

Supplement to Minimum Requirements Analysis/Decision Guide (MRA/MRDG): Evaluating Proposals for Ecological Intervention in Wilderness

Beth Hahn and Peter Landres, Aldo Leopold Wilderness Research Institute

November 2017

INTRODUCTION

This supplement provides support to agency staff in completing an MRA or MRDG for proposals that involve ecological intervention in wilderness, including projects motivated by the preservation of cultural resources. This supplement is needed because ecological intervention proposals commonly entail complex legal, scientific, and ethical questions that may be beyond the realm of a typical MRA or MRDG (see the appendix for discussion of this context). This supplement helps staff ask these questions early in the proposal evaluation process.

Typically, this supplement would be used *prior* to the MRA or MRDG to ensure that the proposal contains all the information that would be needed to evaluate it; used in this way, it may also identify issues that need to be clarified or resolved before moving forward with the MRA or MRDG and other required analyses. However, proposals may be in various stages of development, review, and evaluation under different administrative or legal processes, and this supplement may be similarly useful in these situations. Completion of this supplement may also be useful in developing the administrative record for the proposed project.

Purpose

There are two primary purposes of this supplement. The first is to improve communication across different resource disciplines within the agency, as well as between the land managing agency and other federal and state agencies, universities, and non-governmental organizations. Improved communication is critical because wilderness is a unique resource managed under a unique law and a unique set of legal constraints. Proponents for the proposed action, from either inside the agency or outside it, may not be aware of this uniqueness and that a different set of standards exist, and a higher burden of proof is required, for actions to occur in wilderness compared to other lands. This supplement is not biased either for or against proposed ecological interventions in wilderness. Instead, its purpose is to ensure that sufficient information about a proposal has been provided so the proposal can then be advanced to the MRA or MRDG process.

The second purpose of this supplement is to ensure that a consistent, structured, and comprehensive set of questions guide the evaluation of proposals for ecological intervention in wilderness. These questions are intended to be a decision support tool that helps ensure the appropriate information is available to the decision maker. The decision maker is not constrained by this supplement because there are additional issues and concerns that must be considered in any decision. Furthermore, use of this supplement does not guarantee consistent decisions for or against ecological interventions across the NWPS. The decision on each proposed intervention could be that it is approved, needs to be evaluated again after minor or major revisions, or denied. The ultimate purpose of this supplement is to cultivate thoughtful

discussion and communication between proponents and agency staff who are evaluating the proposal that leads to a transparent and informed decision.

Audience

This supplement is intended for two audiences: the proponent(s) for ecological intervention in wilderness and the agency staff who are charged with reviewing and evaluating this proposal. The proponents could be either inside or outside the federal land managing agency, but will likely be agency natural resources staff. To ensure clear communication, agencies can make this supplement readily available to proponents to inform them about the information that will be needed in their proposal and how their proposal will be evaluated. Proponents have the responsibility to address all the issues raised in this supplement in a clear and direct way. An interdisciplinary team of agency wilderness and resource specialists then have the responsibility to review the proposal to see if it clearly and accurately addresses all the issues raised in this supplement.

Scope

This supplement applies only to congressionally designated wilderness and wilderness study areas, and areas that by agency policy are managed as wilderness to preserve their wilderness character¹. This supplement is not intended to evaluate ecological interventions that occur outside wilderness. However, if interventions outside a wilderness intend to affect a wilderness—such as introducing a species just outside a wilderness knowing there is good habitat for the species in the wilderness, or reducing predator populations outside the wilderness knowing that this action will affect predator-prey dynamics in the wilderness—then this action should be evaluated using this supplement.

This supplement applies to project-level ecological interventions that occur over a large area, have an effect over a long time, or require intensive actions to implement. All three qualifications (area, time, intensity) are relative. While there are obvious distinctions between small and large interventions, such as hand-pulling a small patch of nonindigenous plants that occur next to a trail compared to aerial spraying over many acres, or revegetating a campsite compared to revegetating a large meadow, there will be cases that are in the middle. In these middle cases, agency staff will need to determine on a case-by-case basis if this supplement would be appropriate to help evaluate the proposed action. In addition, the supplement does not address the operational resources needed to implement a proposed intervention or monitor its effectiveness because this is a standard part of evaluating any proposed activity.

¹ As defined in the interagency monitoring protocol, wilderness character is a holistic concept based on the interaction of (1) biophysical environments primarily free from modern human manipulation and impact, (2) personal experiences in natural environments relatively free from the encumbrances and signs of modern society, and (3) symbolic meanings of humility, restraint, and interdependence that inspire human connection with nature. The interagency protocol for monitoring wilderness character identifies five tangible qualities of wilderness character: untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation, and other features of value. Keeping It Wild 2 (2015) <http://www.wilderness.net/character>

Last, this supplement was designed to complement, not replace, the MRA or MRDG that is used to evaluate the myriad other permitted actions that occur in wilderness that may degrade wilderness character. This supplement does not provide programmatic or policy direction and is not a substitute for a lack of agency policy on ecological interventions in wilderness.

Organization

This supplement is composed of three tables, each asking a fundamentally different question related to a proposed ecological intervention. Table A focuses on the ecological background and context for the proposed intervention, Table B focuses on the wilderness aspects of the proposed intervention, and Table C focuses on the legal and administrative aspects of the proposed intervention. Each table is framed as an overarching question that is then divided into distinct key numbered questions. Each numbered question includes a set of lettered topics that raise specific questions that should be considered in answering the numbered question. The “Response:” section under each numbered question provides a place for agency reviewers to describe whether the proposal adequately addresses the question and any shortcomings that warrant further discussion with the project proponent.

<p>A. What is the ecological degradation and what is the proposed ecological intervention? <i>The four questions in this section help ensure that the full range of scientific evidence is presented for the proposed intervention. These questions expand on what is typically provided in the “Description of the Situation” of the MRA or MRDG to account for the complex ecological factors that should be considered in any proposed intervention.</i></p>
<p>1. Does the proposal describe the background and context for the ecological degradation and the proposed intervention, and the strength and certainty of this understanding? Consider:</p> <ul style="list-style-type: none"> a. <i>Historic Background²</i>: Are the ecological conditions within the range of historic variation for this system and this wilderness? What is the historic context for human alteration of this landscape (e.g., human actions and/or legacy land use impacts)? What is the historic distribution and rate of spread of the degradation and the resulting ecological threats and risks? b. <i>Current Status</i>: What is the current status of the ecological degradation? What is the current distribution and rate of spread of the degradation and the known or potential ecological threats and risks? Is the source of the degradation local to the wilderness, or is the source of the degradation regional or global? Are current human actions preventing natural ecological recovery? Is there an urgent ecological need for the intervention to occur now? c. <i>Climate Change</i>: Is the ecological degradation caused by climate change? Will climate-driven ecological changes likely lead to an irreversible ecological degradation? Is the intervention intended to adapt to or otherwise respond to the effects of climate change? d. <i>Intervention Goals</i>: Is the intervention intended to restore to historic conditions, maintain current conditions, or facilitate adaptation to new conditions? <p>Response:</p>
<p>2. Does the proposal describe the likely ecological effects of not intervening compared to intervening? Consider:</p>

² Historic background and context covers the period from the time of European settlement until wilderness designation, and includes indigenous land use practices such as using fire to manipulate ecosystem conditions, and the harvesting of fish, wildlife, and plants.

- a. *Not Intervening*: What are the likely direct and cascading ecological effects of not intervening, for example on species composition, species distribution and abundance, predator-prey relations, disturbance processes, and other effects that cascade throughout the ecological system and surrounding landscape?
- b. *Intervening*: What are the likely direct and cascading ecological effects of the intervention, for example on species composition, species distribution and abundance, predator-prey relations, disturbance processes, and other effects that cascade throughout the ecological system and surrounding landscape?

Response:

3. Does the proposal describe the scope and scale of the intervention? Consider:
- a. *Scope*: What is the proposed intervention activity? Will more than one type of activity be needed to achieve the intended short- and long-term outcome(s)?
 - b. *Spatial Scale*: Where will the intervention be implemented, and are effects intended outside of the intervention area?
 - c. *Temporal Scale*: When will the intervention be implemented? How often will the intervention be implemented, and for how long? What is the expected duration of intended outcome(s) of the intervention?

Response:

4. Does the proposal describe the likelihood of accomplishing the stated objectives and specific plans to address uncertainties? Consider:
- a. *Previous Experience*: Has this type of intervention has been successful elsewhere, and if so, how well do those results apply to this proposal? Have other actions been taken previously to try to improve the ecological degradation, and if so, what did they accomplish?
 - b. *Monitoring*: Will monitoring be conducted to assess the ecological effectiveness of the intervention?³
 - c. *Evaluation Thresholds*: For long-term or repeat interventions, have thresholds been established to trigger re-evaluating the appropriateness of the ecological intervention?

Response:

B. How does the proposed intervention affect wilderness character?

The three questions in this section help ensure that wilderness-specific criteria, including stakeholder values, are considered in the proposed intervention. These questions expand on what is typically provided in the “Options Outside of Wilderness” and “Wilderness Character” sections of the MRA or MRDG to account for the complex wilderness factors that should be considered in any proposed intervention.

1. Does the proposal describe why the intervention needs to occur in this wilderness and now? Consider:
- a. *Outside Options*: Does the intervention need to occur inside this wilderness, or are surrounding non-wilderness lands and waters suitable for the intervention (e.g., other types of federal protected areas, state/local public lands, or private lands)? If the intervention takes place outside the wilderness, is it expected or likely that there will be an effect inside the wilderness? Is the proposed intervention experimental or a well-established practice that has been conducted previously inside wilderness?

³ If monitoring will not be conducted, provide rationale (e.g., for some actions, there may be sufficient evidence about intervention outcomes to suggest that monitoring is unnecessary).

- b. *Urgency*: Is there an urgent need for intervention to preserve wilderness character?
- c. *Restraint*: Has the legal obligation to preserve the untrammelled quality of wilderness character been considered in the proposed intervention? Is the intervention being proposed to “right a past wrong,” that is, to address a ecological degradation that was caused by prior modern human actions?

Response:

2. Does the proposal describe the potential effects—positive, negative, or neutral—of the intervention on wilderness character, including the strength of evidence for these effects? Consider:
- a. *Prohibited Activities*: Does the intervention propose activities prohibited by Section 4(c) of the Wilderness Act? If so, specify the prohibited activities.
 - b. *Short- and Long-Term Effects*: What are the short-term and potential long-term effects of the intervention on each quality of wilderness character?
 - c. *Cumulative Effects*: What are the likely cumulative effects⁴ of the proposed intervention on all the qualities of wilderness character, when the effects of the intervention are combined with the effects of other administrative, scientific, commercial, and visitor activities?
 - d. *Monitoring*: Will monitoring be conducted to evaluate the effects of the intervention on wilderness character, as well as effects of the monitoring itself on wilderness character?

Response:

3. Does the proposal describe the likely range of tribal and stakeholder wilderness values, and tradeoffs in the qualities of wilderness character, which may be affected by the proposed intervention? Consider:
- a. *Tribes*: Are Native American values and traditional ecological knowledge relevant to the proposed intervention? If relevant, have the tribes been consulted?
 - b. *Stakeholders*: Who are the likely stakeholders (e.g., wilderness advocates, outfitter and guides, state wildlife agencies), and what are their likely range of views on the proposed intervention? What is the basis for understanding the wilderness values of different stakeholders, ranging from general impression, informal discussion, formal discussion, to scientific research?
 - c. *Tradeoffs*: What are the tradeoffs in the effects of the intervention on the qualities of wilderness character, including rare or valued aspects of wilderness character? Are there tradeoffs between natural and cultural resources?

Response:

C. What are the legal and administrative considerations that apply to the proposed intervention?

The two questions in this section help ensure that relevant legal and administrative requirements and guidance (laws, regulations, policies, planning documents, other agency strategies, and case law) are considered in the proposed intervention. These questions expand on what is typically provided in the “Valid Existing Rights or Special Provisions of Wilderness Legislation” and “Requirements of Other Legislation” sections of the MRA or MRDG to account for the legal and administrative nuances of proposed interventions.

⁴ The Council on Environmental Quality’s regulations implementing the procedural provisions of the National Environmental Policy Act of 1969, as amended (42 USC § 4321 et seq.), define cumulative effects as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR § 1508.7).

1. Does the proposal describe relevant legal direction that applies to the proposed intervention? Consider:
 - a. *Wilderness Laws*: Is the intervention required to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws)? If so, cite the law(s) and section(s). Does the intervention advance a commercial service?
 - b. *Other Laws*: Is the intervention required to satisfy other federal laws (e.g., ESA, ARPA, NHPA, Dam Safety Act, Clean Air Act)? If so, cite the law(s) and section(s).⁵
 - c. *Case Law*: Does the intervention fulfill or comply with requirements of judicial rulings that apply to the management area? If so, cite the ruling and explain the implications for the proposed intervention.

Response:

2. Does the proposal describe relevant administrative direction that applies to the proposed intervention? Consider:
 - a. *Administrative Jurisdiction*: Has the appropriate administrative jurisdiction within the agency and decisionmaker(s) for the intervention been identified?
 - b. *Consultation*: Is formal consultation or a permit required prior to the proposed intervention (e.g., for ESA-related actions, or Native American Tribes)?
 - c. *Agency Direction*: Does other agency direction such as policies, management plans, or special orders (including Executive Orders) influence the decision on the proposed intervention?

Response:

Appendix 1: Context for this Supplement

The context for this supplement is extraordinarily complex, composed of interwoven wilderness, ecological, and administrative perspectives.

From a wilderness perspective, proposals for ecological intervention are especially difficult to evaluate because of the potential for simultaneously degrading and improving wilderness character. The principal concern is that, by definition, ecological intervention degrades the untrammeled quality of wilderness even though the intervention is intended to improve the natural quality. The legislative mandate to preserve the untrammeled quality of wilderness is unique among all public lands and sets the highest possible bar and burden of proof for actions that intentionally manipulate ecological systems. This uniqueness means that this mandate is not well understood, especially when set against the “action bias” that generally underlies public land management. This high bar also means that interventions that are experimental or pose a risk of long term or unintended consequences have a higher burden of proof to show why they should be permitted.

⁵ Identify and cite applicable provisions of other laws and describe any conflicts between the provisions of other laws and the Wilderness Act or enabling legislation for your area. If no other laws are applicable, state that there are no requirements. Apparent conflicts between the Wilderness Act and other legislation may require innovative approaches and not all apparent conflicts are genuine. No law over-rides another law (unless specifically stated in the superseding law). The requirements of all applicable laws must be met.

A survey conducted in 2016 shows that ecological interventions are occurring in 37% of wildernesses across the NWPS (Lieberman 2017⁶). These interventions raise questions about the societal and ecological value of wilderness, and ideally would compel public debate and agency policies to guide consistent and appropriate management direction. The need right now, however, is twofold: first, to help all resource professionals understand the unique legal requirements of working in wilderness, and second, to help wilderness managers and natural resource professionals understand the full set of questions that need to be answered before ecological interventions are permitted in wilderness.

From an ecological perspective, ecological systems are facing unprecedented onslaughts, and across many landscapes the long-term protected status and size of wilderness allows these areas to be the last and best refuge for many species and habitats. Climate change and increasing human development causing landscape scale fragmentation is strongly pushing the perceived need for ecological interventions, especially when listed native species are declining or invasive nonindigenous species are rapidly expanding their distribution. Climate change will cause a host of cascading ecological changes and there will likely be particular pressure to assist the migration of certain species and impose other habitat manipulations based on predicted ecological changes. There is a great deal of uncertainty related to the effects of climate change and this uncertainty applies to the effects of ecological intervention: this supplement helps ensure that any proposal for ecological intervention is clear about its assumptions and uncertainties.

These interventions, however, pose a conundrum because the untrammeled quality directly contributes to this refuge function of wilderness, yet intervention directly compromises this untrammeled quality. Wilderness managers have no ability to affect climate change, and the scientific understanding about the long-term effect of the resulting changes, including the effectiveness of intervention, is weak in many cases. Furthermore, wilderness has no anthropocentric pre-determined ecological target, allowing wilderness to serve as a purposefully unmanipulated reference benchmark for understanding current ecological systems and how they are responding to global and regional ecological impacts. This supplement is intended to be neutral on whether actions should or should not be taken in response to the effects of climate change.

From an administrative perspective, there are no specific agency policies about ecological intervention in wilderness and the use of this supplement is not required by any law, agency policy, or other agency directive. Instead, this supplement is intended to be a tool to help ensure that the right questions are asked when a proposal for ecological intervention is evaluated. It is the responsibility of agency staff to ensure that the requirements of all appropriate laws, agency policies, other agency guidance documents, and consultations are met. Using this supplement establishes a formal evaluation process to help ensure that

⁶ Lieberman, L.A. 2017. The balancing act: ecological interventions and decision tradeoffs to preserve wilderness character. Thesis, University of Montana.

intervention projects are not approved merely because they are already funded either by the agency or an entity outside the agency.

This supplement is intended to directly support the interagency MRA or MRDG process that is routinely used by all four managing agencies. The MRA or MRDG was originally developed to evaluate proposed activities that were prohibited by Section 4c of the 1964 Wilderness Act, but the agencies now routinely use the MRA or MRDG to evaluate all activities that potentially affect wilderness character. For example, an ecological intervention may propose use of backpack herbicide sprayers that would not typically be considered a prohibited use, and this proposal would still be evaluated with this supplement followed by an MRA or MRDG for the decision. Using this supplement will help ensure that the complex and nuanced assumptions and issues raised by proposed ecological interventions will be available to be evaluated in the MRA or MRDG. While most of this supplement asks questions that are unique to ecological interventions, some questions overlap with the MRA or MRDG, for example if there are conflicting laws. This overlap is intentional because ecological intervention raises a unique perspective, and addressing these questions for this supplement ensures that the needed information will be available when completing the MRA or MRDG.

Appendix 2: How This Tool Was Developed

An interagency, interdisciplinary meeting was organized and facilitated by the Aldo Leopold Wilderness Research Institute in 2013 to develop this tool. This meeting was attended by two representatives from each of the four wilderness managing agencies, selected for their extensive experience with ecological interventions in wilderness and who together spanned the range of geography and ecosystems across the United States, resource disciplines, and administrative positions within the agencies. In addition, two university professors and a Forest Service research scientist participated who respectively brought expertise in environmental ethics, ecological restoration, and decision science.

An initial version of this tool was developed at this meeting and refined in subsequent email and conference call discussions with this team. The initial tool was then extensively pilot tested in face-to-face meetings with agency staff who were considering proposals for ecological intervention across a range of natural resources in wilderness and proposed wilderness (a total of 16 pilot tests were conducted: two in Bureau of Land Management units, four in Fish and Wildlife Service units, five in Forest Service units, and five National Park Service units). The initial tool was also presented on two national webinars. The tool was revised based on the results of pilot testing and questions from the webinars, and shared with the original team for subsequent revision.

This revised tool was next subjected to a 2-step outside review process. First, the tool was sent to a small group of reviewers selected for their extensive knowledge about wilderness and practical experience with agency procedures. Second, after the tool was revised based on this small group review, it was then distributed nationally for a 60-day review period to all four wilderness managing agencies and the US Geological Survey, to the Arthur Carhart National

Wilderness Training Center, to the Interagency Wilderness Steering Committee and Interagency Wilderness Policy Council, and to 14 non-governmental organizations. A total of 201 comments were received from this national review, all comments were addressed, and the final version of the tool completed.