



# Aldo Leopold Wilderness Research Institute

Providing scientific leadership to sustain the enduring values and benefits of wilderness



USDA - Forest Service and USDI - Bureau of Land Management, Fish and Wildlife Service, Geological Survey, and National Park Service

## BRIEFING – INTERAGENCY WILDERNESS CHARACTER MONITORING

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Beginning in 2001, the federal wilderness managing agencies (BLM, FS, FWS, and NPS) in collaboration with the Leopold Institute began developing a national strategy to monitor trends in wilderness character. In 2008, with publication of *Keeping It Wild: An Interagency Strategy for Monitoring Wilderness Character across the National Wilderness Preservation System*, the agencies began implementing this strategy (see <http://www.wilderness.net/character> for more information). By early 2015 this monitoring has been completed at 145 (19%) wildernesses in the National Wilderness Preservation System (NWPS). Based on lessons learned, an updated and revised *Keeping It Wild 2* will be published in late-2015.

### WHAT IS WILDERNESS CHARACTER?

Building on the 15 years of experience developing and implementing wilderness character monitoring, 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. Taken together, these tangible and intangible values define wilderness character and distinguish wilderness from all other lands.

### WHY MONITOR TREND IN WILDERNESS CHARACTER?

The 1964 Wilderness Act's Statement of Policy, Section 2(a) states that wilderness areas "shall be administered...so as to provide for the protection of these areas, the preservation of their wilderness character" (Public Law 88-577). This affirmative legal mandate and pursuant policies of the four federal wilderness managing agencies apply to all wildernesses in the NWPS. These mandates raise the simple question: Are we preserving wilderness character? Wilderness character monitoring provides the answer to this question and helps the agencies (1) improve wilderness stewardship, (2) clarify how management decisions and actions influence trends in wilderness character, (3) improve communication among staff and with the public about wilderness stewardship, and (4) create a legacy of experience and knowledge about wilderness locally and broadly within the agency.

### HOW WILL TREND IN WILDERNESS CHARACTER BE MONITORED?

The agencies are using a hierarchical framework of qualities, indicators, and measures to monitor trend in wilderness character. The qualities and indicators are nationally consistent, while the measures are chosen by the agency or the wilderness to be locally relevant. The statutory definition of wilderness was used to identify five qualities (see the back of this page for definitions and examples). Each quality is composed of one or more indicators and each indicator has one or more measures. Data are gathered on each measure and trends (but not the data) from different measures are compiled to show the trend in the indicator. Trends are then compiled across indicators to show trend in the quality, and across the qualities to show trend in wilderness character. Trend in wilderness character is determined for every wilderness on a 5-year cycle, and these trends from each wilderness can be compiled across regions and agencies to assess national trends. Relevance, practicality, and cost-effectiveness were key considerations in developing this strategy and recommendations for what to monitor.

## SUMMARY OF QUALITIES, INDICATORS, AND EXAMPLE MEASURES OF WILDERNESS CHARACTER

<b>UNTRAMMELED</b>	<b>NATURAL</b>	<b>UNDEVELOPED</b>	<b>SOLITUDE OR PRIMITIVE AND UNCONFINED RECREATION</b>	<b>OTHER FEATURES OF VALUE</b>
<p>From the Wilderness Act, wilderness is "...an area where the earth and its community of life are untrammelled by man..." and "...generally appears to have been affected primarily by the forces of nature"</p> <p><b>Wilderness is essentially free from the intentional <u>actions</u> of modern human control or manipulation</b></p> <p>Indicators are:</p> <ul style="list-style-type: none"> <li>• Actions authorized by the federal land manager that intentionally manipulate the biophysical environment</li> <li>• Actions <u>not</u> authorized by the federal land manager that intentionally manipulate the biophysical environment</li> </ul> <p>Measures could include:</p> <ul style="list-style-type: none"> <li>• spraying weeds</li> <li>• suppressing or lighting fire</li> <li>• introducing non-native species</li> <li>• using biocontrol agents</li> <li>• unauthorized actions such as predator control</li> </ul>	<p>From the Wilderness Act, wilderness "...is protected and managed so as to preserve its natural conditions"</p> <p><b>Wilderness ecological systems are substantially free from the <u>effects</u> of modern civilization</b></p> <p>Indicators are:</p> <ul style="list-style-type: none"> <li>• Plants</li> <li>• Animals</li> <li>• Air and water</li> <li>• Ecological processes</li> </ul> <p>Measures could include:</p> <ul style="list-style-type: none"> <li>• presence, abundance, or distribution of non-native plant species</li> <li>• presence, abundance, or distribution of terrestrial non-native animal species</li> <li>• presence, abundance, or distribution of aquatic non-native animal species</li> <li>• visibility, ozone, chemical deposition</li> <li>• water quality and quantity condition</li> <li>• presence of sensitive lichen species</li> <li>• watershed condition</li> <li>• fragmentation</li> </ul>	<p>From the Wilderness Act, wilderness is "...an area of undeveloped Federal land...without permanent improvement or human habitation" and "...where man himself is a visitor who does not remain"</p> <p><b>Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation</b></p> <p>Indicators are:</p> <ul style="list-style-type: none"> <li>• Presence of non-recreational structures, installations, and developments</li> <li>• Presence of inholdings</li> <li>• Use of motor vehicles, motorized equipment, or mechanical transport</li> </ul> <p>Measures could include:</p> <ul style="list-style-type: none"> <li>• authorized installations and developments such as scientific equipment, radio repeaters, fish barriers</li> <li>• unauthorized installations and developments</li> <li>• inholdings or allotments</li> <li>• administrative and emergency use of motor vehicles, motorized equipment, or mechanical transport</li> <li>• unauthorized uses of motor vehicles, motorized equipment, or mechanical transport</li> </ul>	<p>From the Wilderness Act, wilderness "...has outstanding opportunities for solitude or a primitive and unconfined type of recreation"</p> <p><b>Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation</b></p> <p>Indicators are:</p> <ul style="list-style-type: none"> <li>• Remoteness from sights and sounds of human activity <u>inside</u> wilderness</li> <li>• Remoteness from sights and sounds of human activity <u>outside</u> the wilderness</li> <li>• Facilities that decrease self-reliant recreation</li> <li>• Management restrictions on visitor behavior</li> </ul> <p>Measures could include:</p> <ul style="list-style-type: none"> <li>• visitor use</li> <li>• area affected by travel routes</li> <li>• night sky visibility</li> <li>• impacts to soundscape</li> <li>• authorized recreation facilities such as trails, toilets, bridges, shelters</li> <li>• unauthorized recreation facilities such as user-created campsites, illegal motorcycle/ATV trails</li> <li>• visitor management restrictions</li> </ul>	<p>From the Wilderness Act wilderness "...may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."</p> <p><b>Wilderness preserves other features that are of scientific, educational, scenic, or historical value</b></p> <p>Indicators are:</p> <ul style="list-style-type: none"> <li>• Deterioration or loss of integral cultural features</li> <li>• Deterioration or loss of other tangible and integral features of value</li> </ul> <p>Measures of other features must be identified separately for each wilderness, and should not readily fit within one of the other qualities. Examples include cultural and historic sites, and paleontological localities.</p>