Example Project Proposal – Fire History Study

The proponent has requested permission for short-term use of a chainsaw to collect wood specimens for scientific research on the fire history of riparian forest zones within designated wilderness.

General Statement on Purpose and Justification:

The history of past fire regimes in forest ecosystems has been widely acknowledged as fundamental, base-line information necessary to better understand the Historic Range of Variability (HRV). The HRV is typically one factor used in the development and justification of fire management objectives and plans in wilderness areas. Additionally, the Wilderness Act of 1964 specifically cites scientific research as one of the expected and proper uses of designated wilderness areas. To access this non-renewable and declining tree-ring resource, we are requesting the limited use of a chainsaw in a designated wilderness area to collect scientific specimens (e.g. fire-scarred wood samples and partial sections). We argue that the chainsaw is the minimum tool required to obtain the highest quality scientific specimens and is necessary in order to make plunge cuts and obtain samples required for the study. The impacts of this use are short-term and low and the value of the information obtained justifies this authorization. This use would involve approximately 5 days of chain sawing with partial cross sections taken from up to 10 living trees and up to 20 dead trees.

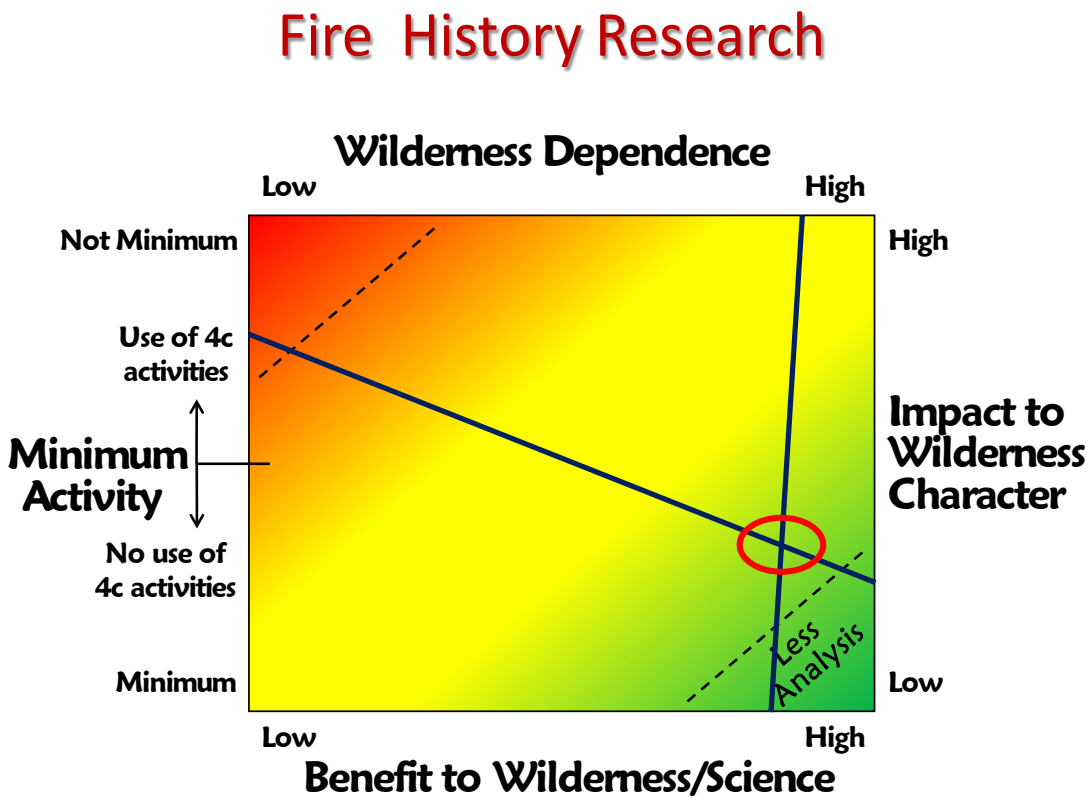
Itemized Points of Information Pertaining to this Request:

- The information to be obtained is of critical importance for wilderness fire management and in planning for proposed prescribed fire (planned ignitions) in the wilderness areas to be studied.
- The most accurate fire history information can only be obtained from trees within designated wilderness due to their location (i.e. elevation, and ecotype).
- The needed historical information is contained in tree-ring material with a limited "life-span" in the natural setting. Wildfires, which under current conditions are often relatively intense due to increased amounts of woody fuel, can be very destructive to this resource. Short-term use of a chainsaw would allow us to salvage this unique and irreplaceable historic record of past fire regimes while it is still available.
- Since only a relatively small number of trees in a given stand are fire-scarred (perhaps 5% or less), and as only a small proportion of these scarred trees preserve a high-quality record of past fires, the potential pool of samples is quite small, amounting to only a fraction of a percent of all trees in a stand.
- The exclusive use of handsaws to obtain samples typically necessitates the felling of many or all of the sampled standing trees (both live and dead) for reasons of safety. This is because most cuts with a handsaw must be "through cuts", and a large portion of the bole must be removed to obtain even a partial section. Thus, taking partial sections with a handsaw may significantly weaken the tree, increasing the likelihood of subsequent failure. The use of a chainsaw allows smaller and partial "blind" or “plunge” cuts to be made, followed by woody material replacement in green trees, which typically results in minimal mechanical weakening of the tree or loss of vigor.
- Only chainsaws with good working-order mufflers and spark arresters will be used. All work with the chainsaw during each field season will be concentrated in a one week to ten day periods, so that any noise pollution will be limited to these times. All cuts on logs will be hidden by covering them with rocks, dirt, and brush. When partial sections are taken from standing trees the openings left in the boles will be refilled by hammering in pieces of wood.

- Finally, regarding our request for a short-term, one-time use of a chainsaw (versus strictly handsaws) in the wilderness, we emphasize that our justifications do not include "convenience" or ease of use. Hand saws will be used whenever possible to gather the required data. The justifications are based on our sincere belief that the chainsaw is the minimum tool required to obtain the highest quality scientific samples for reconstruction of the needed fire history information. The values of the resulting scientific information justify the short-term, relatively low impacts.

HOW MUCH ANALYSIS IS NEEDED?

Example



Discussion

The points selected on the graph and the resulting lines are general examples only based on the information provided. This process is more art than science and in an actual assessment more specific information would be needed to make an accurate assessment of the degree of analysis needed for this proposal. Remember that any proposal that lands in the 'More Analysis' often signals a need for more information from the proponent, especially if use of any of the Wilderness Act prohibited uses (i.e.

motorized equipment, etc.) are requested. A Minimum Requirements Analysis may also be needed to help identify any feasible alternatives and determine the need for a prohibited use.

Minimum Activity – left axis

The proposal includes the use of chainsaws, prohibited by Section 4c of the Wilderness Act, unless it is the minimum necessary activity. The proposal calls for only minimal use of the motorized equipment (a relatively low number of occurrences) and this use is a temporary vs. a permanent activity.

Impacts to Wilderness Character – right axis

This proposal impacts all four qualities of wilderness character but to varying degrees and overall the impacts are relatively minor and short term.

Untrammeled:

- The cutting of trees is a human caused manipulation or effect to natural processes in that the trees are no longer growing or decaying in a totally natural way. Because of the small number of samples and the small actual impacts to the trees the overall impacts are relatively minor.

Natural

- The cutting of trees affects the natural growth or decay conditions of the trees but, because of the small number of samples and the minimal impact of the plunge cuts and woody material replacement after the cuts, the actual impacts should be minor.

Undeveloped

- The use of a chainsaw affects the undeveloped quality by allowing motorized equipment use in wilderness that reduces the contrast between wilderness and other more developed public lands where motorized equipment use is common. The proposed amount of motorized equipment use is relatively small and short term.

Outstanding opportunities for solitude or primitive and unconfined recreation

- There could be impacts to visitors seeking a wilderness experience if they are in the area when a chain saw is being operated. Most of this impact should be mitigated by scheduling the timing of use and locating the sample areas to avoid impacts to wilderness visitors.

Wilderness Dependence – top axis

The proposal is dependent on wilderness because the trees that contain fire history information are only found inside wilderness in this eco-region. The lands within wilderness have not been harvested and contain the water and soil type necessary to support the old growth vegetation types no longer found outside wilderness.

Benefits to Wilderness/Science – bottom axis

The fire history information to be gained from data collected during this study is essential for restoring fire to a natural role in the ecosystem. The wilderness has been trammeled by the exclusion of fire due to past human activities, which has created what is thought to be unnatural conditions. Managers need to more closely define the Historic Range of Variability (HRV) in order to manage unplanned ignitions for the benefit of wilderness and also consider planned ignitions to restore more natural conditions.

Results – intersection of lines

The red circle on the graph indicates that this example proposal, based on the limited information provided, warrants some additional analysis but overall the proposal has merit based on wilderness dependence, minimal impacts and high benefits to wilderness. Because the use of chainsaws are proposed a minimum requirements analysis should be done to insure the necessity of the project and assess any possible safe and feasible alternatives to the prohibited use in wilderness.