

# ***WILDERNESS CHARACTER***

**USDA**  
United States  
Department of  
Agriculture  
Forest Service  
Rocky Mountain  
Research Station  
General Technical Report  
RMRS-GTR-212  
July 2008

**UAS**

## Keeping It Wild:

An Interagency Strategy to Monitor  
Trends in Wilderness Character Across the  
National Wilderness Preservation System

Peter Landres, Chris Barns, John G. Dennis,  
Tim Devine, Paul Geissler, Curtis S. McCasland,  
Linda Merigliano, Justin Seastrand, Ralph Swain



- **Why preserve it?**
- **What is it?**
- **How to monitor it?**
- **Citizen stewardship**



# ***WHY WILDERNESS CHARACTER?***

## **It's the law: Wilderness Act of 1964**

- Statement of Policy, Section 2(a):

“a National Wilderness Preservation System...shall be administered...so as to provide for the protection of these areas, *the preservation of their wilderness character*”

- Use of Wilderness Areas, Section 4(b):

“each agency administering any area designated as wilderness shall be responsible for *preserving the wilderness character of the area*”

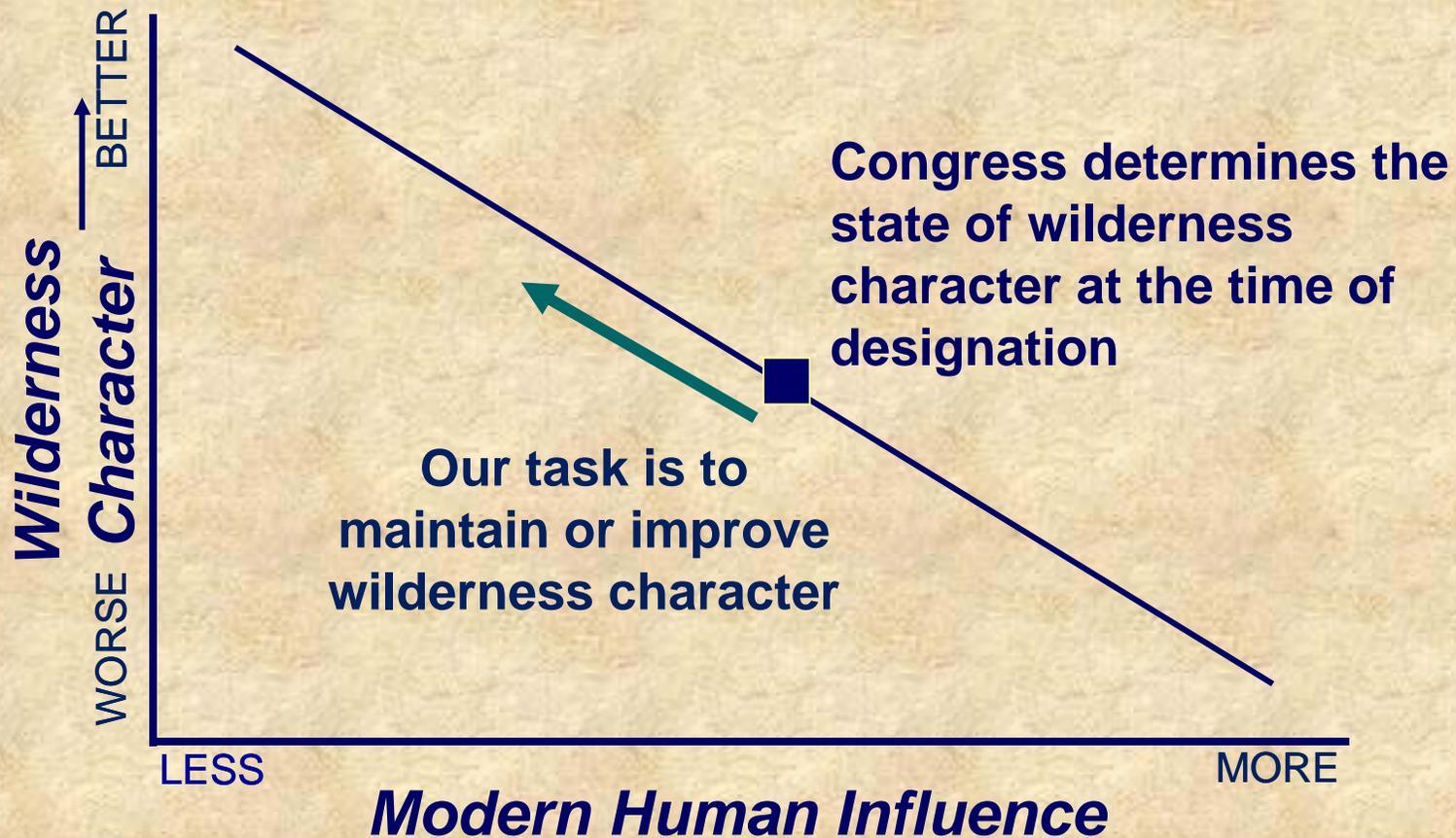


***Howard Zahniser***

***“The purpose of the Wilderness Act is to preserve the wilderness character of the areas to be included in the wilderness system, not to establish any particular use.”***



# ***THE STEWARDSHIP TASK: PRESERVE WILDERNESS CHARACTER***



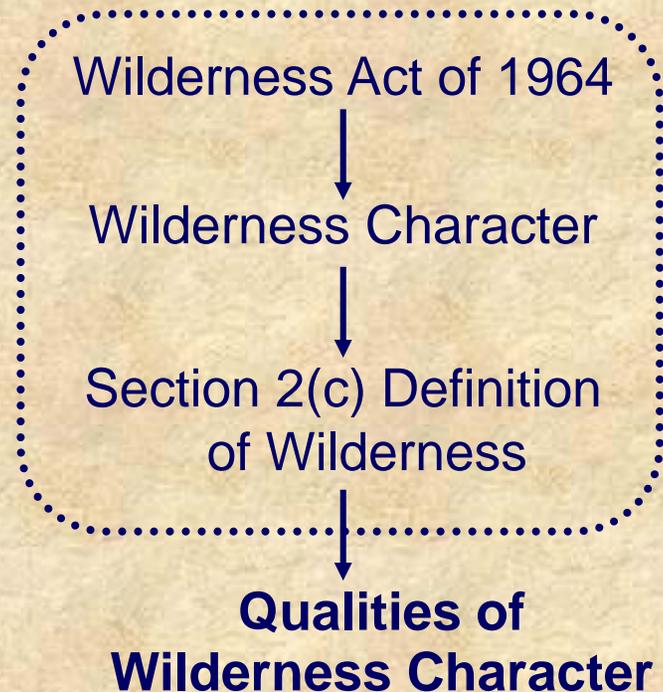
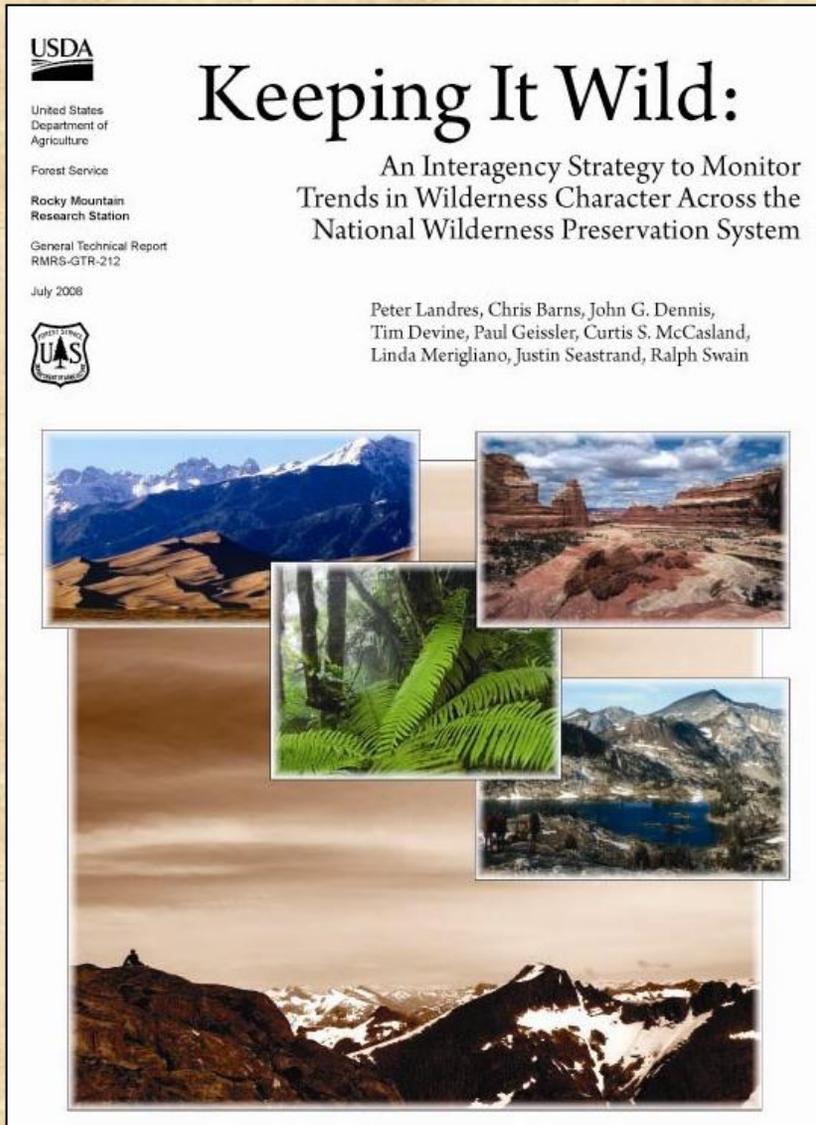
# ***WHAT IS WILDERNESS CHARACTER?***

**No definition in the Wilderness Act and no legislative history on the meaning of this phrase**



**Wilderness Character – the combination of biophysical, experiential, and symbolic qualities that distinguishes wilderness from all other lands**

# WHAT IS WILDERNESS CHARACTER?



1. Untrammeled
2. Undeveloped
3. Natural
4. Solitude or primitive and unconfined recreation

INDEPENDENTLY IMPRESSIVE.  
TOGETHER, EXTRAORDINARY.



**Wilderness character  
is more than the sum  
of its parts**

wilderness  
“characteristics”

or

wilderness “resources”

**DO NOT EQUAL**

wilderness character

# ***QUALITIES OF WILDERNESS CHARACTER***

## **“Untrammeled”**

**Wilderness is essentially unhindered and free from the actions of modern human control or manipulation**

**To manage with the utmost humility and restraint—to let an area be wild and free**



# THE UNTRAMMELED QUALITY HAS IMPORTANT SYMBOLIC MEANINGS FOR INDIVIDUALS AND SOCIETY



*Humility, connection  
to something larger  
than self, democracy*



# ***THE UNTRAMMELED QUALITY IS DEGRADED BY:***

- Authorized actions that manipulate, control, or hinder the “community of life”



Suppressing fire



Lighting fire



Spraying weeds



Killing predators



Collaring wildlife



Stocking fish/wildlife

- Unauthorized actions that manipulate, control, or hinder the “community of life”



“Bucket brigade”

# QUALITIES OF WILDERNESS CHARACTER

## “Natural”

Wilderness ecological systems are substantially free from the effects of modern civilization



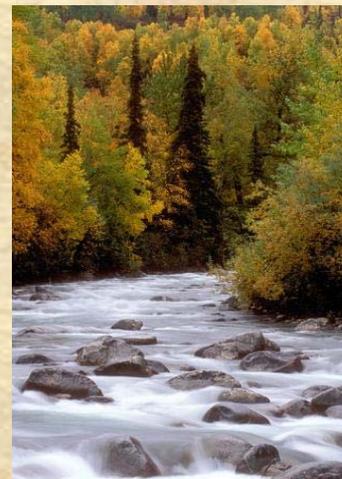
Native vegetation



Natural disturbance



Native wildlife



Flowing water



Decomposition

# ***THE NATURAL QUALITY IS DEGRADED BY:***

- Air pollutants



- Occurrence of non-indigenous species



- Altered water flow



- Extirpated or extinct native animals and plants



- Altered disturbance regimes



## ***QUALITIES OF WILDERNESS CHARACTER***

### **“Undeveloped”**

**Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation**



**The undeveloped quality preserves places from “expanding settlement and growing mechanization”**

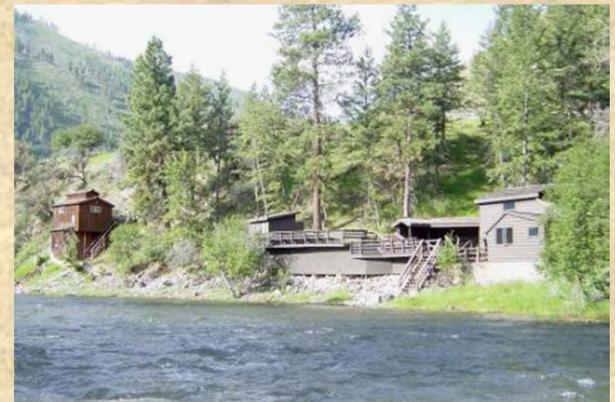
## **THE UNDEVELOPED QUALITY IS IMPORTANT ....**



**...to feel self-reliant and a member of “the larger community of life” without the intrusions of modern people**

# ***THE UNDEVELOPED QUALITY IS DEGRADED BY:***

- Non-recreational structures or installations
- Use of motor vehicles, motorized equipment, or mechanical transport
- Inholdings



## ***QUALITIES OF WILDERNESS CHARACTER***

**“Solitude or primitive and unconfined recreation”**

**Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation**



# THE SOLITUDE OR PRIMITIVE AND UNCONFINED QUALITY OFFERS IMPORTANT PERSONAL BENEFITS AND MEANINGS



Primitive recreation and the use of traditional skills



Freedom from the constraints of culture



Personal challenge and self-discovery

**“To know the wilderness is to know a profound humility, to recognize one’s littleness, to sense dependence and interdependence, indebtedness, and responsibility.” -Howard Zahniser**

# THE SOLITUDE OR PRIMITIVE AND UNCONFINED QUALITY IS DEGRADED BY:



- Facilities that decrease self-reliant recreation



- Management restrictions on visitor behavior



- The sights and sounds of people inside wilderness



- The sights and sounds of occupied and modified areas outside the wilderness

## ***UNIQUE QUALITIES OF WILDERNESS CHARACTER***

**Wilderness “may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.”** (Wilderness Act, Sec 2c)



# ***USING WILDERNESS CHARACTER IN STEWARDSHIP***

***A SINGLE DECISION OR ACTION MAY AFFECT MORE THAN ONE QUALITY***

Example: installing a barrier to restrict nonnative fish movement



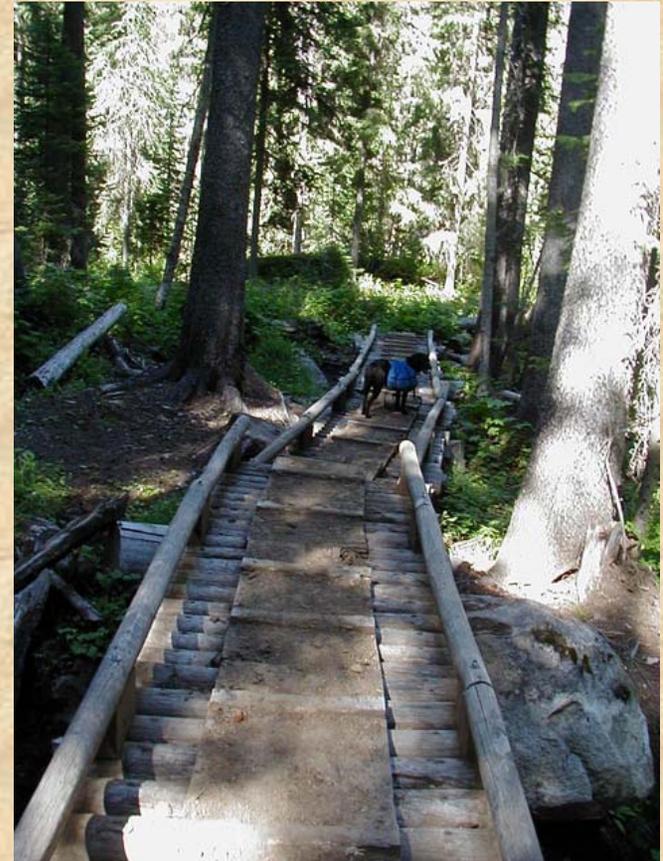
- The decision to install the structure degrades the untrammelled quality
- Modified water flow degrades the natural quality
- The presence of the structure degrades the undeveloped quality

# ***USING WILDERNESS CHARACTER IN STEWARDSHIP***

***A DECISION OR ACTION MAY IMPROVE ONE QUALITY WHILE DEGRADING ANOTHER QUALITY***

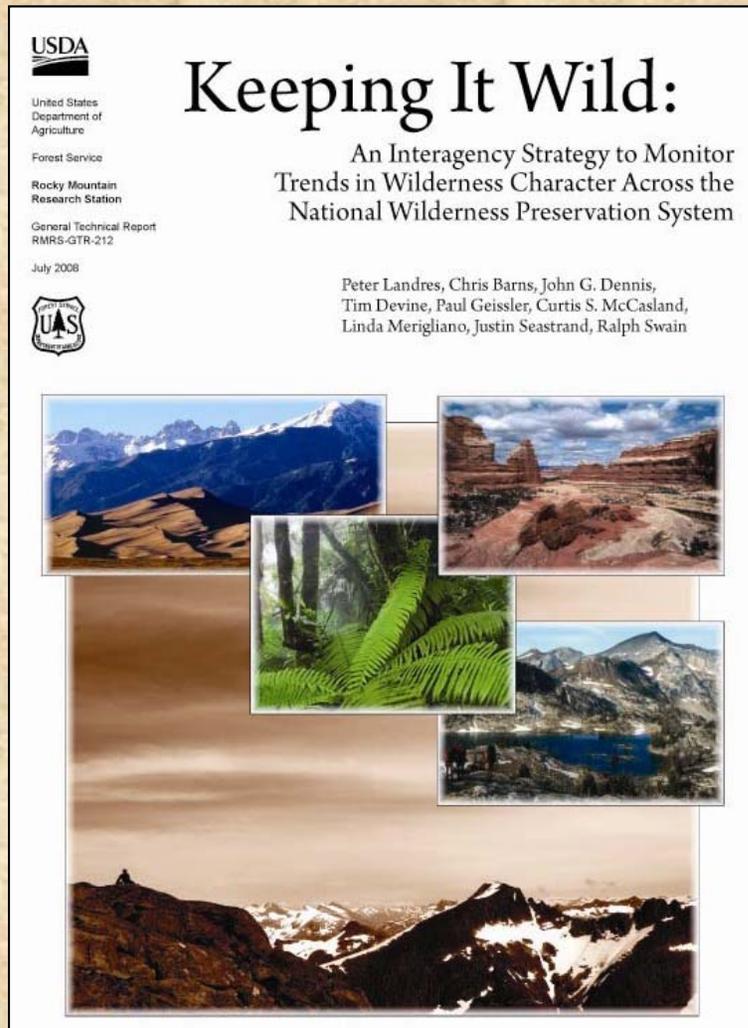


***Using herbicides to control exotic plants may improve the natural quality, but degrades the untrammeled quality***



***Building a bridge to reduce impacts at a stream crossing may improve the natural quality, but degrades the undeveloped quality and the opportunity for solitude or primitive and unconfined recreation***

# HOW TO MONITOR CHANGE IN WILDERNESS CHARACTER?



- For the 4 qualities, uses a consistent set of 13 indicators
- Requires at least one local measure per indicator, change in measure is +, 0, —
- Uses consistent, simple rules to compile results for the entire wilderness, and national assessment
- Focuses on trend over time for an individual wilderness

# “Keeping It Wild” describes possible measures and data sources for every indicator

Untrammelled quality			
Wilderness is essentially unhindered and free from modern human control or manipulation			
Monitoring question	Indicator	Measure	Data sources
What are the trends in actions that control or manipulate the “earth and its community of life” inside wilderness?	Actions authorized by the Federal land manager that manipulate the biophysical environment	Number of actions to manage plants, animals, pathogens, soil, water, or fire	<ul style="list-style-type: none"> <li>▪ Agency data systems (if available)</li> <li>▪ Local data entry by resource specialists</li> <li>▪ Minimum Requirements analyses</li> </ul>
		Percent of natural fire starts that received a suppression response	<ul style="list-style-type: none"> <li>▪ Agency data systems</li> <li>▪ National fire data systems</li> <li>▪ Local data entry by resource specialists</li> </ul>
		Number of lakes and other water bodies stocked with fish	<ul style="list-style-type: none"> <li>▪ Agency data systems (if available)</li> <li>▪ State agencies</li> <li>▪ Local data entry by resource specialists</li> </ul>
	Actions not authorized by the Federal land manager that manipulate the biophysical environment	Number of unauthorized actions by agencies, citizen groups, or individuals that manipulate plants, animals, pathogens, soil, water, or fire	<ul style="list-style-type: none"> <li>▪ Law enforcement data systems (if available)</li> <li>▪ Other federal and state agency data systems</li> <li>▪ Record cards from other staff and volunteers</li> <li>▪ Local data entry by resource specialists</li> </ul>

# Putting it all Together

## Wilderness Character Monitoring Gros Ventre Wilderness Example

From "Keeping it Wild: An interagency strategy to monitor trends in wilderness character across the NWPS"

	Quality	Question	Indicator	Measure
WILDERNESS CHARACTER	<b>Untrammelled</b> Wilderness is essentially unhindered and free from modern human control or manipulation	What are the trends in actions that control or <u>manipulate</u> the "earth and its community of life"?	Actions authorized by the fed. land manager that manipulate the biophysical environment	# actions to manage plants, animals, pathogens, soil, water, or fire % of natural fire starts that receive a suppression response # of lakes and other water bodies stocked with fish
			Actions <u>not</u> authorized by the fed. land manager that manipulate the biophysical environment	# of unauthorized actions by agencies, citizen groups, or individuals that manipulate plants, animals, pathogens, soil, water, or fire
	<b>Natural</b> Wilderness ecological systems are substantially free from the effects of modern civilization	What are the trends in terrestrial, aquatic, and atmospheric <u>natural resources</u> inside wilderness?	Plant and animal species and communities	Abundance, distribution, or number of invasive non-indigenous species # of acres of authorized active grazing allotments and # of animal unit months of actual use inside wilderness
			Physical resources	Visibility based on average decidew and sum of anthropogenic fine nitrate and sulfate Acid deposition based on concentration of sulfur and nitrogen in wet deposition
			Biophysical processes	Departure from natural fire regimes averaged over the wilderness (LANDFIRE)
				Extent and magnitude of global climate change (SNOTEL)
	<b>Undeveloped</b> Wilderness retains its primeval character and influence, and is essentially without permanent improvement or modern human occupation	What are the trends in <u>non-recreational development</u> inside wilderness?	Non-recreational structures, installations, and developments	Index of authorized physical development
			Inholdings	Area and existing or potential impact of inholdings
		What are the trends in <u>mechanization</u> inside wilderness?	Use of motor vehicles, motorized equipment, or mechanical transport	Type and amount of administrative and non-emergency use of motor vehicles, motorized equipment, or mechanical transport
				Type and amount of emergency use of motor vehicles, motorized equipment, or mechanical transport
	What are the trends in <u>cultural resources</u> inside wilderness?	Loss of statutorily protected cultural resources	Number and severity of disturbances to cultural resources	
	<b>Solitude or Primitive and Unconfined Recreation</b> Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation	What are the trends in outstanding opportunities for <u>solitude</u> inside wilderness?	Remoteness from sights and sounds of people inside the wilderness	Number of trail contacts Number and condition of campsites Area of wilderness affected by access or travel routes that are inside the wilderness
			Remoteness from occupied and modified areas outside the wilderness	Area of wilderness affected by access or travel routes that are adjacent to the wilderness
		What are the trends in outstanding opportunities for <u>primitive and unconfined recreation</u> inside wilderness?	Facilities that decrease self-reliant recreation	Type and number of agency-provided recreation facilities
			Management restrictions on visitor behavior	Type and extent of management restrictions

**Trend in Wilderness Character – Gros Ventre Wilderness example 2010**

MEASURE	RESULT	TREND IN MEASURE	TREND IN INDICATOR	TREND IN QUESTION	TREND IN QUALITY	TREND IN WILDERNESS CHARACTER	
<b>Untrammelled Quality:</b>							
# authorized actions	0	↔	↑	↑	↑	↑	
% natural fire starts suppressed	50%	↑					
# of lakes/streams stocked with fish	2	↑					
# unauthorized actions	0	↔	↔				
<b>Natural Quality:</b>							
Non-indigenous species	4 species; spot locations mapped; small % of wilderness but more extensive than first believed	↓	↕	↓	↓		
Active grazing allotments and AUMs	GV allotment saw little use and Granite was in non-use	↑					
Visibility	Avg decidiview = 10 based on Bridger station	↔					
Acid deposition	Five lakes are at risk of acidification per EPA guidelines. Compared to 1984 lake survey, increases in NH4 and decreases in SO4 were shown.	↓	↓				
Departure from natural fire regime	Not able to calculate but specialist info suggest trend is downward	↓	↓	↓			
Global climate change	Long-term total snow depth shows downward trend	↓					
<b>Undeveloped Quality:</b>							
Non-rec physical development	4 range cabins; range fences	↔	↔	↔	↕		
Inholdings	640 acres	↔	↔				
Administrative mechanization	0	↔	↑	↑			
Emergency mechanization	2 incidents (fire)	↑					
Loss of cultural resources	Specialist info suggest trend is downward due to people removing projectiles	↓	↓	↓			
<b>Solitude or Primitive and Unconfined Recreation Quality:</b>							
Trail contacts	89 patrol days; only 1 observation where established std not met	↑	↑	↑	↑		
Campsites	165 campsites; many sites moved into lower impact categories	↑					
Area affected by travel routes inside wilderness	68,292 acres 24% of wilderness	↔					
Area affected by travel routes adjacent to wilderness	15,608 acres 5% of wilderness	↔	↔				
Authorized recreation facilities	1 cabin; 9 hitchrails; 11 food storage poles	↔	↔	↔			
Visitor management restrictions	11 (weighted index)	↔	↔				





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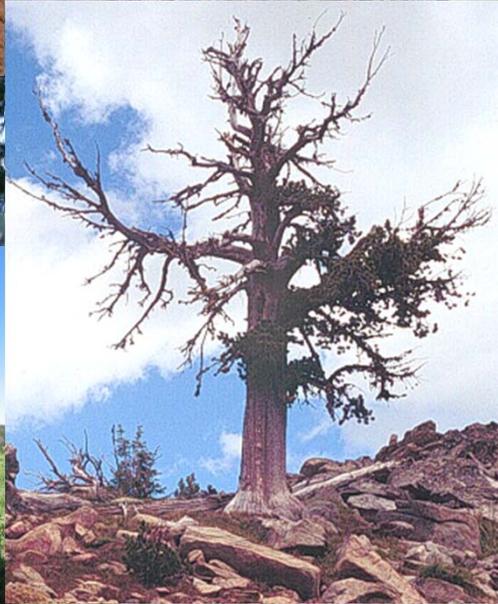
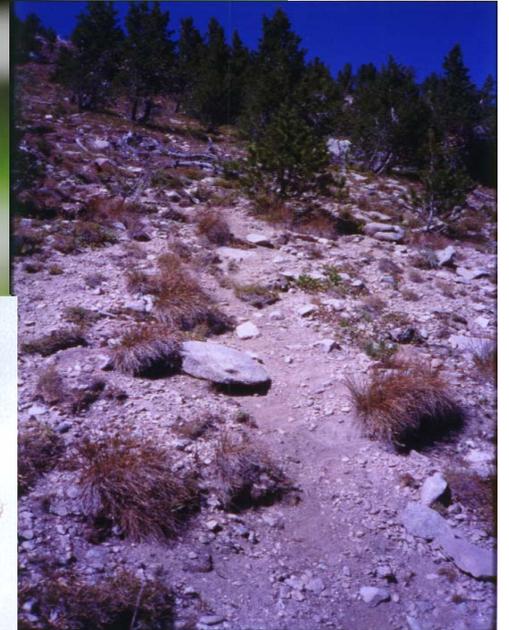
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The Interagency Wilderness  
Policy Council said that the  
four wilderness managing  
agencies will complete  
baseline monitoring of  
wilderness character by 2014

# ***Citizen Monitoring and Action***





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***FOR MORE INFORMATION***

***Wilderness.net***

***> Tools for managers***

***> Toolboxes***

***> Wilderness  
Character  
Toolbox***

*“It is our task in our time and in our generation, to hand down undiminished to those who come after us, as was handed down to us by those to come before, the natural wealth and beauty which is ours.” J.F. Kennedy*

