for Streams and Soils

In addition to Rangeland and Forest Plan monitoring as described above, stream condition monitoring will focus on establishing key monitoring reaches based on inventory results from the project area. This will target reaches within named streams and selected tributaries within the allotment.

Soil condition monitoring may occur within 3-5 years of implementation of the Proposed Action. Repeat monitoring after that will occur when degradation in soil condition is detected or at least every 5-10 years thereafter. Detailed soil condition monitoring is recommended on one pasture on Terrestrial Ecosystem (TES) map unit 260, which comprises the largest aerial extent (16) of all soils in the allotment, to assure long-term soil condition and productivity is maintained. Additionally, regular monitoring of the TES map units that were determined to be in impaired condition during assessment is recommended.

Emerging Technologies

Remote sensing technologies such as the rangeland analysis platform and the Rocky Mountain Research Station's Rangeland Productivity Monitoring Service may be used as available to quantify trends in

vegetation cover biomass production through time, vegetation response to climate, evaluate inter-annual variability, and quantify recovery from drought.

Virtual fencing may be implemented to meet resource management objectives. Virtual fencing technology is a system that enables livestock to be confined or moved without using fixed fences by relying on collars, sensors, GPS, and wireless technologies.

Resource Protection Measures

Implementation of the resource protection measures and best management practices listed in Table 2 below are required with implementation of the proposed action. These measures are intended to minimize resource impacts and ensure compliance with the Forest Plan and other law, regulation, policy and guidance.

Table 2. Design features and Best Management Practices

No.	Resource Protection Measure	Purpose
Range/Vegetation Management		
R1	No trees > 12” diameter at breast height will be cut to install proposed infrastructure such as fences and water catchments; slash will be managed using lop/scatter <18” height from ground.	To avoid impacts to large trees from the proposed structural improvements.
Fire and Fuels		
FF1	Coordinate with the South Zone Fuels program when fuel treatments are planned to occur near the communities of Tusayan and Grand Canyon Village.	To protect values at risk adjacent to and/or within the project area.
FF2	Coordinate pasture rest rotation with fire managers when Four-Forest Restoration Initiative (4FRI) or South Zone Grasslands project work overlaps with the Rain Tank allotment.	To aid in the selection of which vegetation management tools to use to achieve desired outcomes in specific project areas. To employ prescribed fire across the allotment when conditions are appropriate and when resources are available, this would include hand and aerial ignition while focusing on all fuel available to reduce tree encroachment and increase forage production.
FF3	Construct new infrastructure using fire-resistant materials where possible.	To avoid damage to the new infrastructure by wildland fire.
Botany and Noxious Weeds		
BNW1	Conduct at-risk plant species surveys prior to clearance for construction of improvements.	To reduce impacts to sensitive plant species.
BNW2	Wash equipment prior to entry onto NFS lands and consult best available invasive plant inventory when planning movement of equipment within NFS lands.	To avoid spreading noxious weeds.
BNW3	Exclude livestock from small portions of the project area as needed. Cattle may be excluded with new fencing, active herding, or through emerging technology such as virtual fencing.	To protect at-risk plant populations or to prevent the spread of invasive plants.
Cultural Resources		

No.	Resource Protection Measure	Purpose
CR1	Evaluate and manage proposed activities associated with the allotment improvements and grazing management practices in accordance with Appendix H Standard Consultation Protocol for Rangeland Management, under Amendment #1 of the First Amended Programmatic Agreement between the Arizona State Historic Preservation Officer [and other Region 3 SHPOs].	To minimize impacts to known heritage resources.
CR2	All proposed range improvements shall avoid any new ground-disturbing work and staging within known historic properties. Livestock management practices that concentrate cattle shall be located so that areas where cattle are concentrated do not adversely affect known heritage resources.	To minimize impacts to known historic properties and heritage resources.
CR3	Archaeology monitors, along with the possibility of tribal monitors, shall be present and used during the construction of range infrastructure improvements located within or up to 50 feet from known archaeological sites.	To minimize impacts to known heritage resources.
CR4	If any adverse effects to sites are observed during the lifespan of this permit, a Kaibab NF archeologist will work with range staff to develop and implement sufficient mitigation measures pursuant to Appendix H of the Standard Consultation Protocol for Rangeland Management to avoid adverse effects to sites.	To mitigate impacts to heritage resources.
CR5	Any future projects or federal undertakings in the Rain Tank allotment, not analyzed under this EA, will be required to comply with Section 106 of the NHPA and will be contingent upon compliance with all applicable provisions of Section 106 of NHPA. The Kaibab NF Archaeologist will be notified at least three weeks in advance to ensure archaeological sites are identified, effects are mitigated, and the undertaking is in compliance with all applicable provisions of Section 106 of NHPA. If there are any changes in the proposed project planning process, consultation with the Kaibab NF Archaeologist will need to be reinitiated and the proposed changes may lead to additional Arizona SHPO and tribal consultation.	To minimize impacts to known heritage resources.
CR6	If previously unidentified cultural resources are located during the lifespan of the permit, in accordance with 36 CFR 800.13 of the Advisory Council on Historic Preservation's regulations, the permittee or their range staff shall stop all ground disturbing activities within 100 feet (30 m) of a potential archaeological discovery and 300 feet (90 m) if potential human remains are encountered and contact the Kaibab NF Archaeologist immediately to notify the Forest of the discovery and arrange for heritage staff to access the site and evaluate the resources identified.	To minimize impacts to known heritage resources.
CR7	Should any tribes identify any plants within the allotment as having traditional importance, Kaibab rangeland specialists and heritage staff will work together to identify where those plants occur within the allotment and incorporate a conservation strategy for those plants into the AOI.	To ensure that grazing management is allowing for natural regeneration of such plants
CR8	Kaibab NF archaeologists will continue to monitor sites within the Rain Tank allotment. If livestock are observed using these sites for shelter or impacting sites, the shelter and or area should be excluded from future livestock grazing, and or mitigations measures taken to avoid adversely affecting sites. The results of these informal monitoring activities will be discussed in the annual meetings with the SHPOs as provided for in Section XIII(D) of the Programmatic Agreement.	To understand livestock grazing effects on cultural resources and inform adaptive management.

No.	Resource Protection Measure	Purpose
	Soils and Watershed	
SW1	Manage forage utilization by livestock to maintain healthy ecosystems. Seek to improve vegetative ground cover to enhance soil function (i.e., minimize soil erosion, promote water infiltration, and support nutrient cycling) and to improve the quality and quantity of desirable vegetation through use of the Allotment Management Plan and development of the Annual Operating Instructions.	To safeguard water and soil resources under sustained forage production and to achieve the objective of improving and maintaining long-term soil productivity and enhancing water quality
SW2	Several techniques are used to achieve proper distribution and lessen the impacts on sensitive or impaired areas or in areas that would naturally be overused. Examples of these techniques include: a. Constructing fences and grazing pastures only once in each season. b. Developing waters in areas that receive little use and closing off water developments when allowable use has been achieved. c. Riding and herding to shift livestock locations. d. Using salt or supplement feed as tools to gain proper distribution of livestock. e. During wet conditions, avoid intensive livestock grazing or concentrated use on soils that have low bearing strength and are susceptible to compaction. f. Developing sufficient watering places is one way to limit the amount of trailing.	To manage sustained forage production and forage utilization by livestock while protecting soil and water resources. To maintain healthy ecosystems for wildlife and avoid other resource concerns.
SW3	Manage livestock grazing at an intensity that will improve effective ground cover (effective ground cover is defined as the percentage of litter greater than 1.25 cm in size and percent total plant basal area) to enhance soil function and to improve the quality and quantity of desirable vegetation. Target effective ground covers for each Terrestrial Ecosystem Survey (TES) Map Unit should be at a minimum equal to or greater than tolerable vegetative ground cover. Livestock grazing should be designed to move conditions toward these effective ground cover goals or maintain the current effective ground cover. During drought, livestock grazing should not decrease existing effective ground cover.	To achieve the objective of improving and/or maintaining long-term soil productivity and enhancing water quality.

No.	Resource Protection Measure	Purpose
SW4	Maintain existing range structural improvements. Install and maintain new range structural improvements as necessary. Structural range improvements such as corrals, troughs, trails, storage tanks, should not be located in hydrologically sensitive areas such as swales, drainages, and stream channels. If a structure is causing soil erosion or water quality degradation, the allotment management plan should identify corrective measures. During allotment improvement work, do not operate equipment when ground conditions are such that soil rutting, compaction or puddling can occur; to the extent possible, avoid biotic soil crusts and minimize stream crossings during cross-country travel to site locations.	To improve, maintain or restore range resources, including soil and water using rangeland improvements.
SW5	Avoid grazing soils in unsatisfactory soil condition. Where soil has been severely disturbed and vegetation needs to reestablish to minimize erosion, the appropriate measures shall be taken to establish adequate grass cover or other vegetation acceptable to the Forest Service and outlined in the allotment management plan. This measure is applied where it is expected that disturbed soils in parts of the area will require vegetative cover for stabilization and the problems would not be mitigated by other management plan provisions.	To improve long-term soil productivity. To establish a vegetative cover on disturbed sites to prevent accelerated erosion and sedimentation.
SW6	Where possible, the lower end of conservative allowable use (no more than 30 percent utilization) should be implemented on impaired soils to protect long-term soil productivity. These soils have potential capability for grazing, but conservative allowable use should be implemented where possible. This could be achieved by salting away from or herding cattle from affected areas.	To improve long-term soil productivity.
SW7	Improve or decommission tank in Coconino Wash that is contributing to gully erosion within the stream course.	To effectively move towards desired resource conditions.

Rationale for the Decision

When compared to the other alternatives, this alternative will allow the Forest Service and the permittee to use adaptive management strategies for changing resource conditions or management objectives while complying with the Forest Plan, Forest Service Policy and pertinent laws and regulations. This alternative meets requirements under the following applicable laws, regulations and policies:

- There is Congressional intent to allow grazing on suitable lands where consistent with other multiple use goals and objectives, (Multiple Use Sustained Yield Act of 1960, Wilderness Act of 1964, Forest and Rangeland Renewable Resources Planning Act of 1974, Federal Land Policy and Management Act of 1976, National Forest Management Act of 1976).
- This allotment contains lands identified as suitable for domestic livestock grazing in the Forest Plan and continued domestic livestock grazing is consistent with its goals, objectives, standards, and guidelines (Forest Plan, pages 24, 91-118).
- It is Forest Service policy to make forage available to qualified livestock operators from lands suitable for grazing consistent with land management plans (Forest Service Manual 2203.1; 36 CFR 222.2 (c)).

- As the Rain Tank allotment borders the Grand Canyon National Park and the Havasupai Reservation, this decision implements continued compliance with the Grand Canyon National Park Enlargement Act of 1975 (Public Law 93-620). This Act established the lands now known as the Havasupai Reservation, and that those lands "…shall be administered under the laws and regulations applicable to other trust Indian Lands provided that … (2) the lands shall be available for use by the Havasupai Tribe for agricultural and grazing purposes, subject to the availability of such lands to sustain such use as determined by the Secretary." The act also included a provision that "…rights of use and occupancy of the lands will be transferred to the tribe," regarding lands designated as the Rain Tank allotment on the Kaibab National Forest after the existing permits or leases at the time of the law expired. The Rain Tank allotment has still been determined to be suitable for livestock grazing.

Other Alternatives Considered

In addition to the selected alternative, I considered one other alternative. A comparison of these alternatives can be found in the Final Environmental Assessment (EA) on pages 19-20 in Table 4.

No Grazing

At the time that this project was initially scoped, direction from Chapter 90 of Forest Service Handbook 1909.15 was that a "No Grazing" alternative must be considered in any range environmental analysis, for this EA, the "No Grazing" alternative is also the "No Action" alternative. Under this alternative the term grazing permit on the Rain Tank allotment would be cancelled, reducing permitted AUMs to zero in the allotment for a period of no less than 10 years, following guidance in 36 CFR 222.4 and Forest Service Manual 2231.62. Existing improvements no longer functional or needed for other purposes, including interior fences, cattle guards, and water developments would be evaluated for continued usefulness and removed as necessary. Exterior allotment boundary fences would be assigned to neighboring permittees for maintenance. Existing water developments may be adversely affected.

Public Involvement and Scoping

The Rain Tank Allotment Grazing Reauthorization Project was first listed on the Kaibab NF Schedule of Proposed Actions and posted to the Kaibab NF project website on January 18, 2024. The initial proposal was made available for a public scoping period from February 1 to March 4, 2024. Thirteen comment letters were received during this scoping period. These comment letters helped identify issues for the analysis in this EA (see Issues section of the EA) and provided other suggestions that were incorporated in the EA and project record.

A draft EA was made available for a 30-day public comment period that ran from May 15 – June 16, 2025. During this comment period, seven comment letters were received. A response to comments can be found in Appendix C of the final EA. Corresponding updates were made throughout the EA, and my decision is informed by review of public comments.

On February 1, 2024, the Kaibab NF sent letters to the Havasupai, Hopi, Hualapai, Kaibab Paiute, Navajo, Pueblo of Zuni, and Yavapai Prescott requesting to consult on the proposal to reauthorize livestock grazing on the Rain Tank allotment. The Havasupai Tribe was formally invited to participate on the FS Interdisciplinary Team.

On March 4, 2024, the KNF hosted a consultation meeting with the Havasupai Tribal Council. The 7-month grazing period was discussed. The Council wondered if a longer grazing period would be easier for the Tribe to manage. On April 8, 2024, an email was sent to Havasupai Tribal Council from the KNF Tribal Liaison clarifying the proposed grazing period length. Prior to developing the proposed action, the KNF South Zone Range staff had several meetings with the manager of Rain Tank Cattle and a member of the Havasupai Tribal Council. These meetings informed the rangeland analysis and the currently proposed, analyzed action (Alternative A). The consensus decision was to maintain the current season of use (7 months), focus on rangeland infrastructure, and increase AUMs (animal numbers). On July 31, 2024, Councilman Manakaja confirmed via telephone and again in person on November 15, 2024 that the Tribal Council supports the analysis moving forward with the 7-month season of use proposed action.

On October 31, 2024 the KNF Forest Supervisor sent Tribes a consultation letter which included the cultural analysis and inventory findings conducted for the proposed renewal of the grazing permit and proposed actions. The report states there are no known historic properties within the anticipated area of ground disturbance and that an archaeological monitor shall be used during the construction of range improvements located within 50 feet of known archaeological sites. On December 11, 2024 the Hualapai sent a letter to the KNF stating, “Upon review, we concur with the finding of no adverse effect on historic properties, given that a monitor will be present during construction within 50 feet of known archaeological sites.” No other concerns were heard from Tribes to date.

A list of agencies and persons consulted is provided in Chapter 4 of the EA and in the project record.

Finding of No Significant Impact

The Finding of No Significant Impact (FONSI) documents the reasons an action, not otherwise categorically excluded, will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. The FONSI discussion considers all information included in the environmental assessment, including the potentially affected environment, as well as documentation in the project record. Pertinent specialists have reviewed the proposal and, based on their input, the Responsible Official made the determinations described below regarding the potentially affected environment and degree of effects considered for a FONSI.

The National Environmental Policy Act (NEPA) process for this project began after September 14, 2020, so the Council on Environmental Quality’s (CEQ) update to the regulations implementing the NEPA (40 CFR 1500-1508) published on July 16, 2020, apply. As a result, this FONSI is made in the context of the project’s potentially affected environment and degree of effects, rather than the 10 “intensity factors” established by the 1978 CEQ NEPA regulations. Additionally, because the EA was completed after May 20, 2022, the further amendment to CEQ’s regulations published on April 20, 2022, apply. As a result, the EA and this FONSI consider direct, indirect, and cumulative effects.

Degree of Effects

The following effects discussions focus on changes to the human environment from the proposed action that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action, including those effects that occur at the same time and place as the proposed action and effects that are later in time or farther removed in distance from the proposed action. Effects are discussed in detail in Chapter 3 of the EA and summarized here.

Short- and Long-term Effects

Short-term effects will result from implementing various components of Alternative A, particularly from the construction and maintenance activities for the proposed new water catchments, pipeline repair and extension, and repairs of existing physical fences. These effects include localized soil and vegetation disturbances within construction footprints, near water catchments and in the areas that are grazed by permitted livestock.

The presence of permitted livestock on the allotment will lead to short-term effects on vegetation height, canopy cover, diversity, density, production, and quality. However, these effects will remain localized and temporary by implementing the resource protection measures found in Table 2, adaptive management strategies and by following conservative utilization practices and management decisions based on climatic conditions and monitoring. By managing grazing intensity based on the relative percentage of forage consumed plant integrity, density, plant species diversity, and regeneration can be promoted over time. The cumulative impact of these actions is expected to result in minimal effects on vegetation. Under proper stocking rates, utilization levels, and favorable climatic conditions, grazed vegetation is anticipated to recover within one to two growing seasons after the season of use, resulting in minimal overall impacts.

Based on historical trend monitoring data, as well as long-term cover and production data, plant communities have either remained stable or shown a slight upward trend based on data from 1986 to the present. Specifically, when analyzed on a per-pasture basis, plant cover by functional group has remained relatively stable across the allotment. Production (annual biomass) values correlate more closely with changes in annual precipitation than with historical stocking levels of authorized livestock. Herbaceous responses fall well within the natural variability associated with vegetation types found on the allotment.

Additionally, the eight long-term monitoring sites have shown little to no change in ground cover, canopy cover, species occurrence, species frequency, and relative species composition between readings completed in 2018 and 2021. These trends overlap with the reissuance of a term grazing permit in 2019. Considering these data trends, along with the flexibility in stocking rates up to the proposed permitted numbers, no adverse direct or indirect effects on vegetation are anticipated to result from permitting livestock on the allotment under Alternative A.

Maintaining existing structural improvements would facilitate the implementation of improved managed livestock grazing by providing the necessary infrastructure to control grazing periods, frequency, grazing intensity, and forage utilization. Additionally, maintaining existing fences would reduce the chance of entanglement for wildlife (AZGFD, 2011). These existing fences may be modified or upgraded to meet current wildlife specifications. When existing fences reach the end of their functional lifespan, they would be reconstructed to comply with current wildlife standards.

If a virtual fencing system is implemented in the future to achieve management goals identified in the proposed action, some fence lines may be removed from the landscape on an as-needed basis, eliminating the need for maintenance and reducing barriers for wildlife. Furthermore, existing earthen stock ponds would be maintained, and water developments (such as water storage tanks and troughs) would remain operational. These functional livestock water developments are essential for managed livestock grazing and also serve as critical water sources for wildlife. When currently non-functional stock tanks are returned to a functional status, the localized areas surrounding them may experience high levels of use, but distribution opportunities for livestock and total grazable acreage would likely be improved,

decreasing intensity of overall utilization and promoting vegetation health across the allotment. No adverse indirect effects are expected from the maintenance of existing improvements.

Under the proposed action, the construction, operation and maintenance of new structural range improvements will have short-term direct effects on vegetation. Specifically, plant height and canopy cover will be reduced in the immediate area due to fence construction (approximately 5.5 acres for a 2.5-mile-long, 10-foot-wide fence), pipeline construction near an existing roadway, and the installation of two water harvesting catchments with watering facilities (footprints totaling approximately 5 acres). However, vegetation is expected to recover under favorable climate conditions after construction is complete. Cross-country travel will be used to access improvement sites during construction, and incidental tree and shrub removal will occur within the footprint of the water harvesting catchment, fence line, and pipeline.

The newly installed watering facilities (troughs fed by pipeline and water harvesting catchments) would create an area where livestock and wildlife congregate, resulting in heavy utilization levels within an approximately 100-meter (300 feet) radius, totaling approximately 6 acres. Vegetation in these areas is not expected to recover during the life of these improvements when used by livestock and wildlife. Vegetation loss in these areas may reduce forage for bald eagles that may visit. However, because eagles scavenge their food from a variety of sources and there are no known bald eagle nests in the project area, the effect is expected to be minimal for bald eagles. For the northern goshawk, the construction of water catchments may reduce habitat quality for some goshawk prey species. Many prey species use other forms of cover and forage, and this indirect effect is not inclusive to all prey species for the northern goshawk and therefore is not significant. Finally, as a result of increased animal activity near the new water catchments, there will be an increase in bare ground, compaction, and an accelerated potential for soil erosion within these high-use areas.

Despite these impacts, the proposed infrastructure improvements are beneficial overall. They increase distribution opportunities for livestock and improve total grazable acreage, ultimately decreasing intensity of overall utilization across the allotment. The proposed fence line will directly benefit grazing management by allowing functional use of the Rain Tank pasture and indirectly affect Tusayan by preventing livestock from entering the town from the forest.

Under the Proposed Action, managed livestock grazing may increase sediment and nutrient delivery to streams. However, these effects to water quality would be minor due the small size of impacted areas, low gradient throughout the allotment, and lack of perennial water. Proposed range improvements would not alter the physical, chemical or biological components of water quality.

The Proposed Action may also affect soil condition through soil disturbance and soil redistribution, soil erosion, soil compaction, and a reduction in nutrient cycling processes within portions of the project area where livestock concentrate, such as around water developments. There would be long-term localized effects as described above around proposed and existing stock tanks, troughs and trick tanks. However, effects would be minor across the majority of the allotment area.

The possible use of virtual fencing may result in short- and long-term effects. Virtual fencing technology is a system that enables livestock to be confined or moved without using fixed fences by relying on collars, sensors, GPS, and wireless technologies. The implementation of virtual fencing will have a largely beneficial effect on rangeland resources and vegetation. If implemented, it will be used as a tool to manage livestock based on AOI's and management prescribed in the proposed action. Technology will allow for fine-tuned management of livestock, replacement/ hardening of existing fence lines, and exclusion of sensitive resources. In particular, the flexibility in creating pastures with virtual fencing technology can be used to properly distribute livestock across the allotment and ensure they access more

grazeable area, lowering overall utilization and increasing total available foraging areas. The permittee would be responsible for establishing and maintaining virtual pastures per forest service recommendations and operating instructions.

If a virtual fencing system is implemented in the future to achieve management goals identified in the proposed action, some fence lines may be removed from the landscape on an as-needed basis, eliminating the need for maintenance and reducing barriers for wildlife. No adverse indirect effects are expected from the use of virtual fence technologies or from the maintenance of existing improvements.

Beneficial and Adverse

As discussed above, the project has the potential to cause long term effects to soil and vegetation near water catchments and water troughs. However, the degree of those effects is anticipated to be limited to small areas of the allotment and will be minimized through monitoring and adaptive management strategies, a deferred-rotational management system, and implementation of project design features. Additionally, continued livestock authorization would occur in the context of over a century of livestock grazing having occurred in the area, and it facilitates continued access and shared management of ancestral lands for the Havasupai Tribe, which is considered to be a beneficial effect. Functioning water catchments is anticipated to have a beneficial effect to wild ungulates in form of increased water availability. Lastly, repairs to damaged existing fence lines and the possible removal of physical fences (if virtual fence technology proves to be successful) will result in a beneficial effect to wildlife anticipated in the form of reduced entanglements and a decrease in barriers to habitat connectivity as discussed above.

Effects on Public Health and Safety

Concerns related to potential increased traffic on Forest Service Road (FSR) 328 due to water hauling were brought forward during the public comment period. However, the purpose of the proposed pipeline repairs and additional water catchments is to reduce reliance on hauled water to the allotment. Water hauling is an existing use and implementation of the proposed action would not have a significant effect to public safety as it is within the scope of what is currently allowable on public roads. The portion of FSR 328 that is accessible from Highway 64 is listed on the Tusayan Ranger District Motor Vehicle Use Map as a road that is open to motor vehicles licensed under State law for general operation on all public roads within the state. Road users are responsible for following traffic regulations, and to travel speeds that are reasonable and prudent for the road condition (Forest Service Engineering Manual-7100-15, 3A.3).

Effects that would violate Federal, State, or local law protecting the environment

The selected alternative (Alternative A) has been designed to comply with federal, state and local laws protecting the environment, and it has been reviewed for compliance with current executive orders and relevant Federal environmental policies; thus, there would be no expected effects that would violate those laws.

Conclusion

After considering the environmental effects described in the EA and specialist reports, I have determined that alternative A will not have significant effects on the quality of the human environment considering

the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared.

Findings Required by Other Laws and Regulations

National Forest Management Act (NFMA)

This decision to authorize continued grazing on the Rain Tank allotment under Alternative A is consistent with the intent of the Forest Plan's long-term goals and objectives, all of which were reviewed and documented in the project record. The project was designed in conformance with Forest Plan standards and incorporates appropriate guidelines for vegetation types and resource desired conditions relevant to project activities. (Forest Plan, pages 24, 91-118).

Administrative Review Opportunities

A draft decision for this project was subject to the objection process pursuant to 36 CFR 218 (a) and (b). One timely objection letter was received. The project was reviewed in light of the issues presented in the objection letter and found to be supported by data indicating that the allotment has the capacity to support the proposed range in AUM and is in compliance with all applicable laws and the Kaibab's Land and Resource Management Plan.

Implementation

This project may be implemented immediately upon issuance of a final decision and is anticipated to occur in 2026.

For further information concerning the Rain Tank Allotment Grazing Reauthorization Project, contact Clairisse Loucks, NEPA Planner, by phone at (928) 635-5609 or by email at clairisse.loucks@usda.gov during normal business hours.

Approved by:

Debra Mollet 11/20/2025

(Date)

DEBRA MOLLET
District Ranger
Williams and Tusayan Ranger District Offices
Kaibab National Forest

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the State or local Agency that administers the program or contact USDA through the Telecommunications Relay Service at 711 (voice and TTY). Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Mail Stop 9410, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.