

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..."



RRT 287 -- Professor Ed Krumpke

The Roots of Carrying Capacity

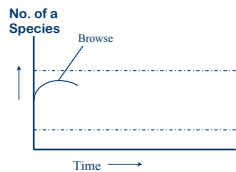
- ◆ The maximum number & density of animals a given unit of land can support on a sustained basis without destruction of the resource base.



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The Roots of Carrying Capacity

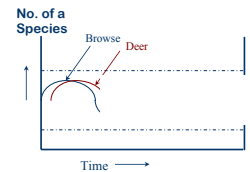
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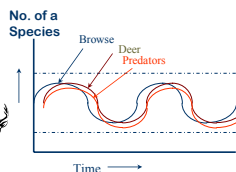
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The Roots of Carrying Capacity

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Major Assumptions of Recreation Carrying Capacity

- ◆ The amount of impact is 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.



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 desired resource & social conditions.

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Recreation Carrying Capacity

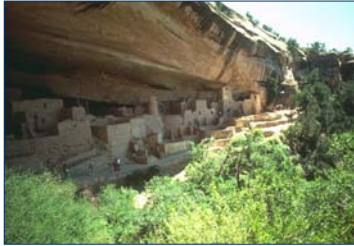
- ◆ The amount and type of use that an area can sustain over a given time period given goals to maintain the physical environment and experience of the visitor.

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4 Different Kinds of Capacities in Recreation

- ◆ **Facilities** Capacities

Parking lots, Trailheads, Lodging, Roads...



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4 Different Kinds of Capacities in Recreation

- ◆ **Physical** Capacities (*landscape, topography*)

Canyons, Cliffs, Water, Shorelines...



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4 Different Kinds of Capacities in Recreation



- ◆ **Ecologically Restricted** Capacities

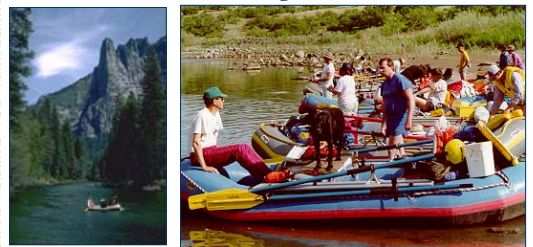
*Sensitive areas that require special protection
T&E Species, Riparian areas, Soils...*

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4 Different Kinds of Capacities in Recreation

- ◆ **Social** Capacities

Encounters, Crowding, Behavior...



Different Kinds of Capacities are Interrelated

Facilities Capacities

Parking lots, Trailheads, Lodging, Roads...

Physical Capacities

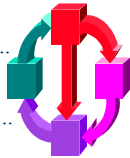
Canyons, Cliffs, Water, Shorelines...

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 . . .
- ◆ Sometimes social factors are more limiting than physical or ecological factors.

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Critical Limiting Factors



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Why do we want to determine Recreation Carrying Capacity?

- ◆ Because of legal mandates &
- ◆ Because we want to control Recreation Impacts!



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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.

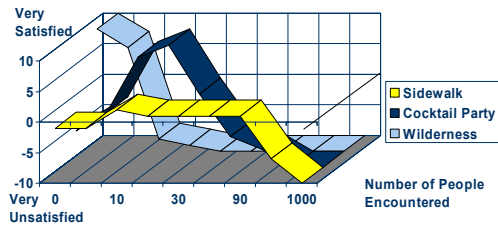
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Recreation Carrying Capacity

- ◆ 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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Carrying Capacities Differ



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Prerequisites for Defining Recreation Carrying Capacity

Clear statement of Desired Future Conditions that include:

- ◆ Goals defining the experience that is to be sustained over time
- ◆ Goals describing the resource conditions that are to be sustained over time
- ◆ Definition of amount and type of use.

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