

Appendix N: Craters of the Moon National Monument and Preserve Minimum Requirement Analysis



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MINIMUM REQUIREMENTS DECISION GUIDE

WORKSHEETS

“ . . . except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...”

– the Wilderness Act, 1964

Step 1: Determine if any administrative action is necessary.

Description: Briefly describe the situation that may prompt action.

Several Idaho state listed noxious weeds have been located across southern portions of Craters of the Moon National Monument and Preserve along the southern edges of the Wapi Lava Field and Great Rift WSA. These weeds were likely introduced by a combination of on-road and illegal off-road recreational travel as well as use of the railroad immediately south of the park boundary. Several of these plants have spread aggressively in areas to the south and they appear to be particularly suited for the rocky lava flows of this area.

To determine if administrative action is necessary, answer the questions listed in A - F on the following pages.

A. Describe Options Outside of Wilderness

Is action necessary within wilderness?

Yes: No:

Explain:

- *Control or containment activities outside this wilderness study area (WSA) are important, but will not be sufficient. Infestations have entered the WSA and are spreading further north into the WSA each year. The area inside the WSA must be treated in order to have any effect on spread of these noxious weeds.*

B. Describe Valid Existing Rights or Special Provisions of Wilderness Legislation

Are there valid existing rights or is there a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of action involving Section 4(c) uses? Cite law and section.

Yes: No: Not Applicable:

Explain: *The WSA has been recommended for wilderness designation but no legislative action has been taken.*

There are no special provisions that apply in The Wilderness Act (1964).

Section 4 (c) Prohibition of certain uses

"...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."

C. Describe Requirements of Other Legislation

Do other laws require action?

Yes: No: Not Applicable:

Explain:

The Noxious Weeds Act of 1974 provides for the control and management of nonindigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.

Executive Order 13112 (1999) on Invasive Species requires all federal agencies to:

- ✓ *identify actions that may affect the status of invasive species,*
- ✓ *prevent the introduction of invasive species,*
- ✓ *detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner,*
- ✓ *monitor invasive species populations accurately and reliably,*
- ✓ *provide for restoration of native species and habitat conditions in ecosystems that have been invaded,*
- ✓ *conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and*
- ✓ *promote public education on invasive species and the means to address them.*

Title 22 of the Idaho code, section 22-2407 states:

“LANDOWNER AND CITIZEN DUTIES. (1) It shall be the duty and responsibility of all landowners to control noxious weeds on their land and property, in accordance with this chapter and with rules and regulations promulgated by the director.

D. Describe Other Guidance

Does taking action conform to and implement relevant standards and guidelines and direction contained in agency policy, unit and wilderness management plans, species recovery plans, tribal

Yes: **No:** **Not Applicable:**

Explain:

NPS Management Policies 4.4.4 (2006):

Exotic species will not be allowed to displace native species if displacement can be prevented.

NPS Management Policies 4.4.4.2 (2006):

All exotic plant and animal species that are not maintained to meet an identified park purpose will be managed . . . if control is prudent and feasible, and the exotic species interferes with natural processes and the perpetuation of natural features, native species or natural habitats

High priority will be given to managing exotic species that have, or potentially could have, a substantial impact on park resources, and that can reasonably be expected to be successfully controlled. Lower priority will be given to exotic species that have almost no impact on park resources or that probably cannot be successfully controlled. Where an exotic species cannot be successfully eliminated, managers will seek to contain the exotic species to prevent further spread or resource damage.

Director's Order 41: Wilderness Management Guideline: This guideline provides additional detail about NPS wilderness management policies not found in NPS Management Policies.

Presidential Proclamation 7373 transferred portions of Wilderness Study Areas to the National Park Service (Craters of the Moon NM&P) in 2000. Wilderness Study Areas included in the Monument will continue to be managed under Section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S. Code 17011782). Section 603(c) requires that Wilderness Study Areas be managed to maintain their suitability for wilderness designation and prevent unnecessary or undue degradation.

As stated in the Monument Management Plan (MMP) for Craters of the Moon National Monument and Preserve (2007), one of the purposes of the area is to maintain the wilderness character of the Craters of the Moon Wilderness Area and of the Wilderness Study Areas. Invasive plants threaten the ecological integrity of the natural environment, a key resource for this unit of the National Park system.

Important desired future conditions defined in the MMP include:

- Natural ecological processes are the dominant factor in determining the composition and distribution of plant communities in the Preserve and Wilderness areas.*
- Preventing or limiting the spread of noxious weeds using integrated weed management perpetuates the natural condition and biodiversity of the planning area.*
- The areas dominated by invasive annual species (cheatgrass and other similar plants) are minimized.*
- Kipukas in the Pristine Zone are free of noxious weeds. [Pristine Zone is equal to wilderness areas for this minimum requirements analysis and kipukas are defined as isolated areas free of*

recent lava flows and represent some of the last undisturbed vegetation communities on the Snake River Plain].

Appropriate management actions in the MMP listed to achieve these conditions include:

- Weed infestations in wilderness areas will be controlled by methods consistent with minimum tool requirements and integrated weed management principles including prevention of disturbance activities, use of cultural and mechanical methods to control or physically remove noxious weeds, and selective application of herbicides and possibly biological controls (VEG-13).
- Integrated weed management principles will be applied proactively throughout all zones. This program will emphasize protection of weed-free areas and aggressive detection and control of noxious or highly invasive exotic weeds and will include an analysis of the trade-offs involved in herbicide use versus non-chemical methods of weed control (VEG-14).

E. Wilderness Character

Is action necessary to preserve one or more of the qualities of wilderness character including: untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation, or unique components that reflect the character of this wilderness area?

Untrammeled: **Yes:** **No:**

Explain: *Whether any action is taken or not, the untrammeled quality of this wilderness area is threatened. The spread of noxious weeds in the wilderness area is partly caused or enhanced by human actions (seed introduction, spread along trails, etc.), so to allow it to continue spreading would be a direct sign of human influence. But, to interfere in some way to "fix" the problem would be a manipulation of the natural processes and would impede on the untrammeled quality of wilderness as well.*

Undeveloped: **Yes:** **No:**

Explain: *No management action is necessary that would affect the undeveloped nature of the wilderness area.*

Natural: **Yes:** **No:**

Explain: *The presence of these non-native, noxious weeds interfere with the natural conditions of the wilderness resource.*

Outstanding opportunities for solitude or a primitive and unconfined type of recreation:

Yes: **No:**

Explain: *The wilderness recreation experience is in part dependent on the wilderness setting representing a natural and native ecosystem. If these weeds are allowed to continue their spread and replacement of native vegetation, the human experience in wilderness will be affected. The effects include changes in vegetation type and type and abundance of wildlife that depend on the natural conditions.*

Other unique components that reflect the character of this wilderness:

Yes: **No:** **Not Applicable:**

Explain: *None identified for this area.*

F. Describe Effects to the Public Purposes of Wilderness

Is it necessary to take administrative action in support of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act) of recreation, scenic, scientific, education, conservation, and historical use?

Recreation: **Yes:** **No:** **Not Applicable:**

Explain: *It can be argued that the presence and spread of noxious weeds in wilderness will degrade the quality of the recreation experience in wilderness as native species are replaced. This may happen due to the changes in vegetation and effects on scenery, habitat, and hunting potential.*

Scenic: **Yes:** **No:** **Not Applicable:**

Explain: *Noxious weeds have the potential to lower the scenic quality of an area as they alter the makeup of the plant communities they invade.*

Scientific: **Yes:** **No:** **Not Applicable:**

Explain: *The scientific value of this wilderness area will decline as these noxious weeds crowd out native species and affect wildlife habitat. These areas are no longer considered intact benchmark plant communities worthy of comparison to disturbed sites.*

Education: **Yes:** **No:** **Not Applicable:**

Explain: *The educational value of this wilderness area will not change considerably.*

Conservation: **Yes:** **No:** **Not Applicable:**

Explain: *Noxious weeds tend to interfere with the proliferation of native species and they degrade habitats of native wildlife species.*

Historical use: **Yes:** **No:** **Not Applicable:**

Explain: *The historical interpretation of this wilderness area will not change considerably.*

Step 1 Decision: Is any administrative action necessary?

Yes: **No:** **More information needed:**

Explain:

Without control, the infestation is almost certain to spread and grow many times larger. As a result, the infestation may never be contained and a permanent conversion of vegetation type may occur. Even though the original introduction of these weeds to the wilderness is the result of human influences, it can be argued that this is part of the natural process and the wilderness should be left to evolve on its' own.

On the other hand, the argument is that if it is possible to effectively treat an infestation and

either confine or eradicate it, the wilderness resource will be better off without this unnatural influence. In this case, confinement to the existing areas is critical and essential if eradication is ever going to be possible. Spread beyond the existing areas would threaten the remainder of the wilderness, and movement beyond the wilderness could go into adjacent non-infested agricultural and federal lands.

The existing infestations are still relatively small and containable and the spread vectors are known and can be managed. Threats to adjacent lands are significant. Because these weeds are not native but can be controlled the decision is to take action by „trammeling’ the wilderness to protect the natural quality of its’ wilderness character.

If action is necessary, proceed to Step 2 to determine the minimum activity.

Step 2: Determine the minimum activity.

Description of Alternatives

For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.

Actions common to all alternatives:

Outreach: Staff will educate and inform the park’s wilderness visitors and adjacent landowners to prevent the further introduction and spread of these noxious weeds.

Early Detection and Monitoring: Staff will detect new infestations, map weed spread, and monitor weed treatment effectiveness.

Mitigation: Staff will implement prevention measures to ensure that treatment activities will not adversely affect native vegetation.

Safety: Staff will wear required personal protective equipment and implement all required safety procedures.

Alternative # 1

Description: *Hand-pulling*

This alternative would use hand-pulling as the only treatment method. Shovels would be used when necessary. No mechanical transport, aircraft, or herbicides would be used. Initial focus would be on extremely remote sites in order to contain each weed.

Effects:

Wilderness Character

“Untrammeled” – *This treatment reduces the untrammeled quality of wilderness because it involves human control and manipulation of the wilderness resource.*

“Undeveloped” – *There is no effect on the undeveloped quality of wilderness character.*

“Natural” – *Effective weed treatment would enhance the natural quality by allowing native vegetation to recover and reducing the influence of non-native species on all components of the wilderness resource.*

“Outstanding opportunities for solitude or a primitive and unconfined type of recreation”

– In the short term, the presence of treatment crews may adversely affect the wilderness experience of those in the area, though far less than other alternatives that include use of additional control methods. In the long term, the recovery of native vegetation will serve to enhance the wilderness recreation experience.

Heritage and Cultural Resources – None identified.

Special Provisions – None.

Safety of Visitors, Personnel, and Contractors - *There is a risk to crews from working with tools and from travelling over rugged terrain. The risk is significantly higher in respect to terrain hazards. Foot travel across lava fields is extremely difficult. The risk is lower in respect to equipment use and chemical exposure than alternatives that involve use of mechanized equipment or transport or herbicides. Effects on visitors can be minimized by making the areas and times of treatment known.*

Economic and Time Constraints – *Implementing the treatment using only traditional non-motorized skills and tools will increase the project time needed but may be more cost effective than alternatives that include motorized equipment (i.e. helicopters). Hand-pulling alone is less effective than herbicides particularly with those weeds that show preference for rocky lava cracks. Hand-pulling will require repeated treatments in one year.*

Additional Wilderness-specific Comparison Criteria – None identified.

Alternative # 2

Description: *Herbicide Use and Hand-pulling*

Herbicide spraying by horseback would occur in the spring once staging areas are dry and accessible. This activity would occur on wilderness boundaries only where horses can safely reach. Herbicide applications by backpack sprayer would be applied on foot in late spring and early fall. Hand-pulling would be used where and when it can be effective. Shovels would be used when necessary (rocky conditions hamper ability to pull out roots).

Effects:

Wilderness Character

“Untrammeled” – *This treatment reduces the untrammeled quality of wilderness because it involves human control and manipulation of the wilderness resource.*

“Undeveloped” – *There is no effect on the undeveloped quality of wilderness character.*

“Natural” – *Effective weed treatment would enhance the natural quality by allowing native vegetation to recover and reducing the influence of non-native species on all components of the wilderness resource.*

“Outstanding opportunities for solitude or a primitive and unconfined type of recreation”

– In the short term, the presence of treatment crews may adversely affect the wilderness experience of those in the area, though far less than other alternatives that include use of additional control methods. In the long term, the recovery of native vegetation will serve to enhance the wilderness recreation experience.

Heritage and Cultural Resources – None identified.

Special Provisions – None.

Safety of Visitors, Personnel, and Contractors - *There is a risk to crews from working with tools, herbicides, and from travelling over rugged terrain. The risk may be less than with alternatives that involve use of motorized equipment (i.e. all terrain vehicles or helicopters). Effects on visitors can be minimized by making the areas and time and span of treatment known.*

Economic and Time Constraints – *Implementing the treatment using only traditional non-motorized skills and tools will increase the project time needed but may be more cost effective than alternatives that include motorized equipment (i.e. helicopters). Herbicide applications, though more effective than hand-pulling, will require large amounts of water and other supplies, PPE, etc.*

Additional Wilderness-specific Comparison Criteria – *None identified.*

Alternative # 3

Description: *Herbicide Use, Hand-pulling, and Pack Stock and Helicopter Use*

Herbicide spraying by horseback would occur in the spring once nearby staging areas are dry and accessible. This activity would occur on wilderness boundaries only where horses can safely reach. Herbicide applications by backpack sprayer would be applied on foot in late spring and early fall. Hand-pulling would be used where and when it can be effective. Shovels would be used when necessary. Non-mechanical ground transport methods (foot and pack stock) would be used to move water, herbicide, people, and other supplies to treatment areas in the spring and fall. Helicopters would be used in the mid to late spring to grid survey and land and treat remote sites that are practically inaccessible on foot.

Effects:

Wilderness Character

“Untrammeled” – *This treatment reduces the untrammeled quality of wilderness because it involves human control and manipulation of the wilderness resource.*

“Undeveloped” – *There is no effect on the undeveloped quality of wilderness character.*

“Natural” – *Effective weed treatment would enhance the natural quality by allowing native vegetation to recover and reducing the influence of non-native species on all components of the wilderness resource.*

“Outstanding opportunities for solitude or a primitive and unconfined type of recreation”
– *In the short term, the presence of treatment crews may adversely affect the wilderness experience of those in the area. In the long term, the recovery of native vegetation will serve to enhance the wilderness recreation experience.*

Heritage and Cultural Resources – *None identified.*

Special Provisions – *None.*

Safety of Visitors, Personnel, and Contractors - *There is a risk to crews from working with tools, pack stock, helicopters, and from travelling over rugged terrain. Travel risks will be less than with alternatives that involve the carrying of water and supplies on foot. Effects on visitors can be minimized by making the areas and times and span of treatment known.*

Economic and Time Constraints – *Implementing herbicide treatments supported by pack stock and helicopters will greatly reduce the project time needed but may be more costly than alternatives that are limited to traditional non-motorized skills and tools.*

Additional Wilderness-specific Comparison Criteria – *None identified.*

Comparison of Alternatives

It may be useful to compare each alternative's positive and negative effects to each of the criteria in tabular form, keeping in mind the law's mandate to "preserve wilderness character."

	Alternative 1	Alternative 2	Alternative 3	No Action
Untrammelled	-	-	-	-
Undeveloped	no effect	no effect	no effect	no effect
Natural	+	+	+	-
Solitude or Primitive Recreation	-	--	---	-
Unique components	no effect	no effect	no effect	no effect
WILDERNESS CHARACTER				

	Alternative A	Alternative B	Alternative C	No Action
Heritage & Cultural Resources	no effect	no effect	no effect	no effect
Maintaining Traditional Skills	+++	++	+	no effect
Special Provisions	no effect	no effect	no effect	no effect
Economics & Time	---	--	-	no effect
Additional Wilderness Criteria	no effect	no effect	no effect	no effect
OTHER CRITERIA SUMMARY				

	Alternative A	Alternative B	Alternative C	No Action
SAFETY	-	-	-	no effect

Safety Criterion

If safety issues override impacts to wilderness character or other criteria, provide documentation that the use of motorized equipment or other prohibited uses is necessary because to do otherwise would cause increased risks to workers or visitors that cannot be satisfactorily mitigated through training, use of personal protective equipment (PPE), or other requirements to alleviate the safety risk. (This documentation can take the form of agency accident-rate data tracking occurrences and severity; a project-specific job hazard analysis; research literature; or other specific agency guidelines.)

Documentation:

The use of helicopters is necessary in this wilderness area because there is too high a risk to workers associated with the alternatives that cannot be satisfactorily mitigated. Physical limitations of carrying and applying herbicides and supplies long distances over lava fields are too great to overcome. Distances are great but more importantly, the terrain is far too challenging. The entire area is covered with loose foot holds and jagged rocks; falling and tripping hazards are a significant concern even without gear.

Since BLM provide aviation support to NPS for these operations, BLM aviation safety plans for these operations can be amended to this document.

Step 2 Decision: What is the Minimum Activity?

The selected alternative is: **Alternative # 3**

Herbicide spraying by horseback would occur in the spring once nearby staging areas are dry and accessible. This activity would occur on wilderness boundaries only where horses can safely reach. Herbicide applications by backpack sprayer would be applied on foot in late spring and early fall. Hand-pulling would be used where and when it can be effective. Shovels would be used when necessary. Non-mechanical transport methods (foot and pack stock) would be used to move water, herbicide, people, and other supplies to treatment areas in the spring and fall. Helicopters would be used in the mid to late spring to grid survey and land and treat remote sites that are practically inaccessible on foot.

When possible, high use periods of recreation will be avoided and only weekday operation will be considered. Helicopter use will be limited to 1-2 work days to reduce recreational impacts and ground disturbance. Helicopter operators and surveyors will be trained and certified. Pack stock operators will not be allowed to provide supplemental feed to their stock in wilderness areas except in emergencies.

Adjacent land owners and local county weed management agencies will be contacted to keep them informed and assist with weed management activities. An effective public information and education program will be promoted to increase prevention efforts. Helicopter and ground survey efforts will continue to detect noxious weeds early.

Describe the rationale for selecting this alternative:

This alternative provides effective control with minimum use of herbicides and a helicopter and practical use of non-mechanical ground transport methods.

- Manual treatments to control invasive species are known to be unsuccessful for eradication without the use of herbicides. Despite repeated efforts, reliance exclusively on hand-pulling as the primary treatment method has slowed the spread but has not totally kept noxious weeds from spreading. While hand-pulling of knapweed can be effective with repeated treatments, hand-pulling of dyers woad is not an effective eradication measure because the species has a taproot which can extend up to 3 feet into the ground. Hand-pulling often results in breaking off the taproot only a few inches underground particularly in rocky lava terrain of Craters of the Moon NM&P. Therefore, some form of herbicide use is needed for effective control of most noxious weeds under consideration.*
- Use of herbicide on park lands to the north, in conjunction with hand-pulling, has been successful at containing many noxious weeds when spraying is conducted for a minimum of three to five consecutive years.*
- Limited transport of water on foot has been attempted across lava fields of Craters of the Moon National Monument and Preserve and it has been found extremely impractical. Hiking distances are typically 2-3 miles in one direction and it is likely that several large water caches will be necessary to effectively treat all noxious weed locations. Carrying 40 additional pounds of water and supplies on foot any distance greatly increases the potential for personal injury.*
- Public input from the local county governments and adjacent landowners is entirely in favor of aggressive weed treatment using herbicides in wilderness.*

Describe any monitoring and reporting requirements:

Monitoring of treatments will be conducted in all areas to determine effectiveness and minimize future treatments.

Pesticide requests and uses will be documented in the NPS Pesticide Use Proposal System.

Pesticide use logs will be populated for daily herbicide uses.

Please check any Wilderness Act Section 4(c) uses approved in this alternative:

- | | |
|---|---|
| <input type="checkbox"/> mechanical transport | <input checked="" type="checkbox"/> landing of aircraft |
| <input type="checkbox"/> motorized equipment | <input type="checkbox"/> temporary road |
| <input type="checkbox"/> motor vehicles | <input type="checkbox"/> structure or installation |
| <input type="checkbox"/> motorboats | |

Be sure to record and report any authorizations of Wilderness Act Section 4(c) uses according to agency procedures.

<i>Approvals</i>	Signature	Name	Position	Date
Prepared by:				
Recommended:				
Recommended:				
Approved:				