

**National Park Service  
U.S. Department of the Interior**



**Rocky Mountain National Park  
Colorado**

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**Final Environmental Impact Statement  
Elk and Vegetation Management Plan**

**Record of Decision**

**Approved:**

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*2/15/08*

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**UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE**

**RECORD OF DECISION**

**FINAL ENVIRONMENTAL IMPACT STATEMENT**

**ELK AND VEGETATION MANAGEMENT PLAN**

**Rocky Mountain National Park  
Colorado**

The United States Department of the Interior, National Park Service has prepared this Record of Decision on the Final Elk and Vegetation Management Plan/Environmental Impact Statement (plan/EIS) which analyzes a range of alternatives and management actions for elk and vegetation within Rocky Mountain National Park in Colorado. The analysis includes the elk population that primarily winters in the eastern part of the park and in the Estes Valley and primarily summers in the Kawuneeche Valley and alpine areas of the park and the vegetation resources on the elk's primary winter and summer ranges inside the park. The plan/EIS assesses the impacts that could result from continuation of the current management framework (Alternative 1) or implementation of the four action alternatives.

The plan/EIS is the result of a seven year research phase followed by a four year interagency planning process. The plan, using adaptive management principles, will guide park management for the next 20 years. Development of the plan/EIS involved the cooperation of multiple agencies at various levels of participation. The National Park Service was the lead agency and responsible for all aspects of developing the plan and environmental impact statement, including selection of a preferred alternative and preparing a record of decision. The plan will be implemented by the National Park Service inside Rocky Mountain National Park. Cooperating agencies included the Town of Estes Park, the Estes Valley Recreation and Parks District, Colorado Division of Wildlife, Grand County, Larimer County, Town of Grand Lake, U.S. Bureau of Reclamation, and the U.S. Forest Service.

During the winter (October to May) elk are concentrated on the east side of the park and adjacent public and private land in and around the Town of Estes Park. Any action taken inside the park will affect adjoining lands and neighbors as will any action taken outside the park affect park lands. Cooperation among the park, local communities, Colorado Division of Wildlife, and U.S. Forest Service is thus essential in managing the herd. The National Park Service will continue to collaborate with the Colorado Division of Wildlife and neighboring communities as they consider taking further actions outside of the park, in addition to public hunting, to manage the elk of the larger town subpopulation that spend most of their time outside of the park. Additional actions outside the park to reduce the elk population size and densities will reduce the need for management actions inside the park or reduce the intensity and frequency at which actions will be taken in the park.

## **PROJECT BACKGROUND**

The purpose of the plan/EIS is to guide management actions in Rocky Mountain National Park to reduce the impacts of elk on vegetation and restore, to the extent possible, the natural range of variability in the elk population and affected plant and animal communities. A successful plan will realize these purposes while providing continued elk viewing opportunities for visitors.

The National Park Service is obligated by law and policy to maintain and restore, to the extent possible, the natural conditions and processes in park units. The Rocky Mountain National Park / Estes Valley elk population is larger, less migratory, and more concentrated than it would be under natural conditions. Elk heavily use the

habitats in aspen and montane riparian willow communities, which support high levels of biodiversity; as a result, these communities are declining in areas on the elk range where elk concentrate. The high concentrations of elk and levels of herbivory have degraded the vegetation in communities that support large numbers of bird, butterfly, and plant species in comparison to other habitat types in the park and in the Rocky Mountains (Connor 1993, Mueggler 1985, Simonson et al. 2001, Turchi et al. 1994).

Elk are a natural component of the Rocky Mountain National Park ecosystem and are expected to affect native vegetation communities that occur in the park. The natural range of variation for elk populations and associated vegetation conditions in the park were estimated based on research and ecosystem modeling specific to Rocky Mountain National Park, as well as related research and experiences in other locations. *NPS Management Policies 2006* direct managers to strive to maintain the components and processes of naturally evolving park ecosystems. These policies also recognize that if biological or physical processes were altered in the past by human activities, they may need to be actively managed to restore them to a natural condition or to maintain the closest possible approximation of the natural condition.

Chronic wasting disease (CWD), a fatal brain disease known to affect deer and elk, has been detected in elk within Rocky Mountain National Park. The National Park Service is looking at ways to address the problem. Although the elk and vegetation management plan did not specifically evaluate alternatives for managing chronic wasting disease, the strategies and objectives of the plan identified ways to opportunistically collect information to understand chronic wasting disease prevalence in the park within the framework of the alternative, and are consistent with CWD management both inside and outside of the park.

## **DECISION (SELECTED ACTION)**

### **Description of the Selected Action**

After thorough analysis and extensive public involvement, the National Park Service has determined it will implement Alternative 3 (the preferred alternative in the Final Environmental Impact Statement) because it best meets the general management objectives of the National Park Service for protecting park resources and values while being consistent with the park's enabling legislation, purpose, mission, and goals. The selected alternative is also responsive to public comment received on the draft plan/EIS by taking a gradual approach to lethal reduction that reduces costs, and will afford qualified volunteers the opportunity to assist in culling operations under the direct supervision of NPS personnel if needed based on cost, efficiency and effectiveness. Alternative 3 relies on a variety of conservation tools including fencing, redistribution, vegetation restoration and lethal reduction (culling). In future years, the park will, using adaptive management principles, reevaluate opportunities to use wolves or fertility control as additional tools.

The selected alternative will involve the gradual lethal reduction (culling) of elk by National Park Service staff and authorized agents of the National Park Service to achieve an elk population size at the high end of the natural range of variation of 1,600 to 2,100 elk (600 to 800 park subpopulation; 1,000 to 1,300 town subpopulation) by the end of the plan. Inside the park, up to 200 elk will be removed annually over 20 years. To the extent possible, elk carcasses and/or meat resulting from these actions will be donated through an organized program to eligible recipients, including tribes, based on informed consent and pursuant to applicable public health guidelines (see below for more detail). Aspen stands (up to 160 acres) on the elk range will be fenced to exclude elk herbivory. Because this alternative will result in a target population at the high end of the natural range, up to 440 acres of suitable willow habitat will be fenced in the high elk-use areas of the primary summer and winter ranges. These temporary fences will be installed adaptively, based on vegetation response to elk management actions as indicated through a monitoring program. To reduce elk densities on the elk range outside of fenced areas,

redistribution of the population will occur using herding, aversive conditioning, and use of unsuppressed weapons for culling.

The plan incorporates adaptive management and monitoring to determine the level and intensity of management actions needed, including elk population reductions, fencing, herding, and aversive conditioning. Population numbers will be estimated annually and the number of animals to be removed will be determined based on the most current population estimates. If the elk population is within the defined portion of the range of natural variation and vegetation management objectives are being met, no lethal reduction activities will take place.

## **Elk Population Reduction**

Lethal reduction (culling) inside the park will be conducted by NPS staff and authorized agents of the National Park Service (see description below) who will be certified in firearms training, specially trained in wildlife culling, and be required to pass a proficiency test in order to qualify to participate in culling activities. Lethal reduction actions will be conducted in a manner that will minimize impacts on visitor use and experience and provide for public safety. Mitigations will include varying the type of weapon or the times of day when actions occur, such as use of noise-suppressed weapons (weapons equipped with a silencing device) in very early morning hours or possibly at night. The number of animals removed will be adjusted annually based on the current elk population size estimates, which will reflect hunter success outside the park.

Lethal reduction activities could occur at any time of year, however most lethal reductions will be performed between November and February to allow the greatest opportunity to reduce the in park subpopulation. Lethal reductions will be performed to minimize the likelihood of orphan calves and to minimize visitor impacts. Culling could take place anywhere on the elk range where logistically feasible, however emphasis will be given to areas on the primary elk range of aspen, as well as suitable willow habitat where willow communities have the greatest need for protection from browsing pressure and where beavers influenced riparian habitat in the past.

Lethal reduction could be conducted at any time of day using noise suppressed weapons, unsuppressed weapons, and/or darting with anesthesia followed by lethal injection. To mitigate impacts on visitor use of the park consideration will be given to the type of weapon used and the time of day actions are taken. When culling during darkness spotlighting could be used to illuminate target elk. Night vision firearm scopes will be used with rifles, and laser sights will be used with shotguns. If performed during daylight, lethal reduction could be carried out in more remote areas or on a much smaller scale. At times reductions of the population by shooting with unsuppressed weapons will be conducted to redistribute the population away from selected areas. Immobilization by dart, followed by lethal injection, could be used when animals are close to structures or other areas used by people and where the discharge of a shotgun or rifle would not be prudent. In this case, the staff or authorized agent will need to be certified for firearms use and wildlife immobilization.

Adult female elk will be the preferred target for lethal reduction because reducing the number of females in the population will most effectively reduce the potential for population growth, thereby maximizing efficiency by removing the fewest animals. However, some males and calves will be also be removed to ensure that a minimum of 15% of the population is adult females and to prevent the bull to cow ratio from exceeding 80 bulls per 100 cows. In addition, individual elk could be targeted to simulate wolf predation, such as taking elk in poor physical condition in preference to healthy elk.

Based on monitoring data of elk population size and demographics, determination of the number of elk to be removed or controlled each year will use an adaptive management approach. Determining the level of management actions for a particular year will involve analyzing the results on the population of the previous year's management actions in combination with population changes that may have occurred as a result of hunter harvest outside the park and stochastic events, such as a severe winter. The National Park Service will continue to

collaborate with the Colorado Division of Wildlife to monitor the population and to determine annual management activities in terms of the locations, numbers, and timing of elk removal.

To mitigate or eliminate a risk to public health and safety during lethal reduction actions, highly trained personnel will make decisions based on an understanding of the capability and characteristics of various firearms and ammunition that could be used. Decisions for type of firearm and ammunition to be used will be made on a case-by-case basis in terms of the backdrop, how far the round might carry, and the type and extent of visitor use in each particular area. Further mitigations and area closures will be employed as determined based on this evaluation. Mitigation could also include use of subsonic ammunition, which has a shorter range than conventional rounds, and shooting from elevated stands, which can establish shooting lanes and reduce the distance bullets could travel via backstops. Spotters will be used to help ensure that the area is clear of people and to prevent individuals from entering the area during lethal reduction activities. Short-term road closures (a few hours most likely early in the morning) could be needed while culling activity is ongoing.

Because of the relatively low number of animals removed each year under the selected alternative a temporary capture facility may not be needed. However, based on monitoring of the effectiveness of removal actions, a temporary capture facility could be used adaptively if needed to reach population reduction targets. Areas not frequented by the public, such as Little Horseshoe Park, will provide the preferred locations for a temporary capture facility. Elk could be attracted to the facility using bait, which could attract other species of wildlife. Concentrating bighorn sheep could increase the potential for disease spread among the population. To mitigate this concern, the baiting locations will be placed in areas less likely to attract sheep, and lethal elk reduction actions will be implemented as quickly as possible to minimize the number of days that bait will be present in the environment. Alternatively, trained herding dogs, riders on horseback, people on foot with noisemakers or visual devices could direct elk to a capture facility. Helicopters could be used adaptively for herding elk to a capture facility if monitoring indicates other methods are not effective. Following capture, American Veterinary Medicine Association-approved lethal removal methods such as shooting, penetrating captive bolt, or lethal injection will be used onsite. Every effort will be made to "reduce pain and distress to the greatest extent possible during the taking of an animal's life" (AVMA 2001).

Culling will be administered by the National Park Service and carried out by National Park Service personnel and their authorized agents. For purposes of this plan, "authorized agents" can include: professional staff from other federal, state or local agencies or tribes; contractors; or qualified volunteers. National Park Service personnel will be responsible for culling operations. There may be circumstances when additional personnel are needed to achieve annual population goals. National Park Service personnel will be augmented by authorized agents who will be afforded the opportunity to assist in culling operations under the direct supervision of NPS personnel. Cost, efficiency, and effectiveness will be the factors that determine when supplemental personnel are needed. If contractors are used as authorized agents, in addition to other federal contracting requirements, for implementing this plan, a contractor is recognized as a fully insured business entity, nonprofit group, or other government agency engaged in wildlife management activities that include trapping, immobilization chemical euthanasia, or other lethal removal. The contractor must possess all necessary permits. See Appendix H of the plan/EIS for further discussion of culling and authorized agents.

As logistical capabilities for using fertility control improve and longer-acting, multi-year drugs are developed, fertility control could be used as an adaptive management tool under this alternative to maintain and/or reduce the elk population size. The multi-year control agent would need to meet the requirements for use as described in Alternative 4 of the plan/EIS. Implementation of fertility control activities to reduce and/or maintain the elk population would be as described in Alternative 4. To implement the adaptive use of fertility control agents in the future, the National Park Service would further consult with U.S. Fish and Wildlife Service, Colorado Division of Wildlife, and the public regarding details of that action and effects on federally threatened and endangered species.

## ELK DISTRIBUTION

Elk will still be expected to continue to use the primary winter and summer ranges but at moderately reduced numbers and densities. Population reduction activities using noise-suppressed weapons will not be expected to disperse elk long distances (i.e., out of the park), and only local elk movement may result as carcasses are being removed. Lethal reduction with unsuppressed weapons could be used in some instances to disperse elk from areas of vegetation that are highly degraded, reducing browsing pressure. Small-scale reduction actions with unsuppressed weapons could also be used between late August and late November in the Kawuneeche Valley over a widespread area to facilitate the movement of elk to areas outside the park where they could be hunted. These activities will result in temporary dispersal of elk across short distances within the park while operations are ongoing and could deter elk foraging at other times. The long-term effects of suppressed and unsuppressed lethal reduction of elk redistribution are uncertain, and elk may avoid areas in the park for longer periods of time. They may also seek refuge in unhunted areas such as Estes Park and Grand Lake.

Aversive conditioning and herding will be used to prevent or reverse habituation of elk and disperse elk from sensitive areas on the elk range to relieve browsing pressure on aspen and willow, especially when lethal reduction activities are not taking place. Aversive conditioning will be used to encourage localized movements and to cause elk to avoid areas or to move elk from the Kawuneeche Valley to areas outside the park where they can be hunted. Herding, the act of bringing individual animals together into a group, maintaining the group, and moving the group from place to place, will be used to encourage the movement of elk from primary winter range areas to traditional use areas on the primary summer range. Aversive conditioning and herding in the park will include the use of rubber bullets, cracker shot, non-lethal projectile rounds, visual devices such as sticks with streamers, trained herding dogs, people on foot, or riders on horseback. If necessary, helicopters could be used adaptively during herding efforts if monitoring indicates other methods are not effective. Based on monitoring of vegetation condition, the frequency and intensity of redistribution methods could be increased as needed to disperse elk or move them to the primary summer range.

The change in the distribution of elk in response to lethal reduction actions with unsuppressed weapons, herding, or aversive conditioning (as well as fencing to protect aspen, which is discussed below) will be monitored to determine the efficacy of the methods in achieving management objectives. To the extent possible, redistribution actions will avoid and minimize potential adverse effects on sensitive species and other wildlife by restricting elk redistribution actions during known sensitive portions of species' life cycles or in sensitive locations (e.g., breeding or nesting seasons, migration corridors, nesting habitat).

If monitoring shows that management objectives are not being met, the National Park Service will consider release of wolves into the park to redistribute elk according to the process described in Alternative 5 of the plan/EIS, if opportunities are present to cooperate with adjacent land managers and the State of Colorado, and if supported by state and federal policy. The National Park Service would enter into discussion with the state to ensure consistency with state plans for managing wolves.

As long as the gray wolf is a federally protected species, the National Park Service would need approval and applicable permits from the U.S. Fish and Wildlife Service to acquire, release, and manage wolves in the park. Permits would also be needed from individual states to allow transport across state lines and from the agency providing the source wolves. To implement the adaptive use of wolves under this alternative, the National Park Service would be required by the U.S. Fish and Wildlife Service to develop a detailed plan describing the process to transport, release, and manage wolves in the park. This more detailed plan would be subject to further compliance under the National Environmental Policy Act and further consultation with the U.S. Fish and Wildlife Service; this consultation would be deferred until determining that wolves would be needed. The National Park Service will continue to monitor the regional status of wolves and will continue to cooperate with other agencies on wolf-related issues.

## Vegetation Management

Fences will be constructed to protect aspen and montane riparian willow on the primary elk range. The National Park Service will determine the need for fences based on monitoring the response of vegetation to reduced elk numbers, lethal reduction activities, and redistribution methods. Monitoring of vegetation communities will provide the information necessary to determine how many acres of willow or aspen on the primary elk range need to be protected. Similarly, monitoring data will provide the information necessary to determine when fences can be removed once communities are restored.

The park currently uses limited fencing for localized plant protection in areas where landscape plants used for revegetating areas require protection from elk foraging. Within the park, fences that were established for research purposes will continue to be maintained as long as needed for research or monitoring purposes. These research exclosures exclude large ungulates from foraging on approximately 12 acres of willow, aspen, grassland, and upland shrub vegetation in Beaver Meadows, Horseshoe Park, Tuxedo Park, Moraine Park, and Buck Creek on the primary winter range, and in the Kawuneeche Valley on the primary summer range.

It is expected that up to 160 acres of aspen habitat on the elk range will be fenced. Because of the gradual reduction in the elk population size over time, it is expected that installation of fences will begin within the first five years of the plan. Once vegetation receives adequate protection (the aspen are tall enough to withstand browsing pressures and still reproduce) or when elk density, numbers, and frequency of browsing (offtake) are low enough as indicated in the "Monitoring and Data Collection" section, the fences will be removed.

Because of the high elk population target under the selected alternative, fences will be needed to protect riparian willow communities. Due to the highly degraded condition of willow on the primary winter range, it is expected that up to 260 acres of suitable willow habitat on the primary winter range will be fenced. Compared to other action alternatives evaluated in the plan/EIS, this alternative involves the lowest level of elk management, and although redistribution methods will be used to protect willow on the elk range, at this time the success that will be achieved with elk redistribution techniques is uncertain. Therefore, to ensure that management objectives for willow on the primary summer range are met under this alternative, it is expected that up to 180 acres of suitable willow habitat on the primary summer range will be fenced.

Fences will be installed at levels commensurate with elk numbers and distribution that result from lethal reduction and distribution activities. This will ensure that there is ample food available in areas outside the fences for the number of elk remaining in the population which will prevent mass emigration of elk from the park and prevent further degradation of vegetation outside fenced areas.

Selected fence designs, as determined through continuing coordination with U.S. Department of Agriculture Wildlife Services and the National Wildlife Research Center, will allow the greatest access to fenced areas by species such as deer, black bear, and smaller animals, but will prevent use of the area by larger animals such as elk and moose. Fence options include the use of wooden and/or wire fence in a rail or page-wire fence design with a gap in the bottom. Fences would also be designed with gates to allow for public access to areas to the extent possible. Which fence designs are used will depend on the location and the potential effects on wilderness, the viewshed, and movement of other wildlife species. Informal visitor surveys will assess the effects of fences on the visitor experience, and monitoring will assess the effects on other wildlife species. These factors will be used to evaluate future fencing types and locations and to minimize impacts on other resources. Installation of fences in locations away from roadsides may involve helicopters to transport materials. In wilderness, the locations and type of fence used, the method of transportation to remote locations, and the equipment used to install the fences will be determined based on a minimum tool analysis.

Once an area of aspen or willow is adequately protected from elk herbivory, (aspen are tall enough to withstand browsing pressures and still reproduce) or when elk density, numbers, and frequency of browsing (offtake) are

low enough, other vegetation restoration methods could be used to facilitate regeneration of vegetation on the elk range if needed. Prescribed fire or mechanical methods could be used to remove dead vegetation or stimulate new growth in target aspen and willow communities. Because willow is particularly adept at rooting from cuttings if adequate water is present, planting of willow cuttings could be used to support restoration of willow in areas with suitable hydrologic conditions, as in riparian areas.

Once willow vegetation is restored to an acceptable level, beavers will be expected to increase and recolonize riparian areas on the elk range. Approximately 10 acres or more of tall willow will need to be recovered to support a beaver colony indefinitely (B. Baker et al. 2003). If natural recolonization by beavers does not occur, the National Park Service will reintroduce beavers to main drainages that maintain 10 acres of tall willow for two years.

## **Chronic Wasting Disease Prevalence Testing**

Opportunistic testing for chronic wasting disease in elk will continue. Park staff will continue to manage elk inside the park in accordance with NPS chronic wasting disease policy and established park protocols. Elk suspected of having chronic wasting disease will be lethally removed and tested. Elk targeted for lethal removal because of suspected chronic wasting disease will be disposed of appropriately (i.e., incinerated or chemically digested). When possible, elk carcasses found within the park will be removed and tested for chronic wasting disease and those that test positive for the disease will be disposed of appropriately.

All adult elk subject to lethal removal under the plan/EIS will either be removed entirely from the field or the heads will be taken and tested for chronic wasting disease. If a field test that provides immediate results becomes available to allow live testing for chronic wasting disease, elk that are subject to anesthetization or that are corralled during population reduction activities will be immediately tested, and those testing positive for the disease will be preferentially removed to reach the target elk population number. Those elk in which chronic wasting disease has not been detected could be released if the annual number of elk to be removed from the population to meet management objectives has been reached.

## **Humane Treatment**

Management activities will be conducted in a manner that minimizes stress, pain, and suffering. Lethal removals using firearms will be conducted by NPS personnel and authorized agents that will be certified in firearms training, specially trained in wildlife culling, and be required to pass a proficiency test in order to qualify to participate in lethal reduction (culling) activities. Use of remote delivery systems for fertility control or anesthetizing (e.g., dart guns, Biobullet® guns) will also be conducted by trained personnel under Director's Order 77-4.

Efforts will be made to deliver immediately lethal shots to target animals, and shooters will be required to complete NPS range qualifications. The National Park Service will use recommendations of the American Veterinary Medical Association (AVMA) for euthanasia of restrained elk (AVMA 2001). Under every alternative, the degree of human contact during all procedures that require handling of wild animals will be minimized, and in all alternatives, the National Park Service will "reduce pain and distress to the greatest extent possible during the taking of an animal's life" (AVMA 2001).



## Distribution of Carcasses

Carcasses of all adult elk subject to lethal removal will be removed from the field to the extent possible, individually marked, sampled for chronic wasting disease, and as necessary stored in refrigerated trucks in the park until test results are available (typically 4 to 14 days). Due to the logistical constraints of removing a high number of carcasses or removing carcasses from remote locations, some carcasses may be left in the field and their heads removed to allow testing for chronic wasting disease.

A predetermined, small number of carcasses in which chronic wasting disease has not been detected and which were not subject to lethal injection may be returned to the field with a wide spatial distribution to approximate natural conditions expected with intact populations of native predators. If calves are lethally removed from the population, their carcasses could be left in the field, as chronic wasting disease has not been detected in free-ranging elk less than 18 months old. Overall, the number of carcasses left in the environment will reflect a natural state to the greatest extent possible.

Removal of carcasses from the field will be accomplished using techniques that would cause the least amount of impact on natural resources, wilderness, and visitor experience, such as removal on foot; using a litter or sled over frozen ground; on a horse, all-terrain vehicle, or truck; winching or dragging behind a horse, all-terrain vehicle, or truck to facilitate removal from remote areas of the park. In general, helicopters will not be used to remove carcasses, except from remote locations if determined necessary due to disease management concerns. Due to concerns in wilderness, preference will be given to non-motorized removal techniques to the extent possible. The final determination of what method will be used to remove carcasses from the field will be determined when the National Park Service completes a minimum tool analysis prior to any site-specific action in wilderness as part of the plan/EIS (see below). All carcasses and carcass parts will be transported according to all state and federal laws and regulations regarding transport of elk carcasses and parts from areas with known chronic wasting disease.

To the extent possible the National Park Service will donate carcasses and/or meat from elk in which chronic wasting disease is not detected and that were not killed using sedative agents or euthanasia drugs through an organized program to eligible recipients, including members of tribes, based on informed consent and pursuant to applicable public health guidelines. Authorized agents who participate in culling activities would not be excluded from receiving meat through this program. The National Park Service will identify interested organizations, agencies, and /or tribes with whom to partner in a meat donation program in order to defer the high cost of processing and packaging the meat. Donation of meat will be based on the most current guidance provided by the NPS Public Health Program (NPS 2006a). In this case, special attention will be given to proper, immediate field dressing and if necessary refrigeration. The National Park Service will also ensure that the required withdrawal period (the number of days that must elapse between drug administration and slaughter so that meat from a treated animal is fit for human consumption) has passed prior to donation of meat from any elk that have been subject to fertility control.

Although all carcasses will be tested for chronic wasting disease before donation, chronic wasting disease tests are not sensitive enough to be thought of as a "food safety test." A "not detected" result does not guarantee that the animal does not have chronic wasting disease. Therefore, meat donation to individuals will only occur after gaining the individual's informed consent (NPS 2006a). According to the most current NPS Public Health Program guidance, gaining informed consent will involve at a minimum the following elements: 1) informing individuals about the disease, its distribution, and its prevalence, 2) informing individuals about the chronic wasting disease testing that has occurred and the determination that the disease has not been detected in the carcasses, and 3) informing individuals about any potential human health risks as it is understood by science at that time.

In accordance with the current NPS public health program guidance (NPS 2006a) and the need to gain informed consent from individuals who may consume the meat, donations can not be made to food pantries, soup kitchens, or any entity that intends to redistribute the product. The required guidelines for meat donation may change in the future, and the National Park Service would adjust the disposition of carcasses accordingly.

Any remaining carcasses in which chronic wasting disease is not detected and that can not be donated will be landfilled. This is expected to be a limited number of carcasses. Those that test positive for chronic wasting disease will be incinerated or chemically digested at facilities outside the park.

Field dressing procedures and carcass handling to minimize exposure to chronic wasting disease infectious material will be followed at all times in accordance with state wildlife management guidelines.

## **Minimum Requirement / Minimum Tool Analysis**

The alternative will involve activities, in designated or recommended wilderness areas within the park. As such, in accordance with the Wilderness Act and NPS policies, the National Park Service completed a programmatic minimum requirement analysis in the plan/EIS (appendix G) to determine that management actions in wilderness are necessary. Before any management actions are taken to implement this plan/EIS the National Park Service will complete a minimum tool analysis to evaluate and determine methods that will be used for site-specific actions to manage elk and vegetation. Actions that will be subject to a minimum tool analysis prior to their use in wilderness areas will include use of firearms, helicopters, horses, trained herding dogs, all-terrain vehicles or trucks, aversion techniques, fences, prescribed burning, and mechanical thinning activities.

## **Adaptive Management**

Monitoring and evaluation are crucial in determining whether management actions are achieving objectives. For instance, if elk numbers and distribution continue to show unacceptable effects on vegetation, different management actions may be necessary to further reduce the abundance or density of the population, change the distribution of elk, or protect vegetation. This process of using information as it becomes available to alter management actions is called adaptive management. Adaptive management is an iterative process that requires selecting and implementing management actions, careful monitoring, comparing results with objectives, and using feedback to make future management decisions. It recognizes the importance of continually improving management techniques through flexibility and adaptation. Alterations may include adjusting the number of elk removed, the number of acres fenced or the configuration of the fences, the frequency or location of redistribution activities, and potentially the use of fertility control or intensively managed wolves in future years. Any adjustment in management actions would be made within the framework of the alternative. Steps to be followed in applying an adaptive management approach are discussed in detail in the plan/EIS.

## **Monitoring and Data Collection**

The effectiveness of specific management actions and resource conditions will be monitored through the 20-year life of the plan. This information will be used to adapt management actions as needed to meet plan objectives. Monitoring will be conducted in the short and long term on geographic scales ranging from site-specific to landscape. The frequency of monitoring actions will be high in early years and may decrease later if less frequent data collection is found to be sufficient. Monitoring will be used for several purposes: 1) to determine if management actions need to be altered (Are thresholds being met? Are specific techniques successful?), 2) to gather data needed for population modeling that will guide annual removal or treatment rates, 3) to gather data to

improve the predictive capability of an ecosystem simulation model, and 4) to determine educational needs based on visitor response to management actions.

Monitoring will examine the elk population size, composition, and distribution; vegetation structure, regeneration, and cover; status of beaver populations; any natural wolf recolonization; and visitor response to management actions. A detailed discussion of the monitoring/data collection approach and desired conditions to be monitored for are presented in the plan/EIS.

## **Opportunistic Research Activities**

As the elk population will be subjected to management under this alternative, the National Park Service will take the opportunity to conduct a research study that could benefit management of elk in the future. Participants in the study will include scientists from the Colorado State University Department of Biomedical Sciences, the National Park Service, USDA National Wildlife Research Center, Colorado State University Department of Microbiology, Immunology and Pathology; and USDA Agricultural Research Service. The Colorado Division of Wildlife is participating in the part of the study that evaluates a live test for chronic wasting disease. In the first few years of elk management, the researchers will evaluate a rectal biopsy procedure that will serve as a preclinical diagnostic test for chronic wasting disease in live elk. In addition, the researchers will evaluate the effectiveness of a fertility control agent that would last for multiple years and would require a single treatment without the need for a booster shot in a wild and free-ranging elk population. During the first year of implementation of the elk management plan, up to 120 elk will be anesthetized using ground darting methods, and a biopsy of the rectal mucosa tissue will be taken and samples sent to a veterinary diagnostic laboratory for testing for chronic wasting disease. While the elk are under anesthesia, a fertility control agent, GonaCon™, will be administered to at least half of the female elk via hand injection to evaluate the effectiveness of a multi-year, single contraceptive agent. Detailed information about GonaCon™ can be found in the description of Alternative 4 in the plan/EIS. Blood samples will be taken from all animals to address any needs for subsequent information or diagnostic testing. All animals will be fitted with a radio-transmitter collar with a unique visual identifier.

Any animals that test positive as a result of the biopsy test will be located via radio telemetry and removed from the population via methods associated with the action alternatives. These animals that are removed will contribute to the annual population reduction target associated with the elk management actions. Any study animals that are removed or die due to chronic wasting disease, hunter harvest, or other unforeseen causes during the initial capture phase will be replaced with additional elk that will be anesthetized, sampled, administered GonaCon™ if needed, and radio-collared in order to maintain the initial study population at 120.

In the second year of the study, annual removal activities to reduce the size of the population will ideally include about one-third of the radio-collared female elk that were subject to the fertility control agent test to assess the pregnancy status of the elk. In the third year of study, another one-third of the remaining collared female elk will be removed as part of the population reduction activities, and these elk will be processed to assess pregnancy status. In the fourth year of the study, the final third of the collared female elk will be removed and their pregnancy status will be assessed.

Test animals will be lethally removed from the population over the four-year study. Elk will be examined for the presence of chronic wasting disease in the tissue and for any long-term effects of the original biopsy. The rectal tissue results will be correlated with the results of brain tissue samples to evaluate the efficacy of the rectal mucosa tissue biopsy test.

The rectal mucosa biopsy test, although applied in the field, does not provide immediate test results for the presence of chronic wasting disease. The application of the biopsy test in the management of the elk in the future is unknown. However, if in the future it is logistically and economically feasible to apply this or other diagnostic

test within the framework of an action alternative, the National Park Service will selectively remove elk that test positive for the disease in an effort to reach annual population reduction targets. Knowledge and information gained from this study could contribute to the advancement of testing for chronic wasting disease with the goal of eventually leading to a test that provides immediate field results.

## **Education**

The current education program and the methods by which the park educates the public will continue into the future, however public education efforts will be enhanced to provide additional information about elk and their role in the Rocky Mountain ecosystem. In addition, educational materials will be developed to inform and increase public understanding of the management actions taking place in the park and the effects these actions have on vegetation, other wildlife, and visitors. Enhancements to the education program within the park could include: 1) improved interpretive contacts and programs to detail the resource issues, management plan selected, monitoring program, and results and status of the resource, 2) development of literature and brochures to provide to the public at visitor centers, entrance stations, and community events, and 3) maintenance of a website that describes the information above, and is updated with results of field surveys. Outreach programs to schools, groups, and community organizations will be tailored to discuss elk and vegetation management within the park.

## **OTHER ALTERNATIVES CONSIDERED**

### **Alternative 1**

This alternative would continue the existing management framework. Under this alternative, no new management actions would be applied. This alternative assumes that the existing management decisions, without any new criteria or factors, would continue. Since NPS lethal reduction was discontinued in 1968, there has been no active management of elk within the park. The elk population size in the park under this alternative would be regulated primarily by forage availability and weather conditions, and outside the park it would continue to be additionally regulated by hunter harvests. Under this alternative, ecosystem modeling predicts that the elk population would continue to fluctuate within 2,200 and 3,100 animals. The population size could rise above or drop below this range due to variables such as weather, emigration, or immigration of elk either permanently or temporarily. In addition, elk would continue to concentrate at high densities in localized areas of the elk range and would continue to be less migratory. No formal vegetation resource management program in the park to address elk-caused effects on vegetative cover, and dominant plant species composition on the elk range would be developed.

### **Alternative 2**

This alternative would involve the lethal removal (culling) of elk by NPS staff and authorized agents of the National Park Service to reach and maintain an elk population size at the lower end of the natural range of variation (1,200 to 1,700 total elk: 200 to 400 park subpopulation; 1,000 to 1,300 town subpopulation). In the first four years of the plan, between 200 and 700 elk would be lethally removed annually inside the park to bring the population to the target size. To maintain the target population range, 25 to 150 elk would be removed annually over the remaining 16 years of the plan. To reduce elk densities on the elk range, redistribution of the population would occur using herding (for directed movement of a group of elk), aversive conditioning (to locally distribute elk and result in avoidance of areas), and unsuppressed (noisy) weapons. Given appropriate interagency cooperation, adaptive management could also include wolves as a redistribution tool. Aspen stands (up to 160 acres) on the elk range would be fenced to exclude elk herbivory. These temporary fences would be installed

adaptively, based on vegetation response to elk management actions as indicated through the monitoring program. Suitable willow habitat on the elk range would not require protection using fences because of the lower target elk population and the use of redistribution methods to disperse high concentrations of elk.

#### **Alternative 4**

This alternative involves the use of a single-year, multi-year, or life-time fertility control agent on elk inside the park to achieve a target elk population at the higher end of the natural range of variation (1,600 to 2,100 total elk: 600 to 800 park subpopulation; 1,000 to 1,300 town subpopulation). Using a single-year agent logistically up to 400 elk could be treated annually during the first four years of the plan and 200 for each of the remaining 16 years. Lethal reduction methods to supplement the fertility control actions would also be needed due to logistical constraints on using fertility control agents to reduce the population size to within management objectives (i.e., not enough elk could be treated efficiently). In addition to a single-year fertility control agent, 80 to 150 elk would be lethally removed each year. Aspen stands (up to 160 acres) on the elk range would be fenced to exclude elk herbivory. Because this alternative would result in a target population at the high end of the natural range, up to 260 acres of suitable willow habitat could be fenced in the high elk-use areas of the primary winter range inside the park. These temporary fences would be installed adaptively, based on vegetation response to elk management actions as indicated through the monitoring program. To reduce elk densities on the elk range outside of fenced areas, redistribution of the population would occur using herding, aversive conditioning, and unsuppressed (noisy) weapons.

#### **Alternative 5**

This alternative would involve lethal reduction of elk in combination with the release and intensive management of a limited number of gray wolves within Rocky Mountain National Park in a phased approach to achieve an elk population that would fluctuate within the natural range of variation between 1,200 to 2,100 total elk (200 to 800 park subpopulation; 1,000 to 1,300 town subpopulation). In the first four years of the plan, NPS staff and authorized agents of the National Park Service would reduce the elk population by lethal reduction to bring the population within the high end of the natural range of variation (1,600 to 2,100: 600 to 800 park subpopulation; 1,000 to 1,300 town subpopulation) by removing 50 to 500 elk annually. Up to 100 elk could be lethally removed over the remaining 16 years to meet that target population range. At the same time, two pairs of wolves would be released and allowed to gradually increase to a maximum of 14 over the life of the plan. The number of wolves would be increased after determining through monitoring that the National Park Service could effectively manage the size and activities of the wolf population inside the park and that wolves would contribute to accomplishing the plan's management objectives. Due to the presence of wolves and the high level of redistribution of elk expected under this alternative, temporary fences to protect aspen (up to 160 acres) would be installed adaptively based on vegetation response, as indicated through the monitoring program; suitable willow habitat on the elk range would not require protection using fences.

### **BASIS FOR DECISION**

Since publication of the draft plan/EIS and receipt and analysis of public comments, the National Park Service has re-evaluated the alternatives in determination of a preferred alternative. Alternative 3 has been defined as the National Park Service preferred alternative in the final plan/EIS based on the rationale provided below.

Selection of the preferred alternative was based on the overall ability of the alternative to meet park objectives, support the purpose of the park, and minimize adverse effects on the resources of the park while providing for

public use and enjoyment. Although other action alternatives would also meet these criteria, a number of additional factors were considered in the selection of the preferred alternative.

The National Park Service has given consideration to the expected availability of funds to implement the plan and has determined that to meet the objectives of the plan/EIS within forecasted available funds, population reduction activities will need to be conducted gradually. In comparison to Alternative 2, which would involve a high level of reduction of elk early in the planning period, Alternative 3 will reduce the elk population at a more gradual rate over 20 years. This more gradual approach to population reduction can be conducted within existing operations and capabilities and through existing funding sources. This will considerably reduce the cost of the plan compared to Alternative 2, which would require contractors due to the intensive reduction activities in the first four years of the plan.

The elk population reduction methods associated with Alternative 3 will have a high degree of certainty of being successful, and implementation will be less complex compared to Alternatives 4 and 5. Alternative 3 will have a greater level of effectiveness with less time and resources dedicated to implementation than Alternative 4, which emphasizes the use of fertility control agents and Alternative 5, which would use a highly managed wolf population. Alternative 4 would have substantial logistical challenges associated with treating large numbers of female elk with the short-term fertility control agent that is currently available for use. Alternative 5 would also present logistical challenges and require significantly higher levels of park resources to continuously monitor and manage a wolf population that would be maintained within the park boundaries.

In addition, a gradual reduction in the elk population over time will result in less impact on visitor use and experience and result in no long-term economic loss. Although Alternative 3 may require temporary closure of small areas on the elk range during high visitor use periods, the smaller-scale reduction actions will be less frequent and for shorter periods of time, and less noise will be produced when compared to the reduction activities associated with Alternative 2 and potentially with Alternative 5.

## FINDINGS ON IMPAIRMENT

The National Park Service determined that implementation of Alternative 3, the preferred alternative, will not constitute impairment of park resources and values at Rocky Mountain National Park. In reaching this determination, the *Final Environmental Impact Statement, Elk and Vegetation Management Plan for Rocky Mountain National Park* was reviewed to reaffirm the park's purpose and significance, resource values, and resource management goals or desired future conditions; the management objectives specific to resource protection goals at the park were identified; thresholds were established for each resource of concern to determine the context, intensity, and duration of impacts; and an analysis was conducted to determine if the magnitude of the impact reached the level of impairment defined in *NPS Management Policies 2006*. Based on a thorough analysis of the environmental impacts described in the Final Environmental Impact Statement, the public comments received, and the application of the provisions of the *NPS Management Policies 2006*, the National Park Service concluded that the implementation of Alternative 3 will not result in impairment of any of the resources and values of Rocky Mountain National Park.

*NPS Management Policies 2006* requires analysis of potential effects to determine whether the actions would impair park resources. As stated in *NPS Management Policies 2006* section 1.4.5:

“The impairment that is prohibited...is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resource or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the

severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

Any impact to any park resource or value may constitute an impairment. An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

When fully implemented, Alternative 3 will not impair resources or values. Although Alternative 3 will likely have some adverse impacts on the elk population, herbaceous vegetation, special status species, other wildlife, and soils, the impacts will be no greater than moderate and primarily associated with short-term fence construction and operations activities. Short-term, major adverse impacts will likely occur to natural soundscapes and wilderness from fence construction and operations activities. The potential adverse effects will be minimized or offset with the implementation of mitigation measures. Furthermore, Alternative 3 will not significantly impact resources or values whose conservation is 1) necessary to fulfill specific legislative purposes; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

## UNACCEPTABLE IMPACTS

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the Service will apply a standard that offers greater assurance that impairment will not occur. The Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. Park managers must not allow uses that would cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resources and values are acceptable.

Virtually every form of human activity that takes place within a park has some degree of effect on park resources or values, but that does not mean the impact is unacceptable or that a particular use must be disallowed. Therefore, for the purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would

- be inconsistent with a park's purposes or values,
- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
- unreasonably interfere with
  - park programs or activities,
  - or an appropriate use, or
  - the atmosphere of peace and tranquility, or
  - the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park.

- NPS concessioner or contractor operations or services.

In accordance with Management Policies, park managers must not allow uses that would cause unacceptable impacts to park resources. Based on the above criteria, implementation of Alternative 3 will not create unacceptable impacts. The actions described in this decision will not 1) be inconsistent with the park's purpose or values; 2) impede the attainment of the park's desired future conditions for natural and cultural resources as identified through the park's planning processes; 3) create an unsafe or unhealthy environment for visitors or employees; 4) diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values; or 5) unreasonably interfere with park programs or activities; an appropriate use of the park; the atmosphere of peace and tranquility; or the natural soundscape maintained in wilderness and natural, historical, or commemorative locations within the park; or NPS concessioner or contractor operations or services. Although adverse impacts could occur to some resources as described above in the impairment section, impacts will be at acceptable levels and will be mitigated through management actions.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferred alternative is the alternative that will best promote national environmental policy expressed in the National Environmental Policy Act (NEPA). Section 101(b) of NEPA identifies six criteria to help determine the environmentally preferred alternative. The act directs that federal plans should:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. Preserve important historical, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative would cause the least damage to the biological and physical environment, and would best protect, preserve, and enhance historical, cultural, and natural resources. Alternative 5 is considered the Environmentally Preferred Alternative in its ability to best meet the six national environmental goals.

1. All of the action alternatives would meet goal 1 as they would restore the elk and vegetation on the elk range to what would be expected under natural conditions. This would provide for continued enjoyment of these resources in the park for future generations. All of the action alternatives would restore vegetation within the park so that it functions as natural communities providing habitat for a large diversity of wildlife species. Alternative 1, continuing current management, would result in impairment of aspen and willow communities in the park as it would not reverse the expected long-term continued



degradation of montane riparian willow and aspen. In the long-term, there would be an inability for enjoyment of these resources by future generations.

2. All of the action alternatives would meet goal 2 to varying degrees with Alternative 5 meeting it to the largest extent. All of the alternatives would improve the vegetation condition of the elk range and ensure that aspen would be present for the enjoyment of visitors. However, Alternatives 3 and 4 would use fences on the primary elk range to protect montane riparian willow that would obstruct to a minor level the viewshed, which some visitors would find aesthetically displeasing. In addition, the recovery of vegetation on the landscape would represent an unnatural state as areas in fences would recover to a level higher than expected with natural levels of herbivory. Alternative 2 and 5 would fulfill this goal to a large degree, as they would not use willow fences to protect vegetation on the primary winter range and vegetation would be restored across the landscape reflective of natural conditions. Alternative 5 would do this to a greater degree as the distribution of elk by wolves is what would be expected under natural conditions. The least amount of aspen fencing is expected to be needed under Alternative 5. In addition, the presence of wolves in the park under Alternative 5 would increase visitor appreciation of the park. Alternative 1 would not meet this goal as the vegetation condition on the elk range would continue to degrade and aspen would be lost on the landscape which would adversely affect visitor appreciation of the park.
3. All of the action alternatives would improve public health and safety inside the park by reducing elk abundance, densities, and habituation to humans. This would result in decreased potential for human-elk conflict such as vehicle accidents and property damage. However Alternatives 2 and 5 would achieve this goal to a larger degree. Alternative 2 would reduce the elk population to a lower level and through use of lethal controls, aversive conditioning, and herding, would decrease densities of elk and as a result increase elk wariness of humans, reducing the potential of human-elk conflict. Alternative 5 meets this goal to the greatest degree, as wolves would be more effective in reducing elk densities and would also increase elk wariness reducing their habituation to humans and developed areas. Alternative 1 would not meet this goal as elk densities and abundance would remain high and elk would continue to become habituated to developed areas thereby increasing the potential for human-elk conflicts.
4. All of the action alternatives meet goal 3 by restoring the vegetation on the elk range to reflect natural conditions and preventing the loss of important habitat that supports a large variety of wildlife species. The action alternatives therefore maintain the wide variety of resources within the park for the enjoyment of visitors. Alternative 5 would meet this goal to an even greater degree as wolves would be present within the park, increasing even further the diversity of resources and activities within the park for visitor enjoyment. Alternative 1 would not meet this goal, as vegetation on the elk range which supports a diversity of species would be degraded and aspen would be lost, thereby reducing the diversity of resources and activities enjoyed by visitors.
5. The action alternatives would meet this goal to varying degrees. All of the action alternatives would restore elk and vegetation on the elk range to reflect natural conditions that would continue to be enjoyed by visitors. The reduction in elk abundance and densities under the action alternatives would also reduce elk habituation to developed areas providing enhanced protection of public safety and property. These results increase the balance between the public's use and appreciation of the park and the surrounding area and the resources. Alternative 5 would meet this goal to a lesser degree however due to the potential for wolf depredation on livestock or domestic animals, which would not represent a balance between population and resource use in the area. Alternative 1 would not meet this objective as vegetation within the elk range would continue to be degraded and aspen would be lost. Continued high levels of elk abundance and densities would increase conflict between visitors to the park and residents in surrounding areas that would not represent a balance between the population and resource use.

6. Enhancing the quality of renewable resources recycling of depletable resources is not applicable to the management of elk and vegetation within the park.

## **PUBLIC AND AGENCY INVOLVEMENT**

An interagency planning team was assembled in August 2002 to discuss the scope of the plan/EIS and the level of participation of the agencies. The interagency planning team included the National Park Service, Town of Estes Park, Estes Valley Recreation and Parks District, Colorado Division of Wildlife, Grand County, Larimer County, Town of Grand Lake, U.S. Bureau of Reclamation, and U.S. Forest Service.

Interagency team meetings were held in January and February 2003 to make final determinations on agency participation. In March 2003, a final project agreement between the agencies was established that identified the roles and responsibilities of the participating agencies in development of the plan/EIS into three levels of participation.

The NPS was the lead agency, and was responsible for all aspects of developing the plan and environmental impact statement (EIS), including selection of a preferred alternative and preparing a record of decision.

Cooperating agencies on the core planning team participated in all aspects of developing the plan and EIS. Agencies on this team included the Town of Estes Park and the Estes Valley Recreation and Parks District.

Cooperating agencies on the extended planning team provided expertise and data on pertinent topics and reviewed appropriate portions of the plan and EIS. Agencies on this team included the Colorado Division of Wildlife, Grand County, Larimer County, Town of Grand Lake, U.S. Bureau of Reclamation, and U.S. Forest Service.

While deliberations on agency participation were being held, the interagency team met numerous times. Initial discussions to discuss the planning process timeline and begin the scoping process were conducted in September 2003. The interagency team worked collectively to confirm the purpose and need for action, identify issues and concerns, create objectives for taking action, and identify potential management tools. In January 2004, the interagency team held an alternative development workshop and collaborated through July 2004 to develop preliminary draft alternatives that were then presented to the public in August. With input from the public, the interagency team has collaborated with numerous experts and agencies involved in wildlife management in the development of the range of alternatives that were considered and in the analysis of effects for the plan/EIS. In September 2005, the interagency team met to review and evaluate the final alternatives for the plan/EIS at a Choosing-by-Advantages workshop.

### **Public Scoping**

The public scoping process began on May 29, 2003, with the publication of a notice of intent in the Federal Register (Federal Register, Volume 69, Number 14). A newsletter was distributed to the public in September 2003 and an internet website developed specific to the plan/EIS ([www.nps.gov/romo/planning/elkvegetation](http://www.nps.gov/romo/planning/elkvegetation)) which introduced the public to the planning process, summarized the nature and extent of the elk and vegetation problem in the park, the purpose of and need for plan, the objectives for the plan/EIS, and proposed management tools for elk and vegetation management. The newsletter was mailed to over 10,000 individuals, organizations, or agencies on the park's mailing list and in the areas of Estes Park and Grand Lake, Colorado. During this first phase of scoping the public was asked to identify issues, concerns, and ideas related to the management of elk and vegetation and also to review potential management tools and suggest additional management actions, which were considered in the development of draft alternatives.

The National Park Service conducted five public scoping meetings between September 23 and September 30, 2003 in the Loveland, Grand Lake, Boulder, and Estes Park, Colorado. A total of 107 people attended these workshops. More than 1,100 written comments were received, in addition to those comments recorded at the public scoping meetings.

The interagency team used these comments in developing preliminary draft alternatives for managing elk and vegetation which were then presented to the public in July and August 2004. These alternatives were presented in the summer 2004 newsletter which was sent to over 1,600 individuals, organizations, and agencies. During this phase of scoping the public was asked to provide input on the preliminary draft alternatives and to suggest additional management approaches. The National Park Service held four public workshops on the draft alternatives between August 16 and August 23 in the same locations listed above where a total of 133 people were in attendance. Over 1,000 comments were received through letters, emails, and workshops during the public comment period which ended in September 2004. A report summarizing the comments on the preliminary draft alternatives was made available to the public on the Elk and Vegetation Management Plan/EIS website.

With this input on the preliminary draft alternatives, the park staff and the cooperating agencies developed the final range of alternatives to be considered for analysis. Park staff consulted with technical experts and conducted internal workshops to develop the technical and logistical details of alternatives involving lethal reduction, redistribution, fertility control, and wolves. These workshops involved the participation of experts from Animal Plant and Health Inspection Service Wildlife Services Division, Colorado Division of Wildlife, Parks Canada, U.S. Fish and Wildlife Service, U. S. Geological Survey, U.S. Public Health Service, scientists from various universities, and numerous NPS resource experts.

To keep the public informed of the planning process, the National Park Service distributed another newsletter to the interested public, organizations, and agencies in August 2005. This newsletter informed the public about the progress of the plan/EIS and provided information on the changes in the alternatives and plan/EIS schedule.

The National Park Service released the Draft Elk and Vegetation Management Plan/EIS in April 2006. The draft plan/EIS was distributed to individuals, organizations, and agencies that were on the plan mailing list and to those who had requested copies. It was also available as an electronic document on the NPS planning website. The draft plan/EIS was available for public review for 75 days following publication by the National Park Service of the Notice of Availability in the Federal Register on April 20, 2006 (71 FR 76). The U.S. Environmental Protection Agency (EPA) published the Notice of Availability in the Federal Register on May 5, 2006 (71 FR 87). The comment period on the draft plan/EIS closed on July 5, 2006.

Public meetings were held from May 22 through May 25, 2006 in Boulder, Loveland, Grand Lake, and Estes Park, Colorado. The National Park Service provided notification of the public meetings on the project website, on the NPS planning website, and through press releases. The National Park Service presented information on the draft plan/EIS through posters, a slide presentation, and with a questions and answer session. A total of 231 people attended the public meetings.

During the public comment period, over 2,600 responses were received that contained approximately 3,146 comments in the form of letters, emails, internet responses, comment forms, and petitions. The National Park Service and its contractor analyzed all comments that were received during the public comment period to identify and respond to substantive issues. The introduction to Volume 2, "Comments and Responses to the Draft Environmental Impact Statement," contains a description of the purpose in reviewing and responding to public comments, provides a brief summary of the comments received, and provides a consolidation of comments and the agency response.

The most commonly addressed topics in the comments included Alternatives, Socioeconomics, and Purpose of and Need for the Plan. The most common issue that was raised (2,149 comments) by the public concerned those alternatives that were eliminated from further consideration in the plan/EIS. These comments were largely nonsubstantive in nature and generally supported or opposed an alternative. Of these comments, 1,085 were received in support of re-introduction of a self-sustaining wolf population into the park. This received the majority of comments due to a petition that contained approximately 1,000 signatures. Approximately 900 comments were received supporting allowing public hunting in the park, followed by 159 comments received asking that translocation of elk to other areas be considered. All of these were addressed in the draft plan/EIS in Chapter 2, "Alternatives Eliminated from Further Consideration" section and although the comments received on these were nonsubstantive in nature, the National Park Service has responded to these comments in Volume 2 of the plan/EIS to further provide rationale for their dismissal.

## **Agency Consultation**

### **U. S. Fish and Wildlife Service**

In accordance with section 7 of the Endangered Species Act (16 U.S.C 1531 et seq.), the National Park Service conducted informal consultation with the U.S. Fish and Wildlife Service. On October 3, 2005 the National Park Service corresponded with the U.S. Fish and Wildlife Service requesting concurrence on the revised Threatened and Endangered Unit Species List (revised December 2004). A letter received from the U. S. Fish and Wildlife Service dated October 18, 2005 concurred with the Threatened and Endangered Unit Species List for the park and with the list of species that may be affected by management actions in the park such as elk and vegetation management and would require further consultation (see Appendix D of the plan/EIS to view a copy of this letter). It should be noted that a recent decision on September 20, 2005 by the U. S. Fish and Wildlife Service has determined that the boreal toad is not warranted at this time for listing. Therefore, the boreal toad was withdrawn from Rocky Mountain National Park's list as a candidate species on October 3, 2005. In addition, National Park Service staff met informally with the U.S. Fish and Wildlife Service on July 26, 2005 to provide information on the plan and the draft alternatives, to evaluate issues regarding listed species in the park and region that may be affected by management actions directly or indirectly, and to determine the section 7 consultation pathway for the plan/EIS. As a result of these discussions, a biological assessment was prepared and submitted with the plan/EIS to the U.S. Fish and Wildlife Service in April 2006 for their review as part of the Section 7 consultation process. Their response, which was received on July 24, 2006 and can be found in Volume 2 of the final plan/EIS, concurred with the biological assessment that the proposed project may affect but is not likely to adversely affect the greenback cutthroat trout, bald eagle, Canada lynx, and the gray wolf. The Service further concurred that the proposed project will have no effect on the bonytail chub, Colorado pikeminnow, humpback chub, pallid sturgeon, razorback sucker, least tern, Mexican spotted owl, piping plover, whooping crane, yellow-billed cuckoo, Preble's jumping mouse, Colorado butterfly plant, and the Ute ladies' tresses orchid.

### **Estes Park and Estes Valley Recreation and Park District Board of Trustees**

During preliminary draft alternative development, a request was made by representatives of the Estes Park and Estes Valley Recreation and Park District for a formal presentation to the Board of Trustees of both agencies to provide more information on the plan/EIS and the planning process. On June 17, 2004, the National Park Service met with the board members and presented information regarding the purpose and need, the objectives, and the preliminary draft alternatives. In addition, the board members were briefed on the results of public scoping that had occurred in the summer 2003. The National Park Service and Colorado Division of Wildlife staff that were present addressed questions. Concerns raised by the board members concerning agency involvement outside of the park, issues related to public safety and property as a result of a human-habituated elk population, and effects

of elk management on tourism were recorded. The input provided by the board members from this and subsequent meetings was used to modify and further develop the alternatives that are presented in the plan/EIS.

## **American Indian Consultation**

In October 2002 the Northern Arapaho Tribe and the Northern Ute Tribe were contacted by letter to begin government-to-government consultation regarding the elk and vegetation plan. Copies of this correspondence are provided in Appendix F of the plan/EIS. At that time, the tribes were invited to participate in the planning process. The tribes were invited to attend interagency meetings and the alternative development workshops that occurred in January 2004. Although they were not cooperating agencies in development of this plan, the tribes were sent all information that was provided to the interagency team members. As part of the consultation process, the tribes were sent copies of the draft plan/EIS for their review and comment. No responses were received from the aforementioned tribes on the draft plan/EIS.

## **CONCLUSION**

Alternative 3, the selected action, provides the most comprehensive and proactive strategy among the alternatives considered for meeting the National Park Service's purposes, goals, and criteria to manage elk and vegetation within Rocky Mountain National Park in accordance with federal laws, regulations, and *NPS Management Policies 2006*. The selection of Alternative 3, as reflected by the analysis contained in the Final Environmental Impact Statement, will not result in the impairment of park resources and will allow the National Park Service to conserve park resources and provide for their enjoyment by park visitors.