



## ALDO LEOPOLD WILDERNESS RESEARCH INSTITUTE

<http://leopold.wilderness.net/>

### Mapping Wilderness Character in Denali National Park and Preserve



**Background & Management Issues:** The recent development of an interagency strategy to monitor wilderness character allows on-the-ground managers and decision-makers to assess whether stewardship actions for an individual wilderness are fulfilling the legislative mandate to “preserve wilderness character.” By using credible data that are consistently collected, one can assess how wilderness character changes over time and evaluate how stewardship actions affect trends in wilderness character.

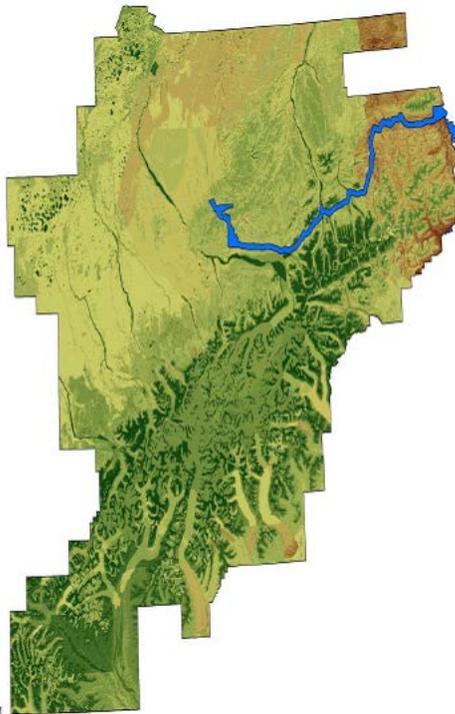


Figure 6. Natural quality of wilderness character. Green depicts optimal quality and brown depicts degraded quality.

*The purpose of this project was to develop an approach that spatially depicts the condition of DENA’s wilderness character qualities and how they vary across Denali’s backcountry. This map of wilderness character will:*

- ✓ *Show the current the condition of each of the five qualities of wilderness character, both singularly and in aggregate, and how it varies across the ~6 million acres of designated and eligible wilderness of Denali National Park and Preserve.*
- ✓ *Provide a measurement baseline from which future monitoring can show spatial trends and changes in wilderness character over time.*
- ✓ *Allow the park to analyze the potential impacts of different management actions on wilderness character. Similarly, this map can be used in the future to analyze the effects of site-specific projects on wilderness character.*
- ✓ *Allow park staff to evaluate existing backcountry spatial data and consider whether new or better data would be needed for future planning and analyses of effects on wilderness character.*
- ✓ *Identify areas within the wilderness where resource managers should make an effort to control or mitigate impacts. These efforts may include monitoring conditions, establishing thresholds, or taking direct action.*
- ✓ *Improve internal staff communication about wilderness and wilderness character; and improve external communication between the park and the public on related issues.*

### Results:

- ✓ The majority of DENA was determined to possess wilderness character whose qualities are relatively undiminished from optimal conditions.
- ✓ This map will be used as a baseline representing the existing conditions of each tangible quality of wilderness character in DENA, and future assessments of wilderness character can be updated with new and improved data as they become available.
- ✓ Therefore, future reruns of the map with updated datasets will allow for identifying areas where wilderness character is changing over time. Wilderness character within DENA is applied to both federally designated and eligible wilderness lands that include 99% of DENA.

***Management Implications:***

- ✓ Provides information such as:
  - Threats to wolves
  - Threats to grizzly bears
  - Effects of harvest on salmon runs
  - Non-native plants
  - Climate change: Permafrost decrease
  - Climate change: Effects on wildfire regime
  - Climate change: Loss of glacier ice

***Publications/Products:***

❖ Burrows, R., Tricker, J., Abbe, D., Landres, P., Paynter, J., Schirokauer, D., & Hooge, P. (2016). Mapping wilderness character in Denali National Park and Preserve. Natural Resource Report NPS/DENA/NRR-2016/1223. Fort Collins, CO: US Department of the Interior, National Park Service, Natural Resource Stewardship and Science. 106 p.

***For more information...***

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