only when added up, show that Wilderness has been degraded and can no longer provide the benefits it was designated for. This presentation built on a workshop that was held in 2012 at the National Park Service's Western Arctic Parklands to explore these issues and develop a preliminary framework to guide Wilderness planning and stewardship across millions of acres of arctic Wilderness to maximize the preservation of Wilderness character.

Framework to Evaluate Proposal Ecological Restoration Treatments in Wilderness

Beth Hahn, *Aldo Leopold Wilderness Research Institute*
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Every year, the four agencies that manage Wilderness – the BLM, FWS, FS, and NPS – receive hundreds of proposals to implement ecological restoration actions within the National Wilderness Preservation System (NWPS), a network of 757 units across more than 109 million acres of public land. Ecological restoration treatments that are currently implemented within the NWPS include: actions that manage vegetation (e.g., chemical and mechanical removal of invasive plants, planting trees); actions that manage fish, wildlife, insects and disease (e.g., introducing biological control agents, fish stocking, animal removal); actions that manage soil and water (e.g., mine site reclamation, spreading lime to buffer acid deposition); and, actions that manage fire (e.g., suppressing human-caused fire, mechanical fuels reduction treatment, prescribed fire).

On the 50th anniversary of the Wilderness Act, the combination of climate change with other landscape stressors is driving ecological restoration to be one of the single most important, challenging, and potentially litigious Wilderness stewardship issues because decisions need to incorporate diverse legal, scientific and ethical considerations. Wilderness managers must evaluate whether restoration actions are needed and their effect on Wilderness character, in the context of great uncertainty. Agencies charged with managing Wilderness need transparent, defensible criteria to evaluate proposed ecological restoration activities within the NWPS. Current law and policies do not provide explicit support for decision-making, and management decisions often reflect views based on varying philosophical, cultural, and ethical beliefs about the fundamental values of Wilderness.

In this presentation, we described a framework to evaluate proposed ecological restoration in Wilderness, including our methods and pilot testing. The framework was developed to be: comprehensive and systematic, providing a structured basis to evaluate criteria involving law and policy, ecological understandings, and ethical considerations; broadly applicable, by being relevant across the country to all NWPS units and agencies; and, flexible, to allow for modification to reflect local thinking and values regarding Wilderness and restoration.

Status of Ecosystem Representation and Ecological Integrity within the National Preservation System

James Tricker, *Aldo Leopold Wilderness Research Institute*
Peter Landres, *Aldo Leopold Wilderness Research Institute*

This presentation examined the current status of ecosystem representation and ecological integrity within the National Wilderness Preservation System. Even though the concepts of ecosystem representation and ecological integrity are not mentioned in the 1964 Wilderness Act or in subsequent Wilderness legislation, Wilderness forms the cornerstone of most regional scale as well as local conservation plans. In addition, Wilderness is typically assumed to provide adequate protection of the ecosystems within the area designated, yet this assumption has never been tested. Using recently published, yet separate analyses of ecosystem representation within all types of protected areas and of ecological integrity, we showed how ecosystems are represented in the National Wilderness Preservation System and, for the first time, the ecological integrity of the ecosystems that are represented. This analysis showed that even though ecosystems may be represented in Wilderness, it is just as or even more important to understand the ecological integrity of the areas that are represented.