

Guidelines for Defining & Improving Wilderness Boundaries

— By Kevin Proescholdt & Howie Wolke

I. Introduction

Congress establishes wilderness boundaries in legislation creating each specific wilderness area. Some boundaries work better than others in protecting and enhancing Wilderness. Wilderness Watch's 17 years' experience with protection and stewardship of designated wilderness has given us critical insight into those criteria that determine how successful the boundaries will be in ensuring the preservation of wilderness values.

Wilderness Watch supports the nondegradation standard for wilderness. In other words, Congress can designate (and has designated) wilderness areas that show some impacts from past human activities in the area. But after an area has been designated as wilderness, there should be no further degradation of the area's wilderness character. Designated areas that show considerable impacts should be restored. With proper stewardship, an area's wilderness character will improve after designation, as past impacts become less noticeable over time.

Wilderness Watch strongly supports designating new wilderness, and in so doing increasing the total size of the National Wilderness Preservation System.

A critical consideration in proposing new wilderness and in drawing boundaries, however, is whether the area can and will be managed to preserve its wilderness character. The answer is as much political as it is ecological or geographical—all must be considered. Wilderness is not merely a tool to stop inappropriate development on federal lands, such as timber sales or off-highway vehicles. Wilderness designation must protect an area's wilderness character. In some cases another existing land designation, such as a national recreation area, national scenic area, national conservation area, or national monument might be a better tool to protect important natural resource values such as ecological integrity, non-motorized recreation opportunities, etc.

II. Guidelines in the Wilderness Act

The 1964 Wilderness Act did not delineate how to draw Wilderness boundaries. But there are three general guidelines from the 1964 Wilderness Act that provide some guidance. These guidelines are:

A. Impacts substantially unnoticeable. The area "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable...." Congress has designated many areas that have shown evidence of human impacts. But these impacts should be "substantially unnoticeable," particularly in the context of the entire designated wilderness. If the impacts

are substantially noticeable throughout a large portion of the wilderness, then perhaps wilderness boundaries should be drawn to leave these impacted areas outside wilderness. Lawmakers might want to consider a protective classification other than wilderness.

B. Solitude or unconfined recreation. The area must provide "outstanding opportunities for solitude, or a primitive and unconfined recreation." Solitude is one of the key qualities protected by the Wilderness Act. This does not mean that an area must be a highly sought-after recreation area. Outstanding opportunities for solitude might be a function of just the opposite. The best measure Wilderness Watch has found for solitude can be found in the following definition developed by the U. S. Fish and Wildlife Service and published in the agency's draft wilderness regulations in 2001:

Wilderness solitude is a state of mind, a mental freedom that emerges from settings where visitors experience nature essentially free of the reminders of society, its inventions, and conventions. Privacy and isolation are important components, but solitude also is enhanced by the absence of other distractions, such as large groups, mechanization, unnatural noise, signs, and other modern artifacts. It is a highly valued component of the visitor's experience because it is conducive to the psychological benefits associated with wilderness and one's free and independent response to nature.

The ability of an area to provide these opportunities and the public and political support for management that protects and enhances these opportunities should be principle considerations in drawing wilderness boundaries.

C. 5,000 acres. The area must have "at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition." This is a general guideline, since Congress has, on rare occasions, designated islands as small as five acres as wilderness. Especially in the eastern U.S., the 5,000-acre minimum can be difficult to reach. The potential for an area to provide outstanding opportunities for solitude or primitive and unconfined recreation, along with ecological and other considerations discussed below, can help determine boundaries.

D. Ecological, geological, or other features. The Wilderness Act provides that Wilderness "may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." A boundary for a wilderness might

be drawn, for example, to include an area of ecological significance or part of the historic route of the Lewis and Clark expedition.

III. Other Practical Guidelines for Drawing Wilderness Boundaries

In addition to these general guidelines from the Wilderness Act, there are a number of other practical guidelines critical to ensuring the area can truly function as wilderness.

A. Administration and stewardship as wilderness. A wilderness area's boundaries must be drawn so that the managing agency can effectively administer it as wilderness. A wilderness area must be "untrammeled"—a key descriptor in the Wilderness Act—so that natural ecological processes like a natural fire regime is allowed to function unhindered and unconfined by humankind. Are the boundaries adequate to allow this? Does the political will exist to let this happen?

B. Ecosystem boundaries. The best wilderness boundaries are often match ecosystem boundaries, such as an entire watershed, biome, critical habitat, or basin. Also, the best wilderness boundaries protect the broadest possible spectrum of ecological communities representing a particular area. For example, rather than protecting just the subalpine and alpine ecosystems of a typical mountain range, a better boundary would include sagebrush steppe and montane forest ecosystems in addition to the higher altitudes.

C. Shape and size. Beyond the ecosystem boundaries mentioned above, both the shape and size of wilderness boundaries matter. Here are some aspects of shape and size.

1. *Maximize the interior of wildernesses, and minimize the edge effect of boundaries.* Long narrow wildernesses have lots of edge but little deep interior. To maximize the protection of wilderness character, we should draw boundaries to protect contiguous blocks of wilderness. Amoeba-shaped boundaries (often drawn to avoid potential conflicts) maximize edge and minimize remote interior, thus creating a variety of management and ecological problems.

2. *Minimize "cherry stems."* Some wilderness boundaries have "cherry stems" in them, where boundaries were drawn to exclude an incompatible use such as a road from the wilderness. This can result in a non-wilderness corridor running deep inside a wilderness, making protection of wilderness values difficult even in the interior. However, rather than excluding large acreages from wilderness in order to keep "cherry stems" entirely beyond the wilderness, we recommend closing and rehabilitating such intrusions where feasible, and drawing the boundary to include the rehabilitated area.

3. *Avoid fragmentation.* Individual units of designated wilderness should stand on their own, even if part of a single-named wilderness. A single wilderness of 100,000 acres can better protect wilderness character and ecological integrity than 10 units of wilderness at 10,000 acres each located close to each other but perhaps separated

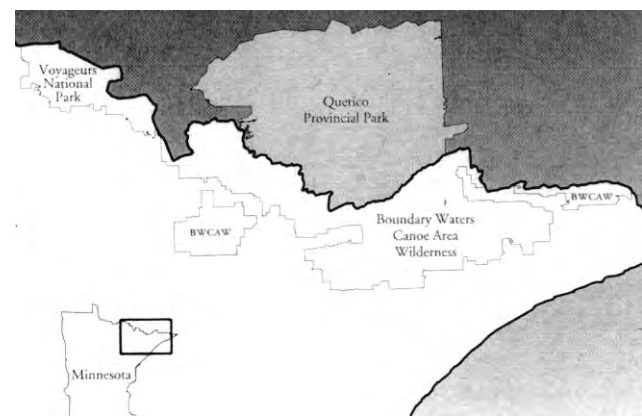
by gravel roads.

4. *Bigger is better.* Generally, the larger a wilderness, the greater its interior. The greater the interior, the better opportunities for solitude and the greater the chances for maintaining ecological integrity. Be bold. Think big. Bigger is better.

One example that helps illustrate the preceding points on size and shape is the international Quetico-Superior wilderness complex in northeastern Minnesota and northwestern Ontario. In Minnesota lies the Boundary Waters Canoe Area Wilderness (BWCAW). Adjacent along the international boundary is Ontario's Quetico Provincial Park, a wilderness class park.

Both wilderness areas are part of the same ecosystem, both are about the same total size. Together they form an international wilderness complex of 2.3 million acres. But significant differences exist in the ways each area's boundaries were drawn. The BWCAW has two smaller wilderness units detached from the main wilderness unit, for example, as well as two major road corridor cherry stems.

The following chart reveals these boundary differences:



Miron Heinselman, *The Boundary Waters Wilderness Ecosystem*, 1996.

	<u>Quetico</u>	<u>BWCAW</u>
Size (acres)	1,175,000	1,098,000
Units	1	3
Major Cherry Stems	0	2
Miles of edge	260	586

Because Quetico's boundaries are more compactly drawn, solitude and other wilderness characteristics are more easily protected and provided. Because the BWCAW has two smaller detached units, separated from the main wilderness by roads, and because the BWCAW is stretched thinner in an east-west direction with a much higher edge-to-interior ratio (more than twice as much edge as the slightly larger Quetico), wilderness stewards have a greater difficulty protecting and providing solitude and other wilderness qualities. The BWCAW still provides outstanding wilderness character and offers great wilderness experiences, of course, but because of the differences primarily in boundaries, Quetico's wilderness character is better preserved than that of the BWCAW. ♪