



United States
Department of
Agriculture

Forest
Service

June 26, 2006



Environmental Assessment

Additional Castle Mountains Range Management Improvements

**Musselshell Ranger District, Lewis and Clark National Forest
Meagher County, Montana**

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SUMMARY

The Lewis and Clark National Forest proposes the construction of additional range improvements on the Flagstaff, Cooper Creek and Slaughterhouse allotments. These improvements include construction of riparian exclosures, storage tanks and water pipelines with tanks. The project area is located in the Castle Mountains approximately 50 miles west of Harlowton, MT and is within the Musselshell Ranger District, Lewis and Clark National Forest, Montana. This action is needed to improve management of cattle and help move the range towards desired future conditions.

The proposed action will not impact any threatened, endangered or sensitive species. Archeological sites in the area have been identified and will be avoided during this process.

In addition to the proposed action, the Forest Service also evaluated the “No Action” alternative. The no action alternative would leave the allotments in their current management situation with no new improvements.

Based upon the effects of the alternatives, the responsible official will decide whether or not to authorize these projects.

Background

The Castle Mountain Range Analysis Environmental Impact Statement (Castle Mountains EIS) was developed to update allotment management plans (AMPs) to ensure compliance with the direction of the Lewis and Clark National Forest Plan. Upon the completion of the Castle Mountains EIS, AMPs were written and additional range improvements were installed to improve cattle management and move the range towards desired future conditions. These improvements included storage water storage facilities, pipelines, pumping units, water tanks, and fences. Nonstructural improvements, such as hiring a rider and using a cattle supplement program, have also been implemented in the Castle Mountains. All these improvements have resulted in a positive move towards the desired future conditions in many parts of the Castle Mountains. The projects identified in the proposed action would be a continuation of movement towards desired future conditions.

The desired future conditions identified in the Castle Mountain EIS were:

1. Maintain soil productivity and minimize soil damage.
2. Improve unsatisfactory range conditions and mitigate resource damage.
3. Continue or increase forage production for grazing. Use prescribed fire or other means to control tree/shrub encroachment.
4. Protect or enhance riparian habitat and wetland resource values (fish, wildlife) and minimize livestock damage and risk of flood loss. Meet State water quality standards and help ensure water quality and quantity needed for local and regional use.
5. Promote high quality wildlife habitat and a high level of big game forage, meeting wildlife needs before livestock increases, to ensure a desired mixture of well distributed wildlife species and numbers.

Purpose and Need for Action _____

The purpose of this initiative is to improve cattle management in the Slaughterhouse, Flagstaff, and Cooper Creek allotments and thereby increase movement toward desired future range and vegetative conditions, as identified in the Castle Mountain EIS. This action is needed because, while implementation of the Castle Mountain EIS has resulted in considerable improvement and movement toward the desired conditions, the EIS did not identify all of the number of range improvements needed to move the entire area towards desired conditions. There are localized areas in the Castle Mountains where range conditions are unsatisfactory and wetland resources and riparian habitat could be enhanced. Most of these localized areas are due to concentration of cattle. The proposed action would improve the management of cattle, with the main goal to increase distribution. This action responds to the goals and objectives outlined in the Lewis and Clark Forest Plan, and helps move the project area towards desired conditions described in that plan (see *Lewis and Clark National Forest Plan*).

Proposed Action _____

The action proposed by the Forest Service to meet the purpose and need is to extend an existing water line and add a stock water facility in the Cooper Creek allotment, create a riparian enclosure and expand a water system in the Slaughterhouse allotment, and expand two existing water systems in the Flagstaff allotment.

Decision Framework _____

Given the purpose and need, the deciding official reviews the proposed action and the other alternatives in order to make the following decisions:

- Whether to implement the projects identified in the proposed action or stay with current conditions.
- What mitigation measures are needed.
- What monitoring is required.

Public Involvement _____

The proposal was initially listed in the Schedule of Proposed Actions on December 1, 2003, and its listing will continue through this analysis. The proposal was provided to the public and other agencies for comment during scoping. The scoping period has been from December 1, 2003 until the date on this document. In addition, as part of the public involvement process, the agency also placed a notice in the local Harlowton, Montana newspaper, the Times Clarion.

Issues

No issues were raised by the public during scoping. The Interdisciplinary Team identified three issues relevant to this project. Relevant issues, as defined under 40 CFR 1501.7(a) (2), guide the range of alternatives and development of mitigation measures. These issues will focus the environmental disclosure on site-specific, direct, indirect, and cumulative effects that could occur under the alternatives.

Issue 1 – Cattle Distribution to Improve Range Conditions

There are localized areas in the Cooper Creek and Flagstaff allotments where range conditions are unsatisfactory and could be enhanced through improved distribution of the cattle. In the past key areas have been monitored to ensure that designated utilization levels are not exceeded. The utilization levels can be 45% to 55% in key areas, dependant upon the type of grazing system (the individual allotment management plans would have to be referenced to determine the specific utilization level for specific key areas in specific allotments).

Issue 2 – Riparian Area Improvement

In the Slaughterhouse allotment, Corral Creek is currently the major watering source for the corral creek pasture. Reduced cattle usage along the creek is desired to reduce the impacts to Corral Creek. Reduced cattle usage would result in less stream bank cutting, less silt deposition in the stream, narrowing and deepening of the stream and an increase of stream bank vegetation. Riparian monitoring after implementation would determine if the project has been successful.

Issue 3 – Ground Disturbing Activities

All three allotments are going to experience some type of ground disturbance. Ground disturbance can be a cause for weed infestations and erosion due to water run off. Ground disturbance occurs when something needs to be below ground level. Water tanks and storage tanks need to be set 1/2 to 2/3 of the way into the ground to keep them situated in one location. Also pipelines going in and out of tanks (water and storage) are often located below ground. Ground is also disturbed to set wood posts around water tanks for the protection of fittings, young cattle and water quality. More about this issue will be covered in the “Mitigation and Monitoring” section of this document.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternatives

Alternative 1

No Action

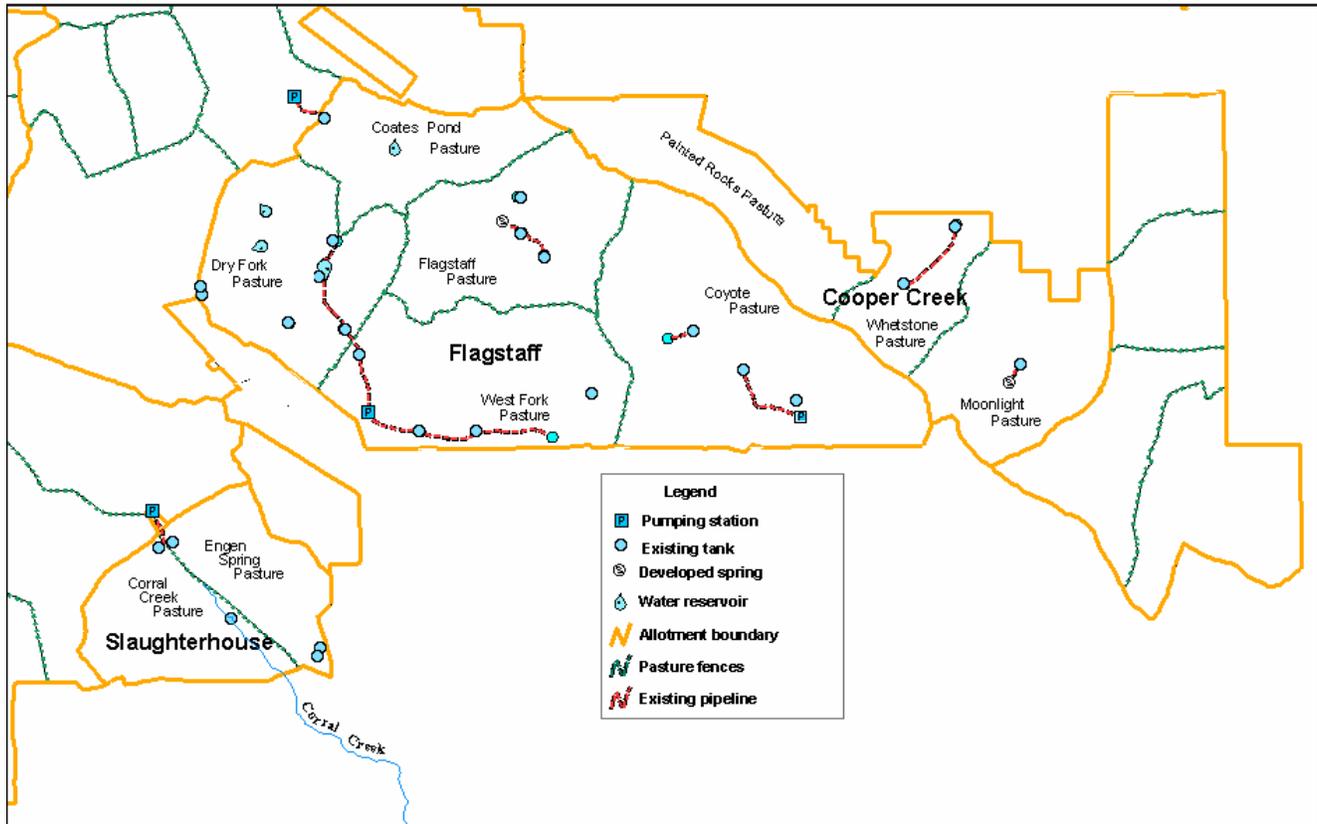


Figure 1. No action alternative map.

Under the No Action alternative, current management plans would continue to guide management of the project area. No new riparian area fences, waterlines, storage tanks or water tanks would be built. The effects of this alternative would be no improvement of the management of cattle and no additional movement toward desired conditions. In the Slaughterhouse allotment, Corral Creek would continue to be a major watering source for the Corral Creek pasture, resulting in no new movement towards desired conditions. In Cooper Creek and Flagstaff allotments cattle distribution would not be increased, use of the pastures would continue to be concentrated only in the few areas with water. Movement towards desired conditions would continue at the current pace.

Alternative 2

The Proposed Action

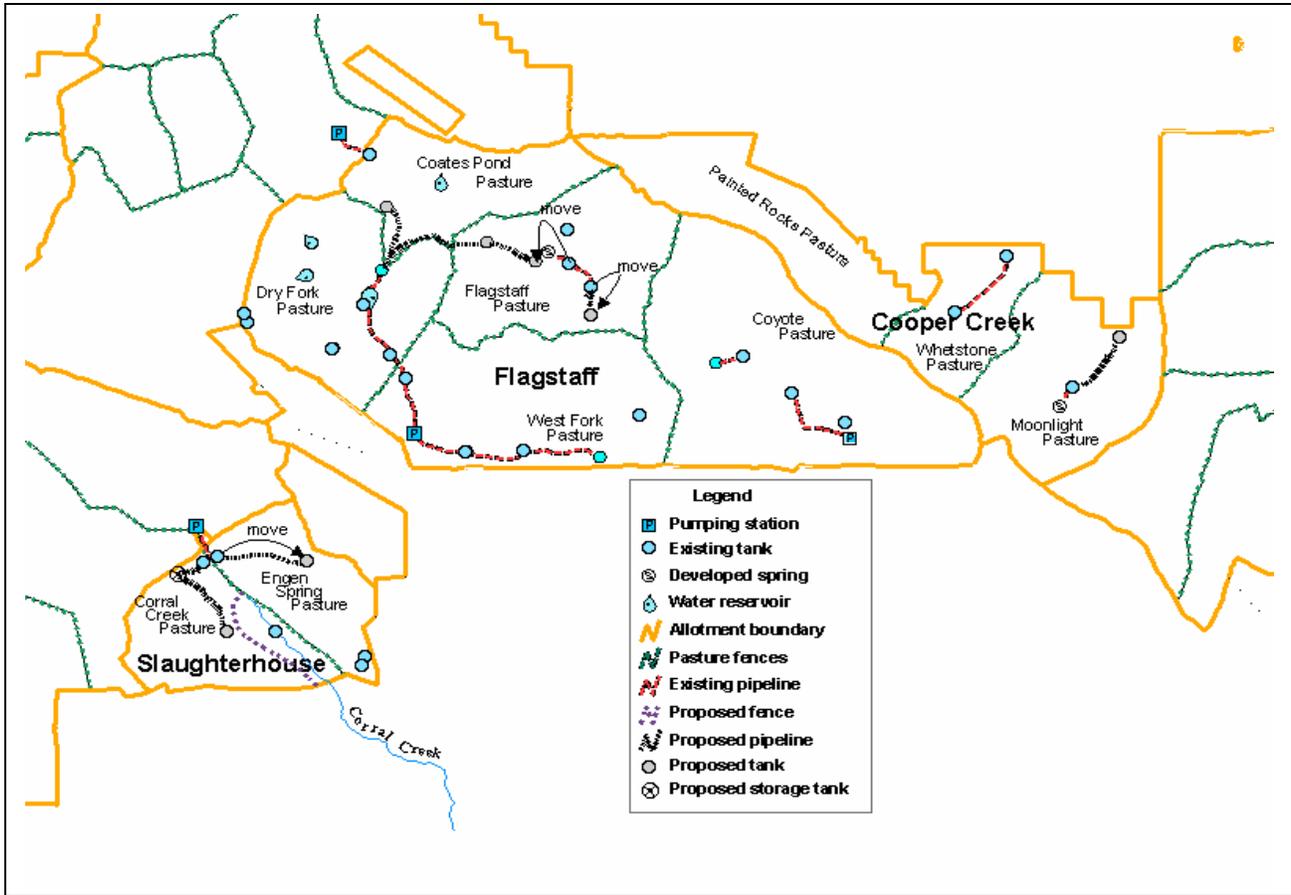


Figure 2. Additional Castle Mountains range management improvements map.

For the proposed action additional range management improvements will be added to the Slaughterhouse, Flagstaff, and Cooper Creek allotments. These additional range management improvements will improve the management of cattle, resulting in better distribution throughout the allotments.

In the Slaughterhouse allotment 1.5 miles of four-wire barbed wire riparian fence will be constructed around Corral Creek. A 4,300-gallon storage tank will be installed in the Corral Creek pasture (SWSW Sec. 5 T8N R9E), an existing pipeline will supply this storage tank. Two pipelines, consisting of 8,600 feet of high-density polyethylene pipe will come off this storage tank and supply water to two water tanks, a new water tank in Corral Creek (NESW, Sec. 8, T8N, R9E)

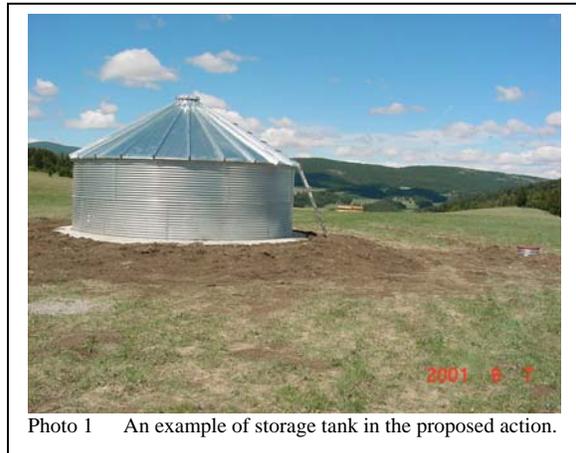


Photo 1 An example of storage tank in the proposed action.

and a relocated tank in Engen Spring pastures (SWSW, Sec. 4, T8N, R9E). The tank in the Engen Spring pasture will be relocated from Southeast ¼ of the Southwest ¼ of Section 5 Township 8 North Range 9 East.(see figure 2)

In the Flagstaff allotment, two existing waterlines will be extended. One existing water line in the Coates Pond pasture would be split into two lines. One of the new lines will extend 3,500 feet further into the Coates Pond pasture, using high-density polyethylene pipe, and have a new 10-foot 900-gallon capacity tank installed in the Northeast ¼ of the Southwest ¼, of Section 21, Township 9 North, and Range 9 East. The other line will extend an additional 8,000 feet, into the Flagstaff pasture using high-density polyethylene pipe. This pipeline will have two new 10-foot 900-gallon capacity tanks installed. These tanks will be located in the Southeast ¼ of the Southwest ¼, Section 22, Township 9 North, Range 9 East and in the Northeast ¼ of the Northeast ¼, Section 27, Township 9 North, Range 9 East. This second watering location would replace the one right at Flagstaff Springs

The final project in the Flagstaff pasture involves extending the pipeline at Flagstaff Springs. This project would require an additional 2,000 feet of high-density polyethylene pipe and the existing water tank on the end of the pipeline (SWNW, Sec. 26, T9N, R9E) would be moved to the new location (NWSW, Sec 26, T9N, R9E).

In the Cooper Creek allotment the existing water line in the Whetstone pasture would be extended 4,000 feet using high-density polyethylene pipe, further to the north and then a 10-foot (900-gallon capacity) water tank would be added (SWSE, Sec 28, T9N, R10E).

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 1 Comparison of Alternatives.

Issue	Alternative 1	Alternative 2
Cattle Distribution to Improve Range Conditions	No net gain in the amount of cattle distribution resulting in no additional improvement in range conditions	Will improve cattle distribution and result in more improved range conditions
Riparian Area Improvement	No improvement to riparian conditions	Improved riparian conditions by providing alternate water sources and excluding cattle from the riparian area in the Slaughterhouse allotment
Ground Disturbing Activities	No ground disturbing activities	Ground disturbing activities with mitigation

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the chart above.

Riparian

Livestock use in the Castle Mountains has been occurring since the 1800s. Poor livestock distribution and high utilization rates have changed plant composition, resulting in lower than desired ecological state. Implementation of the Castle Mountain EIS, signed in 1997, has improved this condition in many areas. Specifically, trampling of streambanks has been reduced, deposition of soil particles in the stream channel has been reduced, and utilization of riparian vegetation along streambanks has also been reduced, resulting in more stable streambanks and deeper and narrower channels.

Although there has been a decline in the number of cattle and general improvement in ecological condition throughout the Castle Mountains, use within some riparian areas had changed little. Corral Creek was not specifically addressed in the Castle Mountain EIS. Under the no action alternative, the creek would continue to be impacted by cattle watering and grazing.

The proposed action (a riparian enclosure and new water tanks) would take cattle use off the creek, allowing the streambanks to improve, siltation to decrease and riparian vegetation to recover.

Water Resource

All of the streams in the Castle Mountains are headwaters streams. The main source for flow is almost always groundwater coming to the surface at a spring. The majority of the streams do not appear to experience large fluctuations in flow throughout the year.

Activities that occur directly adjacent to or within the channel banks have the highest probability of increasing fine sediments into the stream. Bank trampling by cattle and subsequent soil sloughing has been observed along stream reaches throughout the project area. Past mining activities and road building, have also contributed to sediment delivery, particularly during run off events. The proposed action would reduce fine sediment in Corral Creek by removing the cattle from along the creek.

The no action alternative would leave fine sediments at the current levels.

Wildlife Resources

The following tables, from the completed biological assessments, represent the effects of the proposed actions on threatened, endangered, sensitive, and management indicator species. The biological assessment indicate no consultation is necessary for the threatened and endangered species and no conservation measures are necessary for the sensitive and management indicator species.

Table 2: Effects on Threatened and Endangered Species

SPECIES	Existing habitat and need for further analysis
1. Gray wolf (Experimental Populations, MIS)	Occasional individuals may occur in the area. Populations, den sites, or rendezvous sites are not known to occur within the proposed areas or the greater areas. No Effect.
2. Grizzly Bear (T, MIS)	No recent sightings exist in the Castle Mountains and the USFWS does not recognize the Jefferson Division as occupied habitat. No Effect.
3. Bald Eagle (T, MIS)	No nest sites are known to occur near the proposed improvements. No Effect.
4. Canada Lynx (T, MIS)	Proposed actions are not in designated lynx habitat and are in compliance with the Lynx Conservation Assessment and Strategy standards. No Effect.

T = Threatened, MIS = Management Indicator Species

Prepared by: /s/ Eric Tomasik Date: January 04, 2006
Wildlife Biologist

Table 3: Effects on Sensitive and Management Indicator Species.

SPECIES	Existing Habitat and need for further analysis
1. Peregrine Falcon (S, MIS)	No nesting habitat occurs within the proposed area, and there are no records of any recent sightings within the proposed areas. No Impact
2. Burrowing Owl (S)	Habitat does not occur within the proposed areas. No Impact
3. Flammulated Owl (S)	Marginal potential habitat in the greater area, no records of sightings in the Castle Mountains. No Impact
4. Greater Sage Grouse (S)	Marginal habitat may occur within the proposed areas. No known populations, disturbance would be short term and localized.
5. Harlequin Duck (S)	Habitat does not occur within the proposed areas. No Impact
6. Fisher (S)	No records of fishers occurring in the Castle Mountains, no habitat in the proposed areas. No Impact
7. Wolverine (S, MIS)	MIH. The wolverine is a Sensitive and Management Indicator Species (special interest) on the Lewis and Clark NF, managed as a furbearer by MFWP, and has been documented in the Castle Mountains. Potential denning habitat does not occur in or near the proposed areas and the project area represents a miniscule fraction relative to this highly mobile species range use. Disturbance during project activities and resulting habitat changes may temporarily affect the abundance and distribution of prey species.
8. Northern Bog Lemming (S)	Habitat does not occur within the proposed areas. No Impact
9. Townsend's Big-Eared Bat (S)	MIH. Communal roosts are generally in caves, abandoned mines, and buildings but have also been observed in large hollow snags. No cave, abandoned mines or building occur in or near the area. Potential foraging habitat exists, but represents a miniscule fraction of that available to this highly mobile species.
10. Northern Leopard frog (S)	We have no recorded sightings, and breeding habitat does not occur within the proposed project areas. The only documented population on the Lewis and Clark National Forest is in the Highwood Mountains. No Impact
11. Western Toad (S)	We have no recorded sightings, and breeding habitat does not occur within the proposed project areas. Marginal habitat may occur within the proposed areas.

	Disturbance would be short term and localized. No Impact
12. Greater Short Horned Lizard (S)	Marginal habitat may occur within the proposed areas. No records exist of any sightings in the area. Disturbance would be short term and localized. No Impact
13. Northern Goshawk (S, MIS)	MIHH . No nests documented in the vicinity of the proposed areas. Temporary and localized disturbance may occur.
14. Black-backed Woodpecker (S)	Habitat and known populations do not occur in or near the proposed areas. No Impact
15. Fluvial Arctic Grayling (S)	Habitat and known populations do not occur in or near the proposed areas. No Impact
16. Westslope Cutthroat Trout	Habitat and known populations do not occur in or near the proposed areas. No Impact
17. Elk (MIS)	Disturbance and displacement during implementation would be temporary and short term, and would not result in long-term detrimental effects. Water in the tank would only be available while cattle are on the allotment. Increased distribution of cattle grazing reduces the areas available to elk which have not been grazed by livestock. Increased grazing by cattle may reduce forage available to elk particularly during transition periods (spring and fall) and winter.
18. Mule Deer (MIS)	Disturbance and displacement would be temporary and short term and would not result in long-term detrimental effects.
19. Whitetail Deer (MIS)	Disturbance and displacement would be temporary and short term and would not result in long-term detrimental effects.
20. Black Bear (MIS)	Disturbance and displacement would be temporary and short term and would not result in long-term detrimental effects.
21. Bighorn Sheep (MIS)	Populations do not occur near the proposed areas.
22. Mountain Goats (MIS)	Populations do not occur near the proposed areas.
23. Mountain Lions (MIS)	Habitat exists but the area of the proposed action is small relative to size and scale of habitat for this species
24. Blue Grouse (MIS)	Minimal and short term disturbance expected, with no to minimal temporary effects on habitat.
25. Beaver (MIS)	Populations do not occur near the proposed areas.
26. Bobcat (MIS)	Habitat exists but the area of the proposed action is small relative to size and scale of habitat for this species.
27. Golden Eagle (MIS)	No known nest sites in or near the area.
28. Prairie Falcon (MIS)	No known nest sites in or near the area.
29. N. 3-Toed Woodpecker (MIS)	Habitat does not occur near the proposed area.
30. Brook Trout (MIS)	Habitat and known population do not occur in the proposed areas.
31. Rainbow Trout (MIS)	Habitat and known population do not occur in the proposed areas.

S = Sensitive, MIS = Management Indicator Species

Prepared by: /s/ Eric Tomasik Date: January 04, 2006
Wildlife Biologist

MIHH = May Impact Individuals or Habitat, but Will Not Likely Contribute to a Trend towards Federal Listing or Cause a Loss of Viability to the Population or Species

Recreation

Big Game hunting in the fall is the predominant recreation activity in the Castle Mountains. Other forms of recreation include snowmobiling, hiking, off-road vehicle use, cross country skiing, and horseback riding. Neither the proposed action or the no action alternatives would have a measurable effect on these recreation activities and no impacts to the recreation experience are expected

Heritage Resources

Numerous cultural resource sites are recorded in the Castle Mountains. The variety and distribution of sites indicate an extensive prehistoric use of the mountain range. The occurrence of historic resources is also possible throughout the entire mountain range. Two major periods of historic use have been identified for the Castle Mountains. From 1873-1897, a mining boom was experienced in the area. Several patented and unpatented mines were located in the mountain range. From 1914-1925, homesteads were filed and increased farming, ranching, and related activities occurred in the Castle Mountains. Demand for cattle and sheep range peaked in the 1920s, paralleling the homesteading trend.

The proposed action would avoid any heritage resources during the construction process. The no action alternative would also have no impact to heritage resources.

Social and Economic

Since the late 1980s and into the 1990s the economy of Meagher County has become less dependent on agriculture. As a source of employment, one out of five jobs are in the agricultural sector (Castles Mountains EIS). The three allotments identified for this project are grazed by 4 permittees for a total of 2016 AUMs yearly.

The proposed action and no action alternatives would not have an effect on the number of AUMs grazed annually.

In the long term, maintenance of the improvements will cost the rancher a considerable amount of money. However, these new improvements in combination with those already existing will also work to make the ranching operations more viable, both through better distribution of the livestock and commensurate improvement of the range condition and through improving water sources and distribution on the allotments which will allow more grazing during times when water might otherwise be unavailable.

Cumulative Impacts

There are several long term, cumulative impacts of the proposed action.

Economically, development of these improvements will require the ranchers to invest more time and money in maintaining the improvements. At the same time, the ranching operations should improve and be more viable in the long term.

The only potential long-term, cumulative impact identified to wildlife populations and habitat by implementing this plan would be the potential for increased grazing by livestock within the allotments which would correspondingly decrease forage available for elk and deer. The change in amount of forage available would vary over time, dependent upon climate (drought, etc) and is not readily quantifiable.

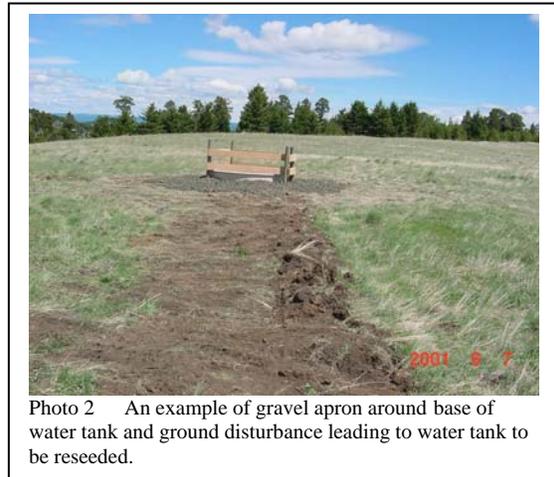
There should be an overall improvement in some of the stream reaches within the Castle Mountains, most notably Corral Creek.

MITIGATION AND MONITORING

Identified significant cultural resource sites will be avoided as prescribed by the forest archaeologist to mitigate direct effects. Avoidance of effects can be carried out according to the Programmatic Agreement between the Forest Service Northern Region, the Montana State Historic Preservation Office (SHPO), and the Advisory Council for Historic Preservation (ACHP), or by individually negotiating an agreement with the SHPO. At this time only one significant cultural resource has been identified in the Slaughterhouse allotment from surveys for this specific project.

The ground disturbing activities, as a result of this project will also be mitigated. To keep ground disturbance at a minimum the high-density polyethylene pipe will be placed above ground. Disturbed locations around storage tanks will be reseeded with a mix of native grass seed to prevent the establishment of weeds in these locations. Ground disturbance around water tanks for installation of pipes and fittings will also need to be reseeded. The areas around the perimeter of water tanks will require a gravel apron to limit the effects of compaction and erosion.

Monitoring will also be done along Corral Creek, within the enclosure, to ensure that streambanks are stabilizing, riparian vegetation is recovering and overall stream condition is improving.



Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

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