

FINDING OF NO SIGNIFICANT IMPACT

1.0 NAME OF THE PROPOSED ACTION

Grazing Lease Program at Beale AFB, California.

The purpose of the Proposed Action is to grant new grazing leases and continue the managed grazing program at Beale AFB. According to the INRMP, the purpose of the Proposed Action is to provide for the multiple purpose uses of natural resources, including grazing by domestic livestock, protecting wildlife habitat and watershed resources, and providing outdoor recreation opportunities. The Proposed Action would also reduce wildfire hazard by controlling grass fire fuels, control invasive weeds, improve security by reducing vegetative cover, improve habitat in grasslands and vernal pools, support the local agricultural economy, and provide revenue for base natural resource projects. The need for the proposed action is due to the expiration of the existing grazing leases.

2.0 DESCRIPTION OF PROPOSED ACTION AND NO ACTION ALTERNATIVE

Proposed Action. Beale AFB proposes to grant five new grazing leases and continue the managed grazing program at Beale AFB. The new leases will replace leases that expired in May 2012.

No Action Alternative. Beale would not execute new leases to replace the expired grazing leases. Vernal pool wetlands and grasslands that benefit from managed grazing would deteriorate without grazing. Wildfire hazard would increase due to uncontrolled vegetative growth.

3.0 SUMMARY OF ENVIRONMENTAL EFFECTS

Air Quality. Implementation of the Proposed Action would not impact air quality. Local and state air district requirements would be implemented to ensure no significant impacts to air quality.

Soils. The Proposed Action would continue a program which has historically maintained good soil condition in the grazing areas. The Proposed Action would have no impact or a positive but not significant impact on soils.

Water Resources. The Proposed Action would have no significant impact on surface water, floodplains, groundwater, or wetlands. Implementation of management practices such as proper distribution of livestock to maintain density and diversity of vegetation and minimize erosion would ensure potential impacts to water resources are not significant.

Biological Resources. The Proposed Action is an essential part of the base Integrated Natural Resources Management Plan. Implementation of the Proposed Action would benefit biological resources. Past experience with managed grazing at the levels prescribed under the Proposed

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Action has shown it controls non-native and invasive plant species, improving the quality of annual grasslands which wildlife depend upon for forage, cover, nesting and breeding. Scientific studies have demonstrated that grazing programs also benefit vernal pools which support special-status species.

Safety and Occupational Health. The Proposed Action promotes safety by reducing fire fuel load in the extensive grasslands on Beale AFB.

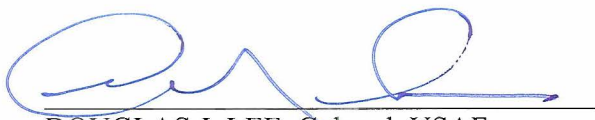
Solid and Hazardous Materials and Wastes. Under the Proposed Action there would be no change in or effects on hazardous materials and wastes at Beale AFB.

4.0 CONCLUSION

Based on the provisions set forth in the Proposed Action, all activities were found to comply with the criteria or standards of environmental quality and coordinated with the appropriate Federal, state, and local agencies. The attached Environmental Assessment (EA) and a draft of this Finding of No Significant Impact (FONSI) were made available to the public on November 21, 2012 for a 15-day review period. No comments were received.

5.0 FINDINGS

Finding of No Significant Impact. After review of the EA prepared in accordance with the requirements of the National Environmental Quality Act (NEPA), the Council on Environmental Quality (CEQ) regulations, and the Environmental Impact Analysis Process (EIAP), 32 CFR Part 989, as amended, I have determined that the Proposed Action would not have a significant impact on the quality of the human or natural environment. An Environmental Impact Statement (EIS) will not be prepared. This decision has been made after taking into account all submitted information, and considering a full range of practical alternatives that would meet project requirements and are within the legal authority of the USAF.


DOUGLAS J. LEE, Colonel, USAF
Vice Commander, 9th Reconnaissance Wing

27 Dec 12
Date

Environmental Assessment of Beale AFB Grazing Lease Program

Chapter 1: Purpose and Need for Action

1.1 Background: For decades, Beale AFB has used grazing for managing buffer lands on the installation. Figure 1 on the next page shows the parcels designated for managed grazing. Managed grazing reduces fire fuel, controls invasive weeds, improves security, improves habitat in vernal pools and grasslands, supports the local agricultural economy, and provides revenue for natural resources projects. Beale's grazing program is conducted in accordance with the base Integrated Natural Resource Management Plan (INRMP) and includes vegetation monitoring, limitations on grazing, and inspections of pastures to ensure stewardship of grasslands. The Proposed Action would grant new leases to replace expiring leases to continue grazing activity in areas where it has previously occurred.

1.2 Purpose and Need – Air Force Objectives: The Proposed Action is to grant new grazing leases and continue the managed grazing program at Beale AFB. According to the INRMP, the purpose of the Proposed Action is to provide for the multiple purpose uses of natural resources, including grazing by domestic livestock, protecting wildlife habitat and watershed resources, and providing outdoor recreation opportunities. The grazing component of the INRMP is based on the recognition that grazing is a way to maintain sound stewardship of public lands. Grazing livestock enables the lessee to take advantage of the availability of natural forage while helping base managers reduce fuel loads on grasslands. Outleasing can also be an economically self-sustaining program that enhances other aspects of natural resource management. The Proposed Action would also reduce wildfire hazard by controlling grass fire fuels, control invasive weeds, improve security by reducing vegetative cover, improve habitat in grasslands and vernal pools, support the local agricultural economy, and provide revenue for base natural resource projects. The need for the proposed action is due to the expiration of the existing grazing leases.

1.3 Summary of Key Environmental Compliance Requirements:

1.3.1 National Environmental Policy Act (NEPA): NEPA (42 U.S.C. Section 4321-4347) is a Federal statute requiring the identification and analysis of potential environmental impacts associated with proposed Federal actions before those actions are taken. Continuation of the grazing lease program is not exempt from NEPA requirements, and there is no categorical exclusion available to cover this activity. The proposed continuation of the grazing lease program is not covered in an existing, previously completed NEPA analysis (Environmental Assessment or Environmental Impact Statement). In accordance with Council on Environmental Quality memorandum "Emergencies and the National Environmental Policy Act," May 12, 2010, Attachment 1, this focused, concise, timely Environmental Assessment has been prepared to comply with NEPA since the expected environmental impacts of the proposed continuation of the grazing lease program are not believed to be significant.

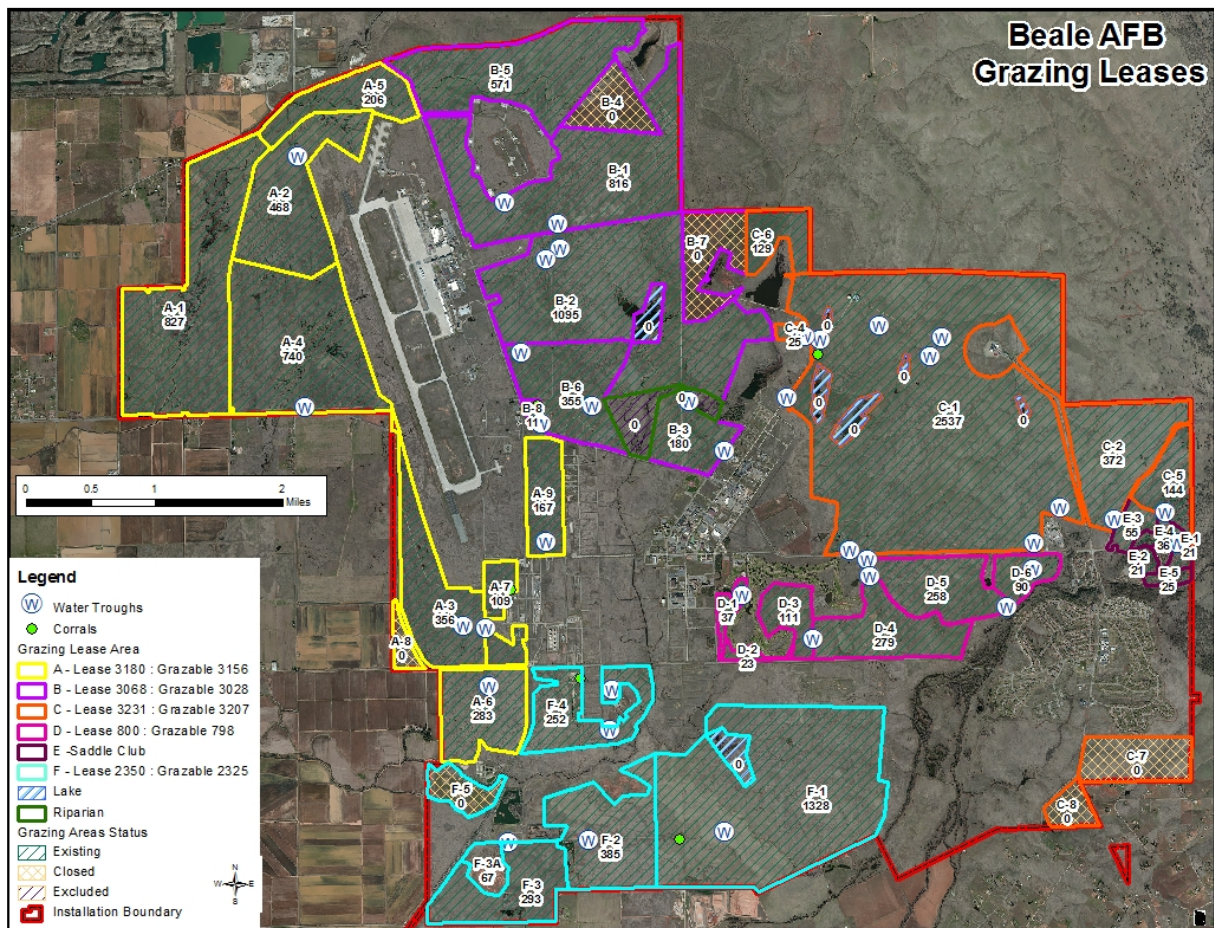


Figure 1 Grazing Lease Parcels

1.3.2 Endangered Species Act (ESA): The ESA is a Federal statute requiring the protection of Federally listed threatened or endangered species. Vernal pool wetlands found in some of the grazing lease areas on Beale AFB are habitat to several threatened or endangered species of freshwater shrimp. The INRMP is prepared in cooperation with the USFWS and the CA Department of Fish and Game (DFG), and representatives of USFWS and DFG sign the INRMP. As stated on the signature page, the signatures indicate mutual agreement concerning the conservation, protection and management of the fish and wildlife resources presented in the Plan. The grazing program has been an essential component of the INRMP for many years.

Beale AFB completed a consultation with USFWS for a new grazing program at the Lincoln Receiver Site in 2011. In the USFWS concurrence on that consultation, USFWS stated “The Service believes that grazing of the Lincoln Receiver Site will benefit the vernal pool crustaceans by removing thatch, controlling invasive grasses, and improving the hydrology of the vernal pools and swales in the proposed project area.”

Beale recently completed a programmatic consultation with the USFWS that covers the base grazing program. In their Programmatic Biological Opinion (PBO), the USFWS authorized "Grazing for Vegetation Management" on Beale AFB. In the PBO, the USFWS recognizes that "Beale AFB will use livestock (cattle, sheep and goats) on its properties throughout the year as needed for the control of noxious weeds, reduction of fuel load for wildfires, and reduction of thatch accumulation in vernal pools to improve habitat for federally listed species." USFWS recognizes available scientific data indicate limited grazing is an essential component of vernal pool management.

- 1.3.3 **Beale AFB INRMP, Air Force Instruction 32-7064, Air Force Policy Directive (AFPD) 32-70, DOD Instruction 4715.3:** The Beale AFB INRMP is reviewed and updated annually in accordance with AFI 32-7064, Integrated Natural Resources Management, and implements AFPD 32-70, Environmental Quality, and DOD Instruction 4715.3, Natural Resource Conservation Program. The INRMP explains how natural resources are managed on Beale AFB in compliance with federal, state, and local standards. It is prepared to achieve an ecosystem management program that draws on a collaboratively developed vision of desired future ecosystem conditions integrating ecological, economic, and social factors. Implementation of the INRMP helps ensure that Beale AFB lands continue to support present and future mission requirements while preserving, improving and enhancing ecosystem integrity.

Chapter 6 of the INRMP, Natural Resources Program Management, describes the agricultural outleasing and grazing programs and notes various scientific studies conclude grazing benefits vernal pools. Chapter 7 provides management goals and objectives for the agricultural outleasing and grazing programs. Attachment 8 to the INRMP provides supporting information for the agricultural outleasing work plans, including cooperative agreements between the Air Force and agencies providing monitoring services, and the University of California Cooperative Extension guidelines for developing a grazing plan for vernal pool ecosystems. The INRMP will be made available on the Beale AFB public web site during the public review period for this EA (<http://www.beale.af.mil/> under Community Information).

- 1.4 **Agencies and Persons Consulted:** Copies of this EA will be provided to the list of agencies and individuals found in sections 4.2 and 4.3. This EA was also made available for public review and comment (15 day comment period) from 21 November 2012 to 6 December 2012.

Chapter 2: Proposed Action and Alternatives

2.1 Detailed Description of the Proposed Action: Under the Proposed Action, Beale AFB would continue to manage a grazing lease program, consisting of 12,514 acres of grass land divided into five parcels as follows:

Parcel	Acreage	Included	Livestock Type	AUM
Parcel A	3,156 acres	1 corral, 6 watering troughs	Cattle	1,855
Parcel B	3,028 acres	1 corral, 8 watering troughs	Cattle	1,633
Parcel C	3,207 acres	1 corral, 10 watering troughs	Cattle	1,800
Parcel D	798 acres	1 corral, 6 watering troughs	Cattle	487
Parcel F	2,325 acres	2 corrals, 2 troughs, 1 well with 3 troughs	Cattle	1,094

Note: AUM = Animal Units Monthly, an estimate of the grazing capacity/forage available

See Figure 1 for the location of grazing lease parcels.

In accordance with the INRMP, the lease terms would limit the number of animals to prevent overgrazing. Grazing would be allowed between 1 November and 31 May, unless otherwise specified to meet unusual conditions. The grazing leases would be signed for a term of one year, with four one-year extensions allowed, not to exceed a total of five years. Ranchers would pay annual fees for the leases, depending on the acreage and the number of AUMs (Animal Units Monthly) supported on the parcel. Ranchers would be responsible for bringing their livestock onto their lease, ensuring the safety and security of their livestock, ensuring availability of water and dietary supplements, rotating livestock between pastures as needed to prevent overgrazing; responding if livestock escape from their pasture, and removing the livestock at the end of the grazing season.

In accordance with the INRMP, Beale AFB Natural Resource management personnel would continue rangeland monitoring, continue to consult with the grazing lessees on placement of mineral and supplemental feed, continue monitoring distribution of livestock to obtain uniform range use, and continue monitoring populations of desirable and undesirable forage species. They would notify lessees of any observed problems, and maintain cattle fences and water tanks as needed.

The Proposed Action meets the purposes of the INRMP by enabling multiple uses of natural resources, including livestock grazing, protecting wildlife habitat and watershed resources, and outdoor recreation. The managed grazing component of the INRMP maintains sound stewardship of public lands, and enables the lessee to take advantage of the availability of natural forage while reducing fuel loads of grasslands. Studies have shown that grazing programs are essential to maintaining healthy grasslands, which are important to ecology.

Several studies have shown that livestock grazing can help reduce the cover of invasive and non-native species in grasslands. Outleasing can also be an economically self-sustaining program that enhances other aspects of natural resource management and provides revenue for base natural resource projects.

The Proposed Action would reduce wildfire hazard by controlling grass fire fuels, control invasive weeds, improve security by reducing vegetative cover, and improve threatened and endangered species habitat in vernal pools. Studies have shown that livestock grazing maintains species diversity and hydrology in vernal pools. One study compared vernal pools side by side, with and without grazing. After just three years, the ungrazed vernal pools became overgrown with non-native vegetation. Both plant and invertebrate species richness declined in these areas, and the pools were inundated for shorter time periods relative to the pools that were grazed. The overall species composition in ungrazed vernal pools shifted to a dominance by grasses. (National Wetlands Newsletter, vol. 26, no. 4, "Vernal Pools are at Home on the Range" published by the Environmental Law Institute)

2.2 No Action Alternative: Scientific studies show that vernal pools benefit from managed grazing, and deteriorate without a grazing program. Perhaps the most important effect of no grazing is an overall decline in native species richness of the ungrazed pools versus a net increase in richness in the continuously grazed pools. The USFWS believes that grazing benefits vernal pools by removing thatch, controlling invasive grasses, and improving the hydrology of the vernal pools and swales. Without grazing, thatch builds up in vernal pools, decomposing and depleting oxygen levels in the water which inhibits the growth of vernal pool species. Without grazing, invasive weeds and non-native grasses take over vernal pools, and they take in more water than vernal pool plants, so the vernal pools dry out faster, adversely changing the hydrology.

Under the No Action Alternative, Beale AFB would let the current grazing leases expire without executing new leases. During the rainy season, typically 1 Nov through 1 May, grasses in open areas of the base would grow unabated, potentially reaching heights of 3 – 4 ft in some areas. The tall vegetation would compromise base security by providing cover for intruders. Invasive weeds would outcompete native grass species and vernal pool plants, degrading the habitat value of both grasslands and the vernal pool wetlands. During the dry season, typically May through Oct, the overgrown grasses would dry out, leaving easily burned fuel across large areas of the base. The benefits of keeping this land available for multiple uses for military and other purposes would not be realized. No revenue would be collected from the grazing lease program, and projects that would have been funded by those revenues would not be completed. The local agricultural economy would not benefit from use of the grazing leases. This alternative would not meet the purpose and need for the Proposed Action but is evaluated to meet requirements of NEPA.

2.3 Alternatives Considered But Not Analyzed

2.3.1 Grass Mowing Alternative: Under this alternative, Beale AFB would let the current grazing leases expire and initiate a mowing program to limit grass height in the open grass lands. Beale AFB could initiate the mowing program by modifying the base Grounds

Maintenance contract to include 12,514 acres of additional grass mowing, at a frequency to keep growth of the grasslands under control. Beale could also conduct the grass mowing using assigned personnel instead of a contractor. This would require the purchase and maintenance of large mowers the Air Force does not currently own.

Mowing grassland would meet the objectives of the Proposed Action to reduce fire fuel/hazard, control invasive weeds, and improve security. However, large mowers would compress soils and create ruts in vernal pools, changing the hydrology, and mowing would leave thatch to decompose which would deplete oxygen from vernal pool wetlands when inundated. These effects would harm the vernal pools, so grass mowing would not meet the need to maintain vernal pool habitat. As previously discussed, studies have shown that elimination of a grazing program causes vernal pool species diversity and hydrology to deteriorate. This alternative would require an increase in budget expenditures to expand the scope of mowing (by contract modification) or to invest in larger mowers for in-house personnel, and eliminating leases would not provide revenue for the base natural resources program nor would it support the local agricultural economy. Since this alternative would not meet the purpose and need for the Proposed Action, this alternative was eliminated from further consideration.

2.3.2 Herbicide Alternative: Under this alternative, Beale AFB would let the current grazing leases expire and initiate an herbicide program to reduce the vegetative growth in the open grass lands. Beale AFB could initiate the herbicide program by modifying the base Grounds Maintenance contract to include 12,514 acres of herbicide application at a frequency to keep vegetative growth under control. Beale AFB could also conduct the herbicide application using assigned personnel instead of a contractor. This would require the base hire and/or contract for certified pest control applicators, and also purchase and stock herbicides in quantities that are not currently maintained on base. Further, this alternative would not support an existing Department of Defense goal to reduce use of pesticides. This alternative would meet the objectives of the Proposed Action to reduce fire fuel/hazard, control invasive weeds, and improve security. However, the herbicide application would not be authorized in or near vernal pools due to potential adverse impacts to threatened and endangered species, so as a result this alternative would not meet the purpose of improving vernal pool habitat. This alternative would require additional budget expenditures to implement, and eliminating leases and lease revenues would reduce or eliminate revenues for the base natural resources program and also would not support the local agricultural economy. Since this alternative would not meet the purpose and need for the Proposed Action, and would also not meet the DoD pesticide reduction goal, it was eliminated from further consideration.

Chapter 3: Environmental Impacts of the Proposed Action and Alternatives

3.0 Affected Environment and Issues Eliminated from Further Analysis

The affected environment at Beale AFB is fully described in the Final Environmental Assessment for the MC-12 Training Squadron Beddown, March 2011, with a Finding of No Significant Impact (FONSI) signed March 20, 2011. The affected environment from that EA is incorporated into this EA by reference and can be accessed at the base public web site during the public comment period for this EA (<http://www.beale.af.mil/> under Community Information). While a detailed description is not repeated here, a summary is provided. The following sections summarize key characteristics of the affected environment relevant to the Proposed Action, environmental impacts of the Proposed Action and the no action alternative, and mitigation recommendations.

The National Environmental Policy Act (NEPA) requires focused analysis of the areas and resources potentially affected by an action or alternative. It also indicates that an EA should consider, but not analyze in detail, those areas or resources not potentially affected by the proposed action and alternatives. Detailed analysis of some resource categories has been limited in this EA because they are not affected by the proposed action.

- **Land Use:** Land use of the project area and surrounding environment will not change substantially from its current state. The area is currently open grassland used seasonally for cattle grazing. The Proposed Action will continue the same use. Therefore, the proposed action is not expected to appreciably impact the land use and aesthetics of the base or its surrounding area, and requires no further analysis.
- **Environmental Justice:** Environmental justice concerns the disproportionate effect of a federal action on low-income or minority populations. Because the proposed action is situated within the boundaries of Beale AFB, impacts to low-income and minority populations are not expected and are not further analyzed in this EA.
- **Utilities and Infrastructure:** The Proposed Action does not involve utilities and infrastructure.
- **Noise:** Since aircraft and surface traffic are the major sources of noise within base boundaries and off site adjacent property, any increased noise due to delivery or activities of grazing cattle would be temporary and occur in a fairly isolated environment. Any effects are considered less than significant and no further analysis is necessary.

3.1 Air Quality

The Clean Air Act requires that all federal actions conform with State Implementation Plans for air quality. Beale AFB is located in a region that is in non-attainment for fine particulate matter, 2.5 microns or less (PM_{2.5}). The local air quality management entity is the Feather River Air Quality Management District (FRAQMD). FRAQMD has established mitigation measures for fugitive dust, construction, and agricultural engines. The lessee shall be required to comply with FRAQMD "Standard Mitigation Measures for All Projects" and "Fugitive Dust Control Mitigation

Measures” to minimize air quality impacts. These measures include maintaining a speed limit of 15 mph or less on unpaved roads. California Air Resources Board (CARB) also restricts the idling of Commercial Heavy-Duty Diesel Vehicles (greater than 10,000 lbs) to no longer than five minutes at any one location unless certified as a “Clean Idle Vehicle” (Ref: Title 13 CCR, Section 2485). Compliance with FRAQMD and CARB requirements would result in no significant impact to air quality under the Proposed Action. Under the No Action alternative, there would be a small reduction in fugitive dust from current levels that occur with grazing. (References: FRAQMD requirements: <http://www.fraqmd.org/StandardMitigation.htm>; CARB: <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>).

Greenhouse gas emissions from non-renewable sources often occur from ranching operations. Greenhouse gases (GHG), including carbon dioxide (CO₂) and methane (CH₄), have been linked to climate change. The EPA regulates GHGs under Part 98 of the Clean Air Act and addresses manure management of livestock facilities that emit ≥25,000 tons of GHGs per year in Subpart JJ of the CAA (Title 40 CFR, §98, Subpart JJ). However, Subpart JJ does not apply to “pasture/range/paddock systems” (Subpart JJ, §98.360(c)).

Under the proposed action, GHG emissions are expected to be generated primarily from vehicles used to manage cattle operations. On average, five vehicle trips two-three times weekly (15 trips total) are expected to occur for the grazing activity, between November and June, resulting in a de minimis contribution to vehicle emissions compared to overall vehicle traffic on base. Since the Proposed Action would be a continuation of the pre-existing grazing activity, base vehicle emissions would not increase under the Proposed Action and would result in less than significant impact to GHG emission. Under the No Action alternative there would likely be a decrease in GHG emissions since the cattle operations traffic would be eliminated.

Global climate change, which may be related to GHG emissions, could result in a warmer and drier climate over time. This could result in plant species and animal species gradually moving north and to higher elevations. Less snow at lower elevations would likely impact the timing and quality of snowmelt, which could impact water resources and species dependent on water conditions. While the Proposed Action and No Action alternative would not have significant impacts on global climate change, the continued monitoring of the managed grazing program would help identify vegetation shifts, allowing for grazing program modification to address global climate change.

3.2 Soils

The Great Valley basin has filled with alluvial deposits from the erosion of the Sierra Nevada and the Coast Ranges. Because of its location on the boundary of the two provinces, Beale AFB contains geologic characteristics of both the Great Valley and the Sierra Nevada.

Soils at Beale AFB tend to consist of gravelly and cobbly alluvium in the northeast portion of the base, shallow loams in the east, clayey loams in the west, and clay rich alluvial soils in the central portions of the base. All the soils are acidic with a slight to moderate erosion potential.

The Proposed Action could cause both positive and negative impacts to the soils. Livestock impacts to soils are dependent on management, soil properties and weather. For example, livestock movement over wet soils might result in increased erosion and soil compaction. However, incorporating some best management practices such as limiting the number of cattle in each parcel and properly distributing the grazing livestock would minimize the negative impacts and provide positive soil impacts, such as loosening of compacted soils and breaking up hydrophobic crusts resulting in increased infiltration. It is important that livestock are managed so that density and diversity of vegetation cover are maintained to limit soil loss.

Under current management, soil indicators for the grazing parcels point to good soil condition. Based on current knowledge, the proposed action would result in no impact or have a positive impact on soils. Overall, the impacts would not be significant. The No Action alternative would remove livestock from the area and eliminate both the positive and negative impacts of the livestock on soils.

3.3 Water Resources

Water resources with potential to be affected by the Proposed Action include surface water, floodplains, groundwater, and wetlands.

3.3.1 Surface Water. Surface water resources include lakes, ponds, rivers, streams and drainage features. Surface waters are shown on Figure 2 below. Storm water is an important component of surface water because of its role in introducing sediments and other contaminants that could degrade the water quality of lakes, ponds, rivers and streams. Most lakes and ponds on Beale AFB are excluded from the grazing lease parcels, preventing the cattle from directly impacting the water quality of the lakes and ponds. Intermittent streams, creeks, and drainage features are present within the grazing parcels. The Proposed Action would take place during the rainy season (November through May), when water is typically present and flowing in these areas.

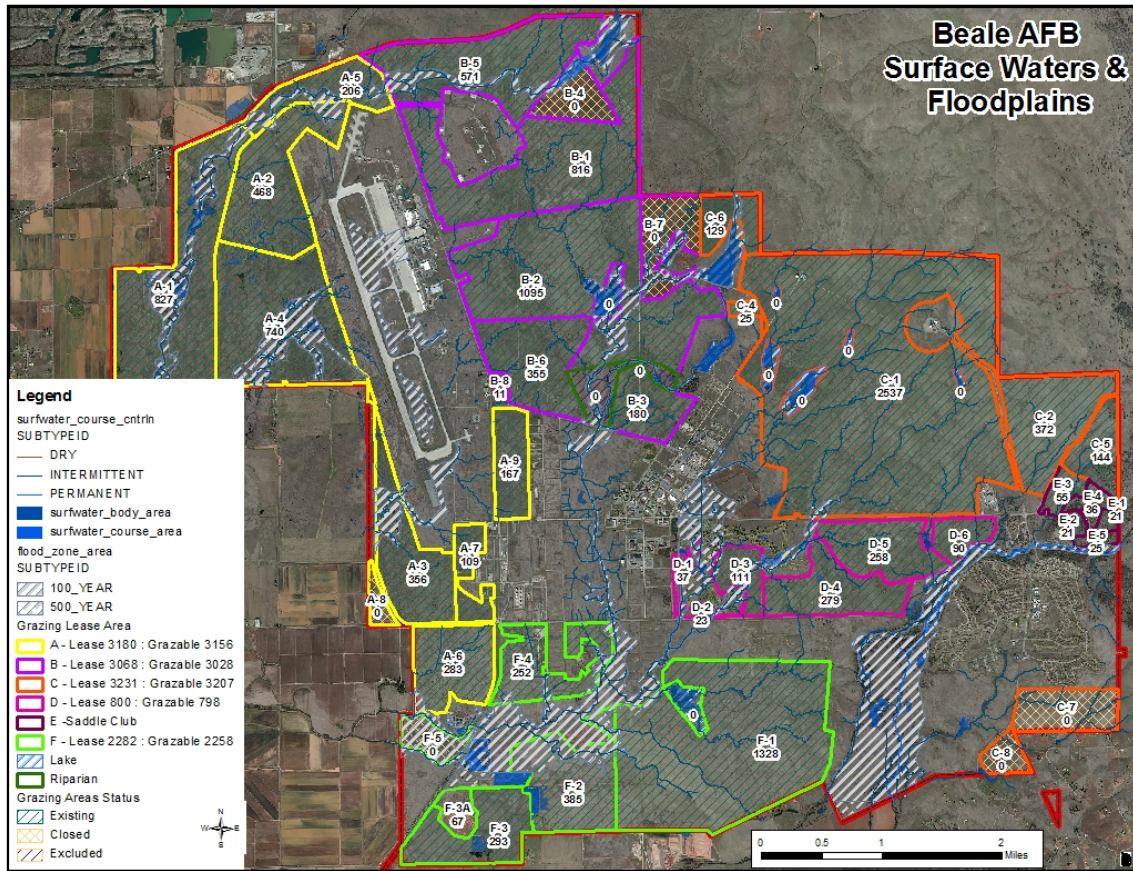


Figure 2 Surface Waters and Floodplains

Under the Proposed Action, cattle have access to intermittent streams, creeks, drainage features, but not most ponds or lakes. Cattle can disturb soils and mud within and adjacent to surface water and storm water runoff areas, which could result in sedimentation that could adversely impact surface water quality. However, the base storm water monitoring program has never identified any adverse impacts to surface water quality from the cattle grazing. Under the Proposed Action, the number of AUMs would continue to be kept at a level that does not result in adverse impacts to surface water. The Proposed Action would ensure proper distribution of livestock to maintain density and diversity of vegetation and continue to minimize erosion, sedimentation, and adverse impacts to surface water. Impacts to surface water from the Proposed Action would not be significant.

Under the No Action alternative, a potential adverse impact would be avoided.

3.3.2 Floodplains. The 100-year floodplain is defined as that area subject to a 1% or greater chance of flooding in a given year. As shown in Figure 2, portions of the 100-year floodplain are within the grazing leases. Under the Proposed Action, cattle have access to the 100-year floodplain.

E.O. 11988, Floodplain Management, requires federal agencies to avoid adverse impacts such as flood loss and impacts to human safety, health and welfare that are associated with the occupancy and modification of floodplains. It also requires federal agencies to avoid floodplain development where there is a practicable alternative, and to restore and preserve the natural and beneficial values served by floodplains. It applies to major federal actions significantly affecting the quality of the human environment that will occur in a floodplain.

In accordance with AFI 32-7064, Integrated Natural Resources Management, and Executive Order 11988, the Proposed Action (managed grazing) is part of the natural resource management strategy to restore and preserve the natural and beneficial value of the floodplain through non-intrusive and compatible land use that improves the quality of grasslands and wetlands. The Proposed Action is not a major federal action significantly affecting the quality of the human environment, but a self supporting program that benefits the base, local agriculture and the natural environment. The Proposed Action does not include any significant construction that would be susceptible to flood loss; the items installed in the grazing pastures consist of fencing and water troughs, funded by income from the grazing leases. The continuation of the grazing program will have no impact on human safety, health or welfare in event of a flood. This Proposed Action will not harm the floodplain or alter floodplain hydrology, because management practices limit the number of cattle and the grazing season, ensure proper distribution of livestock to maintain density and diversity of vegetation and minimize erosion. Based on all of the above, the Proposed Action will not have a significant impact on the floodplain, and a Finding of No Practicable Alternative is not necessary.

Under the No Action alternative, there would be no impact on the floodplain.

3.3.3 Groundwater. Groundwater is an essential resource that functions to recharge surface water, and it is also used for drinking, irrigation, and industrial purposes. The Beale AFB drinking water supply comes from groundwater pumped from a well field on the west side of the base. The drinking water wells draw water from a depth of 300 to 500 feet below ground surface. Beale AFB also has hundreds of groundwater monitoring wells that are used to investigate and monitor groundwater contamination from past hazardous substance releases. With the exception of some isolated hazardous waste sites, groundwater quality at all monitoring well locations at Beale AFB meets state and Federal primary water quality standards.

The base drinking water well field is within grazing lease parcel A. Each drinking water well is fenced to exclude grazing cattle, as a precaution to protect the drinking water wells from fecal contamination.

There are groundwater monitoring wells located within all of the grazing lease parcels. The monitoring wells are not fenced off from the cattle. Various levels of groundwater contamination have been identified in groundwater within the lease areas. Contractors and base personnel access lease areas to sample groundwater monitoring wells on a regular basis.

Under the Proposed Action, cattle would continue to graze near the base water supply wells and the base monitoring wells. Water quality sampling shows that the water supply wells

consistently meet state and Federal primary water quality standards, and have not been impacted by the grazing program. The groundwater monitoring wells are not used to supply drinking water, and the monitoring program has not identified any link between cattle grazing and the contaminants found in those wells.

Under the Proposed Action, there would be no significant impact on ground water from the cattle grazing.

Under the No Action alternative, there would be no ground water impact.

3.3.4 Wetlands. Wetland types at Beale AFB of particular importance to wildlife include vernal pools, riparian forests, and freshwater marsh. Vernal pools are extensive in the western, central and southern portions of Beale AFB and are found within all of the grazing parcels. Available scientific data indicate limited grazing is an essential component of vernal pool management. The USFWS has issued an opinion to Beale AFB that grazing will benefit vernal pool crustaceans by removing thatch, controlling invasive grasses, and improving the hydrology of the vernal pools and swales. The Proposed Action would have a positive impact on vernal pool wetlands.

Riparian habitat is found along surface waters and drainages in all five grazing parcels. According to the INRMP, riparian systems occur entirely within the 100 year floodplain of streams and rivers. The highest quality riparian area at Beale AFB is found along Dry Creek and Best Slough. This area has been set aside by the base for riparian restoration, and grazing is excluded from this area. Along other drainages, riparian vegetation is patchy and sparse, such as along Hutchinson Creek, or nonexistent, such as along Reeds Creek. Drainages associated with riparian areas may also support freshwater marsh habitat. Freshwater marsh vegetation grows in ponds and drainages that have a relatively permanent water supply, and occurs sporadically along drainages throughout the base.

Managed grazing involves proper timing, distribution and density of animals, which avoids the possibility of overgrazing, erosion and polluted watersheds. Through the process of grazing and controlled animal impact, invasive plants such as Himalayan blackberry, French broom, and native poison oak can be controlled in riparian areas without the application of herbicide. Grazing leaves root systems intact, providing a layer of stability to soil structure while shifting the ecology towards more functional vegetation, such as grasses forbs, native plant cover, and native trees. Managed grazing helps to reestablish more functional vegetation in watersheds and mitigate the effects of non-native vegetation in riparian areas. (Source: "Riparian Managed Grazing," published by Living Systems Land Management)

The Proposed Action could result in both positive and negative impacts to riparian habitat. Limiting the number of cattle with access to these areas, monitoring, and ensuring proper distribution of the animals would help control invasive plants and enable more functional vegetation to reestablish in these sensitive areas, without increasing erosion or polluting the watershed. If overgrazing occurs, negative impacts could include increased erosion, sedimentation and fecal pollution within the watershed. Under the Proposed Action, it is

important that livestock are closely monitored in riparian areas, and removed from the area before overgrazing occurs, to provide positive impacts while minimizing adverse impacts.

Under current management, the highest quality riparian and freshwater marsh areas are excluded from grazing so the Proposed Action would have no impact on them. The Proposed Action could result in minor positive impacts on riparian vegetation and minor negative impacts on erosion and pollution in those low quality riparian areas that are open to grazing. Based on past monitoring of the managed grazing program, the proposed action would not have a significant impact on riparian habitat.

The No Action alternative would remove livestock from the area and eliminate both the positive and negative impacts of the livestock on riparian areas.

3.4 Biological

Biological resources include vegetation, wildlife, threatened and endangered species, state-listed species, invasive species, and wetlands.

3.4.1 Vegetation

Annual Grassland is the dominant vegetation type on Beale AFB. Approximately 12,500 acres of annual grassland would be affected by Proposed Action. The annual grasslands on Beale AFB are dominated by non-native grass species such as wild oats (*Avena sativa*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), medusa-head (*Taeniatherum caput-medusae*), three-awn grass (*Aristida sp.*), annual fescues (*Festuca sp.*), and foxtail barley (*Hordeum jubatum*). Intermixed with these dominant grasses are an assemblage of native and non-native forb species, including dove weed (*Croton setigerus*), yellow starthistle (*Centaurea solstitialis*), clovers (*Trifolium sp.*), fiddleneck (*Amsinckia*), field owl's clover (*Orthocarpus tenuifolius*), popcorn flowers (*Cryptantha sp.*), poppies (*Papaver sp.*), and navarretias (*Navarretias sp.*). Annual grassland is a locally and regionally common vegetation type.

The INRMP specifies a utilization standard for the grazing program that 800 pounds per acre of residual dry matter of desirable forage species must remain in all grazing areas at the end of the grazing season. This utilization standard was developed in coordination with the Soil Conservation Service and it ensures the areas are properly grazed. By maintaining this utilization standard, the rangeland condition is maintained or improved, as evidenced by the ongoing rangeland monitoring program. Proper distribution and management of livestock maintains the density and diversity of vegetation cover. Past experience with managed grazing at the AUMs prescribed under the Proposed Action has shown it controls non-native and invasive plant species, which would otherwise out-compete native plants. Based on past and ongoing monitoring of the managed grazing program, the Proposed Action would have a positive impact on annual grasslands.

Under the No Action alternative, there would be no measurable vegetation removal. Beale would lose desirable forage in grasslands because star thistle and medusa head (invasive, non-native plants) would take over, crowding out desirable forage. This negative impact on grasslands would adversely affect wildlife: grassland birds breed and nest in grassland; other

bird species forage in grassland; mammals, small rodents and larger predators found in grasslands would all be adversely impacted by the deterioration of annual grasslands.

3.4.2 Wildlife

Annual grasslands at Beale provide important foraging habitat and cover for many common wildlife species, including burrowing owl (*Athene cunicularia*), red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), cliff swallow (*Petrochelidon pyrrhonota*), western kingbird (*Tyrannus verticalis*), horned lark (*Eremophila alpestris*), gopher snake (*Pituophis catenifer*), California ground squirrel (*Otospermophilus beecheyi*), California vole (*Microtus californicus*), and coyote (*Canis latrans*). Annual grasslands provide nesting and breeding habitat for a variety of grassland birds. Open annual grasslands are particularly important for wintering raptors such as the rough-legged hawk, which has been observed at the base. Annual grasslands provide important habitat for many mammals, particularly for small rodents and their larger predators. Mammals observed in the annual grasslands at Beale AFB include black-tailed hare, Botta's pocket gopher, deer mouse, California vole, California ground squirrel, western gray squirrel, and coyote. Gray fox, striped skunk, raccoon, and Virginia opossum are also likely to be found in the grasslands.

Responsible grazing practices can have positive effects on wildlife and can be a beneficial natural resource management tool. Benefits to wildlife include: increases in vegetation diversity and improvement of forage availability and quality; creation of patchy habitat with high structural diversity for feeding, nesting and hiding; opening up areas of dense vegetation to improve foraging areas for a variety of wildlife; removing rank, coarse grass encourages regrowth and improving abundance of high quality forage for wildlife; and improving nutritional quality of grassland by stimulating plant regrowth. These benefits would be realized under the Proposed Action; there would be no notable adverse impact on wildlife.

Under the No Action alternative, a decline in habitat quality over time would be expected. Without managed grazing, invasive and non-native plants crowd out native plants, decreasing vegetation diversity and quality of forage in annual grassland. This would adversely affect wildlife dependent upon annual grassland for forage, cover, nesting and breeding. According to the California Rangeland Conservation Coalition, responsible livestock grazing practices benefit nearly all species of grassland birds, most native plants and threatened vernal pool species. (California Bountiful magazine, July/August 2009, "Benefits of Grazing")

3.4.3 Special Status Species (Threatened or Endangered, and State Listed Species)

Only five special-status plant species are known to occur at Beale AFB: dwarf downingia (*Downingia pusilla*), listed as rare and endangered in CA; Greene's legnere (*Legnere limosa*), Federally listed as a species of special concern and state-listed as rare, threatened, or endangered in CA and elsewhere; Tehama navarretia (*Navarretia heterandra*), state listed as a plant of limited distribution; dwarf dwarf-cudweed (*Hesperervax caulescens*), CA listed as a plant of limited distribution; and stink bells (*Fritillaria agrestis*), Federally listed as a species of local

concern. These plant species are found in valley and foothill grasslands and vernal pools, and may be found within the grazing areas.

As previously indicated (Sections 3.3.4, 3.4.1), managed grazing has been proven to benefit grasslands and vernal pools, controlling invasive, non-native species, and improving species diversity and hydrology. The Proposed Action would have a positive impact on grasslands and vernal pools necessary to support special-status plant species, resulting in a positive impact on these species.

Three special-status aquatic species are known to occur at Beale, and are found within the grazing areas: vernal pool fairy shrimp (*Branchurus lynchi*) (federally threatened); vernal pool tadpole shrimp (*Lepidurus packardii*) (Federally endangered); and western pond turtle (*Actinemys marmorata*) is a state-listed species of special concern that may be found in streams, ponds and marshes.

As previously indicated (Section 3.3.4 and elsewhere), managed grazing has been proven to benefit vernal pools and riparian areas. The Proposed Action would have a positive impact on vernal pools and riparian areas, and the special status aquatic species that inhabit vernal pools and riparian areas would benefit from improved species diversity, improved hydrology, and invasive plant control in the wetlands.

Special status wildlife species known to occur at Beale AFB that may be found in grazing areas include:

- Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), federally listed as threatened; only one elderberry bush (*Sambucus* sp.) has been identified in grazing parcel F
- Cooper's hawk (*Accipiter cooperii*), state listed as a species of concern
- Sharp-shinned hawk (*Accipiter striatus*), state listed as a species of concern
- Golden eagle (*Aquila chrysaetos*), USFWS Bird of Conservation Concern and state listed as a species of concern, fully protected under the CA Fish and Game Code; cannot be considered to use the project site for more than occasional foraging
- Ferruginous hawk (*Buteo regalis*), a USFWS Bird of Conservation Concern and state listed as a species of concern
- Swainson's hawk (*Buteo swainsoni*), a USFWS Bird of Conservation Concern and CA listed as a threatened species
- Northern harrier (*Circus cyaneus*), CA listed as a species of special concern
- White-tailed kite (*Elanus leucurus*), a federally listed species of special concern and fully protected under the CA Fish and Game Code; present on the base year-round, but cannot be considered to use the project site for more than occasional foraging
- Long-billed curlew (*Numenius americanus*), a USFWS Bird of Conservation Concern and state listed as a species of concern
- Western burrowing owl (*A. cunicularia*), a USFWS Bird of Conservation Concern and state listed species of special concern

- Loggerhead shrike (*Opheodrys aestivus*), a USFWS Bird of Conservation Concern and state listed species of special concern
- Tricolored blackbird (*Agelaius tricolor*), a USFWS Bird of Conservation Concern and state listed species of special concern
- American peregrine falcon (*Falco peregrinus anatum*), a USFWS Bird of Conservation Concern and fully protected under the CA Fish and Game Code; an irregular visitor to the base - cannot be considered to use the project site for more than occasional foraging

In addition, many bird species present on the project site (including those identified above) are subject to regulation under the Migratory Bird Treaty Act.

The California Rangeland Conservation Coalition maintains a website with research and findings on the positive impacts managed grazing has on many of these species. California rangelands support the greatest diversity and highest concentration of hawks in North America, found each winter in California's Central Valley. Burrowing owls benefit from cattle grazing, which controls vegetation around their burrows and across their hunting grounds. Responsible managed grazing improves habitat for wildlife and plant species. Grazed vernal pools have higher native plant diversity and hold water longer than ungrazed pools, which favors species with long aquatic life cycles like goldfields, meadowfoam and downingia. (www.carangeland.org).

Nearly all species of grassland birds, most native plants and threatened vernal pool species benefit from responsible grazing practices. Research shows the important environmental benefits from managed grazing include: increased diversity of plant and animal species; control of invasive plant species; habitat restoration for threatened and endangered species; controlling erosion from water runoff for improved water quality; improving vegetation along stream banks and watershed health; and reducing wildfire threat from rangeland fires. (California Bountiful, July/August 2009 magazine, "Benefits of Grazing.") The Proposed Action has the potential to have a minor negative impact on individual birds, eggs, young and/or nesting habitat of ground nesting birds, such as northern harrier, due to trampling, but the overall impact of the Proposed Action on special-status wildlife species found on Beale AFB would be positive as habitat these species rely on benefits from managed grazing.

The No Action alternative would result in deterioration of grasslands that provide habitat, hunting and nesting areas for special-status wildlife species, which would adversely impact the special status species. (Section 3.4.2)

3.4.4 Invasive Species

Invasive species found intermixed with grasses on Beale AFB include yellow star thistle, filaree, and field mustard. There is the potential for noxious weeds to exist and spread on base. Vehicular access for grazing operations, livestock and wildlife movement, as well as wind and water can cause invasive species to spread into new areas. Surface disturbing activities associated with livestock concentration can increase weed presence, but the Proposed Action limits AUMs to acceptable livestock concentration. The Proposed Action would not pose additional risks of introduction or spread of noxious weeds beyond those already occurring.

Under both the Proposed Action and the No Action Alternative, weeds could be introduced by vehicle traffic or recreational activities.

Managed grazing has proven effective in reducing invasive plant density and promoting native species. Grazing is one of the most important tools available for controlling invasive plants like yellow starthistle, which is considered the fastest-spreading and most-invasive nonnative plant found in California. Proper distribution and management of livestock would maintain the density and diversity of vegetation cover, and control invasive species. The Proposed Action would help control invasive species and reduce the potential of long term infestation of annual and noxious weed species.

Under the no action alternative, invasive species such as star thistle and medusa head would not be controlled and would spread, crowding out native species.

3.4.5 Wetlands and Drainages

Seasonal wetlands, vernal pools, swales and drainages occur throughout the grazing areas. As previously discussed (Section 3.3.4), the Proposed Action would benefit vernal pools. Other seasonal wetlands, swales and drainages would be protected from adverse impacts by monitoring and moving livestock to maintain vegetative cover. In addition, lessees would be required to locate mineral supplements at least 250 feet from seasonal wetlands and drainages, and to move them often.

The No Action alternative would result in the deterioration of vernal pools over time.

3.5 Safety and Occupational Health

The Proposed Action promotes safety by reducing fire fuel load in the extensive grasslands on Beale AFB. This reduces the hazard of wildfire. Beale AFB also uses fire breaks, and prescribed burns to control fires and reduce fuel loads. Fire breaks, however, lead to erosion and have adverse impacts on surface water quality. Prescribed burns can only be done when the grass is dry, wind is slight, and conditions are favorable for controlling the burn. Even under these conditions, prescribed burn fires do not always stay within control, and their use presents a hazard of initiating a wildfire.

California Farm Bureau Federation policy recognizes that grazing is the most practical and environmentally acceptable way to prevent the buildup of excessive, dry vegetation that can lead to catastrophic wildfires. The Proposed Action would have a positive impact on safety due to the reduction of fire hazard, with fewer adverse environmental consequences than other means available to reduce fire hazard.

The No Action Alternative would result in increased wildfire hazard.

3.6 Solid and Hazardous Materials and Waste

No hazardous materials or petroleum products use, storage, treatment or disposal are authorized within the grazing parcel boundaries. The Proposed Action does not include use, storage, treatment or disposal of solid waste, hazardous materials or hazardous waste.

The Environmental Restoration Program (ERP) is an ongoing program to identify, investigate, and remediate areas on the base that have been contaminated by hazardous substance releases from past military activities. There are ERP sites on and near the grazing areas. Contaminated soils have been treated or removed from these ERP sites, leaving groundwater contamination in or near grazing parcels A, B, D, and F. Groundwater monitoring wells are present in the grazing areas and are monitored under an ongoing basewide groundwater monitoring program. Under the Proposed Action, neither the livestock nor the ranchers have access to contaminated groundwater from the ERP sites.

The Military Munitions Response Program (MMRP) is an ongoing program to identify, investigate, and remediate areas on the base that have been impacted by former military munitions range activities. There are Munitions Response Sites (MRSs) on all of the grazing areas. Potential hazards of MRSs include lead contamination in soil, metallic debris, and unexploded ordnance. Comprehensive Site Evaluations (CSE) conducted under the MMRP have determined the majority of the MRSs pose no significant risk to human health or ecological receptors, and they have been closed with regulatory concurrence that no further investigation or remedial action is needed.

A few MRSs in the A, B and C grazing parcels are undergoing further remedial investigation of subsurface anomalies after a complete surface clearance of munitions debris. Four MRSs in the C lease (approximately 4.8 acres total) are undergoing soil removal action to remove lead contaminated soils. Remediation of these sites is scheduled to be complete in summer 2013.

The effects of ongoing ERP groundwater monitoring and MMRP remedial investigation and soil removal activities on grazing livestock under the Proposed Action could include livestock getting loose temporarily if a gate is inadvertently left open for site access. Personnel accessing the grazing parcels for ERP groundwater monitoring would be advised to secure livestock gates at all times, and signs would be posted on all gates to keep them secure. The MMRP remedial investigation and soil removal activities will take place during the dry season, after the grazing season is over and cattle have been removed. Therefore MMRP activities would have no direct impact on the grazing livestock.

The effect of livestock grazing on the ERP and MMRP sites is beneficial. Grazing livestock remove vegetation which makes it easier to locate ERP monitoring wells and also reduces the fire hazard for vehicles that enter the area for the ERP and MMRP activities.

There is a potential for grazing cattle and ranchers to encounter lead contaminated soil in four small areas of Parcel C until that soil is removed in 2013. However, the leases prohibit ground disturbing activity without prior Air Force approval, minimizing human exposure to soils. The leases prohibit overgrazing, and the INRMP establishes monitoring of the grazing program to ensure vegetative cover is maintained, minimizing the possibility of livestock having direct contact with soil. Grass, the major constituent of available forage, does not readily take up lead. The 4.8 acres with lead contaminated soil comprise a very small portion (approximately 0.1%) of the 3,207 acres of grazing pasture available to cattle in parcel C. Therefore, the potential amount of lead that might be ingested from grass growing in these small areas would be insignificant compared to the overall amount of grass available throughout the pasture. The

potential for a minor adverse impact on livestock or ranchers from the ERP and MMRP sites is not significant.

The Air Force is preparing Environmental Baseline Surveys for each of the grazing lease parcels to disclose the known or suspected presence of contaminants in soils and groundwater to the lessees.

Considering all of the above, the Proposed Action would have a minor positive impact on the ERP and MMRP, and no impact on other solid or hazardous material or wastes. The No Action alternative would have a slight negative indirect impact on the ERP and MMRP, as the uncontrolled vegetative growth and increased fire hazard would make locating the ERP wells and site access more problematic.

3.7 Socioeconomics

Under the Proposed Action, lessees pay the Air Force an annual fee for grazing and this pays for program management expenses (i.e., maintaining fences and water troughs) and also funds base natural resources projects. The lessees benefit from utilizing available forage at a competitive price, which has a positive effect on their cattle operations. Under the Proposed Action, both parties to the lease benefit economically. The Proposed Action would not contribute to changes in socioeconomic resources, such as housing availability or local population. There would be no significant impact to socioeconomic resources under the Proposed Action.

The No Action alternative would cause a monetary loss to the base natural resources program. However, there would be no significant impact to socioeconomic resources due to the No Action alternative.

3.8 Cultural Resources:

Cultural resources surveys have been conducted and archeological sites are located within the boundaries of the Proposed Action. The base Integrated Cultural Resources Management Plan (ICRMP) includes the grazing program in its regulated activities that present a risk to cultural resources from “cumulative impacts on sites.” It requires lease agreements to include notification language and instructions to contact the Cultural Resource Manager (CRM) if archaeological remains are inadvertently discovered by the lessee. It requires an annual meeting between lessees and the base natural and cultural resources management personnel to help establish appropriate sites for placement of salt licks, water stations, or other livestock congregating devices or features, with the intent of avoiding impacts to National Register of Historic Places (NRHP) listed, eligible, potentially eligible, or undetermined cultural resources.

The ICRMP says the effects of livestock grazing on NRHP eligible, potentially eligible, listed or undermined cultural resources at Beale is poorly understood due to a lack of observational information. It requires the CRM to coordinate with lease program managers to monitor for effects, consult with the SHPO and others when appropriate, and implement protective measures where necessary. The INRMP states that cultural resources may be adversely affected by livestock; particularly where cattle congregate and trample vegetation. It says

management practices prescribed by the CRM will be implemented as part of the grazing program.

A federally recognized tribe conducted a site visit of the MMRP during which they observed cultural sites within grazing parcels. There were no impacts evident at the cultural sites they visited, and they had no concerns about cattle impacting the cultural sites due to the low stocking rate (limited number of cows) under the managed grazing program. They have expressed concerns about impacts of cattle on cultural sites at other locations when the cattle were not being managed properly.

Since this Proposed Action has been an ongoing land management activity at Beale AFB for many years and is not a new undertaking, the Air Force does not intend to complete a formal consultation with the SHPO or any Native American tribes on this lease renewal. The draft EA will, however, be provided to the SHPO and Native American tribal representatives for review and comment during the public comment period.

Since most of the cultural resource sites that are eligible or potentially eligible for listing on the NRHP are rock or scattered material, it is unlikely they would be impacted by the Proposed Action unless a structure that attracts cattle (i.e., trough, supplement station, shaded area) were placed near or on the cultural site. Compliance with the ICRMP and INRMP prevents placement of livestock congregating features on or near cultural resource sites, and establishes management practices to avoid impacts to the cultural resource sites. By complying with the INRMP and ICRMP, the Proposed Action would have no significant impact on cultural resource sites.

Under the no action alternative, there would be no impact on cultural resource sites.

4. Agencies and Persons Consulted

4.1 List of Preparers

The individuals who contributed to the preparation of this focused, concise Environmental Assessment are listed below.

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4.2 Interagency and Intergovernmental Coordination

This draft EA is being made available to the agencies listed below for a 15-day review period in November 2012 to solicit their comments on the Proposed Action. A summary of comments received will be included in the Final EA following the close of the review period.

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