

Appendix K: Impact Avoidance, Minimization and Mitigation Measures

The NPS would avoid, minimize, and mitigate adverse impacts on park resources to the greatest extent possible. As more parks implemented the following measures and as needed, additional strategies would also be developed to address new incidences of species and new or existing circumstances of disturbance.

The NPS would apply the following impact avoidance, minimization and mitigation measures from Chapter III, and from Chapter V: Environmental Consequences for each applicable resource (as summarized here) as appropriate to protect cultural and natural resources and the quality of the visitor experience.

Chapter III Measures (by Treatment Method)

g) All Treatment Methods

- Only nonnative plants that meet an NPS action threshold would be managed (treated) under this plan.
- Use of equipment and materials would comply with applicable safety plans and guidelines.
- Parks would work with neighbors, partners and others to implement nonnative plant management.
- Monitoring would be used to assess the effectiveness of, including modifications to, treatment methods.
- Treatment priorities would be determined regularly or as needed, pending changes in species composition, affected areas, changes in treatment methods, and other factors.
- Treatment methods that minimize ground disturbance would be used where possible.
- Treatment at sensitive natural or cultural resources sites (especially where rare, threatened or endangered species or archeological resources were present) or in visitor use areas would employ specific strategies to avoid or minimize impacts to the greatest extent practicable.
- Appropriate personal protective equipment (PPE) would be worn during treatments, when mixing or handling chemicals and when cleaning equipment to avoid or minimize injury to staff and volunteers.
- Construction and treatment vehicles would be washed prior to moving from infested areas to uninfested areas.
- Tribes would be informed of proposed treatment plans and could engage in consultation. Potential adverse impacts to tribal interests would be avoided based on consultation and mitigation measures.
- Parks would identify traditional use plants and traditional offering sites, if any, in consultation with tribes. If these were present, staff involved in nonnative plant treatment would be trained in identification and etiquette and they would be avoided in plant collection and/or treatment areas.
- During the planning phase for invasive plant control activities, managers would coordinate with affiliated tribes to ensure there would be no adverse impact to traditional cultural properties.

h) Manual / Mechanical Treatments

- Plant specific means of removal would be used where possible.
- Treatment methods would be employed during the appropriate stage of the plant's lifecycle (phenology) to increase effectiveness.
- Hand-pulling would be used at times of year when the root of the plant is most likely to be pulled intact (not broken at the crown, allowing it to resprout) from the soil.
- Visual impacts to cultural landscapes and natural areas (such as mowed rows and vehicle tracks) would be avoided or minimized.

i) Cultural Treatments

- Bare and disturbed areas would be revegetated as soon as possible.
- Reseeding would be with hand-collected or propagated seed from the park and/or or certified weed free seed.
- The extent of vegetation and ground disturbance associated with construction would be minimized and routine monitoring of these sites would occur following completion of construction (every 1-2 weeks in the first year, and at appropriate intervals in subsequent years depending on the weed and its seed longevity).
- Topsoil would be salvaged and reused where appropriate in construction projects.
- Where fill or topsoil, road gravel, rip-rap, mulch, and any other material used in construction that could contain weed seeds would be imported, these would be from uncontaminated sources or certified weed free.
- Construction limits and clearing areas would be minimized where possible.
- Nonnative plant infestations would be identified and avoided or controlled prior to construction.
- Routine monitoring of and for weed infestations in vulnerable areas (roadsides, trailheads, high use areas or other locations identified as having a high probability of occurrence) would occur.
- Water systems in developed landscapes (irrigated turf) would be maintained to prevent establishment of broadleaf species.

j) Chemical (Pesticide) Treatments

Conformance with Law and Policy

- All federal, state and local regulations regarding pesticide use would be followed at all times.
- Herbicide use would be approved annually in consultation with NPS Regional and/or Washington Office IPM specialists.
- Herbicides would be applied by a certified pesticide applicator (where required by state law) or under the supervision of a certified pesticide applicator (other areas).
- Application of restricted use herbicides would be minimized.
- As required by law, herbicides would be applied in conformance with their label instructions (including dilution – if any, and per directions for the target plants as specified). The active ingredients and formulations approved for use would only be applied for uses, and at application rates, specified on the label directions.
- As required by NPS policy, a copy of the label and MSDS would be kept onsite, whenever an herbicide is used.
- Appropriate neighbor and right-to-know information about pesticide use would be posted and/or disseminated.
- Treatments would follow the *Herbicide Use and Storage Protocol* plans.
- Purchase of herbicides would continue to be limited to the amount that could be used in one year.
- Safety protocols for storing, mixing, transporting, handling spills and disposing of unused pesticides and containers would be followed at all times. Spill response measures would also be followed.
- The “Environmental Hazards” section on the herbicide label would be reviewed, understood and followed. This section warns of known pesticide risks to the environment and provides practical ways to avoid harm to organisms or to the environment.
- Adjacent landowner(s) would be notified prior to treatment.

Limited Effects

- Equipment would be maintained and calibrated prior to each application and droplet size would be minimized.
- As appropriate to protect sensitive resources or areas not currently identified, additional areas could be designated for no or specific pesticide treatments.

- Herbicide treatments would be as target specific as possible, with direct application to the target species, rather than broadcast spraying where possible.
- For questionable effects on park resources that may be posed by pesticide use, EPA Risk Assessments and/or experts would be consulted for questions that cannot be answered by reading the label or MSDS.
- Pesticides would be used under the same conditions identified on the label and/or in the Risk Assessments.
- Pesticide use would take into consideration meteorological factors, including wind speed, wind direction, inversions, humidity, and precipitation, and would only be applied when conditions at the site allow for complete, even coverage with no drift onto non-target areas.
- Pesticide use would take into consideration the presence of nearby sensitive resources.
- Pesticides would be applied at the appropriate time based on the pesticide's mode of action and plant phenology.
- Pesticides with low volatility would be used in areas where there is concern for undesirable movement into areas with sensitive resources.
- Pesticides with longer persistence would be applied at the lower end of the range (if any) specified on the label and/or with less frequency to limit the potential for accumulation in soils.
- As needed to protect the efficacy of the pesticide, water would be buffered, depending on hardness, pH and other factors.
- Measures would be taken to avoid accidental direct spray and spill conditions to reduce the largest potential impacts.
- The recommended application rate, rather than the maximum application rate would be used (if applicable), to reduce potential risk to most species for most herbicides.
- Application areas would be minimized wherever possible.
- No spraying of any herbicide would occur when wind velocity exceeds 10 mph. No aerial application of herbicides would be applied when wind velocities exceed five mph.
- Dyes may be used to obtain uniform coverage. Dyes would help prevent under or over treatment/application and help with detection of drift. It would also reduce the risk of treating non-target species.
- A combination of herbicides may be used when it is determined that this is the most effective way to control multiple weed species, or when a mix of herbicides is more effective. All herbicide combinations would conform to label guidelines for mixing.

Use near water

- Pesticide use would be minimized near water resources (ponds, streams, wetlands, etc.) and would only be used near potable water sources in consultation with Public Health guidelines.
- Application distances near water would adhere to the restrictions printed on the pesticide label.
- Where pesticides were used near water sources, these would be specifically approved for use near water and would have little potential for leaching. For example, the water-formulation of glyphosate, strongly adheres to soil particles and is readily and completely degraded in soil even at low temperatures and does not accumulate in aquatic life (USFS 2004 in NPS 2005:2-53).
- Pesticides applied to areas where surface or groundwater resources are present would be those with the lowest leaching potential.
- Application of pesticides during periods of seasonal precipitation or when irrigation is likely to wash residual pesticides into waterways would be limited.
- Application of pesticides within 50 feet of surface water would be done by hand or with vehicle-mounted ground equipment.
- Where aerial application is used, flights would be designed and scheduled for wind conditions that would minimize drift and would not impact surface waters.
- The Relative Aquifer Variability Evaluation (RAVE) system (Appendix O) would be used as appropriate to evaluate potential risks to groundwater from pesticide use.

- Where appropriate, buffer zones surrounding surface water resources would be established.

Use near visitors

- Pesticides would be applied during times of no visitor use, with visitors kept off of treated areas until the pesticide has dried.
- Pesticide use would take into consideration the presence of nearby visitor use areas.

k) Biological Control Treatments

- Only APHIS and NPS approved biological control agents would be used.
- To increase effectiveness of control, agent releases (particularly for insects) would be used when both the plant and the insect are at the right life cycle stage.
- Insects would only be released when weather and other environmental factors were optimum.
- Where grazing animals are used to target nonnative species, non-target plants would be at an undesirable lifecycle stage for the animals.
- When grazing plants with viable seeds, grazing animals would be given sufficient time in an approved holding pen to pass seeds through digestive system before being moved to uncontaminated areas.
- When considering the use of grazing animals as an effective biological control measure, several factors be taken into consideration including: the target weed species, size of the infestation, other plant species present, palatability of all plant species present, selectivity of plant species by the grazing animal being considered for use as a biological control agent, and the grazing animal's potential to spread weed seed.

l) Prescribed Fire or Flaming Treatments

- Use of prescribed fire or flaming treatments would be in accordance with an approved park Fire Management Plan.
- Nonnative plant treatment objectives would be defined in each prescribed fire plan and fire effects would be monitored to determine if objectives were met.
- Prescribed fire would not be used where species or plant communities would likely respond with an increase in weed species or where sensitive resources were present.
- Prescribed burns would occur when the burn would most likely reduce the population of the target weed.
- Fire would not be used unless the park had resources available to reseed, or use herbicides followed by reseeding if the fire had unintended results (e.g. native plant growth was minimal following fire, or predominantly nonnative species increased following fire).
- Disturbance in areas of known infestations would be limited (NPS FOBU 2005:66).
- When possible, prescribed burns for invasive species management would be limited to monotypic stands of target species that respond negatively to fire or mixed communities where desirable vegetation benefits occurred and target species are negatively impacted.
- Streams, rivers, and ponds would be avoided when applying fire suppressants other than water.
- Prescribed fire would only be used at sites where listed plants or animals are known to benefit from burning. Otherwise, fire would be excluded, either from certain areas or during certain times to prevent damage to listed plant or wildlife species habitat values.

Chapter V: Environmental Consequences Measures (by Resource Topic)

Air Quality

- Because pesticide use requires approval from Regional and/or National IPM Coordinators, pesticides used would continue to be of low toxicity.
- Chain saws would be properly maintained, and would use low-smoke non-petroleum oil.

Additional Measures for Use of Prescribed Fire:

- There would be limits on the number of acres and amount of fuel burned as noted in prescribed fire plans.
- The timing and method of ignition would be selected to limit effects on air quality.
- Burning during optimal fuel moisture conditions would limit effects on air quality.
- Use of prescribed fire would include increased communication, cooperation and coordination with adjacent agencies and landowners to limit the number of fires occurring simultaneously.
- Prescribed fire plans would be developed for each prescribed fire. Appropriate signing would be posted if smoke would affect roadways or designated visitor areas (such as visitor centers or campgrounds) and the appropriate authorities would be contacted regarding other measures to limit smoke or decreased visibility.

Geology / Soils

- Soils would be protected from accelerated or unnatural erosion from and after ground-disturbing activities, especially associated with prescribed fire and removal of nonnative invasive plant cover. For example, post-fire stabilization efforts would protect erosion-prone soils through natural and assisted revegetation.
- Equipment and vehicles would use existing roads and trails to the maximum extent possible.
- OHVs would be transported by trailer where possible and would avoid unnecessary cross-country travel. Where cross-country travel was permitted, existing pathways and routes that would cause little or no damage would be selected.
- Staff and equipment would avoid areas having sensitive soils, soils prone to erosion or compaction, or saturated soils during treatment of invasive plants.

Paleontological Resources

- Areas with potential paleontological resources (Fossil Butte and Hagerman Fossil Beds) would be surveyed prior to nonnative plant treatments to avoid impacts to potentially sensitive resources.
- Surface disturbing activities would be avoided in sensitive areas, such as known paleontological sites unless consultation with a paleontologist indicated that proposed treatment would have no adverse effects.
- Application of herbicides would occur only after investigation determined that these would have no effects on paleontological resources.
- Foot and vehicle traffic would be limited to established roads, trails and vegetated areas where possible to protect vulnerable paleontological resources.
- Consultation with a paleontologist during planning phase of invasive plant management projects at Hagerman Fossil Beds and Fossil Butte would help to determine sensitive areas and acceptable levels of disturbance.
- When practical and possible, areas rich in paleontological resources would be temporarily fenced or avoided during grazing.
- Equipment used for revegetation and restoration projects would be evaluated and selected to be the most effective to accomplish restoration goals while causing the least disturbance to paleontological resources.

Additional Measures for Use of Prescribed Fire:

- Prior to authorizing surface disturbing activities, areas would be surveyed for unique, rare, or special geologic resources, including fossils.
- Severity of fire-related effects would be controlled where possible by controlling the fireline intensity in resource-rich areas at the time of the burn and inventories of previously unsurveyed areas would be conducted before and after the burn.

- Sites in or near the proposed prescribed burn footprint would be protected when practical and without causing damage by various methods, including 'blacklining', treating with fire retardant, and or/ establishing sprinkler systems prior to fire ignition.
- Fire crews would be briefed about working in and protecting paleontological sites.
- Ground disturbance would be avoided during preparation and fire mitigation in paleontological resource areas.
- Prescribed fires, where parks have approved fire management plans for the treatment of invasive plants would be planned and performed in areas suspected or known to contain resources of paleontological value only after consultation with a paleontologist (Fossil Butte and Hagerman Fossil Beds).

Water Resources (including Water Quality and Quantity and Wetlands)

- Equipment used would be inspected daily for fuel, oil, hydraulic fluid and other potential leaks.
- Hazardous spill clean-up materials would be on site during operations.
- No herbicide would be used in areas adjacent to or near water unless it has been approved by the EPA for aquatic application and reviewed and approved by the appropriate regional NPS IPM Coordinator.
- The RAVE (Appendix O) or a similar model would be used by the parks to evaluate the risk of groundwater contamination in areas and with herbicides where leaching is possible.
- If a herbicide is determined through RAVE to have a high potential for groundwater contamination, an alternative treatment method, herbicide or application method would be used.
- Where use of small motorized vehicles occurred to access non-wilderness treatment sites, this access would generally be over established trails and pathways. If crossing of intermittent stream drainages occurred, it would be at right angles to the stream to minimize disturbance and would be done during conditions that would minimize sedimentation.
- Managers would monitor so they are able to recognize areas that repeatedly require reapplication of herbicides. For some weeds, herbicide applications would be ineffective if native plant propagules (seeds or rhizomes) are not present to fill in and suppress the weeds. In such cases, reseeding, or revegetation would be combined with herbicides to reduce or eliminate the need for repeated herbicide applications.
- Herbicides applied near potable water supplies would include the following additional mitigation measures in use at Little Bighorn: 1) Only herbicides that do not leach from the root system to the soil or groundwater would be used. Only herbicides that are specifically approved on their label for use over/on/near public water supply intakes would be considered for use. 2) No herbicides where the label specifically prohibits application over or near public water systems intakes would be used. 3) Application methods that allow herbicide to directly contact the soil would not be used. For example, applying herbicide by foliar spray would be excluded, but cut/stump method, where herbicide is painted on a freshly-cut stump would be allowed. 4) With all herbicide used in the area surrounding potable water intakes, special attention would be given to application procedures and label instructions (which include set-back distances) with regards to public water supply intakes. Required setbacks would be calculated from the edge of the indicated zone.

Vegetation

- In plant communities composed of target and desirable species, prescribed grazing would only be used where a difference in phenology or palatability is sufficient to protect desirable species from damage or when litter removal is the management goal.
- Where possible, weed free supplemental forage would be encouraged or required.
- Mulches or other rehabilitation treatments, including straw bales would come only from approved sources.
- To limit the potential for equipment to spread nonnative plant seeds, treatments would generally be completed before seed becomes viable.

- Herbicide application would be designed to minimize potential impacts to non-target plants (and animals), while remaining consistent with management goals.
- Selection of restoration species would be limited to native species that exist naturally in the region or culturally important species to prevent the accidental introduction of new invasive species. To minimize genetic contamination, propagules would be collected or propagated from the closest sites possible, as long as the collection site remains healthy and resilient to future disturbance. The benefits of local propagule collection would be weighed against the need for prompt revegetation. In many cases it may be more important to prevent establishment of non-desirable species and stabilize soils than to wait for sufficient seed to be collected locally. (For example, a sterile wheat cover crop was used prior to restoration of a treated area at Little Bighorn in 2006.) Planning would be utilized to ensure that appropriate seed is available at the necessary time, and local collections would be prioritized based on available information concerning each species' genetic site-specificity.
- Impacts to water quality from livestock would be minimized by preventing access by livestock to open water or saturated soils.

Wildlife

- Where applicable, a biologist would provide information about the potential presence of sensitive fish or wildlife in the vicinity of project work.
- Work would be conducted during daylight hours.
- No repositioning, removal or disturbance of existing large woody debris embedded in the stream bank or bed would occur. Non-embedded woody debris may be repositioned.
- There would be no use of heavy equipment in water.
- Herbicides used in or near water would only be those specifically formulated and approved for such use.
- Physical disturbance would avoid areas associated with ground-nesting birds and burrows of ground-dwelling mammals, amphibians, reptiles or invertebrates.
- Mitigation could include removal of nesting habitat from areas of project disturbance prior to the nesting seasons (i.e. mowing, clearing). If nests were found during surveys, protection such as moving or delaying project work would occur to allow fledging of birds from nests.
- Herbicide application would be designed to minimize potential impacts to non-target plants and animals, while remaining consistent with management goals.
- Domestic livestock used for prescriptive management of invasive species would be excluded from sites (including access routes) where listed plants are known to occur or during seasons when listed plants are vulnerable to damage, when there is a risk of transmitting diseases to wildlife, and/or during critical times of the year.
- Use of mechanized equipment would be limited to the fewest number of hours needed and to the degree practicable would occur during low wildlife use times (such as mid-day).

Special Status Species

- Herbicide applicators and others involved in nonnative plant treatment would receive training on the identification of rare plants, if present, in parks. If these plants were later found in the field, treatments would be halted until buffer areas could be established or additional consultation with the area authority (park plant ecologist or USFWS) occurred regarding approval for appropriate treatment in the area.
- Buffer zones would be established to protect the habitat of native sensitive plants, if present. Generally, a no-spray zone would be established.
- If special status species were present in a large area to be treated, smaller areas would be treated over time to minimize effects (in consultation with the USFWS or state fish and wildlife agencies).
- Tilling would not occur where known sensitive plants occur or have the potential to occur.

- The most effective treatment, with the least possible effects would be used to treat nonnative invasive plants in endangered species habitat and would require additional environmental analysis and consultation with the USFWS prior to use if candidate or proposed species became listed.
- Generally, hand-pulling or cutting using non-mechanical tools would be used in the vicinity of sensitive plants, unless this method would adversely affect the sensitive species.
- Fires in special status plant habitat would be avoided unless studies show that the species would benefit from fire.
- No biocontrol agents would be intentionally released for use on an invasive plant species of the same family as a threatened, endangered, or rare plant that occurs inside or adjacent to the parks.
- Golden Spike would review Passey onion patches with a botanist, and consider whether treatments of cheatgrass and perennial pepperweed can improve the habitat, and not harm existing Passey onion plants.
- During the planning phase of invasive plant control activities, the NPS would determine whether special-status plant species are present in the area. If special-status species occur in the proximity of invasive plant control activities, botanists would develop site-specific mitigations to ensure no adverse effects on special-status plant species.
- If other federally-listed plants are later discovered in proposed work areas, additional consultation with the USFWS would take place and no control activities would take place until consultation is complete.

Archeological Resources

- During archeological survey, surface or subsurface surveys would be used as necessary to determine the presence or significance of archeological resources.
- If archeological resources were encountered during treatment, if necessary or possible, relocation of the work to a non-sensitive area would occur to enable site testing and documentation. Long-term actions could include reinitiating the project in the same area (upon effective data collection) or changing the method of treatment (if possible). There would be an emphasis on taking actions that would avoid further disturbance to the site.
- Should unknown archeological resources be uncovered during project implementation, work would be halted in the discovery area, the park Cultural Resources Program Manager contacted, the site secured, and the park would consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with this act, the NPS would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the course of the project.
- Where possible, the archeological site would be documented, avoided, and the documentation prepared for a determination of eligibility to the National Register of Historic Places.
- Newly infested sites would be surveyed for the presence of archeological resources and/or confirmation would occur that the site had previously been surveyed prior to treatment. Over time, access routes to treatment areas would also be surveyed.
- The parks would continue to build on their inventory and monitoring program for archeological resources, including conducting surface and subsurface testing as necessary to document the potential for archeological resources or to understand the extent of archeological resources found.
- Prior to the development of Prescribed Fire plans (and subsequent environmental analysis), areas proposed for fires would be surveyed for the presence of archeological resources. Post-burn surveys would also be conducted.
- Ground disturbing activities would not be used in known sensitive archeological resources sites.
- The location and extent of known sensitive archeological resources would be considered in the decision to use wildland or prescribed fire.

- Inclusion of park archeologist, historians and other resource specialists (as applicable) would occur in the multidisciplinary planning and suppression process. The archeologist would also accompany crews to assist in identification of a fire line route that would avoid damage to known resources in sensitive areas.
- Reconnaissance surveys would be conducted after prescribed fires to locate potential artifacts or archeological resources and landscape features like historic rifle pits (Bear Paw, Little Bighorn, and Big Hole).
- There would be no fire line construction in the vicinity of known archeological resources.
- There would be increased law enforcement patrols in known archeological sites following fires that removed surface vegetation formerly obscuring sites.

Historic Structures / Cultural Landscapes

Measures would be the same as those noted in Chapter III: *Alternatives* and in the individual sections for vegetation and archeological resources (above).

Visitor Experience

- Use of mechanized equipment would be limited to the fewest number of hours needed and to the degree practicable would occur during low visitor use times (weekdays) or seasons (late summer through fall) or before or after primary visitor use times to reduce impacts to park visitors.
- Parks would disseminate information about the reasons for control projects and the use of loud equipment such as OHVs, aircraft or chainsaws to the public and staff.
- Dyes would not be used near historic or interpretive structures or grave markers to maximize visitor enjoyment and photo opportunities and out of respect (Bear Paw, Big Hole, and Little Bighorn).

Grazing and Livestock Trailing

- Temporary and existing permanent fencing or herding would be used to ensure that grazing does not occur in areas where it is not intended to occur.
- Where livestock are used by visitors in the park, to prevent the unintentional introduction of weed species through feces, livestock would be quarantined and/or fed a weed-free diet before entering uncontaminated areas or would stay in designated corrals. Required quarantine periods could be longer depending on prior location of the animals, invasive species present in that area, biology of weed seeds and length of time required for animals to pass them, or (if applicable) at the request of the allotment permittees. They would be inspected for weed seed attached to fur and cleaned.
- Domestic livestock used for prescriptive management of invasive species would be excluded from sites (including access routes) where special status plants are known to occur or during seasons when listed plants are vulnerable to damage or where there is a risk of transmitting diseases to wildlife or during critical times of the year.
- Impacts to water quality from livestock would be minimized by preventing unlimited access by livestock to open water or saturated soils.
- Herbicide use would need to continue to be coordinated with grazing permittees (where applicable) and/or with trailing activities to ensure that these could be conducted at times that did not interfere with the grazing / trailing.
- Herbicide use would be in accordance to label requirements for grazing restrictions.
- Manual/mechanical treatments would occur in ways that would not ‘spook’ livestock, causing unsafe conditions.

Human Health and Safety / Hazardous Materials

- Areas treated with herbicides would be closed to visitor use during the formal “no entry” period specified on the label or until dry.

- Weather predictions would be consulted prior to using herbicides to minimize the potential for herbicide drift and to ensure its effectiveness and application according to label temperature, precipitation and wind conditions.
- Herbicides would not be applied to areas with excessive dew to ensure effectiveness.
- Irrigation of treated areas would occur according to the label.
- Small equipment and containers like backpack sprayers and herbicide jugs containing herbicide would not be left unattended in visitor use or housing areas to prevent theft and tampering or accidental exposure.
- Herbicides would continue to be labeled and stored according to manufacturer's recommendations and NPS policies.
- Because herbicide use requires approval from Regional and/or National IPM Coordinators, herbicides used would continue to be of low toxicity with few human and wildlife health hazards.

Wilderness

- Craters of the Moon would use Minimum Requirement / Minimum Tool analysis to determine whether to and how to treat nonnative invasive plants in wilderness.
- Craters of the Moon would minimize the number of trips, noise and activity, and duration of nonnative invasive plant treatment in wilderness.
- A minimum tool analysis would be conducted to determine the least intrusive tool, equipment, device, force, or practice that would achieve both wilderness and invasive weed management objectives.
- Wilderness study areas would continue to be treated as wilderness for ongoing and proposed invasive plant management activities.
- Efforts would be made to minimize the number and duration of trips and reduce the visibility of IPM activities.
- Whenever possible, invasive plant management activities in wilderness would be timed to avoid peak visitor use periods.
- Invasive plant populations must be a potential threat to wilderness character and resources, before program managers would consider herbicide use.
- Herbicide use must meet the conditions of the wilderness Minimum Requirements analysis.

Park Operations

- Where possible, projects would be combined to maximize cost-effectiveness.