

establishment of invasive, non-native weeds.

Implementation of Alternative V (No Action) would allow impacts to vegetation and soils to increase each year that a gather is postponed, and utilization levels would continue to be in excess of objectives. Noxious weeds can increase with overuse of the range by grazing animals or surface disturbance, which would be a negative impact to the environment.

#### **F. Special Status Species**

Direct impacts associated with the Alternatives I, II, III, or IV would consist primarily of disturbance by the low-flying helicopter. The Proposed Action or Alternatives II, III, or IV would not occur during the strutting, nesting or brooding period for sage grouse. Sage grouse may be displaced in their winter use area as wild horses are herded to temporary traps located outside of identified sage grouse habitat. These impacts would be temporary, with a short duration, and minimal. Temporary gather site(s) and temporary holding facilities will be located appropriate distances from key sage grouse habitat, to avoid adverse impacts to habitat, in conformance with the Draft Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Wyoming (2001). Such temporary facilities sites would also be field checked to insure that any special habitat features for Special Status species would be avoided and any potential affects from gathering activities would be avoided or minimized. Based on the timing of the horse round up for the McCullough Peaks Wild Horse Herd Management Area, it is unlikely that any of the indicated species would be affected by horse herd management activities.

Indirect impacts would be related to wild horse population size. Reduction of the current wild horse population provides the opportunity for vegetative communities to progress toward achieving a thriving natural ecological balance. Implementation of Alternatives I (Proposed Action), II, III, or IV would result in a positive impact to special status species by creating a diverse vegetative structure through improvement and maintenance of healthy populations of native perennial plants. Implementation of the Proposed Action would provide the greatest opportunity for the improvement of vegetative communities. The opportunity for improvement decreases for each successive alternative. Implementation of Alternative V (No Action) would allow impacts to vegetative communities to increase each year that a gather is postponed, which would be a potential negative impact to special status species.

#### **F. Vegetation**

Direct impacts associated with the Proposed Action and Alternatives II, III, or IV would consist of disturbance to vegetation and soils immediately in and around the temporary gather site(s) and holding facilities. Impacts would be created by vehicle traffic; hoof action as a result of concentrating horses, and could be locally severe in the immediate vicinity of the gather site(s) and holding facilities. Generally, these sites would be small (less than one half acre) in size. Any impacts would remain site specific and isolated in nature. In addition, most gather sites and holding facilities would be selected to enable

easy access by transportation vehicles and logistical support equipment. Normally, they are located near or on roads, pullouts, water haul sites or other flat areas, which have been previously disturbed. These common practices would minimize the cumulative effects of these impacts.

Indirect impacts would differ among the alternatives. Implementation of the Proposed Action and Alternatives II, III, or IV would reduce the current wild horse population and provide the opportunity for the vegetative communities to progress toward achieving a thriving natural ecological balance. Reduced concentrations of wild horses would contribute to the recovery of the vegetative resource. Utilization levels by wild horses would be reduced, which would result in improved forage availability, vegetation density, increased plant vigor, seed production, seedling establishment, and forage production over current conditions. Population modeling (Appendix B) completed for the Proposed Action and Alternative II found that the average median population size over 10 years is projected to be 155 and 173 wild horses, respectively. This indicates that the population of wild horses would not exceed their carrying capacity until 2007. Population modeling (Appendix B) completed for the Alternative III and IV found that the average median population size over 10 years is projected to be 132 and 137 wild horses, respectively. This indicates that the population of wild horses would not exceed their carrying capacity until 2009. The implementation of the Proposed Action and Alternatives II, III, and IV would provide opportunity for a positive impact to vegetation and soils resources.

Implementation of Alternative V (No Action) would allow impacts to vegetation and soils to increase each year that a gather is postponed, having a negative affect on vegetation and soils. Utilization levels would continue to be in excess of objectives, and progression toward achieving a thriving natural ecological balance would not be possible.

The proposed action or alternatives would not directly impact water quality, wetlands or riparian zones within the project area, with the exception of some wild horses crossing streams or springs as they are herded to temporary gather sites. This impact would be temporary and relatively short term in nature. Gather sites and temporary holding facilities would not be constructed on wetlands or riparian zones.

Indirect impacts would be related to population size. Population modeling completed for the Proposed Action and Alternatives found that the average median population size increased from Alternative III (lowest number) thru Alternative V (highest number). Reduction of the population from current levels would decrease competition for available water sources, which should lead to a reduction in hoof action around unimproved springs, improvement in stream bank stability, and improved riparian habitat condition. Implementation of the Proposed Action would provide the opportunity for the greatest improvement of riparian habitats and water quality. The opportunity for improvement decreases for each successive alternative. Implementation of Alternative V (No Action) would allow impacts to riparian habitats and water quality to increase each year that a gather is postponed.

#### G. Wilderness Study Area (WSA)

The Proposed Action and Alternatives II, III, and IV meet the non-impairment criteria as helicopter use is temporary use, causes no surface disturbance, and requires no reclamation. The use of a helicopter to gather wild horses is specifically allowed in handbook H-8550-1, Interim Management Policy and Guidelines for Lands Under Wilderness Review (page 43). There would be a short-term impact on solitude for any visitors who are present in the WSA while the helicopter is being used. The time frame involved is very limited. Removal of excess wild horses would help to protect the vegetative cover within the WSA and would be beneficial for the wild horses which remain in the area.

Under the No Action alternative there would not be any direct impacts to the WSA as a result of not conducting the gather. However, as increasing numbers of horses require additional range, most of the impacts described above would also begin to occur in the WSA. The previously described impacts to vegetation, wildlife, wildlife habitat, and watershed function would have a detrimental effect on the WSA's ecosystem. Also, the deteriorated habitat would negatively impact opportunities for primitive and unconfined recreation.

#### H. Recreation and Visual Resources

Under the Proposed Action and Alternative II, III, and IV, maintaining wild horse populations at established AML's guarantees the opportunity for the public to view wild horses in a wild and free-roaming state. Although there would be fewer horses to view, the remaining horses would be in better condition than under the No Action Alternative. Additional recreational opportunities would be provided by wild horse adoption and adoption events. Adoption of wild horses provides the opportunity for a more in-depth, up-close, and long-term recreational experience for interested and qualified members of the public. Since wildlife and wildlife habitat benefit from the removal of excess horses, there is a beneficial effect for recreationalists who view game and non-game species and those who hunt.

Under the No Action Alternative, short-term impacts to recreationists observing wild horses on the range would be positive, as there would be more horses in more places. However, over time, the condition of the wild horses would decline, as would the habitat. Increases in wild horse numbers would likely mean a decline in the opportunity to enjoy wildlife-related consumptive and non-consumptive recreation. There would be no opportunity to adopt a wild horse from this area.

## V. Cumulative Impacts

Cumulative impacts are impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively major or problematic actions taking place over a period of time.

Past, proposed and reasonably foreseeable actions that may have similar effects to the McCullough Peaks HMA wild horse population would include past wild horse gathers and future wild horse gathers. Five gathers have been completed in the past, and future gathers would be scheduled according to a 4-5 year gather cycle. Over time, as wild horse population levels are maintained in an acceptable management range, a thriving natural ecological balance would be achieved and maintained. Cumulative effects that may result would include continued improvement of the range condition, and riparian-wetland condition. Cumulative beneficial effects from the implementation of Alternatives I, II, III, or IV to wildlife, the wild horse population and domestic livestock would occur as forage availability and quality is maintained and improved. Water quality and riparian habitat would also continually improve. The opportunity for cumulative beneficial effects decreases for each successive alternative.

Adverse cumulative impacts on natural resources would occur depending on which alternative is selected. Adverse cumulative impacts would include periodic over utilization of vegetative resources, which would result in decreased vegetative density, plant vigor, seed production, seedling establishment, and forage production. This may result in periodic decreases of the ecological status of plant communities.

Adverse cumulative impacts on natural resources for Alternative V, No Action, would include continued over utilization of vegetative resources which would result in decreased vegetative density, plant vigor, seed production, seedling establishment, forage production, and a potential increase of non-native species to new areas in the HMA. Continued over use of the vegetative community would result in a loss of ecological status of the plant communities which may take decades to restore. Decreased vegetative density would result in an increase of bare ground, which may lead to increased erosion, increased negative impacts to stream banks and riparian habitat condition. A petition has been filed with the U.S. Fish and Wildlife Service to list sage grouse as an endangered species. With continued over use on upland sage grouse habitat, a negative adverse cumulative impact to this species would occur. Wildlife, migratory birds, and wild horses would all be negatively affected by these adverse cumulative impacts to natural resources.

Other reasonably foreseeable actions within the affected area include the potential designation by Congress of the McCullough Peaks Wilderness Area which may influence the AML or timing of future gathers, as well as, permitted livestock grazing, mining,