

Meaningful Measures for Quality Recreation Management

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Executive Summary: Recreation resource planning and management systems are implemented by public parks and recreation agencies to meet specific managerial needs. This paper describes the Meaningful Measures for Quality Recreation Management System (MM) that is being implemented by the U.S. Forest Service. This system is easily adoptable by other public agencies that manage park and recreation resources.

The paper first describes the managerial requirements that public park and recreation agencies are expected to meet. Then, managerial requirements that are and are not being met by other systems are described. This discussion provides a better understanding of how the MM system compares to these other systems. In brief, the following are the essential characteristics of the MM system.

* The system uses predetermined and national standards to help ensure (1) cost-effective, responsive, and accountable delivery of high-quality recreation opportunities and (2) reasonably consistent, uniform, and similar types of opportunities (e.g., developed-site camping) across different locations.

* The system is based on five broad indices of quality. Standards were written to ensure that each of these indices will be met for each type of recreation opportunity. The five indices of quality are health and Cleanliness, general recreation setting, safety and security, responsiveness to users; and condition of the facilities.

The six steps for implementing the MM system are to:

1. identify the measurable recreation components (i.e., types of recreation resources and facilities that provide different recreation opportunities) for the management unit,
2. establish standards of quality,
3. determine and level the costs of meeting the standards,
4. prioritize work to be accomplished,
5. develop a budget and allocate the recreation program of work,
6. monitor, measure, and report actual managerial attainment.

Limitations of the MM system and its adaptability by other recreation agencies also are discussed.

Keywords: Recreation management, impacts, quality, and standards

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Purposes and Organization

Since 1991, the U.S. Department of Agriculture's Forest Service has been field testing and refining a site- and project-level recreation resource management system known as Meaningful Measures for Quality Recreation Management (MM). MM was designed to meet the managerial requirements of the Forest Service that are not met by other available recreation resource management systems.

The purposes of this paper are to describe the MM system, the unique managerial needs it addresses in comparison to other systems, how the system is implemented, and several changes needed in the current system. The description should help other public park and recreation agencies to determine if the system is adaptable to their needs.

We use the words "management system" to refer to a systematically integrated and clearly articulated means for directing thoughts and actions to meet one or more managerial requirements when several sequential actions must be taken. The concept of the "management system" contrasts with a managerial technique, which is usually executive (e.g., interpreting a nature trail by placing signs on posts).

The following section of this paper describes the most essential managerial requirements that public park and recreation (and other) agencies are now expected to meet. The next section describes park and recreation management systems that are currently being used and explains which managerial needs they were designed to meet. The MM system will then be described and contrasted with the other systems. The paper ends with discussions of some needed changes in the MM system and its applicability to agencies other than the Forest Service.

Management Requirements

The public, as well as managers of public park and recreation agencies, expect that those agencies will perform in certain ways. The performance expectations can be called performance criteria, performance requirements, or simply managerial requirements or needs. Such performance-related managerial requirements or needs are distinct from other management needs, such as those for budgets, personnel, offices, and so on.

Synergism

Each of the management requirements that are described in the following section was defined by the interaction of two dynamic forces—articulation of expected managerial actions by the public and concerns by professional managers that such changes should occur. Demands by the public for specific management actions may lead to legislation that mandates those actions. Examples include the 1964 Wilderness Preservation System Act, the 1969 National Environmental Policy Act, and the 1975 National Forest Management Act. In other instances, changes in managerial

actions are directed by agency administrative decree, such as the Forest Service adopting the philosophy of sustainable ecosystem management in 1992. Thus, in some instances, public pressure causes changes in managerial direction, and in others administrative actions both reflect and lead public concerns. In most instances, there is a synergistic relationship between these two forces. Practically all public agencies that manage park and recreation resources currently recognize that the old "technically-trained-agency-personnel-always-know-what-is-best" approach no longer works; instead, all relevant stakeholders must be involved in setting managerial directions. That is why the Forest Service in 1997 adopted the managerial philosophy of "collaborative stewardship."

Current Requirements

The performance requirements now facing public park and recreation (and other) agencies have been defined incrementally over time and have become particularly pronounced since the early 1970s for two reasons. First, the National Environmental Policy Act of 1969 intensified public involvement in the decision processes of public agencies. Second, there have been increases in the state of knowledge about leisure behavior which, in part, was stimulated by the reports of the Outdoor Recreation Resources Commission in 1962. That increased knowledge has contributed greatly to advanced professionalism, including a better understanding by managers of the need for a customer-oriented approach to management.

This incremental development of managerial requirements explains why some of the management systems were introduced and implemented before others, as well as why none of those systems now meets all the managerial requirements that have been identified or have increased in importance. The most essential of those requirements are outlined below. They will be used to describe which requirements recreation resource management systems, including the *MM* system, were designed to meet.

Protect the Bio-Physical Environment: Agencies must not only reasonably meet societal needs dependent on natural and physical resources, but also protect, maintain, and improve those resources—whether a natural resource or the physical facilities necessary to provide particular recreation opportunities. Increasingly, this need has been defined as managing to ensure options for future generations or as sustainable resource management.

Need to Undertake a Balanced Approach: Managerial actions should ensure that multiple goods and services will be produced to meet diverse societal wants and needs, instead of managing resources under a single-use philosophy that emphasizes only one or a few goods and services.

Involve All Relevant Stakeholders: Following passage of the National Environmental Policy Act of 1969, this need has expanded beyond largely token public involvement in agency decision-making processes to the formation and maintenance of collaborative partnerships by which all major

stakeholders feel they are active and ongoing participants in the decision processes; i.e., they feel they have "ownership" in management.

Practice Total Quality Management (TQM): There are three important and related dimensions of *TQM*. First, there is the need to adopt a customer, not a visitor, orientation to management. A customer orientation considers the interests, preferences, demands, and potential managerial impacts on all customers, whether or not they ever visit the recreation site or facility. This dimension includes the need to provide for people with physical disabilities and the need to be sensitive to the unique preferences and demands of subcultures, including ethnic minorities. The second requirement of total quality management is that high-quality recreation opportunities should be provided for all types of customers. Third, clear quality-maintenance performance objectives must be set in order to measure the degree to which *TQM* has been achieved. Thus, *TQM* requires management by objectives.

Offer Reasonably Consistent Services: It is expected that some degree of consistency or uniformity will characterize similar recreation opportunities provided at different locations. For example, within a particular public agency, all developed campsites are expected to be similar regarding spatial and other standards. The key word here is *standards* to ensure uniformity of high quality opportunities.

Be Accountable: Public officials, including legislators, need to justify their use of public funds and to account for how those funds are used. They must be accountable to the public and to the wide range of governmental units that have oversight responsibilities. Accountability has become even more important in the face of limited fiscal resources, which have intensified competition for scarce public funds and a growing public distrust of government.

Be Cost-Effective: An agency can document its actions without being cost-effective. Thus, there is a need for public agencies to be, and to document that they are, cost-effective. This need overlaps with accountability in that there is a need to document and trace both capital expenditures and accomplishments.

Management Systems Currently Being Used

To understand why the *MM* system was developed and what it does, it is necessary to have some understanding of why other available recreation resource management systems were developed and what managerial requirements they do and do not meet.

Visual Management System: This system was introduced and refined in the Forest Service in the early 1970s (USDA Forest Service, 1974) to provide managerial direction for protecting and enhancing the visual/ scenic qualities of forested landscapes. The system requires an inventory of scenic characteristics and assessments of the public's visual sensitivity to the lands administered by the Forest Service. The results are scenery manage

objectives that recommend the types and degree of managerial modifications, if any, that would be most appropriate for specific landscapes in the national forests. As such, the system focuses primarily on the need to practice balanced management and, to a lesser extent, on the need to be responsive and to involve all relevant stakeholders. The system responds, in part, to public opposition to unsightly clear-cut units, and it requires selected user group appraisals of the visual sensitivity of particular landscapes. The Bureau of Land Management adopted a similar system, called the Visual Resource Management System, in 1978.

Recreation Opportunity Spectrum System (ROS): This system was developed in the late 1970s and early 1980s so that the Forest Service and Bureau of Land Management could meet requirements of the 1975 National Forest Management Act and the 1976 Federal Land Policy and Management Act (USDA Forest Service, 1982; Driver, Brown, Stankey, & Gregoire, 1987). The acts require that the two agencies develop land/ resource management plans in which all uses and values are considered. At the time, there were no cost-effective systems available to inventory recreation potential or guide recreation-oriented management of the lands managed by these two agencies. The systems then available were too costly and time consuming to implement and for other reasons were not acceptable to the managers (Brown, Driver, & McConnell, 1978). The major managerial requirement the ROS system addresses is to practice balanced management. To a lesser extent, the system helps meet part of the need to practice total quality management-the part that Addresses the need -for a customer orientation. ROS is at least partially customer-oriented because it focuses on users' recreation experience preferences. It also helps ensure provision of a spectrum of recreation opportunities for the public's selection.

Limits of Acceptable Change (LAC), Visitor Impact Management (VIP), and Visitor Experience and Resource Management (VERP): These three systems, introduced in the mid-1980s and early 1990s, are considered together because they are quite similar in what they do and how they do it. The LAC system (Stankey, Cole, Lucas, Peterson, & Frissell, 1985) has been used more widely than the VIM (Graefe, Kuss, & Vaske, 1990) and VERP (Manning, Lime, & Hoff, 1996) systems, which have been applied in several national parks. These systems are, in essence, impact management systems because they focus on systematically determining the social and biophysical carrying capacity of particular areas. They require the involvement of on-site users and other stakeholder groups (1) to help define critical indicators of undesirable impacts, including unacceptable densities of onsite users, and (2) to develop standards of unacceptable levels of impacts. Managerial options are then selected to accomplish the desired ends. As such, these systems were developed primarily to meet the need to protect the biophysical environment. Given their explicit concern about the density of on-site users, they partially address the requirement that agencies have a customer orientation (part of the need to practice TQM). To some degree, they also serve the need to involve all relevant stakeholders.

Scenery Management System (SMS): This system (USDA Forest Service, 1995) is a recent refinement of the Visual Management System (VMS). SMS changes the VMS system considerably by making it more compatible with the Forest Service's 1992 adoption of the philosophy of sustainable ecosystem management (which helps meet the need to protect the biophysical environment). It also explicitly requires gathering more information from "constituents," which addresses the need to involve all relevant stakeholders.

Benefits-Based Management: This is the newest system, with conceptual work initiated in 1991 (Allen, 1996, 1998; Driver, 1994; Driver, in press; Driver & Bruns, in press). So far, it has had little systematic application in federal agencies, although it has been implemented by several state park and recreation agencies and by many municipal agencies. This system complements and supplements the MM system, but does not reflect major changes made in the MM system. It is noted here for chronological completeness. Benefits-Based Management was designed to address all of the managerial requirements listed previously, especially those not met, or met well, by the other systems. It was also designed to operate integrally with the other systems.

Reflecting considerable advancement in the states of art and practice discussed at the beginning of this paper, each of the systems discussed above was developed by a team of practitioners and recreation scientists. As a result, each of the systems has a reasonable grounding in science since they are based on widely accepted theories of leisure behavior and are supported by empirical research (although the degree of support varies from system to system).

The MM System

Need for the MM System

The management systems described above provide little, if any, guidance about how a park and recreation agency can be cost-effective or accountable. In addition, except for the degree to which the ROS system establishes broad classes of recreational opportunities (from urban to primitive), none of the systems offers guidance on how to provide consistent recreation opportunities. The LAC, VIM, and VERP systems, by focusing on user density and impact management, do require the development of standards to maintain quality along these lines, but they have not yet been applied with a broad customer focus as required by TQM. The MM system, on the other hand, was designed to meet both managerial requirements and all of the requirements of TQM. In this respect, the MM system is an extension of the other three systems.

There were also several managerial requirements internal to the Forest Service that directed development of the MM system. They included the need to:

* coordinate the recreation program work of contiguous field units to avoid unnecessary duplication of effort and to take advantage of special recreation niches and comparative advantages;

* provide for the collection and processing of accurate and reliable data on recreation use, operational costs, and the need for additional capital investments. The data must be in a form that facilitates aggregation from field units up to higher administrative levels for the purposes of reporting, accountability, and budget preparation; and

* ensure fair and objective evaluations of employee performance at the site and project levels by using a management-by-objectives approach.

Finally, the Forest Service needed a management system to provide specific guidance on site- and project-level planning and management. For example, scenery management and ROS objectives were established (as a part of the national forest planning process) for areas that include a recreation site. However, more specificity was needed to address, for example, the health and safety of users. In addition, while LAC, VIM, and VERP provide guidance on site-level management, they do not meet other desired objectives, such as ensuring cost-effectiveness, accountability, and consistent recreation opportunities. Further, the Forest Service did not want to bear the cost of having each field unit separately determine a set of indicators and standards of quality, as required by these other systems.

Essential Elements of the MM System

The MM system is described in the *Meaningful Measures Workbook* (USDA Forest Service, 1996). The core of the system is its sets of national, duality-defining standards that ensure that five selected indices or measures of duality are met during the provision of specific types of recreation opportunity. A standard is defined as a "measurable and very specific managerial requirement that must be met to assure a specific dimension of quality." Thus, unlike other "quality-assuring" management systems such as LAC, VIM, and VERP (which require that indicators and standards of quality be defined each time the system is applied), the MM system includes preset standards that must be applied at each of the many ranger districts of the Forest Service. As noted previously, the preset standards keeps the MM system simple and cost-effective to administer, and helps ensure provision of consistent services. The national standards also help ensure more uniform accounting across field units.

Separate sets of standards were developed for the five key indices of quality and for different types of recreation opportunities. The five indices of quality are listed below and are followed by examples of the standards for developed recreation opportunities. The standards preceded by an asterisk are examples of standards that must be met; if they are not met, managers must take immediate remedial action to meet the standard or close the site, facility, or area.

Health And Cleanliness

- * Humans are free from unhealthy exposure to human wastes.
- * Water systems meet state and national standards.
- * Garbage does not exceed the capacity of the containers.
- * Graffiti is removed within 24 hours of discovery.

General Recreation Setting

- * Recreation impacts on highly sensitive areas will be mitigated as needed.
- * A vegetation management plan is implemented.
- * Scenery in the area is consistent with the scenery management objectives established for the area.
- * Management of the area is consistent with the ROS objectives established for the area.

Safety And Security

- * A documented site safety inspection is completed annually, and high
- * risk conditions are corrected prior to use.
- * High risk conditions that develop during the use season are corrected immediately.
- * Electrical systems meet applicable state and federal codes.
- * Patrols for an appropriate level of law enforcement are made.

Responsiveness

- * Facilities designated as accessible for people with disabilities must meet established guidelines.
- * The site entrance is well marked and easily found, and visitors feel welcome.
- * Seasonal and temporary employees receive an appropriate level of "good host" training.
- * Visitor satisfaction and needs assessments are made periodically.

Obviously, these are rather general key indices of recreation quality. A longer list of more specific indicators of quality could have been used, including levels of perceived crowding by other users or the physical impacts of recreation use on trails or lake shores. However, more specific indicators were not used because it is necessary to keep the MM system simple and cost-effective to implement. Each of the standards for the key indices of quality do address a specific dimension of quality.

The development of national standards that are acceptable to the approximately 600 field units of the Forest Service was a challenging task. The standards received several iterations of review by many field-level managers. To simplify the system, the standards were developed for general types of recreation opportunities, such as developed site recreation, instead for specific types of recreation activities.

The same standard is frequently listed for a particular index of quality for different categories of recreation opportunity. For example, developed recreation sites, trails, and general recreation areas all share an identical standard for the general recreation setting index of quality (USDA Forest Service, 1996). That standard requires that "management activities are consistent with the ROS objective that has been set for the area." This standard, among others, helps ensure that the settings are being managed to provide the types of recreation activity and experience opportunities that are appropriate for each ROS class or zone, as designated in the management plan for the area. Thus, a trail through an area designated as ROS primitive cannot have the same level of development or levels of user density permitted in an area designated rural or roaded natural. Similar standards exist for the scenic management objectives established for the area. In this way, the ROS and scenery management systems are integrated with the MM system.

Different standards are sometimes applied for the same index of quality for different types of recreation opportunity. For example, more demanding standards are needed to meet the health and cleanliness index of quality for a highly developed campground than for a trail. A list of all the standards can be found in the MM Workbook.

Implementing the MM System

The six steps to implementing the MM system were developed to keep the system as simple as possible. They are:

- (1) identify the measurable categories of recreation opportunity provided for the management unit,
- (2) establish standards of quality,
- (3) determine and level costs,
- (4) prioritize work to be accomplished,
- (5) develop a budget and allocate the program of work, and (6) monitor, measure, and report actual management attainment.

Each of these is briefly described below.

(1) Identify the Recreation Components: In this step, the management unit (which in the Forest Service is a ranger district of a national forest) must identify the location, type, and size of each recreation component that is being managed in that unit. The component identification includes, for example, the location and size of each developed campground. This inventory data will be used during the other five steps.

(2) Establish Standards of Quality: Each field unit is expected to apply the national standards, although they do have the limited options of making some of those standards more stringent, or developing additional standards as required (e.g., to protect a threatened or endangered species of fauna or

flora or to require guided visitation to a delicate cultural site). Such additional standards must not detract significantly from the provision of consistent/uniform services.

(3) *Determine crud Level Costs:* This step has two parts: determine the costs of meeting the standards for each component inventoried in Step I and compare the costs calculated by proximate management units. The purpose is to identify and resolve outstanding differences. The first part requires that each field unit determine and record what it will cost to meet fully the requirement specified by each standard of quality for each recreation component managed by that unit. Allowances must be made in these cost calculations for cost-related variations in managing particular elements within a component. For example, one campground in the developed recreation component might cost much more to operate at full standard than another because of travel distances, types of use allowed, amount of use, and length of time the campgrounds are open. Computer based spreadsheets have been developed to facilitate these computations.

Once cost calculations are completed, the second task is to "level" the costs by resolving discrepancies in the cost of meeting standards reported by proximate units (e.g., ranger districts within a national forest). These discrepancies between bordering units can be caused by real differences in the cost of operation (e.g., increased travel to service more remote components, higher levels of use at one component compared to a similar component, differences in local labor costs among proximate field units), or by poor managerial decisions (e.g., use of higher level staff for tasks that should be done by lower-level employees, use of inaccurate cost data).

To resolve discrepancies in cost data between proximate field units, the recreation program managers of those units meet to disclose and then verify and validate their cost data for each recreation component. Any discrepancies among units must be justified and agreed to by all the unit managers. This is a very important synergistic activity that promotes trust, mutual respect, and better understanding between the managers of neighboring field units. It provides a holistic perspective and serves to reduce wasteful and inefficient duplication of effort between the units. Furthermore, unit managers can determine which of the recreation services demanded across all the units can best be provided by specific units, and they can better coordinate their activities. The coordinated activities also help deter unit managers from attempting to provide all types of recreation opportunities at each unit. For example, before the MM system was adopted, the ROS system was applied only within the boundaries of each national forest, with no (or too little) attention paid to the types of recreation opportunities being provided on adjacent units. The improved cooperation generated by the cost-leveling exercise promotes better and more cost-effective service to the public.

After costs are leveled by proximate units, the data are used for several purposes: as estimates of the backlog of capital investments needed to rehabilitate facilities; to make other needed improvements and developments,

and, most importantly, to develop and prioritize the recreation program of work for each unit. It is through this process that the MM system helps ensure cost-effective and accountable operations at both the field level and at higher administrative levels.

(4) *Prioritize Work to Be Accomplished:* This step integrates several contextual factors to determine what the recreation-related priorities of the management unit are and how those priorities will change under different circumstances. Factors include customer preferences and demands; interests of other stakeholders; budgetary constraints; existing legal requirements; directions from higher administrative levels and from legislature(s); actual and potential liabilities; local cultural and historical factors; recreation opportunities provided by other agencies, nearby management units of the same agency, or other organizations; opportunities for cost sharing and other collaborative efforts including use of volunteers; economies of scale; and the recreation opportunity "niches" that can best be filled by a management agency implementing the MM system. While the managerial requirement, "involve all relevant stakeholders," was included in this process, the MM system needs additional strengthening in this area, as explained later.

In the Forest Service, work prioritization is based on recommendations from recreation program managers in the ranger district and from the forest leadership team, through the manager of the recreation program in the supervisor's office of a national forest. This prioritization process must be integrated with the other recreation resource management systems employed (e.g., the ROS, scenery management, and benefits-based management systems) and, in a multiple-use management agency such as the Forest Service, it must be integrated with uses other than recreation. The results of this step provide guidance for the tasks performed in the next.

(5) *Develop a Budget and the Recreation Program of Work:* During this step, personnel from lower management units work with those in higher units (e.g., ranger districts work with the supervisor's office of a national forest) to determine which of the recreation priorities established in the preceding step are feasible and have a high likelihood of success given budget and other constraints. They also try to identify facilitating factors, such as cost sharing and other collaborative efforts between the management unit and outside partners. As a result of these deliberations, the recreation program of work is determined, and budgets to accomplish that work are negotiated. The program of work establishes recreation priorities that will be pursued by the management unit (ranger district); i.e., which components and their elements will be managed at what level of targeted quality and, if necessary, which elements will be eliminated because of low demand or limited operating funds.

Because of budget constraints, each of the recreation components cannot always be managed at full or optimal quality, which is achieved when each of the standards for a component is met. Therefore, the MM system provides limited options for unit managers to provide some recreation

components or elements at less than full-standard quality, as long as critical health- and safety-related standards are not violated. These options are possible only when the alternative would be to close the facility or area because of limited funds. An example would be keeping a campground open in the fall during big game hunting seasons but not provide potable water or toilet paper during that time. These are special situations, however, and extreme care must be used when exercising these options so that the purposes and objectives of the MM system can still be achieved.

(6) Monitor, Measure, and Report Actual Management Attainment: The primary purpose of monitoring is to assess whether or not and to what degree the manager is meeting customer preferences, expectations, and needs at the established quality standard levels. This step also entails an assessment of whether or not the system is working as designed. The recreation program of work provides information on targeted performance, and the standards of quality provide objective guidelines for monitoring and measuring actual performance or attainment. The MM system provides for and requires the use of a computer-based system for recording and reporting recreation use, cost, and other data. The data are based on consistent measures across units, which can then be aggregated and used by higher administrative levels for many purposes, including justifying budget requests. This feature again shows how the MM system helps ensure cost-effective, economically efficient, and accountable management, as well as the provision of high quality and consistent recreation opportunities.

Because the MM system adopts a management-by-objectives approach, a manager's performance can be evaluated in terms of clear and measurable performance objectives that define the types, levels, quantities, and qualities of service they have agreed to provide. This manager's performance evaluation is a significant advancement over the previous, frequently inequitable, practice of evaluating work performance largely subjectively.

Needed Changes

The following modifications will improve the MM system.

- * *Further involve stakeholders and obtain better information on customer preferences:* As currently implemented by the Forest Service, the MM system does not adequately promote a collaborative style of management within which the customers, other stakeholders, and other providers are actively engaged in determining which recreation opportunities will be provided where, when, and for which stakeholders. As currently designed, the MM system does facilitate such collaboration, but it has yet to require it explicitly in the field units. Public involvement was solicited, however, when management plans for the national forests were developed, and the MM system is implemented within the guidelines established by those plans.

- * *Make some standards more explicit:* Some of the standards of quality are too vague and too subjective. They need to be made more objective and more quantifiable.
- * *Improve scientific base:* Additional research is needed to improve the MM system. For example, more documentation is needed on the degree to which a specific standard does in fact contribute to the provision of high quality recreation opportunities.

Adaptability to Other Agencies

Each of the seven managerial requirements described in this paper should be met by all public park and recreation agencies. Some agencies have adopted management systems similar to the MM system to help them meet these requirements. Other agencies employ systems that do not meet all of these requirements. Those agencies might find the MM system, or parts of it, useful.

To provide high quality recreation opportunities, park and recreation agencies must employ some indices of quality and apply standards to determine if desired levels of quality are being met. Some of these standards already exist for many types of recreation facilities and opportunities, such as for golf courses, ice rinks, sports facilities, and swimming pools. Within some states, standards also exist for state park campgrounds. Useful standards do not exist, however, for other facilities and opportunities. The indices of quality and standards developed in the MM system may help fill this gap.

We do not know the extent to which other agencies determine the costs of meeting quality standards or the degree to which they desire that similar types of recreation opportunities be reasonably consistent and uniform. Nor do we know the extent to which other agencies desire to practice total quality management and management by objectives. We believe, however, that the logic of the MM system, parts of the MM system, or the entire system-as modified to meet their specific needs-can be applied at many park and recreation agencies. It would seem to be particularly applicable to other agencies that provide hinterland outdoor recreation opportunities. Many agencies already have some standards of quality, and most have fairly good inventories of their recreation facilities and areas. Further, many of the activities required in the five steps for implementing the MM system can be undertaken even if the MM system is not being used.

Conclusions

On reflection, one can see that the MM system is not overly complex. Instead, it is straightforward, fairly easy to understand and apply, and not costly to implement, particularly after the first iteration of cost calculations has been completed. Given that the standards have been developed and most field units have a fairly good inventory of their recreation facilities and areas, the major additional cost of using the MM system is the computation

of costs to meet the standards (i.e., completing Step 3). In the Forest Service, this effort takes 3-5 person days to complete for a ranger district. Once completed, it is easily updated.

To review, the MM system accomplishes the following:

- * Ensures provision of safe and high quality recreation opportunities. by meeting explicitly defined standards of quality for specified recreation components.
- * Provides recreation services that are reasonably consistent with customers' desires, as determined by periodic surveys of customer preferences and satisfactions.
- * Coordinates the recreation opportunities provided by proximate field units.
- * Helps ensure cost-effective and accountable agency actions by:
 - a. Requiring cost calculations of the total recreation program of work at the field level with comparative validation of these costs by neighboring (or peer) field units.
 - b. Negotiating the recreation program of work by proximate field units to take advantage of comparative advantages of each unit.
 - c. Negotiating and prioritizing the recreation program of work in cooperation with the supervisor of the field unit manager so that the recreation program of work is reasonably commensurate with available funding and social, political, and environmental considerations.
 - d. Providing objective and quantifiable guidelines for determining the degree to which a field unit's management goals and objectives are met.
 - e. Identifying, reporting, and communicating the unit costs of managing the recreation program of work at the field level.
- * Meets regional and national recreation data needs such as information on levels of use, customer satisfaction, and other information about the customers, costs of operation, and estimates of funding needed for additional personnel, rehabilitation, and capital improvements.
- * Provides data for an equitable and objective employee performance system.
- * Promotes mutual understanding and trust, and improves cooperation among proximate field units within an agency.

The MM system was developed specifically to meet these important needs.

The *MM* system has generally been well received by recreation field managers in the Forest Service, as well as by most of their supervisors and upper-level program managers who, in a multiple-use agency, also have responsibilities for timber, range, wildlife, and water resources management. While some improvements are needed in the MM system, especially increased involvement of stakeholders in establishing priorities for the recreation program of work, the system is adaptable to the needs of many recreation program of work, the system is adaptable to the needs of many other agencies that manage park and recreation resources.

References

Allen, L. R. (1996, March). A primer: Benefits-based management of recreation services. *Parks And Recreation*, 64-76.

Brown, P. J., Driver, B. L., & McConnell, C. (1978). The opportunity spectrum concept and behavioral information in outdoor recreation resource supply inventories: Background and application. In G. Lund, V. LaBau, P. Flolliott, & D. Robinson (Tech. Coords.), *Proceedings, workshop on integrated renewable resources(pp.73-84)* (Gen. Tech. Rep. RM-55). Ft. Collins, CO: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Driver, B. (1994). The recreation production process: The benefits-based approach to amenity resource policy analysis and management. In Friluftsliv, *Effekter og goder, Dn-notat, 1994-7, Direktoratet J'orNaturforvaltning Tungasletta 2, 7005 [Proceedings, Scandinavian conference on recreation: Benefits and other positive effects]* (pp. 12-30). Trondheim, Norway: Norwegian Institute of Nature Studies.

Driver, B. L. (in press). Management of outdoor recreation and related amenity resources for the benefits they provide. In H. K. Cordell (Ed.), *Outdoor Recreation and wilderness demand and supply trends in the United States: A renewable assessment for the Resources Planning Act. Champaign, II.:* Sagamore Publishing.

Driver, B. L., Brown, P. J., Gregoire, T., & Stankey, G. H. (1987). The ROS planning system: Evolution, basic concepts, and research needed. *Leisure Sciences*, 9(3) 203-214.

Driver, B., & Bruns, D. (in press). Concepts and uses of the Benefits Approach to Leisure. In T. Burton and E. Jackson (Eds.), *Leisure studies at the millennium*. State College, PA: Venture Publishing, Inc.

Graefe, A., Kuss, F., & Vaske, J. (1990). *Visitor impact management*. In Volume Two of a report examining visitor impact management for the national parks and other recreation lands. Washington, D. C. National Parks and Conservation Association. pp. 83-96.

Manning, R., Lime, D., & Hot; M. (199G). Social carrying capacity of natural areas: Theory and application in the U.S. national parks. *Natural Areas Journal*, 16(2) 118-127.

Outdoor Recreation Resources Review Commission. (1960). *Outdoor recreation for America*. Washington, D. C.: Government Printing Office.

Stankey, G. H., Cole, D. N., Lucas, R. C. , Peterson, M. E., & Frissell, S. J. (1985). *The limits of acceptable change(LAC) of wilderness planning* USDA Forest Service Gen. Tech. Rep. INT 176. Ogden, UT: Intermountain Forest and Range Experiment Station.

USDA Forest Service, (1974). *The visual management system*. Washington, D. C.: U.S. Government Printing Office.

USDA Forest Service. (1995). *Landscape aesthetics: A handbook for scenery management*. Washington, D. C.: U.S. Government Printing Office.

USDA Forest Service. (1996). *Meaningful measures workbook*. Washington, D. C.: Author.

USDI Bureau of Land Management. (1978). *Visual resource management*. Washington, D. C.: U.S. Government Printing Office.