

Recreation Carrying Capacity -- Fact or Fiction?

“...shall be preserved for the use & enjoyment of the American people...in such manner as will leave them unimpaired for future generations...”



Professor Ed Krumpke
University of Idaho
College of Natural Resources

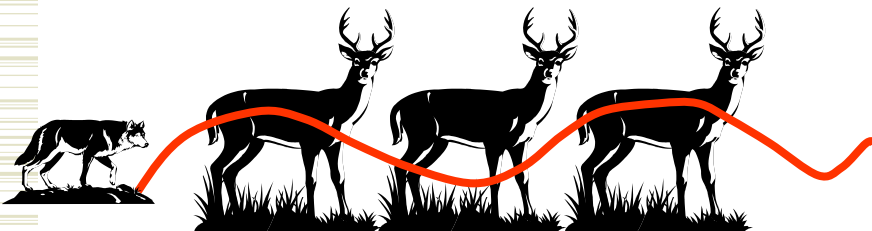
Why do we want to determine Recreation Carrying Capacity?

- ◆ Because of legal mandates &
- ◆ Because we want to:
 - Control Recreation Impacts &
 - Maintain quality recreation experiences!



The Roots of Carrying Capacity

- ◆ The maximum number & density of animals a given unit of land can support on a sustained basis without destruction of the resource base.



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Recreation Carrying Capacity

- ◆ The amount and type of use that an area can sustain over a given time period, given goals to maintain the physical environment and the experience of the visitor.

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3 Erroneous Assumptions of Recreation Carrying Capacity

- ◆ The amount of impact is directly related to the amount of use.
- ◆ Decreasing the amount of use will decrease the impacts.
- ◆ Researchers can calculate the magic number of users, below which impacts will be acceptable.



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The Problem with Recreation Carrying Capacity

- ◆ CC focuses on the wrong question.
 - “How many are too many?”
- ◆ Implies a magical numerical fix.
- ◆ Reducing numbers of visitors may not reduce impacts!
- ◆ We want to manage for sustained desired resource & social conditions.

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Recreation Impacts

- ♦ Vary with the type of use.
- ♦ Vary with the timing of use.
- ♦ Vary with the distribution of use.
- ♦ Vary with the environmental setting.
- ♦ Vary with mitigating actions taken by managers.
- ♦ Vary with people's expectations & norms.

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Different Kinds of Capacities are Interrelated

Facilities Capacities

Parking lots, Trailheads, Lodging, Roads...

Physical Capacities

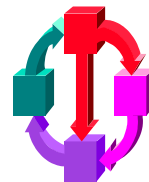
Canyons, Cliffs, Water, Shorelines...

Ecological Capacities

T&E Species, Riparian areas, Soils...

Social Capacities

Encounters, Crowding, Behavior...



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Critical Limiting Factors

- ◆ Density-independent factors
 - Things which affect a population but which are not related to population density
- ◆ The “weak link” or anomaly which limits how a site is used for recreation
 - Useable flat land, access, water, weather . . .
- ◆ Social factors sometimes are more limiting than physical or ecological factors.

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Prerequisites for Defining Recreation Carrying Capacity

- ◆ Clear statement of Desired Future Conditions
- ◆ Goals defining the experience that is to be sustained over time
- ◆ Goals describing the resource conditions that are to be sustained over time
- ◆ Prescriptions for amount, type & allocation of use
- ◆ Indicators to monitor whether resource & experience goals are being met

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USFS National Framework for Monitoring Wilderness Character

- ◆ *“Untrammeled”* – Wilderness is essentially unhindered and free from modern human control or manipulation. This quality monitors human activities that directly control or manipulate the components or processes of ecological systems inside wilderness.
- ◆ *“Natural”* – Wilderness ecological systems are substantially free from the effects of modern civilization. This quality monitors effects of modern people on ecological systems inside wilderness since the time the area was designated.

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USFS National Framework for Monitoring Wilderness Character

- ◆ *“Undeveloped”* – Wilderness is essentially without permanent improvements or modern human occupation. This quality monitors the presence of structures, construction, habitations, and other evidence of modern human presence or occupation.
- ◆ *“Outstanding opportunities for solitude or a primitive and unconfined type of recreation”* – Wilderness provides opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge. This quality monitors conditions that affect the opportunity for people to experience solitude or primitive, unconfined recreation, rather than monitoring visitor experiences per se.

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