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Managing for Recreation Benefit Outcomes to Improve Community Resilience and Adaptive Capacity

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ABSTRACT

The concepts of resilience, adaptive capacity and complex adaptive systems have not, to date, been applied to outdoor recreation. In this paper, we develop the Recreation System Community Resilience Framework featuring Communities, Green Spaces and Recreation Services. Although supporters laud the benefits of recreation to human communities, the lack of an outcome-focused approach has prevented the profession from becoming a meaningful indicator of community resilience. The Benefits-Based Model (BBM) enables communities to make better decisions regarding the positive and negative outcomes produced by the Recreation System on quality of life for citizens, vibrant and livable communities, diverse and stable local economies and sustainable ecological environments. Managing for benefit outcomes helps communities build adaptive capacity for resiliency, reduce vulnerability to inevitable social and ecosystem changes, and maintain sustainable options for a desired future.

INTRODUCTION

There is currently little evidence of any cross discipline relationship between outdoor recreation and community resilience, despite a growing body of evidence that suggests there should be. Health and Human Service Departments at the national, state and municipal levels do not consider outdoor recreation a meaningful indicator of community health and well-being. Currently, no programs utilize recreation benefit outcomes to measure community resilience. Compounding the lack of any practical evidence is that the literature is devoid of empirical research linking resilience and recreation benefit outcomes. There are, however, studies showing the benefit outcomes of recreation to the community.

Benefits refer to enrichments and improvements in personal, social, economic and environmental outcomes resulting from participation and support of recreation. The benefit outcomes are conceptualized in the Benefit Outcomes Approach to Leisure theory and operationalized in the Benefit-Based Model (BBM) or Outcome-Focused Model. Examples of social outcomes include: reduced social isolation; more highly motivated students; improved community integration; increased community sense of place; reduced number of at-risk youth; enhanced life style; greater community valuation of its ethnic diversity; greater family bonding; and improved group cooperation, to name a few.

The recreation profession has long heralded the benefits of recreation as endless and a critical aspect of society. It has also lamented not being treated as an essential public service along with that of justice, emergency response, health care and public works. Today, the public value of the recreation lies mainly in the intuitive realm. Most all agree that recreation and green spaces are inherently good for society. However, this inherent good has not been widely or systematically managed for in either a place-based outcome-focused approach or holistic process considering all Recreation System components.

Of the three Recreation Production Models presented, the Benefits-Based Model (BBM) is highlighted as an outcome-focused solution that seeks to provide benefits for individuals, communities, economy and environment as the ultimate product. Emphasis on producing benefit outcomes and avoiding negative outcomes allows recreation service providers to relate their diverse products to citizen quality of life, community health and well-being, economic stability and ecological sustainability. In this manner, the public good and value of acquiring and protecting green space and providing public funding for recreation is more fully realized.

The lack of an outcome-focused approach in recreation has prevented the discipline from being regarded as other than the "Department of Fun and Games". This perceived role is actualized in deteriorating funding and a lower priority in times of budget constraint. Understanding the relationship and role of the Recreation System in community resilience and adaptive capacity building provides decision-makers another indicator for maintaining and enhancing sustainable and thriving human-ecological communities, particularly when increasing numbers of people reside in built urban environments (Ellis and Ramankutty 2008).

The concepts of resilience will be applied to each recreation model for comparison and best fit. Resilience theory utilizes a holistic process in conceptualizing how to maintain a community in a desired state of livability. Applying resilience theory to recreation can only be accomplished through the BBM as the means to connect and integrate recreation benefit outcomes to improve and build community resilience and adaptive capacity.

Emerging from the application is an agent-based Recreation System Community Resilience Framework. This framework seeks to explain resilience and recreation behavior phenomena through agents interacting within community and green space settings at the neighborhood scale to produce positive and negative outcomes that feedback to the agents, community, economy and environment.

BENEFIT OUTCOME APPROACH TO LEISURE THEORY (BOAL)

Motivation theory has played a key role in explaining recreation behavior that people engage in outdoor recreation in their leisure time to satisfy unmet needs and attain desired outcomes. Maslow's Hierarchy of Needs Theory of Motivation and Vroom's Expectancy Theory of Motivation are two key works leading to the BBM.

Maslow (1934) argues that goals manifesting themselves as needs and desires are the centering principles of motivation resulting in human behavior. He describes basic

human needs and increasingly higher levels of hierarchical needs that humans seek once lower level needs are met. Wager (1964) describes eleven basic needs that people seek to satisfy through recreation and proposes that if we measure the needs, we could further understand "why" people engage in recreation activity at a particular location. He argues that as recreation participation of an area increases, the quality of the recreation experience is negatively impacted due to a decrease in personal satisfaction. Driver and Tocher (1970) further framed the discussion of recreation as a rewarding endeavor in that people seek higher level benefits through recreation than just participation in a recreation activity. They further point out the pitfalls of providing for more recreation activity opportunities without considering desired experience opportunities. Driver and Brown (1978) describe a recreation demand-needs hierarchy in terms of recreation behavior that first seek to fulfill basic recreation activity needs then to fulfill higher recreation experience desires within the context of activities. Beyond the desire to fulfill basic activity needs and higher experience needs there are motivations and needs to realize even higher levels of recreation benefits.

Vroom (1964) argues that people will be motivated to behave in a certain way based on the expectation that the resultant behavior will produce an attractive and desired outcome. Lawler (1973) applied workforce studies to expectancy theory to describe that motivations are the result of the perceived likelihood of a desired outcome. He describes that if perceived outcome or desirability of the outcome is low, motivation to engage in the behavior leading to the outcome will be low. He further describes that outcomes might either be ends unto themselves or a means to additional higher level outcomes.

The Recreation Experience Preference Scales (REPS) were developed to aid in the collection of empirical evidence that recreation results in experience opportunity outputs and outcomes. Driver (1983) states, the REPS were designed to measure the extent to which specific experiences are desired and expected from individuals choosing to engage in specific leisure activities. Throughout the 1980's, many recreation experiential studies were conducted to test the reliability and validity of the REPS. Refer to Appendix A of Moore and Driver (2005) for a recent posting of the evolving REPS.

The BOAL theory describes the evolution of recreation from just an activity to engage in, to a behavioral definition where experiences achieve a higher level need, and then to attainment of even greater benefit outcomes for improved human conditions through participation and support of recreation and green spaces. Experiential studies also spurred interest in defining and systematically measuring the greater outcomes and demand beyond those of recreation experiences. Driver et al. in the Benefits of Leisure (1991), document the state of knowledge on the benefit outcomes of recreation and urge additional work to further measure the outcomes as a gain (improved condition) or loss resulting from recreation. The Canadian Benefits Catalogue (1997) furthers the benefit outcome movement by collecting and documenting the specific science-backed studies and evidence that recreation produces benefit outcomes.

Throughout the 1990's, additional experience and benefit outcome-related research continued as BOAL evolved. Driver and Bruns (1999) defined positive or beneficial

outcomes as improved human conditions, maintenance of desired conditions, and satisfying recreation experiences. Negative or detrimental outcomes are decreased human conditions, unwanted conditions, and dissatisfying recreation experiences. Driver and Bruns also provided a checklist list of specific types and general categories of benefits that have been attributed to leisure through research. The categories included personal, social, economic and environmental benefits. Refer to Chapter 2 of Moore and Driver (2005) and Driver et al (2008, in press) for a more recent Benefits Checklist.

Just as the REPS provided the impetus for a systematic and scientific approach to an experience-based model of recreation, the Benefits Checklist has provided the foundation for an outcome-focused approach to address the higher needs and desire for recreation benefits beyond activity and experience motivation. The benefit outcomes have advanced and expanded the recreation theoretical framework by revealing additional Recreation System components that were not taken into account previously, thus leaving prior models incomplete for explaining the full value of recreation.

RECREATION PRODUCTION MODELS

Understanding the evolution of recreation theory allows for instructive dialogue on the recreation production process. Using Buckley's General Systems Theory (1964), recreation behavior and generation of recreation products have been modeled. There are three Recreation Production Models – the Activity-Based Model (ABM), the Experience-Based Model (EBM), and the Benefits-Based Model (BBM) presented here as adapted from Bruns, Driver and Hopkins (2000) and Moore and Driver (2005).

The basic ABM portrays a system that aims to produce activity opportunity outputs through on-site management of the physical and operational settings of a green space and implementing actions of the green space manager. The limited EBM portrays an expanded system that incorporates ABM by considering recreation behavior to produce activity as well as experience opportunity outputs through management of green space social settings in addition to physical and operational settings. The BBM further expands ABM and EBM by incorporating all Recreation System components that: target benefit outcomes as the ultimate product of the system; 2) produces system outputs of benefit opportunities in addition to activity and experience opportunities; 3) considers off-site adjacent community settings as well green space settings of physical, operational and social; 4) considers the influence of a network of recreation service providers (both on-site green space managers and community-centered service provider businesses, non-profits and other governmental agencies); 5) takes into account negative impacts and detrimental outcomes from the system beyond that of just green space visitors to community residents, local economy and the regional ecological environment; and 6) considers the public value and support of the green space beyond that of the on-site visitor and nearby community resident to that of someone far away that may incur off-site benefits without ever intending to visit.

Table 1 compares each model by system structure of Inputs, Throughputs, Outputs, and Outcomes. Notice the evolution and progression from basic ABM, to limited EBM, to advanced BBM in terms of system components and how each progressive model

incorporate the components of lesser models. The advanced BBM is a whole systems approach which includes all components of producing recreation opportunity outputs while managing for attainment of positive benefit outcomes and mitigating negative consequences. In reality, all Recreation System components operate regardless of the model implemented. However, activity-based and experience-based managers elect not to assess or plan for or are even aware of detrimental outcomes and negative effects to community settings in their management, monitoring and marketing actions as they do not account for those components.

Table 1. System Structure Comparison of Recreation Production Models

	System Inputs (Provider Actions)	System Throughputs (Settings)	System Output (Opportunities Produced)	System Outcomes (Resulting Outcomes)
ABM	Activities	Physical Operational	Activity Opportunities	No Outcomes are Considered
EBM	Activities Experiences	Physical Operational Social	Activity & Experience Opportunities	Experience Outcomes (+/-)
BBM	Activities Experiences Benefits	Physical Operational Social Community	Activity, Experience, & Benefit Opportunities	Experience Outcomes (+/-) Personal Outcomes (+/-) Social Outcomes (+/-) Economic Outcomes (+/-) Environmental Outcomes (+/-)

Chart 1 displays system components to demonstrate the inclusive and progressive nature of each model as it incorporates the components of the lesser models.

Chart 1. System Component Comparison of Recreation Production Models

Recreation System Components and Products	ABM	EBM	BBM
Recreation Visitors	*	*	*
Green Space Managers & Providers (on-site)	*	*	*
Green Space Physical Settings	*	*	*
Green Space Operational Settings	*	*	*
Recreation Activity Opportunity Outputs	*	*	*
Green Space Social Settings		*	*
Recreation Experience Opportunity Outputs		*	*
Recreation Experience Outcomes (+/-)		*	*
Community Settings			*
Network of Recreation Service Providers			*
Off-site Recreation System Supporters			*
Recreation Benefit Opportunity Outputs			*

Quality of Life Outcomes (+/-)			*
Community Outcomes (+/-)			*
Economic Outcomes (+/-)			*
Environmental Outcomes (+/-)			*

The BBM thrusts recreation from a micro sole source provider world inside green spaces into the macro world of the greater community and society which established both for the greater public good. BBM makes the recreation-community linkage by inclusion of community settings and the greater community-centered network of recreation service providers. Citizen and community support for land allocations and funding for green spaces and green space management are critical in BBM to produce positive public benefits from recreation. Thus, implementation of the BBM is paramount to connecting the recreation system green spaces and recreation services with that of the greater community to which it is intrinsically linked.

COMMUNITY RESILIENCE, HEALTH AND WELL-BEING

Understanding the gap between practitioners in recreation and community resilience is illustrated in Gibbs and Brown (2000). They report that many state, county and community programs seek to provide community indicator systems for developing strategies for understanding community viability, health and social functioning. Of the reported state, county, and community-based programs, none list any recreation experience or benefit outcome indicators. A few governmental entities identify activity-based outputs in terms of numbers of participants in recreation programs, numbers of miles of recreation trails, and number of acres of open space. This activity-based approach is similar to the incomplete ABM and will likely only yield trends on quantitative recreation data rather than performance and qualitative data to measure community resilience.

The recreation literature, namely Marans and Mohai (1991), Allen (1991), Anderson et al. (2008) identify many of the recreation system outcomes listed in the Benefits Check List as indicators or measures of recreation and green space benefits for community health. Their studies are founded in the BOAL theory. However, due to the lack an outcome application of BBM in recreation management practice, the recreation profession remains disconnected and unable to provide meaningful outcome data as an indicator of community resilience, health and well-being.

The resilience literature almost exclusively identifies the green space component of a community as a link to only ecological resilience. The discussion has been framed in terms of ecosystem services which equate to only recreation environmental benefit outcomes in the BBM. Thus, neither resilience practitioners nor the resilience literature recognizes recreation as a whole systems generator of social outcomes including community health and resilience.

SOCIAL ECOLOGICAL SYSTEM RESILIENCE THEORY

Community Resilience and Adaptive Capacity is broadly defined as ability of a human community to respond to socio-economic, political and ecological change in a

manner that enhances a desired state of livability. The concept of resilience is defined in Folke et al. (2002) as the adaptive capacity to absorb unexpected change, crisis, and shock while maintaining function. The antonym of resilience is vulnerability which refers to the loss of function to provide ecosystem services like clean water, clean air, and food of which humanity and society depend. It is recognized that humans can transform ecosystems into more or less undesirable conditions from which to provide those services. Such a change could shift a resilient system into a vulnerable and undesired one. A resilient social-ecological system can cope, respond, and adapt to natural and social changes without destroying future options to maintain vital ecosystem services, including desirable social and recreation services.

Magis (2007) provides the descriptive evolution of community resilience from the assumption that communities are stable: 1) which oversimplifies the relationship between humans and nature; 2) that a stable economy does not equate to community well-being; 3) that a stable flow of resources is not possible and doesn't guarantee community stability; and 4) that communities are complex and change sometimes drastically over time rather than remain constant. The contention is that human communities are dynamic and are constantly evolving under fire from internal and external political, social, economic, and natural drivers for which there are no direct controls, only the desire to control these forces.

In applying resilience concepts to recreation, we readily observe that recreation activities, experiences and outcomes change temporally and spatially among all classes of visitors and green spaces. Similarly, recreation needs, desires and demands of the public change the system and may be complex. Results have been difficult to predict and undesirable effects include displacing visitors due to not being able to meet their basic and higher level benefit outcome needs. Additional undesirable effects include transforming the distinctive and unique character of green spaces so they are unable to produce highly valued outcomes. Reversing or restoring desirable benefit outcomes would be expensive and difficult. The adaptive capacity to respond to change in recreation needs and behavior is critical to maintaining the valuable function of benefit outcomes or Recreation Services produced by the Recreation System. The loss of resilience to absorb certain and unpredictable change make the recreation system vulnerable to losing the capacity to generate highly valuable recreation services such as activity, experience and benefits output opportunities and resulting benefit outcomes to quality of life, society, economy and environment.

One of the foci of resilience is an attempt to understand and anticipate the source and role of unpredictable socioeconomics, politics, and ecosystems dynamics and what kinds of change create undesirable transformation and which ones create adaption. Increasing resilience is about: 1) anticipating that change will occur; 2) collaborating, learning and organizing in response to change; 3) ability to understand and explain interactions; and 4) taking an interdisciplinary and integrated approach to cross-scale local to global dynamics. The BBM contains the interdisciplinary approach in that it considers the psychological, sociological, economic and ecological disciplines. The BBM also considers the cross-scale nested concept of green spaces embedded within a community.

It allows for adaptive management in the baseline collection of all system component data and monitoring of outcome-focused objectives to adjust to temporal changes in recreation needs and behavior within the recreation and community setting context. The BBM features a collaborative network of recreation service providers that affect and are affected by green space settings management and outcomes produced.

Chart 2 summarizes the conceptual match and best fit between resilience concepts in comparison with the three Recreation Production Models. Resilience and BBM each rely on a holistic systems approach which is interdisciplinary, cross-scale, proactive, outcome-oriented, functionally directed, concerned with long-term quality services, non-linear, continually evolving, and facilitating adaptive management and a collaborative network of stakeholders.

Chart 2. Resilience Concept Comparison to Recreation Production Models

ELEMENT	RESILIENCE	ABM & EBM	BBM
Proactive Management Style	Yes	No	Yes
Evolving Management System	Yes	No	Yes
Adaptive Management	Yes	No	Yes
Complex Adaptive System	Yes	No	Yes
Holistic System Type	Yes	No	Yes
Feedbacks to all system components	Yes	No	Yes
Community-centered	Yes	No	Yes
Network of Service Providers	Yes	No	Yes
Cross-Scale Nested Dynamics	Yes	No	Yes
Desired System Outcomes	Yes	No	Yes
Long-term Performance Incentives	Yes	No	Yes
Collaborative Network of Institutions	Yes	No	Yes
Interactions between all components	Yes	No	Yes
Values Diversity	Yes	No	Yes
Interdisciplinary Approach	Yes	No	Yes

RECREATION SYSTEM COMMUNITY RESILIENCE FRAMEWORK

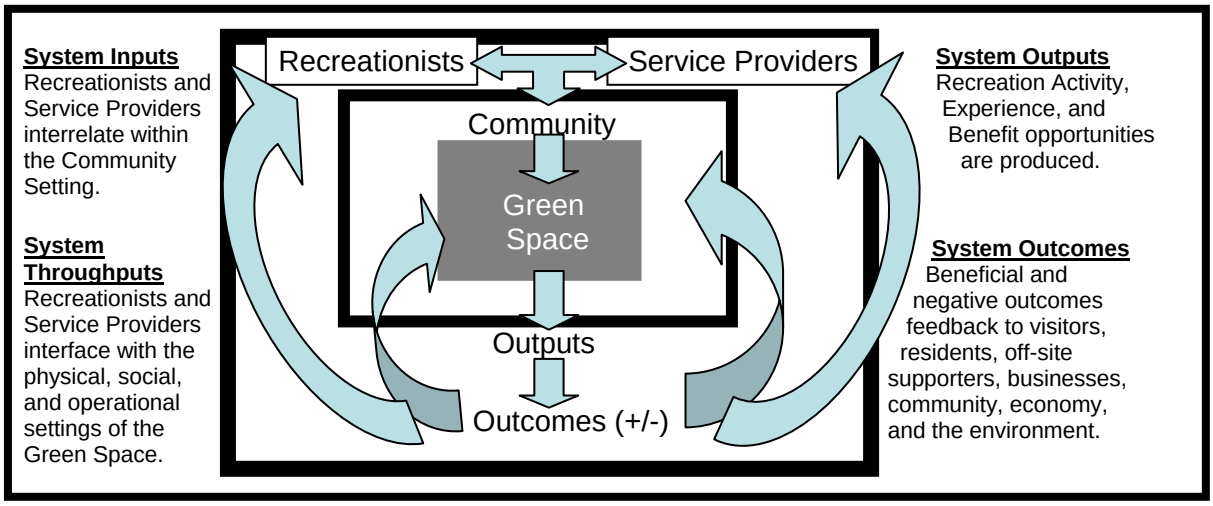
The Recreation System Community Resilience Framework identifies the theoretical phenomena linking Resilience and Recreation. Much like Ecosystem Services are to resilience, Recreation Services are the public values realized in the production of recreation output opportunities and the emergent benefit outcomes. Utilizing a resilience framework, the recreation management paradigm is transformed from an activity-based sole source provider of on-site recreation activities, programs, projects and facilities island unto itself into an integrated and functional component of the larger community.

The Recreation System is introduced as an embedded subsystem of the social-ecological system. The Recreation System consists of green spaces nested within community systems nested within regional and even larger social-ecological systems. Green Spaces can be defined broadly as undeveloped open space, forests, deserts, rivers, lakes or ocean or more specifically as designated parks, trails, wilderness, and greenway corridors. This cross-scale process traces the interactions of recreation agents through the community

and green space interface and their interactions with the recreation service provider network to produce Recreation Services.

As Figure 1 more specifically reflects, the flow of Recreation agents (visitors, residents and off-site remote supporters) interrelate with the Network of Recreation Service Providers (green space managers, commercial business, governmental entities, non-government organizations, etc.) outside and within the Community and Green Space. Recreationists and Service Providers interface with Community Settings (infrastructure, residential and commercial property, etc.) and Green Space Settings (physical, operational and social). The interaction produces activity, experience and benefit output opportunities and also personal, social, economic and ecological outcomes (positive and negative) that emerge and feedback to agents, service provider network, community, economy and environment at local neighborhood, citywide and more global scales. This adaptive cycle builds resilience as agents self-select themselves in and out of green spaces depending on the outcomes they are seeking to attain or avoid at any particular time. A varied and diverse array of outcomes is assumed to build higher levels of resilience as it offers greater opportunity for agents to match their desired outcomes with green spaces that are managed and provide for those outcomes.

Figure 1. Recreation System Community Resilience Framework



The entire Network of Recreation Service Providers within and outside the Green Space collaboratively plan, manage, monitor and market for positive outcomes for visitors, residents, community, economy and ecological environment. They also recognize the negative outcomes emerging from the system and cooperatively move to mitigate their detrimental effects. The green space management plan explicitly states the outcome-focused management objectives and stipulates the settings character and condition indicator and standards of the Green Space and applicable Community setting prescriptions to facilitate benefit outcome attainment.

SUMMARY

Application of the Benefits Outcome Approach to Leisure and Benefits-Based Model (BBM) to the theory and concepts of Community Resilience bridge the gap between the Community and the Recreation System. The BBM provides a best fit with Community Resilience Theory and an effective method for the recreation profession to be considered an essential public service. Community decision-makers then gain an important indicator of community resilience, health and well-being, which to date, has not occurred.

Not only is this application of resilience concepts to outdoor recreation new, inclusion of urban settings in BBM is unusual in that most recreation research has focused on vast expanses of federal lands, apart from communities. These large tracts include Bureau of Land Management Public Lands, Forest Service National Forests, Fish and Wildlife Service National Wildlife Refuges, and Park Service National Parks.

If managed for community resilience, the Recreation System can produce increased quality of life for both visitors and residents, add value to communities and society, diversify local economies, and sustain ecological environments at multiple scales.

Proactive benefit outcome management of the recreation system will enhance, improve and build community resilience and adaptive capacity to respond to inevitable social-ecological change to maintain communities in a desired state of livability.

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LITERATURE CITED