

CAMPSITE IMPACT ASSESSMENT SYSTEMS:

APPLICATION AND DEVELOPMENT

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In many recreation areas campsites are a primary focus of visitor activity. Such concentrated activity produces adverse physical, vegetative, and soil changes. A solid information base concerning these changes is essential for managers seeking to develop and refine visitor and resource management policies and techniques.

Campsite impact assessment systems offer resource managers a standardized approach for collecting, summarizing, and evaluating information on recreational impacts. These management-oriented systems provide site-specific information concerning the nature and severity of resource impacts. When periodically reapplied as part of an impact-monitoring program, these systems can provide a consistent record of conditions over time. This allows managers to: 1) detect and evaluate deteriorating or improving conditions on individual or groups of sites, 2) evaluate the success or failure of resource protection measures, and 3) set and monitor limits of acceptable change for resource conditions.

A variety of campsite impact assessment and monitoring systems have been developed for use by resource managers. These include three basic types: 1) single parameter systems based on descriptive visual criteria of overall site conditions (Frissell 1978, Hendee et al. 1976), 2) multiple parameter systems based on individual appraisals and measurements of specific resource impacts (Parsons and MacLeod 1980, Cole 1983), and 3) photographic systems based on visual comparison of site conditions (Magill 1965). Cole (1983) has reviewed and evaluated these systems and also discusses important characteristics to consider in the selection of an appropriate system. These include funding and manpower constraints, type and accuracy of information required, number of sites to be assessed, flexibility, and reliability.

In general, single parameter systems are rapidly and easily applied but provide only a summary assessment of site conditions. The visual criteria employed in these systems is somewhat subjective and requires careful training of personnel to achieve consistent results. Multiple parameter systems require more application time but provide reliable information for a variety of impact parameters. This information can also be aggregated to form summary impact ratings. Photographic systems provide useful visual records and are primarily useful as supplementary documentation.

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A good impact assessment system should be capable of differentiating and accurately assessing the extent of impact within the area in which it is applied. Assessment systems should therefore be individually developed to match the types of impacts and range of conditions present. In response to these needs a set of six procedures is outlined below for the development of flexible multiple parameter impact assessment systems.

Developmental Steps:

- 1) Select potential impact parameters. Parameters should be ecologically and/or managerially relevant and representative of the types of impacts present.
- 2) Specify measurement procedures for each of the selected parameters.
- 3) Test and refine measurement procedures on a small number of sites and apply to a larger sample of sites (approximately 40 to 60). These sites must be representative of the full range of use-, environmental-, and impact-related conditions present in the area for which the system is being designed.
- 4) Evaluate campsite measurements to determine the range of conditions for each impact parameter. This is most easily accomplished by constructing frequency distributions for each impact parameter.
- 5) Define impact rating descriptors and numerical classes so that approximately equal numbers of campsites fall into each class for each impact parameter.
- 6) Field test and refine. Develop a thorough field manual describing the assessment procedures for each impact parameter. Photographs are particularly helpful and can improve the consistency of judgements.

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