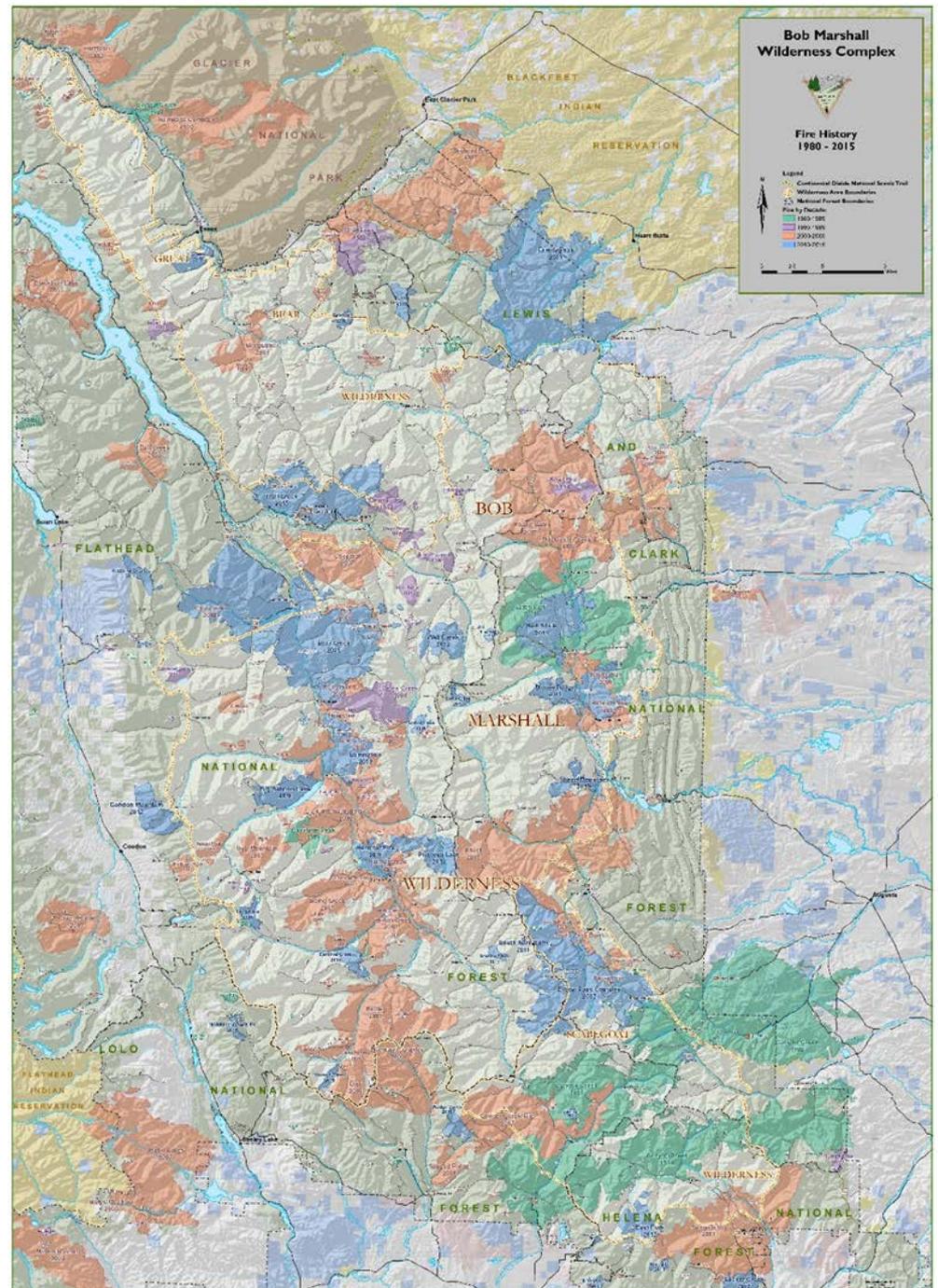


Why wilderness fire matters

Carol Miller

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Rocky Mountain Research Station,
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Missoula, MT



The Wilderness Act of 1964

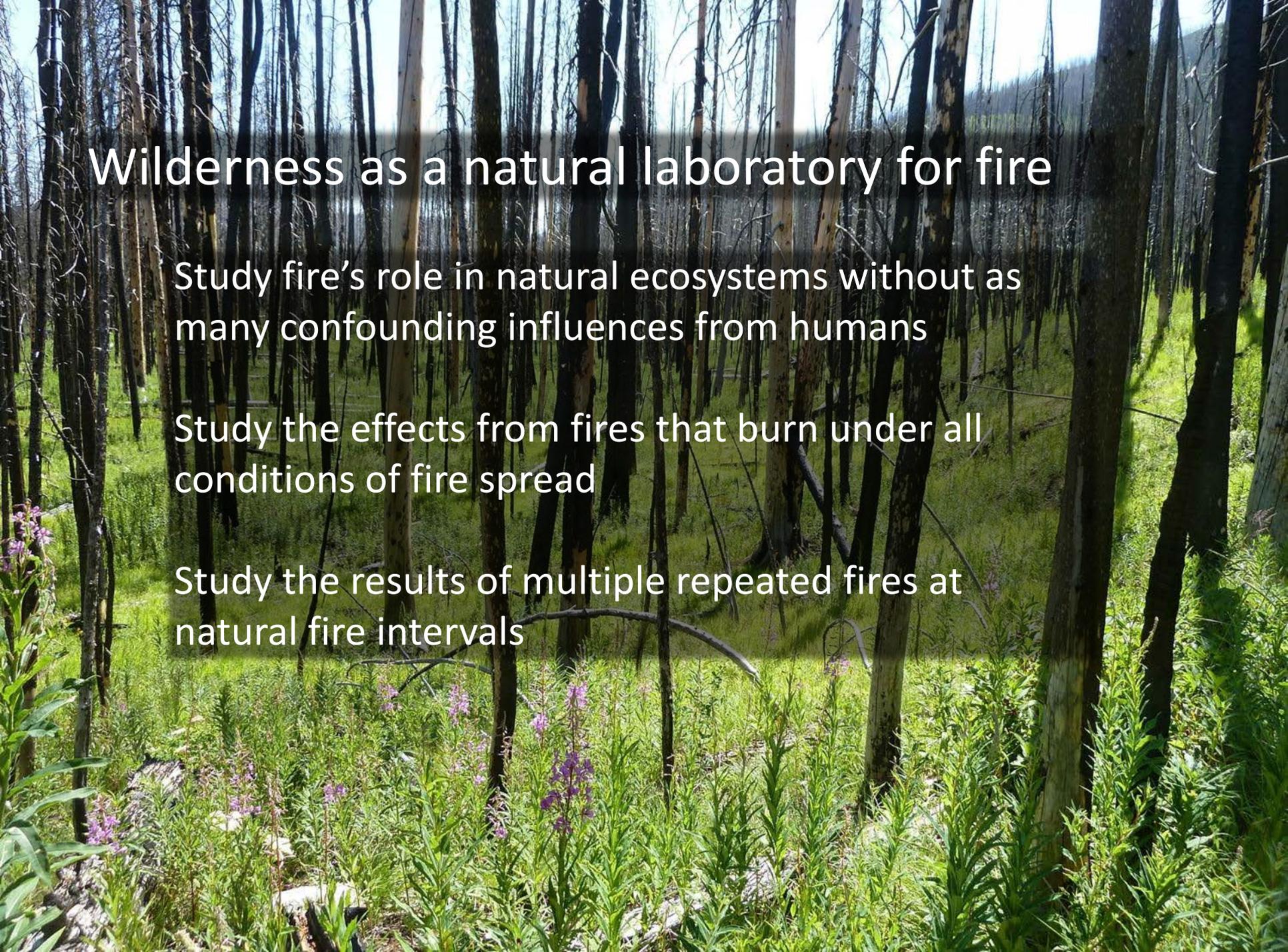
Public Law 88-577 (16 U.S.C. 1131-1136)

88th Congress, Second Session

September 3, 1964

DEFINITION OF WILDERNESS

(c) A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of **scientific, educational**, scenic, or historical **value**.



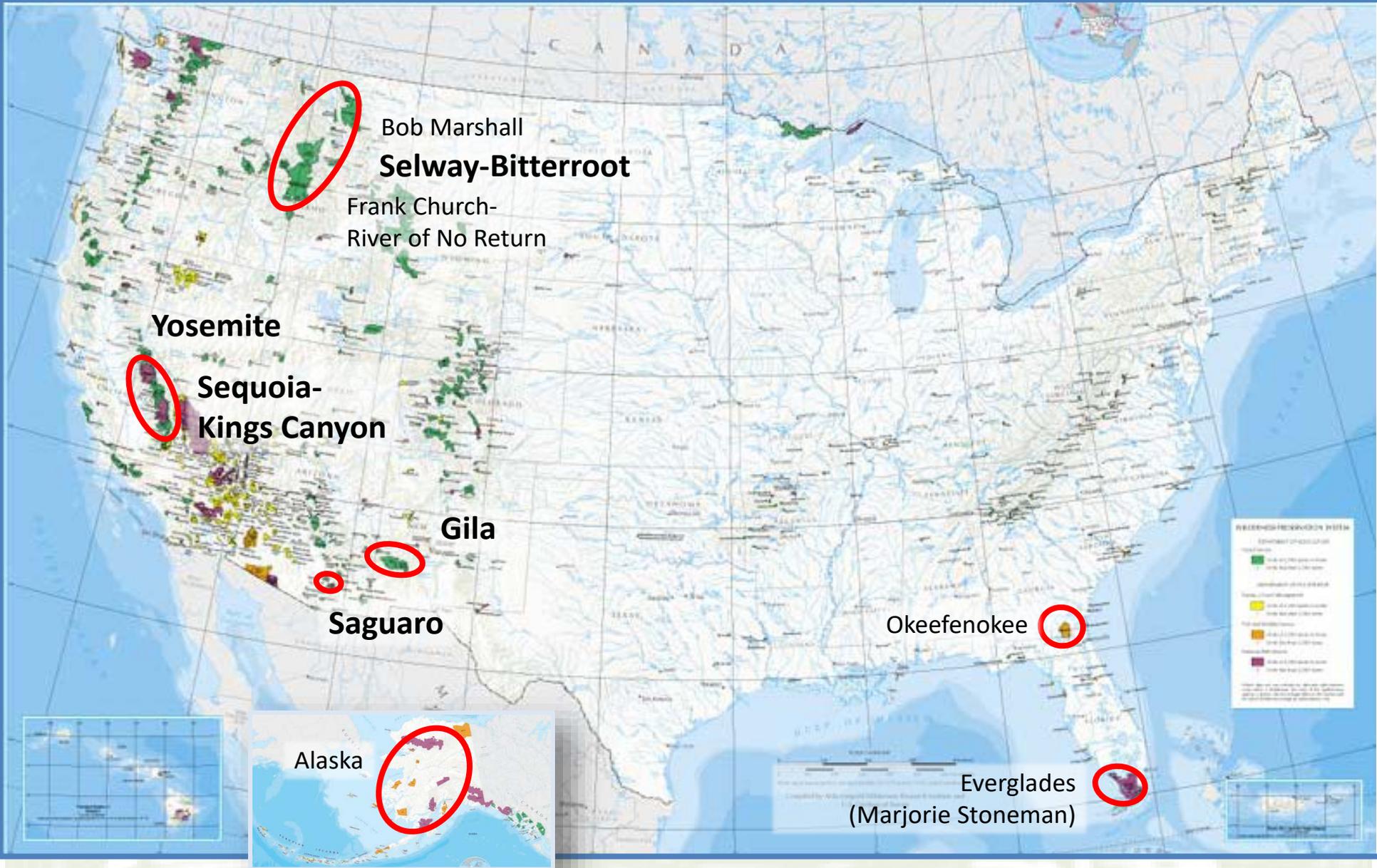
Wilderness as a natural laboratory for fire

Study fire's role in natural ecosystems without as many confounding influences from humans

Study the effects from fires that burn under all conditions of fire spread

Study the results of multiple repeated fires at natural fire intervals

The wilderness fire experiment



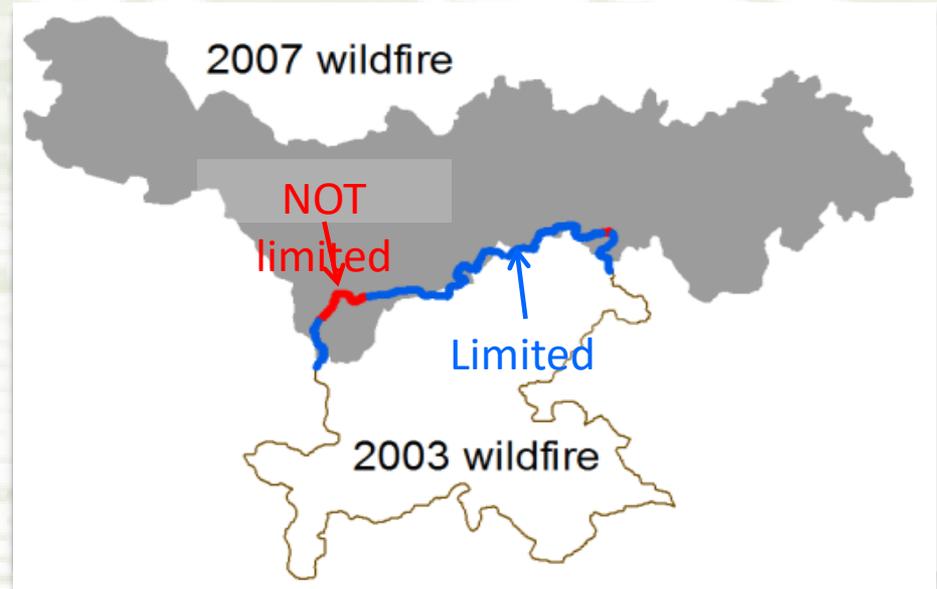
What have we learned?

- Tested hypotheses about soil nitrogen dynamics and availability (DeLuca & Sala 2006)
- Dismissed criticisms about fire history reconstruction methods that use tree-rings (Farris et al. 2010, 2013)
- Quantified retention of fire-created snags over time and through repeated wildfires (Holden et al. 2006)
- Documented the resistance of large trees to fires (Holden et al. 2007, Leirfallom & Keane 2011)



What have we learned?

- Discovered that fires can restore forest structure, even after long fire-free intervals (Fulé & Laughlin 2007, Larson et al. 2013)
- Learned that repeated wildfires create resistant forest structures (Holden et al. 2007, Stevens-Rumann & Morgan 2016)
- Quantified the fuel treatment effect of previous burns (Parks et al. 2014, 2015, 2016)
- Discovered complexity of reburn dynamics (Holden et al. 2010, Teske et al. 2012, van Wagtendonk et al. 2012)



Why wilderness fires matter

Attributes of wilderness fires



Value to science

Occur in natural ecosystems with less human influence

Occur in all conditions of fire spread

Result in multiple repeated fires at natural fire intervals

Provide a benchmark for understanding human impacts

Increase range of variation in data

Opportunity to observe ecosystem dynamics

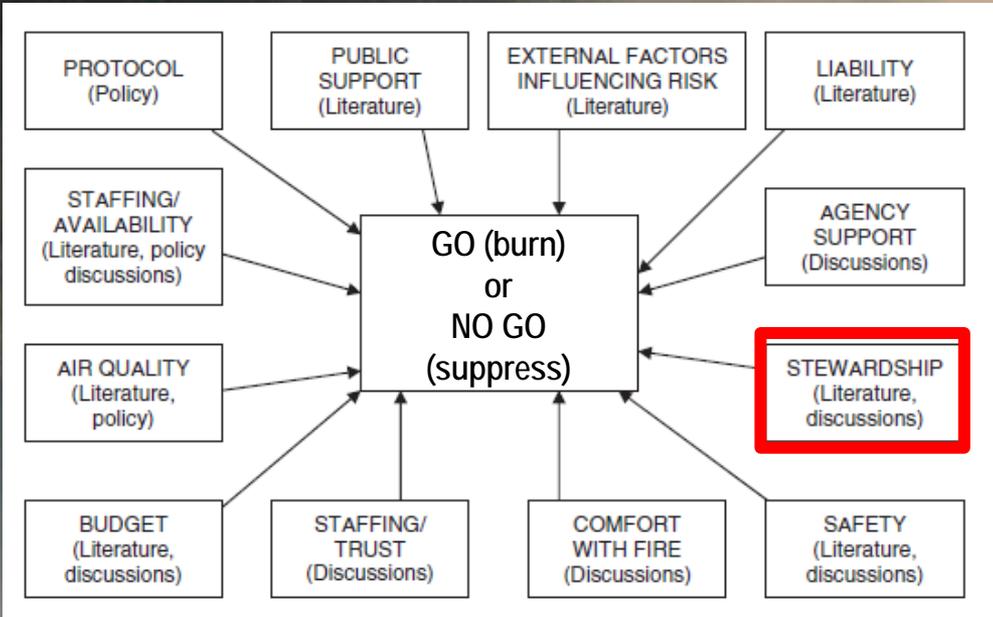
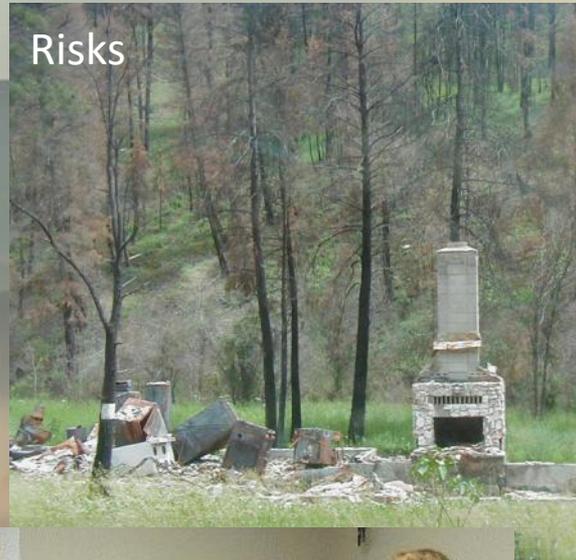
Why fire management decisions in wilderness matter

Because a single decision goes a long way...

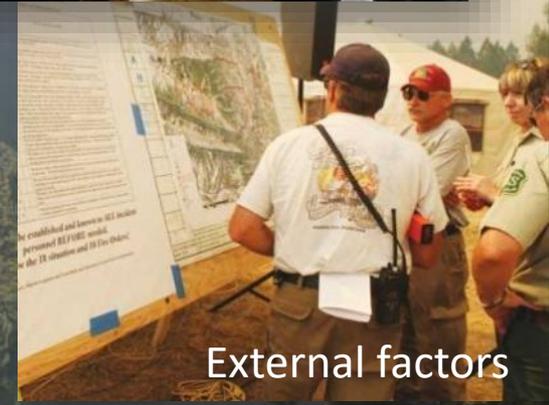
- Sequoia-Kings Canyon & Yosemite NPs: dramatic impacts accumulated over a short period of time (11 years)
- Potential future fire behavior would have been moderated
- Fewer ignitions & less need for initial attack



Fires are suppressed for many reasons.



Black et al. 2008, *Fire Management Today*



Fires are suppressed for

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International Journal of Wildland Fire, 2007, 16, 755–762

Factors in United States Forest Service district rangers' decision to manage a fire for resource benefit

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Abstract. United States wildland fire policy and program reviews in 1995 and 2000 required both the reduction of hazardous fuel and recognition of fire as a natural process. Despite the fact that existing policy permits managing natural ignition treatments and expanding WFU line officers, a decision clearly impact the viability of WFU. The present study examined influences on line officers' go/no go decision. A telephone survey was conducted of all USFS district rangers with WFU authority in the Northern, Intermountain, and Southwestern Regions. The census was completed during February 2005 and obtained an 85% response rate. Data were analysed using Classification and Regression Tree analysis. **Personal commitment to WFU** provided the primary classifier for 91% of the district rangers who authorised WFU. External factors, negative public perception, resource availability, and a perceived lack of support from the USFS were the main disincentives to authorising WFU.

Personal commitment to WFU

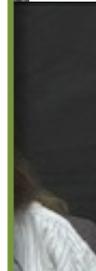
Wilderness fire stewards

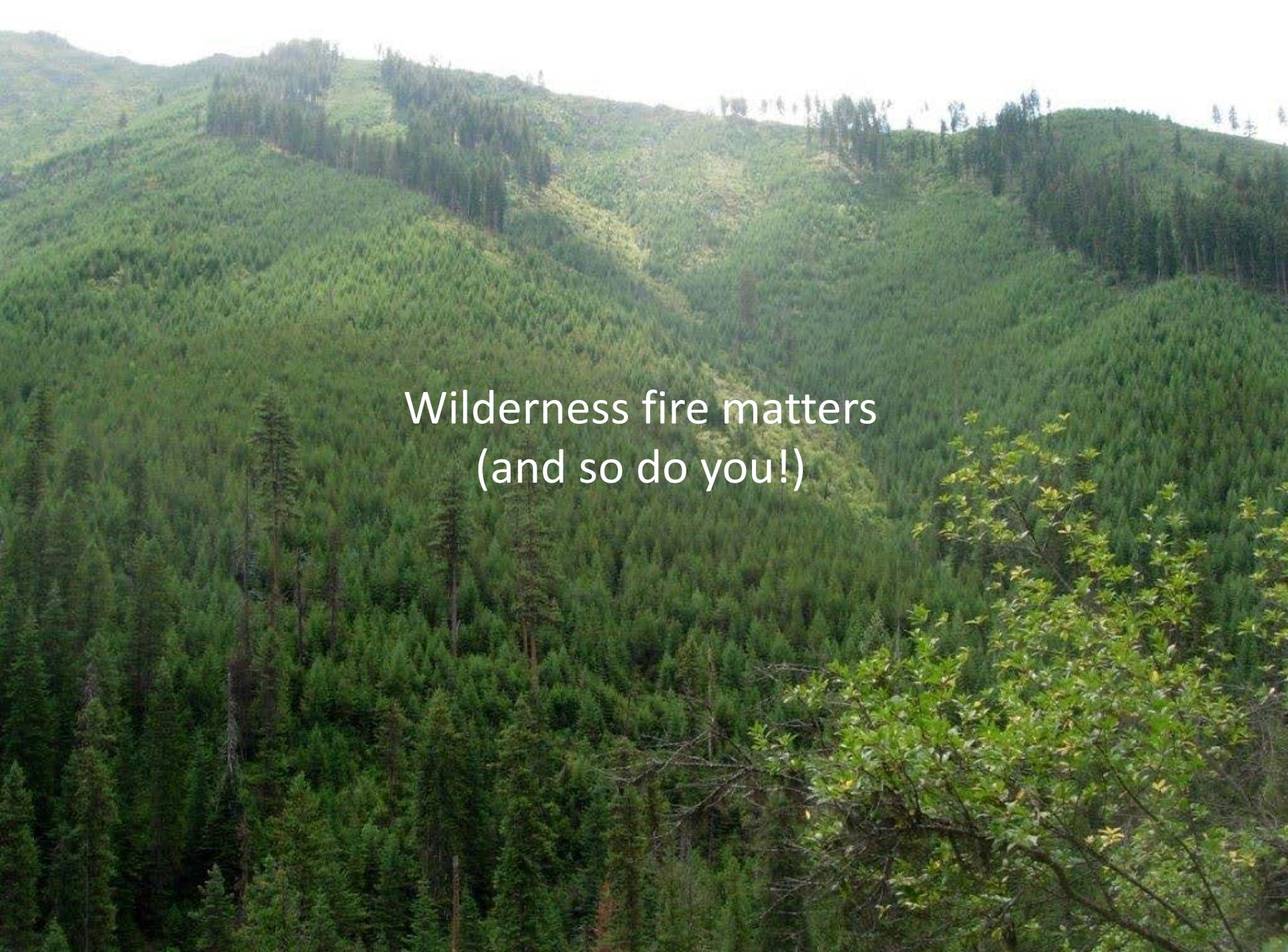
“...why would you risk losing your job over it?
Because it’s the right thing to do.”

“...a wilderness
ethic...really tided
us through
...because you
weren’t doing it
for an agency...”



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A photograph of a vast, dense forest of evergreen trees covering a hillside. The trees are a mix of dark green and lighter green, suggesting different species or stages of growth. A narrow path or clearing is visible in the center of the image, leading up the hill. The sky is overcast and grey.

Wilderness fire matters
(and so do you!)