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Developing an Operational Model of Sustainable Recreation: A Qualitative Study of USDA Forest Service Southwestern Region National Forests

Jeremy A. Golston

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**DEVELOPING AN OPERATIONAL MODEL OF SUSTAINABLE RECREATION: A
QUALITATIVE STUDY OF USDA FOREST SERVICE SOUTHWESTERN REGION
NATIONAL FORESTS**

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**Thesis submitted to the Division of Forestry & Natural Resources
at West Virginia University
in Partial Fulfillment of the Requirements
for the Degree of**

**Master of Science
In
Recreation, Parks, and Tourism Resources**

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Recreation, Parks, and Tourism Resources

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**Keywords: USDA Forest Service; sustainable recreation; outdoor recreation
management; qualitative research; monitoring; sustainable development**

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Abstract

Developing an operational model of sustainable recreation: A qualitative study of USDA Forest Service southwestern region national forests Forests

JEREMY A. GOLSTON

This thesis describes a qualitative investigation of the implementation of the *Southwestern Strategy for Sustainable Recreation*. Its purpose is to elaborate an operational model of sustainable recreation management. Eleven forest-level public land outdoor recreation management programs in the Southwestern Region of the USDA Forest Service developed five-year sustainable recreation action-plans in 2015 under the guidance of the Regional strategy. The purpose of this case-study research is to investigate how individual national forest-level recreation programs in the Southwestern Region operationalized sustainable recreation during the study time frame.

The grounded theory research approach applied in this research study reveals empirical knowledge about how sustainable recreation was implemented at the forest-level from an “on-the-ground” perspective. Grounded in the data, foundational relationships are presented which are essential to sustainable recreation program delivery. In addition, action-oriented components areas are identified for a sustainable recreation program. The researcher also highlights study findings which indicated how interrelationships between: the Recreation Program, the Agency, and the Community can increase the capacity of public land outdoor recreation programs. The emergent operational model developed through this study can help recreation managers to assess their own recreation program and build capacity.

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CHAPTER ONE: INTRODUCTION

The desired future state of a resource often frames discussions about sustainability. Frequently overlooked by policy-makers are pragmatic frameworks which guide an organization towards a sustainable future. Sustainable development is referred to by many, as a path to sustainability, and the most commonly referenced definition is, “development which meets the needs of the present without compromising the ability of future generations to meet their own needs,” (WCED, 1987 p.43). This definition was published in the 1987 report *Our Common Future*, during a time period in which the concept of sustainability garnered national attention. The publication of *Our Common Future* is recognized as a significant landmark because this report communicated to a mass audience which had not been previously reached. The report also stimulated significant study of the concept (Waas, Hugé, Verbruggen, & Wright, 2011).

However, sustainable development remains an inherently “vague” and “complicated” topic (Verbruggen & Kuik, 1991). Since the publication of *Our Common Future*, the scientific community has offered less empirical knowledge of how sustainable development is being operationalized in government, business, and civil society sectors. Much of the scholarly literature has been theoretical, often developing conceptual frameworks to inform policy or future management actions.

The most often recognized visual display of sustainable development is the “triangular conceptualization” (Kemp & Marten, 2007). In this particular visual operationalization, each angle of the triangle represents a pillar of sustainability: economy, environment, and society. Sustainability is represented by the space within the middle of the triangle. This space is a visual representation of where balance is achieved between the dimensions of sustainability. Also, the triangular conceptualization displays another important consideration of sustainable development: the inter-relationships between the social, economic, and environment dimensions (Verbruggen & Kuik, 1991).

Sustainable development is incorporated into the modern mission of the USDA Forest Service (USFS), “to sustain the health, diversity, and productivity of the Nation’s forests and

grasslands to meet the needs of present and future generations.” An ecosystem approach is used to manage over 193 million acres of public lands. When decisions are made using this approach land managers take into account the social, economic, and environment dimensions. “Sustainable land management helps forests and grasslands to remain healthy and enables them to continue producing goods and services to meet multiple public demands, thereby contributing to human health, prosperity, and quality of life for local communities and for the Nation as a whole,” (USFS FY 2017 Budget Justification, p. 17).

However, there is not one singular definition of ecosystem management accepted by the natural resource management scientific community (Butler & Koontz, 2005). Several themes of this natural resource management approach are identified by (Grumbine, 1994). He identified these themes after an extensive review of ecosystem management scientific literature and developed a “working definition” of ecosystem management. Concepts of sustainable development are found in this “working definition” of ecosystem management: “ecosystem management integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long-term,” (p.31). While the USFS has officially adopted ecosystem management as its preferred natural resource management approach, (Butler & Koontz, 2005) point out that, “policy adoption is not the same as policy implementation, and carrying out new practices on the ground can be exceedingly difficult,” (p.138).

Since the Agency’s inception, regardless of how outdoor recreation management has been reflected its mission, the public lands managed by the USFS provide the settings where the American public seek the opportunities to receive the benefits from outdoor recreational activities. Today, many people directly and in-directly benefit from USFS system lands which provide important cultural ecosystem services--outdoor recreation. A large percentage of the US population visit USFS managed lands with the intention of participating in outdoor recreational activities--national forest lands host an average of 142.7 million recreation visits annually (USFS FY 2017 Budget Justification).

Participation in outdoor recreational activities is often how many community members “get-to-know” the national forest lands which surround them. Today, outdoor recreation serves as an ever important portal, vital for the American public to connect to public lands (Eisenhauer, Krannich, & Blahna, 2000). The personal well-being benefits of participation in recreational are often recognized by proponents of outdoor recreation on public lands. However, the economic benefits from outdoor recreation is receiving societal awareness as well. The Outdoor Industry Association reports that Americans spend over \$646 billion on outdoor recreation each year. In addition, the outdoor industry generates \$40 billion in federal tax revenue and \$40 billion in state and local tax revenue annually. “This outdoor recreation economy depends on availability and access to quality trails, waterway, forests and parks,” (S. Barker, personal communication, April 30 2015).

A modern USFS public land outdoor recreation management perspective integrates both sustainable development and outdoor recreation management. Ideally, outdoor recreation is viewed as valued contributor to sustainability of ecosystems, near-by communities, and to the mission of the Agency. However, management of these social-ecological systems is quite complex. To manage effectively in this era of complexity, land mangers needs to develop a better understanding of how their decisions affect the ecosystem, and pursue measures to reduce systems complexity (McCool, Freimund, & Breen, 2015).

For the last century, management of recreation resources in the national forest system was tasked to USFS personnel operating within the recreation program. These USFS employees focused on managing a multitude of settings which support diverse recreational opportunities all with an ultimate goal: visitor satisfaction (McCool, 2006). Focusing solely on visitor satisfaction might have left recreation program managers in a vacuum which ignored a change from a static to a dynamic and complex operating environment, and the societal shift between the public and federally managed lands (McCool & Freimund, 2016). In fact, this shift is so concerning to public land managers that in a 2014 survey of Federal Wilderness Area managers, 53% said they were concerned about “disconnected urban audiences” (Dawson et al., 2016). For these reasons, recreation managers across the USFS system have felt dislocated and have questioned the

alignment of their program's mission with the new sustainable mission of the Agency (USDA U.S. Forest Service, 2010).

Recreation program personnel now face management questions which are far different from their predecessors: what if recreation program could no longer maintain recreation resource support increased visitation with declined appropriate dollars? Or, what happens when recreational opportunities a USFS recreation program delivers are no longer relevant to the community?

In 2010, many USFS recreation program personnel across the system were in search of decision making frameworks which help them navigate answers to these types of questions. Sustainable development was combined with outdoor recreation management and *The Framework for Sustainable Recreation* emerged (USDA Forest Service, 2010). "By focusing on the three spheres that frame sustainability - environmental, social, and economic – the recreation program can significantly contribute to the agency's overall mission" (p. 4). *The Framework* concludes: "There are numerous challenges to providing quality recreation experiences and tourism opportunities while protecting the land. But, through the strength of our partnerships and increased performance of all our employees and systems, we can meet these challenges of a sustainable future for the benefit of American society" (p.8).

In the era since the publication of *The Framework*, sustainable recreation has become a point of discussion inside recreation programs across the National Forest System. However, on-the-ground implementation efforts at the forest-level appear to be inconsistent. Federal guidelines now require sustainable recreation to no longer be just a point of conversation in the future. Rather, USFS public land managers are mandated to include in Forest Plans: "sustainable recreation; including recreation settings, opportunities, and access; and scenic character. Recreation opportunities may include non- motorized, motorized, developed, and dispersed recreation on land, water, and in the air (36 CFR Part 219.10).

The Director of Sustainable Recreation, Heritage, and Wilderness, USFS Southwestern Region (Valenzuela, 2016) defines sustainable recreation as: “recreation management that contributes to the sustainability of our ecosystems and the communities that depend on those ecosystem services.” He was clear to also point out in a speech to outdoor recreation management professionals, “sustainable recreation is very pragmatic; it focuses not on ideology but on what really works in our time of turbulence. McCool et al., (2007) provides additional context for this time of turbulence, “the provision of recreation on public lands within a dynamic, multidimensional, and uncertain context is complex, challenging, and fraught with potential misdirection and unanticipated consequence” (p.2).

It is in this environment where recreation program personnel in the USFS Southwestern Region implemented the *Southwestern Region Sustainable Recreation Strategy* from 2015 to 2016. Scientific study of this process is needed. There is a gap between USFS forest-level recreation program personnel's desire to implement a sustainable recreation program and the scholarly literature. This literature has been dominated by the assessment of recreation management frameworks, many of which aren't applicable to modern management challenges and often are not applied to produce knowledge which informs “on-the-ground” management decisions (McCool, Clark, & Stankey, 2007). Through a qualitative examination of how recreation managers are operationalizing sustainable recreation in the Southwestern Region, this research study attempts to inform management decisions across the Forest Service organization.

Research Questions:

Knowledge about how forest-level USFS recreation programs operationalize sustainable recreation is useful to bridge the current “information gap” between strategy and on-the-ground implementation. Regions throughout the USFS system are currently undertaking implementation processes similar to the Southwestern Region in 2015 - 2106. Therefore, the following research questions reflect the researcher's desire to learn more about the operationalization of sustainable recreation at the forest level.

R1. In the USFS Southwestern Region, how are eleven national forest-level recreation programs operationalizing a regional sustainable recreation strategy?

R2. Can an operational model for sustainable recreation program delivery be constructed from qualitative analysis of the 5-year action-items which are detailed inside the eleven national forest-level sustainable recreation action-plans?

Throughout the entire case-study investigation, the point of view of USFS forest-level recreation personnel was the preferred perspective. The two distinct data sources analyzed to address these questions are both considered by the researcher to be forest-level. Narrative interviews were conducted with USFS forest-level recreation program personnel. And the Sustainable Recreation Action Plans analyzed for this case study were designed for implementation at the forest-level.

Problem Statement

Sustainable recreation was introduced to forest-level recreation program personnel through the narratives of the *Southwestern Region Sustainable Recreation Strategy* (USDA Forest Service, 2013). Not only did this document describe the current state of the Region's recreation program, a detailed strategy was presented to, "change the course of the recreation program aligning the program tightly to the core mission of the Forest Service (p. 4)." With the aid of the Regional Office, the eleven National Forests were directed by the Regional Forester to develop five-year strategies to deliver a sustainable recreation program.

In 2105, each forest-level recreation program developed a sustainable recreation action-plans. And although the forest-levels document are similar in format to the regional strategy. The forest-level strategies detail specific actions to achieve a sustainable recreation program at each national forest. The researcher believed the consistent themes across the eleven forest-level sustainable recreation action-plan and the data from narrative interviews reveal how sustainable recreation is being operationalized. Interpretation of that data is important to inform the continued implementation of sustainable recreation—in the Southwestern Region and across the National Forest System. USFS planning directives now require measures to incorporate sustainable

recreation. And USFS recreation personnel seek to deliver a recreation program which meets the needs of the public they serve. However, little is known about the specific measures forest-level recreation programs can take to implement sustainable recreation.

Purpose of Study

Therefore, the purpose of this study was to learn how the *Southwestern Region Sustainable Recreation Strategy* was operationalized by the eleven national forest-level recreation programs in the Southwestern Region. Through an exploration of the conditions which are perceived to be necessary to implement sustainable recreation action-plans, as well as, stated constraints to sustainable recreation program delivery, a rich context was constructed for operationalizing sustainable recreation. Narrative interview data was also compiled by the researcher to understand the specific steps recreation programs took to operationalize sustainable recreation.

A central purpose of this study was developing an operational model of sustainable recreation. Therefore, a comparative analysis of attributes within forest-level sustainable recreation action-plans was conducted. A visual representation of sustainable recreation delivery in the Southwestern Region emerged from the study. This unique thematic display of sustainable recreation management will be useful to continued USFS system-wide effort to operationalize sustainable recreation.

Study Objectives:

Study objectives for this research project are as follows:

- 1) To identify personnel in the USFS Southwestern Region who are actively engaged in USFS outdoor recreation management program planning and are primarily responsible for sustainable recreation implementation.
- 2) To conduct narrative semi-structured interviews which provide a context for understanding sustainable recreation at the national-forest level.

- 3) To analyze eleven national forest-level sustainable recreation action-plans through an in-depth look at the steps outdoor recreation management programs are taking to deliver a sustainable recreation program.
- 4) From the case-study data, specify an operational model of sustainable recreation program delivery.

Assumptions:

The following were assumptions of this research study:

- 1) Each Region in the USFS system developed a regional sustainable recreation strategy. However, the researcher considered the Southwestern Region to be the “thought-leader” in implementation of *The Framework for Sustainable Recreation*.
- 2) The individuals who take part in the development of the forest-level sustainable recreation action-plans will indeed be the same personnel tasked to move those action-plans forward.
- 3) The qualitative data collection methods were able to reliably capture the realities “on-the-ground” of the sustainable recreation implementation process.
- 4) Each action included inside the forest-level sustainable recreation action-plans represents a step toward a sustainable recreation program delivery.

Limitations:

Limitations of the research study were as follows:

- 1) The researcher made the choice to investigate sustainable recreation implementation in one USFS Region. Therefore, the reader should be cautiously generalize conclusions to other USFS Regions or forest-level recreation programs.
- 2) This case-study investigation occurred during the period of time in which the five-year eleven sustainable recreation action-plans were developed. The researcher didn't investigate the multi-year implementation process.

Delimitations:

The conclusions and results of this research study are restricted to the confines of interview participants and Southwestern Region documents analyzed.

Significance of the Study:

This research study addresses an important information gap by qualitatively examining the implementation of forest-level sustainable recreation in the Southwestern Region. A variety of agency documents are available which loosely defines sustainable recreation. Also, a detailed knowledge base about the potential societal benefits of sustainable USFS recreation programs exists. However, little scientific research exists about forest-level sustainable recreation operationalization.

The researcher hopes the visual model of sustainable recreation management presented in Chapter 5 is timely for those who seek guidance to design a modern public land outdoor recreation program which meets the needs of the public they serve. The results of the research study may also prove to be useful to communicate sustainable recreation concepts to broader audiences including partners, stakeholders, and volunteers.

CHAPTER 2: LITERATURE REVIEW

A review of relevant literature presented in this chapter is useful to pursue a further understanding of the context surrounding the implementation of the *Southwestern Region Sustainable Recreation Strategy*. Also, an explanation of the concept of sustainable development and system theory which contributed to the formation of principles of sustainable recreation principles can further sustainable recreation operationalization. A brief explanation of operational models, and their usefulness in conservation planning, is helpful to understand why the researcher chose to frame the findings of the research study using an operational model.

Sustainable Development

The application of sustainable development, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, pg.43) can be drawn throughout the history of our modern society. However, the industrial revolution is frequently cited as the catalyst for a notable raise of alertness that society needed to use resources in sustainable manner:

“Fears that present and future generations might not be able to maintain their living standards stimulated a mode of thinking that would inform discourses which prepared the way for the emergence and global adoption of sustainable development.” (Robert, Parris, & Leiserowitz, 2005, p. 2).

The term sustainable development gained significant attention from policy-makers during the 1980s. The first World Commission on Environment and Development (WCDE), organized through a request by the UN General Secretary, had a significant impact on the future progress of sustainable development principles. The WCDE was called upon to unite nations behind a focus on both environmental and development issues. This commission became informally known as the “Brundtland Commission,” named after the Chair, Gro Harlem Brundtland.

One outcome from the formation of the Brundtland Commission was the ground-breaking report entitled, *Our Common Future*. This publication urged significant societal change. In particular, the authors called for consequential progress in how environmental policy and

development strategy are integrated. One of the most noted contribution of *Our Common Future* is the frequently cited definition of sustainable development: “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, pg.43).

Since the publication of *Our Common Future*, the idea of sustainable development has been adopted by institutions in a wide-range of sectors. Although the definition put forth in *Our Common Future* appeared to be rather straight-forward, scholarly debate over how to interpret the sustainable development concept has raged since its publication. There has also been much uncertainty expressed over how to operationalize sustainable development in practical terms (McCool, Butler, Buckley, Weaver & Wheeler, 2013). Cary (1998) states, “sustainability is not a fixed ideal, but an evolutionary process of improving the management of systems, through improved understanding and knowledge” (p.12). Therefore, to operationalize concepts which are based on sustainable development theory, “non-traditional” mental models which are dynamic and flexible to societal change are necessary, (Rammel, 2003). Three focus areas or “pillars” of sustainable development have been commonly adopted by sustainable development practitioners: economic, environmental, and social (Kates, Parris, & Leiserowitz, 2005)

Essential to the concept of sustainable development are the interrelationships between these pillars of sustainability. By distinguishing the connections between these focus areas, and by understanding the receptacle-actions among them, sustainable development can be used to guide decisions, (Hutchins & Sutherland, 2008). Decision-makers who are engaged in a planning process using sustainable development need to be familiar with the interconnections between the pillars.

Modern Outdoor Recreation Management

Today, outdoor recreation management is a core program area inside the USDA Forest Service (USFS). The Nation Forest system of public lands consists 154 national forests and 20 grasslands in 43 states. The over 30,000 permeant and temporary employees who support the management of these public resources are organized in four administrative levels: the Chief of the Forest Service, nine regional offices, fifty four national forests and twenty grasslands, and six

hundred ranger districts. National Forests are led by a Forest Supervisor where along with resource specialists provide resource specific knowledge and develops budgets for programs at individual ranger districts.

Together, the following employees comprise the “line authority” of the USDA Forest Service: The Chief, regional foresters, forest supervisors, and district rangers. These individuals are often referred to as “line officers” or “leadership” by those interviewed for this study, because each line officer maintains formal authority for decision-making over their geographic-based management units. These line officer are experienced in managing broad program areas across the National Forest System.

Land management decisions for this over 193 million acre National Forest System formally reflected a multiple-use philosophy since in passage of the Multiple-Use Sustained-Yield Act in 1960. Through the authorization of this Act, Congress directed the Agency to broaden its management scope past timber production and fresh water protection to reflect the desires of the modern public. Multiple-use was defined in this Act as, “The management of all the various renewable surface resources so they best utilized to meet the needs of the American people,” (16 U.S.C. 531).

USFS outdoor recreation management programs also began to receive financial support during this time period. A USFS report published in 1957, *Operation Outdoors* initiated a 5-year program to modernize existing facilities and to provide adequately for the 66 million recreational visits expected annually by 1962 (USDA Forest Service, 1957). This report not only described broad policies, but also outlined the use of congressionally designated funds to accomplish the 5-year goals.

National forest recreation visits have increased rapidly since the era of the *Operation Outdoors* Report. A 2015 USFS National Visitor Use Monitoring Report, estimates through data collected in the field, 149 million national forest recreation visits (USDA Forest Service, 2016). The same report also indicates, “Visitation estimates over the last five years shows that the number of national forest visits has generally been stable to slightly increasing” (p. 4).

Capacity Building

The increase in visitor use brought additional challenges to USFS recreation programs to maintain and expand their built recreation resource in a modern era of ever decreasing appropriated dollars (McCool et al., 2007). In response, public land managers seek to increase their ability to deliver a high-quality outdoor recreation program in light of fiscal and other resource challenges. Wing (2004) defines this activity “capacity building” as “increasing the ability of an organization to fulfill its mission (p. 155). Capacity building involves many activities for employees of a public land recreation program. However, planning capacity building activities will often involve seeking resources from external sources (Crisp, Swerissen, & Duckett, 2000). Crisp et al. (2000) identifies four main approaches to capacity building:

- (i) A top-down organizational approach which might begin with changing agency policies or practices.
- (ii) A bottom-up organizational approach, e.g. provision of skills to staff.
- (iii) A partnerships approach which involves strengthening the relationships between organizations.
- (iv) A community organizing approach in which individual community members are drawn into forming new organizations or joining existing ones to improve the health of community members. (p.100).

Recreation programs across the National Forest System are focused on all four of these approaches as part of operationalizing sustainable recreation.

Partnerships

Partnership-building is a critical component of the Forest Services’ efforts to achieve its mission (Collins & Brown, 2007). In fact, starting in the 2000s, several new federal laws and administrative guidelines emphasize greater reliance on partners (McCreary et al., 2011, p.472). Research conducted by (Seekamp et al., 2011) indicated that 35 different types of organizations now partner with the USFS such as trail groups, tribes, advocacy associations, and other government agencies.

These entities are engaged in a wide-range of activities such as trail maintenance, grant writing, interpretation, policy commenting, and outdoor leadership. Partners work with recreation

programs under a variety of legal arrangements, from basic volunteer agreements to provide trail maintenance to complex collaborations like Forest Planning. However, in order to fully benefit from partnerships, Forest Service personnel must commit additional energies to maintain and enhance these relationships, above what is required by their day-to-workload. These unique relationships require additional administrative, collaborative, and communication efforts (Seekamp & Cerveny, 2010).

2010 A Framework for Sustainable Recreation

In 2010, *Connecting People with America's Great Outdoors: A Framework for Sustainable Recreation* (FSR) was unveiled to the regional offices of Recreation, Wilderness, and Heritage across the National Forest System. The mission of the Agency evolved to include sustainable development: To sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations." (United States Department of Agriculture Forest Service, 2016). This strategic document, written with the intention to provide direction for recreation program employees to "align" their programs' with this modern USFS mission. (The *FSR*) is "a clear nation vision and bold strategy to meet the environmental, social, and economic needs of present and future generations (USDA Forest Service, 2010, p.3).

The *FSR* did not provide an explicit definition of sustainable recreation. However, by examining the stated goal of sustainable recreation: "To unite diverse interests, create and strengthen partnerships, focus scarce resources on mission - driven priorities, connection recreation benefits to communities, provide for changing urban populations, and most importantly, sustain and expand the benefits that quality recreation provides to America" (USDA Forest Service, 2010, p. 3), the elements that define a sustainable recreation program can be gleaned.

However, a definition of sustainable recreation does appear in the 2012 USFS Planning Rule. It defined sustainable recreation as, "the set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations" (36 CFR 219.19). A planning rule is a federal directive established by the National Forest Management Act (NFMA) which specifies the requirements for each national forest

plan. The decisions included in a national forest plan provide broad management guidance forest-wide scale for specific projects and activities. Any project or activity occurring on the national forest lands must be consistent with the plan. National forests across the USFS system are now incorporating sustainable recreation under the 2012 planning rule into their Forest Plans.

Southwestern Region Sustainable Recreation Strategy (*the Strategy*)

In January of 2013, to guide the Southwestern region of the USFS toward a sustainable recreation program, a team led by the Regional Director of Recreation, Heritage, and Wilderness authored the *Southwestern Region Sustainable Recreation Strategy*. The Strategy is a “total re-thinking of the recreation program and the Strategy clearly lays out the strategic intent of sustainable recreation,” to the forest units (USDA Forest Service, 2013). The Strategy does not specifically reference the FSR; however, the two frameworks share many similarities: the strategies are rooted in sustainable development principles to achieve recreation program sustainability. Each strategy is also a response to changing outdoor recreation trends nationally and a shift in the public land recreation resource planning environment.

Sustainable recreation was presented to USFS personnel through *the Strategy* and in turn the eleven recreation management programs of national forests and grassland in developed sustainable recreation action-plans to implement *the Strategy* on their National Forests.

Operational Models

An operational model constructs a vision at an organizational-level to guide the decision-making process for how an organization implements a particular process (de Vries et al., 2011). Knight, Cowling, & Campbell (2006) suggest operational models, “should aim to deliver on-ground conservation action, not simply generate information” (p.409). There are three broad types of conservation activities: assessment, planning, and management. The authors developed an operational model describing a simplified conceptualization of how a conservation planning process functions. The operational model for sustainable recreation management presented in chapter five of this report is adapted from the (Knight et al., 2006) operational model for “doing” pragmatic conservation planning.

The operational model for sustainable recreation advanced through this study serves several important purposes: to further scientific research related to sustainable recreation, to simplify and operationalize broad concepts of sustainable recreation, and to promote the integration of adaptive management thinking into the recreation planning process (Knight et al., 2006). However, ultimately, the aim of this operational model is to further a framework-decision making approach to recreation planning. For the purpose of this research study, the research invoked the McCool et al. (2007) definition of a planning framework:

“A process that involves a sequence of steps that leads managers and planners to explicate the particular issue. . . . A “framework” in this sense does not necessarily lead to the formulation of “the” answer to an issue, but provides the conceptual basis through which the issue may be successfully resolved” (p.25).

CHAPTER 3: METHODS

A qualitative research design was used in this study to accomplish research study objectives through an “on-the-ground” perspective (Denzin & Lincoln, 2005). Presented in this research study are findings from a qualitative case study investigation as well as the specification of an operational model (Knight, et al., 2006) for sustainable recreation program management. This investigation of forest-level sustainable recreation implementation occurred in 2015 and 2016 during the time period when the eleven Southwest Region national forests implemented a regional sustainable recreation strategy: *Southwestern Regional Sustainable Recreation Strategy (the Strategy)*.

Furthermore, the flexible nature of a qualitative research design, enabled the researcher to focus on the “participant frame of reference” throughout the entire case-study investigation (Ritchie, Lewis, Nicholls, & Ormston, 2013). For the purpose of this research study, USFS forest-level recreation program employees were considered the “frame of reference.” This qualitative research approach provided the researcher an opportunity to explore sustainable recreation management through narratives of USFS national-forest level recreation program employees. Therefore, results are presented inside the realities of modern national forest-level recreation program delivery (Bryman, 1998).

A case-study research design (Yin, 1981) was the preferred method by the researcher investigated the implementation of *the Strategy* by forest-level recreation programs. This research study design was ideal for this exploration. It enabled the researcher to investigate the operationalization of sustainable recreation as USFS forest-level recreation employees interacted with *the Strategy* (Swanborn, 2010). This act of operationalization by the forest-level recreation programs was considered by the researcher to be a unique and singular phenomena. The use of a case study (Yin, 2015) research design allowed for the investigation of sustainable recreation inside eleven forest-level recreation programs while still considering the entire implementation process as a singular occurrence.

Grounded Theory

Investigations like this research study are valuable to on-going sustainable recreation planning efforts because forest-level recreation programs across the USFS system are implementing regional sustainable recreation strategies. To date, the flow of information about sustainable recreation has occurred from the Regional Offices to National Forest-level recreation programs. Therefore, this “bottom-up” approach to examining sustainable recreation operationalization from an “on-the-ground” forest-level point of view is important to understanding how sustainable recreation is being implemented.

A grounded theory (Glaser & Strauss, 1967) research approach was adopted by the researcher in all phases of this investigation. This was a deliberate choice to explore how *the Strategy* was being operationalized from the perspective of USFS forest-level recreation employees. Presented in chapter five is an operational model for sustainable recreation management. Rather than attempt to prove a theory about the implementation the Strategy, the researcher presents an operational model which was formulated through data collected and analyzed for this case research study (Glaser, 2002). The structure of this model for sustainable recreation management is based on the “operational model for doing” pragmatic conservation planning” (Knight, Cowling, & Campbell, 2006). However, the components and themes of the model for sustainable recreation management were generated through the use of a grounded-theory approach. A grounded-theory (Glaser & Strauss, 1967) approach yielded “on-the-ground” perspectives and themes because this approach permitted the researcher to alternate between data collection and operational model development throughout the case-study investigation as sustainable recreation operationalization occurred in the Southwestern Region (Strauss & Corbin, 1994).

Document Content Analysis

A document content analysis served as one form of inquiry for this research case-study. The following internal documents and survey data each contributed to this research study as data sources:

- 1) The Southwestern Regional Sustainable Recreation Strategy
- 2) Survey data collected from individuals who participated in regional sustainable recreation workshops.
- 3) Observation notes transcribed by a Southwestern Region recreation planner during the regional sustainable recreation workshops.
- 4) Internal communications between Southwestern Region staff and forest-level recreation programs.
- 5) The eleven forest-level sustainable recreation action-plans.

A main data source, which is unique to this research study, were the strategic documents prepared by teams at the forest-level to implement *the Strategy*: the eleven national forest-level sustainable recreation action-plans. Each of the eleven sustainable recreation plans followed a similar structure to *the Strategy*. The following sections of the sustainable recreation action-plans were examined as part of a comparative analysis:

- 1) Goals of the sustainable recreation action-plan.
- 2) Desired conditions for sustainable recreation.
- 3) Existing conditions at the forest-level recreation program.
- 4) Challenges to sustainable recreation action-plan implementation.
- 5) Action-items to achieve sustainable recreation delivery.

The eleven forest-level sustainable recreation action-plans were a key data source for this research study. Each sustainable recreation action-plan served a stand-alone purpose: to implement a sustainable recreation program at the national forest level over the next five years. Therefore, a content analysis of the action-plans revealed themes and patterns of actual sustainable recreation operationalization, rather than perceived theories about implementation. A document content analysis was critical to formulate an operational model of sustainable recreation program delivery because it allowed themes and patterns to emerge from those data collected by the researcher (Miller & Alvarado, 2005). Codes were then developed by the researcher by translating narratives of the action-plans into blocks of data. These codes were then grouped by operational sub-themes as the researcher searched for descriptive meanings inside the sustainable recreation action-plans (Miles, Huberman, & Saldana, 2013).

Semi-Structured Narrative Interviews

The researcher conducted narrative interviews with forest-level recreation program employees in the USFS Southwestern Region as part of this case-study investigation. A semi-

structured interview guide was developed by the researcher to encourage interview participants to tell “personal stories” from their experiences in operationalizing sustainable recreation at the national forest recreation program level. This method of data collection resulted in valuable scientific contributions which are unique to this research case-study.

The “back and forth” conversational nature of a personal interview cultivated new found knowledge about the realities surrounding sustainable recreation program implementation (Brinkman & Kvale, 2015). Also, the use of in-depth narrative interviews (N=11) to explore themes of sustainable recreation operationalization enhanced the exploratory nature of this research study. Commenting on the narrative interview approach, (Gill, Stewart, Treasure & Chadwick, 2008) note, “Interviews allow for the discovery or elaboration of information that is important to participants, but may not have previously been thought of as pertinent by the research team” (p. 431).

The researcher acted as the “interviewer” during the eleven interviews which were confidential. The confidential interview format allowed participants to explore their personal thoughts about sustainable recreation and the context of recreation program delivery at the forest-level in the Southwestern Region.

Interview Participants

Eleven forest-level recreation program employees in the Southwestern Region received an invitation to participate in this research study. Each potential interviewee represented one of the eleven recreation programs national forests and grasslands in the Southwestern Region. The researcher developed several criteria as the basis for selection. First, the interviewee should have experience in public land outdoor recreation management at the nation forest level. Second, each interviewee should be part of a team which authored a forest-level sustainable recreation action-plan. And finally, it was preferred, but not required that the interviewee attended one of the Southwestern Region sustainable recreation workshops that occurred throughout 2015.

The Southwestern Region Office for Recreation, Wilderness, and Heritage initiated contact between the researcher and potential interview participants. A staff member sent a letter to a list contacts who met criteria mentioned above. The USFS employees were asked to voluntary

participate in a research study about sustainable recreation; however, further details about the research study, or the interview guide were not provided to the potential interviewee. This action was intentional by the researcher in an effort to enhance the exploratory nature this case research study. After the initial contact from the Regional office, the USFS Southwestern Region employees agreed to participate in this research study through a response to the researcher. Interview appointments were scheduled using a web-based calendar application and each interview was conducted via the telephone conference call transcription service NoNotes.com.

A response rate of 100 percent was achieved for this research study. Each USFS employee who was invited to take part in the research study participated in a narrative interview (N=11). Therefore, the researcher interviewed an employee working at each one of the recreation programs in the Southwestern Region. The first interview was conducted in April 2016 and the final interview occurred in June 2016. The average duration of an interview was thirty five minutes, and each ranged from twenty minutes to one hour in length.

Research site selection

The USFS Southwestern region is comprised of 20.6 million acres which make-up six national forests in Arizona, five nation forests in New Mexico, and two national grasslands in New Mexico, Texas, and Oklahoma. The communities which surround these USFS system public lands vary in size from sparsely populated rural areas to vast major metropolitan areas. Over 8.7 million people, including large Hispanic and Native American communities, have the opportunity to visit the recreation resources managed by the USDA Forest Service. Southwestern Region national forest lands also border public lands which are managed by different entities including: municipal governments, non-profit organizations, and State and Federal land management agencies.



Figure 1. National Forests of the USDA Forest Service Southwestern Region.

Instrumentation

Six open-ended questions were posed by the researcher to each interviewee through the use of a semi-structured interview guide. Once again, the researcher used a grounded theory (Glasser & Strauss, 1967) approach to shape the interview guide. The intentional choice to use semi-structured format provided interviewees the freedom to comprehensively describe their experiences sustainable recreation operationalization (Charmaz, 2008). The questions included in the interview guide were influenced by the research study questions, yet also reflect the researcher's desire to construct a rich context for sustainable recreation implementation in the Southwestern Region:

What is one issue your recreation program is facing where a sustainable recreation principle could lead to a possible solution?

What is one performance measure for the Region 3's recreation programs that would indicate progress toward a sustainable recreation program?

Can you describe how an "internal constraint," is preventing you from planning for recreation use on your Forest using sustainable recreation principles?

Please describe one internal and one external condition which are necessary to implement your sustainable recreation-action plan?

Please share your personal definition of sustainable recreation?

Do you think this definition of sustainable recreation changed after the Region 3 Sustainable Recreation workshop or as you developed the sustainable recreation-action plan?

After the process of authoring your Forest Unit's sustainable recreation-action plan. What is your perception of sustainable recreation as a planning tool?

Data Analysis

The qualitative design of this research study allowed the researcher to conduct a data analysis throughout this case-study investigation through a process of constant comparison (Glaser & Strauss, 1967; Strauss & Corbin, 1998). Glaser and Strauss (1967), defined this process of "constant comparison" analysis where a researcher simultaneously gathers and interprets data to construct a theory which is firmly grounded in those collected for a research study. Glaser and Strauss (2009) describe the four distinct stages of the constant comparison process: comparing incidents applicable to each category, integrating categories and their properties, delimiting the theory, and writing the theory.

A data analysis process of constant comparison was employed by the researcher to build a visual representation of the inter-linked relationships involved to increase a recreation programs capacity for sustainable recreation management. This operational model emerged after an investigation which included the researcher's analysis of the eleven sustainable recreation action-plans through: categorizing, coding, delineating categories, and then connecting them (Boeijs, 2002).

The researcher performed an inductive analysis on the narrative interview transcripts. Through the use of this form of data analysis the researcher sought to find patterns, themes, or categories which "emerged out of the data rather than being imposed on them prior to data collection and analysis," (Patton, 1990, p. 390). For this data analysis, the researcher considered the eleven interview participants to be members of the same data group. Although the interviewees held a variety of USFS positions within forest-level recreation programs, each were performing similar activities to implement the sustainable recreation strategy.

Coding provided the researcher the opportunity to investigate the data across data sources in search of common themes (Miles, Huberman, & Saldana, 2013). Codes were created by the researcher in an on-going process while the investigation into sustainable recreation operationalization occurred. This condensation of the research data facilitated a process in which the researcher placed similar narratives together for further analysis (Miles, Huberman, & Saldana, 2013). The researcher attempted through this discovery to group data based common patterns as they emerged.

A flexible coding method was used by the researcher. For example, although the eleven sustainable recreation action plans are similar in structure, each plan features the same sections, but address issues and needs which are specific to the national forest. Therefore, the researcher first grouped the action-plans based on the shared sections, such as desired conditions or existing conditions. After reflecting on those data grouped in this manner, the researcher conducted a process of descriptive coding. The researcher grouped the data based upon "action," to summarize the authors' intention behind an action-measure (Saldaña, 2015).

The researcher also used a coding method recommended by Miles, Huberman, & Saldana, (2013), referred to as *In Vivo coding*, or assigning labels to sections of data. Using this method the researcher coded the data using the language used by USFS employees who were interviewed for this research study.

To enhance the credibility of this case research study, peer collaboration occurred between the researcher and an advisor. In particular, a review of those data collected occurred collaboratively with a researcher who was familiar with qualitative research methods (Creswell & Miller, 2000). The dialogue between researchers lead to a coding process which was flexible, dynamic, and unique to this case research study.

A comparison of the forest-level sustainable recreation action-plans and qualitative data compiled through narrative interviews contributed to the development of an operational model for sustainable recreation management. Presented as "results" in chapter four are: the direct quotations from the transcribed interviews and the narratives, presented in their original format, directly cited

from the eleven sustainable recreation action-plans. This arrangement of the data allows the reader to explore the operationalization of a regional sustainable recreation strategy from the action-plans authors' perspective in the language they used.

Accuracy of the quotations presented in chapter four was ensured through the use of a professional transcription service, Nonotes.com. Also, the researcher reviewed the transcripts alongside the audio recordings of the interviews as second measure to ensure accuracy. However, some additional words were added to the quotations (indicated in brackets) and speaking hesitations such as "um" or "like" were removed in an effort to increase clarity for the quotations included in chapter 4. The follow narratives are unique on-the-ground descriptions of challenges and successes in sustainable recreation implementation. However, space limitations prevented the researcher from presenting all the data collected which pertained to sustainable recreation operationalization. Therefore, those data which are included in this section are intended to display components of a sustainable recreation program and their interrelationships.

The researcher adopted a grounded theory (Glaser & Strauss, 1967) research approach to analyze the collected data. The results presented here emerged as themes while the researcher collected and analyzed research study data simultaneously. This research process included the analysis of two distinct data sources: transcribed interviews with USFS forest-level personnel and forest-level sustainable recreation actions plans.

Both data sources, the sustainable recreation plan-action narratives and USFS employee quotations, presented are considered by the researcher as evidence of sustainable recreation operationalization in the Southwestern Region. The objective of reporting results here is not a critique of how The Southwestern Regional Strategy for Sustainable Recreation was implemented at the forest-level. Rather, these results should further our understanding of sustainable recreation and explore how to increase the capacity of forest-level recreation programs to implement sustainable recreation strategies.

The study results are presented as the foundations essential to a sustainable recreation program: community, agency, and program. Also, linked to each foundations are elements or task

areas which the researcher identified through a qualitative data analysis as components. Because of the qualitative research design of this case study the foundations or components are not analyzed through quantitative methods. In particular, the researcher did not rank the linked components based upon importance. Nor did the researcher attempt to define successful sustainable recreation implementation in terms of determining if one component or foundation is more important than others. The action-plan narratives and quotations are presented in a manner which reinforces why the researcher made the choice to include components and foundations in the operational model for sustainable recreation management.

CHAPTER 4: RESULTS

The researcher developed three levels of data aggregation to present the study results. First, at a foundational level, the data is organized at three essential levels of analysis: **Program, Agency, and Community**. Next, within each of these three foundational areas, the data is aggregated into components. For example, within the **Program** foundation area, the data is organized into the following components: *financial management, communications, workforce, and information management systems*. Finally, within each component area, the data are organized into sub-components. For example, within the *financial management* component area, two sub-components are identified: Non-traditional Funding Sources and New Funding through Traditional Funding Sources.

Program

The forest-level recreation program was central focus of this research study. The recreation program is essentially the product that USFS recreation program employees and stakeholder deliver to the community. In order to deliver a sustainable recreation program, managers focused effort toward the following component areas comprised of suites of tasks. We can also apply an adaptive management process to each of these component areas. Obviously, most of the recreation managers interviewed focused most directly on the efforts of their own program. However, in this results chapter, the researcher highlights findings across the eleven programs. Here are the important program components that emerged from study results.

Financial Management

Results from this investigation indicated the eleven recreation programs in the Southwestern Region conducted a dedicated review of the financial component of their recreation program. As one USFS employee stated:

“I would say our action-plan is making us look really hard at our program and determine what we can sustain and what we are just going to have to say, it is just not sustainable and move on from it. That's really hard because as recreation people we all want to just keep

maintaining everything we've got. I think in some instances, it is time consuming, too costly, and we need to just let it go.”

Another employee discusses the “balancing act” inside the financial decision-making process:

“I think that the challenge is always going to be sustainability and price balance. Meeting the needs and desires of a community versus our capacity. For example, I think right now we don't have the capacity to maintain the trails that we have. However, the community and various user groups are pressing for more trails to meet their needs and desires. I think we do need to respond to that and provide those opportunities.”

Non-traditional Funding Sources:

Included within the sustainable recreation action-plans measures were action measures for increasing a recreation program's financial capacity by pursuing non-traditional funding sources.

Partnership development and volunteer engagement were stated as one opportunity to increase capacity:

Identify places where there are volunteer or partnership opportunities for augmenting funding, assisting with maintenance or operations, etc.

Look for funding opportunities, volunteers willing to help with projects, partners who might take on operations in some places

Another action item proposes the development of a “friends of the forest” organization:

To financially and logistically support the establishment of a ___ NF, 501c3 beginning in FY 2015 if funding is available and allocate funding at the beginning of FY 2016 through FY 2020 and sequentially reduce financial support, so that ___ NF, 501c3 is self-sustaining on or before FY 2020.

A USFS recreation program employee also commented:

“Well, definitely the lack of or the declining budget, so working more on partnerships, volunteers and building that foundation up is probably a higher priority now than it would have been in the past. In a way and effort to stay sustainable. So, finding those other resources and able bodies and partners to help you keep everything going on the ground. Where in the past we aren't as reliant maybe on them.”

Several forest-level sustainable recreation plans also indicated a desired future conditions for their recreation programs where volunteers play a significant role:

The forest will make investments in new trail-based opportunities and in the developed recreation program only with full support and commitment from volunteers and partners for the long-term operation and maintenance.

Volunteers and partnerships supplement appropriated recreation, trails and Wilderness dollars and enhances and strengths the ability of the Forest to get on the ground activities planned and work completed.

New Funding Opportunities through Traditional Funding Sources:

A comparison of interview data and sustainable recreation action-plan narratives indicated that forest-level recreation programs are increasing their financial capacity through the expansion of traditional allocations and built capital sources.

One USFS employee discusses a recreation program's fee-pay sites:

"I'm troubled by that because we can't offer as many free services anymore. It's kind of a bummer because you want people to come out and visit and enjoy their National Forest, but now our budget has been cut so bad and we can't really offer services for free anymore. So next year I'm going to be proposing a business plan and a fee proposal for a lot of our sites and fee increases."

Actions measures which were stated inside the action-plans also seek to enhance the financial capacity of a program through a re-evaluation a fee structure or fee sites:

We need to continue to look at locations where concessionaire fees make sense.

Identify short-term and long-term actions for creating an efficient and user-friendly forest wide fee program.

Implement approved fee structure, install fee machines at recreation sites and add campsites in reservation system.

Grants for project specific funds and monetary donations to forest-level recreation programs were viewed as opportunities to increase the financial capacity of a forest-level recreation program. However, results also indicate that, in order to seek these specific opportunities, human capital capacity should be addressed. These actions are provide as an example:

Review the funding brought in through grants and how this effects our fixed costs.

We want to increase our use of grants and agreements by having a person be able to focus time on the grants available and associated.

Communication

Evidence produced through this examination of sustainable recreation indicated that the forest-level recreation programs are seeking ways to communicate. Whether it be communicating with partner groups and volunteers as a means to strengthen relationships, or marketing outdoor

recreational opportunities on public lands to attract a new generation of visitors. Communication is a broad component of sustainable recreation. It was observed by the researcher that communication plans recreation program were being developed or discussed by forest-level recreation programs to complement sustainable recreation implementation efforts.

Relevancy

The concept of increased relevancy of Southwestern Region forest-level recreation programs to the public they serve is interwoven throughout the eleven sustainable recreation action-plans. These narratives often would begin with a discussion about communicating about recreation opportunities as attract and retain visitors. External communication, or how recreation programs communicate with the public about recreational opportunities, was observed as an important tool for maintaining relevancy with today's visitor.

One national forest-level recreation action-plan states as a desired condition:

Become relevant to forest users in the 21st Century. This includes development and use of advanced technology, and successfully utilizing media to help share information, provide excellent service to our visitors and help us be more efficient and relevant. Some examples include social media, online resources, QR codes, apps for smartphones, getting on monthly radio spots, and having TV field reporters highlight stories or projects of pride.

Social Media

Modern methods to communicate with the public such as, social media and enhanced web-sites, were viewed as tools to connect visitors to recreation settings. USFS recreation programs strive to provide current information about recreational opportunities, and create a two-way information exchange. The following action items are representative of the social media efforts found across those data collected:

Pursue development of technology to enhance public experience. For example: interactive maps, QR codes at sites, space rental on electronic billboards, improved and updated website information.

Make our Internet presence more user friendly and interactive by keeping website updated and asking public for feedback.

Create list of accessible and family-friendly trails, facilities, and scenic drives on the ___NF and post to website.

Marketing Outdoor Recreational Opportunities on Public Lands

The results of this research study also indicated across data sources that forest-level recreation see a role in increasing visitation to their national forests. One method of attracting and retaining visitors is developing a marketing plan. The desired conditions of the recreation program action plans reveal actions to apply marketing principles to connect the public to USFS managed lands:

Marketing opportunities will be increased by improving websites, brochures, and front-liner knowledge of available opportunities to help engage and attract visitors to the forest.

Technology is used and promoted by the ___NF and partners to highlight opportunities on the forest for easier access by the public. Brochures, kiosks, and the internet are used to communicate forest and natural resource messages to diverse audiences.

A successful marketing plan to promote the Forest Service and its programs. This program will provide environmental interpretation and education opportunities, successful use of technology and social media to connect with people, the creation of community connections and partnerships.

Increase awareness of the types of recreation available on the forest and the unique experiences visitors can have (e.g., mountain bike trails, hunting, and OHV riding that are not available on neighboring public lands).

Workforce

Having a trained and knowledgeable workforce also emerged as an important component of operationalizing sustainable recreation. Managed recreation programs require a workforce with specific professional training to deliver a high quality product. This common theme carried through all data sources utilized in this study.

“So personnel and yeah, that’s probably the biggest thing, and so it’s just not the matter of throwing money at it, because if you don’t have the right skills in place that can focus their energies and their time.”

“(Leadership) giving direction and making sure your recreation team has the knowledge and skill set to move the program forward to become sustainable.”

Also, specific action measures indicted which specific skills are desirable for a sustainable recreation program delivery at the national forest-level:

Invest in training in support of the Recreation Program: administration of REA, real property, special uses, grants agreements, volunteers, community collaboration, FPO, recreation databases maintenance and management.

Provide NRM database training and Special Uses (SUDs) training to existing workforce to make them proficient to process work or train others to input.

Future goals for the forest-level recreation programs are stated in the action-plans as desired conditions. The desired conditions stated below indicate the importance of workforce skill sets which are integral to sustainable recreation delivery:

Employee training should include traditional work related skill training as well as an emphasis on soft skills including teamwork, communication, critical thinking, resiliency, emotional intelligence, capacity building, and professionalism.

Training emphasizes people oriented skills such as teamwork, interpersonal communication, problem solving, and project management.

Recreation Program Organizational Structuring

A number of organizational structuring actions were recommended in the action plans to build the capacity of the forest-level recreation programs:

Implement “Pathways to Lasting Success” approved organization..

Create “Centers of Excellence” – Restructure. Revise the recreation program’s organization chart.

Develop a sustainable recreation organization chart –

Determine if the current program is right-sized, or what it will take to get us there (i.e. training, personnel transfers, additional hiring)

Identify a base-line recreation workforce. By identifying what the baseline organization is, necessary skill sets, roles and responsibilities, and what baseline services will be provided, the Forest will better prioritize services to be provided and focus on quality not quantity.

Outdoor Recreation Management

Results presented in this section represent the core function areas of focus for a forest-level recreation program. The eleven forest-level sustainable recreation action-plans examined for this case study each contained an “existing condition.” It is in these sections the authors describe the current-state of their recreation program. A content analysis of these “existing conditions” provides insight into the current status of the eleven forest-level recreation programs.

Staffing shortages and various Forest priorities often lead to a decreased focus being placed on the recreation program which leads to a lack of recreation planning documents, facility operational and maintenance plans, trail maintenance plans, wilderness management plans, and sign plans. Little to no time is available to devote to dispersed recreation, planning and interpretation.

The recreation program is reactionary versus adaptable. It is difficult to focus on the 5 key areas, leading to managing a program in a reactive position instead of proactive position.

Trails Program

Trails play a much larger role in sustainable recreation than just transporting visitors across their public lands. The 143,000 plus miles of trail in the USFS system connect recreationalists to public lands also provide a valuable public engagement opportunities for recreation programs. Trail infrastructure creates a very visible setting to promote sustainable recreation implementation. As one interviewee points out:

“Trails lend themselves, I think to that kind of an (sustainable recreation) approach and what is important about that is on the ____ NF we're a recreation Forest. Through the National Visitor Use Monitoring program we know about 85 percent of the folks who come on the forest are using the trails. And so there's a real opportunity to tap into that user group...who first of all value the trails or enjoying the trails and probably with the right messaging and approach would want to give back or contribute to ensure that those trails are there for the future and so in terms of sustainable recreation trails have become an important part of that economic piece in a sense of their time and then social they have that connection to the Forest and enjoy the trails and we'll do work so that others can enjoy the trails.”

However, as one USFS employee points out, maintaining a vast trail network to standard can expose areas of diminished recreation program capacity. Yet, as the interviewee mentions, this creates an opportunity to work with the public to address this capacity issue together.

“I think right now we don't have the capacity to maintain the trails that we have. However, the community and various user groups are pressing for more trails to meet their needs and desires. I think we do need to respond to that and provide those opportunities. With that I think we will need to go ahead and respond to those desires from the public and build out more, but then turn around eventually and start to de-commission other stuff that's not being utilized. I think we can approach it from, “Lets close down these trails first,” and then say, “Yeah, trust us, we will get to adopting these other trails that you guys are proposing, but trust us on this we are going to decommission these ones and then we will get to building trails.”

One forest-level recreation employee, when posed a question about what performance measure would indicate a sustainable recreation program responded:

“I would say for us it would be trail maintained to standard. Yeah, I think that’s a very easy example where we’re very deficient. We are only able to maintain a small portion of our overall trail miles. And to me, that would be a fairly easy performance measure where increases would show a shift overall in volunteers, partners, and more creative thinking. Where in the past we’ve just been operating in the realms of, what can the Forest Service get done with our limited capacity and then everything else is just not going to get done. And so I think that’s an easy measure that ties to the bigger picture of collaboration volunteers, partnerships, and other groups out there having more ownership in their public lands instead of us trying to do everything.”

Action items within the eleven sustainable recreation action plans also indicate the role the trails program plays in sustainable recreation implementation:

Assess and right size the forest’s trail system through a consistent and systematic process which utilizes existing inventory data, and establishes criteria and tools by which the forest define its desired and sustainable training.

Develop a forest-wide approach to trail and undeveloped recreation responsibilities using volunteers and partners to create more efficiency and reduce redundancies.

Continue to look for opportunities to share services, expertise and equipment.

Place emphasis on review and updates of the trails database and assure we have common understandings and processes.

Continue to use partners and volunteers to help us achieve our targets. Increase collaboration around trails including planning, partnerships/volunteerism for, maintenance, reconstruction and construction, patrols, and signing.

The desired future conditions of trail programs in the USFS Southwestern Region also illustrates sustainable recreation operationalization:

Invest in our trail program. The trail program overall is the most significant program to our communities and visitors. Trails that are maintained to standard and trails that provide a variety of quality recreation experiences will lead to satisfied visitors and continued/increasing visitation to the forest.

To have the Forests trails maintained to standard this work cannot be done without volunteer, partner, and community support.

Existing trails are maintained; trail expansion is done sustainably. A comprehensive trail network crosses jurisdictional boundaries and connectivity is improved. Trail use is de-conflicted. Trail safety is improved. More trails/no new trails. Access. Improved access for all abilities to desirable locations. Improved public transit and alternative transportation options to outdoor recreation. Improved access – trailheads and River. More parking/less parking.

The desired condition for the trails program is to have a manageable system of trails that provides for a variety of opportunities and promotes unique experiences to a diverse user group. Having a cohesive, forest-wide approach to managing the trail system will better utilize the existing workforce, leverage volunteers and partners and protect natural resources.

Special Use Permit Management

During the same time period in which this research study occurred, each forest-level recreation program, with the support of the Region office, conducted an assessment of the special-use permit management process. Recreation special use permit management is a component of sustainable recreation identified across all data sources. Forest-level recreation program employees contemplated the future of this process and also examined the relationships between a recreation program and recreation special use permit holders.

Due to the large amount of data collected which discussed recreation special use permit management, the researcher did not intend to highlight this component as more important than others--or, to fully investigate how to specifically operationalize this component of a sustainable recreation program. However, the researcher would like to highlight special-use permit data that is consistent with developing a sustainable recreation program.

The desired conditions stated in the sustainable recreation action-plans below reflect sustainable recreation actions related to managing relationships with permit-holders as a capacity building activity:

Developing stronger relationships with our permit holders will help facilitate building better partnerships where permit holders will eventually help with the maintenance of developed facilities by adopting sites and trails.

Special Use permit holders will volunteer/give back, and the forest will provide diverse volunteer and partnership opportunities that will promote land stewardship and increased visitor service on our public lands.

Also mentioned across data source were actions which related to workforce management and training to achieve the desired condition stated below:

The Recreation Program properly administers the recreational special uses program to include appropriate and timely billing and inspection of permit holders.

The narratives included below are special use permit program actions to move the recreation programs from their current state toward sustainable recreation:

Increase financial independence of developed recreation program implement the RFA Efficient management of the Special Use program.

Limited time is allocated to meet accomplishments. SUP administered to standard is typically an office exercise, field inspections typically do not occur.

The Forest can better utilize available assets, including nearby educational institutions nonprofit partner organizations, friends groups, multi-user groups, and for-profit partners, local recreation retailers, outfitters and guides, and other public agencies.

The narratives below are examples of action-measures from the eleven sustainable recreation action-plans which represent tasks needed to move towards more sustainable recreation special use permit management:

Complete Programmatic NEPA for Priority Use Permits for O&G. Follow Regional Office Special Uses Program Guidance/Policy, and increase the amount of trained employees in SUDS (Special Use Data System), and the fundamentals of Recreation Special Uses. Work with the other Forests to convene a core team from the NM Forests to conduct an analysis of the Recreation Special Uses Program to assess the types of permits, data management, demand and capacity. Determine joint staffing and process improvements including specialized permits management (e.g. ski areas, cabin rentals, filming, recreation residences), potential for shared positions, combined needs, etc.

Develop a forest recreation special use permit process and FLT supported program. Standardized recreation special use administration across forest-wide. Have annual meetings with partners and permittees.

Outdoor Recreation Management in Federally Designated Wilderness Areas:

Data across multiple sources also suggested that forest-level recreation programs are implementing sustainable recreation for the visitor-use management inside federally designated Wilderness Areas:

To preserve Wilderness Character through strong wilderness stewardship programs for each wilderness area and have an interdisciplinary (wilderness managers, resource

specialists, partners and youth) management approach and seek outside funding opportunities.

Improve wilderness management by making progress on performance measures. Use an interdisciplinary and multi-funded approach so best and far reaching approaches are used. Build appreciation and understanding of the value of wilderness. Encourage partnerships and volunteerism and scientific study.

Daily Public Lands Outdoor Recreation Management Tasks

USFS employees interviewed for this research study suggest that, a challenging “day-to-day” workload can often make sustainable recreation implementation seem like an aspiration rather than a reality:

“So it’s (daily workload) a constant challenge and restraint because of the work load that happens just the daily work load, the public imposes on the employees out on the Districts, it’s hard to focus on the bigger planning part.”

“Sustainable recreation often, and our process of changing these bigger things often gets forgotten in a day-to-day type of thing. We have to regroup and say okay. How’s this pushing us towards the sustainable recreation and what are some of the elements we have to do. So it’s a constant challenge and restraint because of the work load that happens - just the daily work load the public imposes on the employees out on the Districts, it is hard to focus on the bigger planning part.”

One USFS employee discusses a capacity challenge faced when confronting the daily workload while also completing outdoor recreation management planning tasks:

“I guess always it’s going to come to capacity, because it takes a lot of resources to maintain what we have - to do the operational side of things. We talk about planning and operations, and the operations are just stuff that you do day-in-day- out, keeping the doors open and maintaining trails or recreation facilities. That’s really what takes up a lot of our resources. We already have limited resources as far as capacity goes with maintaining what we have, and then putting planning on top of that, planning takes a lot of time in itself because it involves relationships, and it involves lots of meetings. That’s where we do need to spend a little bit more time, and I think that’s also another reason why it goes so slow is because for the most part of our resources are committed to operations and less so to planning.”

Information Management Systems

The data analysis of the action-plan existing conditions sections identified a component which represents a suite of tasks related to the management of recreation program data. Forest-level recreation programs are directed by the Agency to collect data and enter those data into Agency specific databases. This data serves a range of purposes for outdoor recreation program management:

Although there is a general consensus that existing developed recreational facilities and heritage interpretive facilities are not meeting the needs of the recreating public, we don't have baseline data necessary to make sound decisions regarding what facilities should be decommissioned, re-purposed or developed.

However, results from this research study revealed data contained in these databases may not be useful for sustainable recreation implementation for a variety of reasons. Also, the management of these Agency specific databases appeared to be an area where recreation programs' lacked capacity.

Where the database is incomplete or inaccurate it is difficult to accurately plan, implement, report target accomplishment, and/or provide accurate information to the public.

The data in INFRA (Agency specific database) is only updated to the minimum requirements. (Because of) this may not reflect the current situation.

Not all INFRA modules are utilized or understood which leads to inaccurate data being rolled over year after year. Inaccurate data paints a distorted picture of the recreation program.

The Forest has not captured the full potential of volunteers and partners - the ____ NF volunteer/partnership contributions, according to the volunteer and partnership reporting database, are the lowest in the region.

Database management is considered a normal "business as usual" task, however, the recreation program is over extended and this task is the last to be addressed. There are a multitude of databases utilized by the recreation program with inaccurate, dated, and irrelevant information. All accomplishments are not reported to the extent they have been achieved.

Also, the eleven forest-level actions-plans indicated that in order to deliver a sustainable recreation program, databases require accurate up-to-date information:

Update the INFRA and GIS database with accurate data. This includes both trails and developed recreation site data.

Update INFRA and current replacement value.

Clean-up/correct/update recreation program databases.

Agency

Alignment between the Agency and the Recreation Program is an essential to sustainable recreation implementation. For the purpose of this case-study, Agency, represents any USFS entity outside the recreation program area. For example, the relationships which form this foundation can range from other resource management areas within the Forest to the Regional or Washington

offices. Forest-level recreation programs are part of a complex organizational structure. Recreation managers are reliant on these organizational relationships to build recreation program capacity while executing policy and managing a workforce. Agency support of forest-level recreation programs emerged as a critical foundation of operationalizing sustainable recreation. This is not surprising given the hierarchical organizational structure of the Forest Service and the top-down approach to administrative and budgeting decisions. To simplify this complexity for the reader, the researcher identified the following Agency component areas that are critical to operationalizing sustainable recreation.

Administrative Support

The administrative support component included any action items related to financial and human capital administrative tasks. This theme spanned a wide range of support-service related activities. These administrative support functions were often referred to as “day-to-day” administrative functions which help forest-level recreation programs achieve their mission.

As stated in this forest-level sustainable recreation action-plan, “this Forest’s managerial capacity has decreased to a point where the administrative work associated with managing a program cannot be accomplished.” These seemingly “routine” tasks can impact a program’s resources and success.

Budget Allocation

Budget allocation was another component aggregated within the Agency foundation area. Budget allocation represents the forest-level, program budget which each recreation program receives from the Forest Leadership Team.

Budget allocations are frequently not known until midway through the fiscal year and coupled with earlier contracting deadlines creates a challenging climate for project planning and implementation.

Allocations represent accurate needs on the ground as desired by the public, while maximizing volunteers and partnerships for additional support. The Recreation Program is streamlined in utilizing funds.

A transparent allocation model that has support across the forest and is perceived as fair and in alignment with the goal of sustainability.

There is accountability and transparency to ensure balance between administrative and field budget needs.

Budget and target allocations are often based on available data; therefore gaps in quality data need to be addressed to ensure the Forest is receiving proper funding.

Leadership Support

Evidence of sustainable recreation implementation across all data sources reflected a persistent component of leadership. Phases such as “committed,” “supportive,” “focus,” were visible in many narratives. Those USFS personnel in leadership positions are enhancing the capacity of recreation programs in the Region. Below are sample narratives which reflect this component:

Leadership also needs to commit to the development of strategic plans and their implementation as it relates to infrastructure management.

The Forest Supervisor, District Rangers and the Recreation Staff Officer, working together, can clearly define expectations for the overall Forest recreation team, and advocate face-to-face meetings to close the gap between Districts.

Leadership and staff create work priorities that involve integrated management and changes emphasis to focus on volunteers and partnerships when discussing priority work.

Forest-level priority

The Regional Forester for the USFS Southwestern Region established the implementation of a regional sustainable recreation strategy as a Regional Priority. Therefore, the Forest Supervisors' of the eleven national forests are responsible to guide personnel and direct Agency resources to forest-level recreation programs in support of the sustainable recreation action-plans. As resources were directed toward the implementation of the action-plans, sustainable recreation would then become what was commonly referred to as a “forest-level priority,” by interviewees and within the sustainable recreation action-plans.

Interviewees often cited the identification of sustainable recreation by line-officer leadership as a, “forest-level priority,” as important to operationalizing sustainable recreation. One interview participant observed:

“...it (sustainable recreation) needs to be on the priority list with the forest for the action item to be implemented from the sustainable recreation action-plan. I think some other folks don't understand how critical it is that they sign-off on these action-items and work with the Forest Supervisors and Deputies to make sure is that was being proposed is something that's on the Forest priority list.”

Another USFS employee also acknowledged the importance of the forest-level priority designation to ensure recreation programs are provided sufficient Agency resources to implement their sustainable recreation plan:

“I would say (forest-level) priorities is a very limiting constraint (to implementing our sustainable recreation action-plan). So, there are other things that are going on at the forest that are not recreation, that have a greater focus, and the energy and time put into them. That fluctuates depending on what’s going on.”

Leadership can also assume the important role of communicating the importance of implementing sustainable recreation action plans when interacting with other resource program areas:

“Internally what’s (a) necessary (condition to implement our SR action-plan) is that the Forest Leadership Team support and specifically a Forest Supervisor who puts it as a priority Forest program of work.

However, USFS employees interviewed also highlighted the importance of communicating to leadership about sustainable recreation:

“When you have new District Rangers come in and new leadership come in, you kind of have to start all over again and give them the history of the workshop and how this Forest is moving forward and show them the sustainable action-plan.”

Data collected indicate that an organizational learning process occurred during this time frame of operationalizing sustainable recreation in the Southwestern Region. Knowledge sharing about sustainable recreation was evident throughout the implementation process. This USFS recreation employee discusses sharing the sustainable recreation action-plan with line-officers and other recreation staff who weren’t directly involved the development:

“We have almost all new line officers since we started this process. We have done discussions and little mini presentation and I’ve gone through our action-plan with them. They are supportive, but we really make sure that they understand and we are using it to keep us in line with what we are moving toward.”

An interviewee commented that there are opportunities within recreation programs to continually learn and deliberate about sustainable recreation:

“Oh yes! So we talk about it quite a bit. Yes, it’s pretty much every meeting we have, it’s a discussion and then a continued education process once you are really on board. I do take the time of really trying to educate others what sustainable recreation means.”

Leadership emphasis on sustainable recreation program delivery

Results indicated the importance of leadership emphasizing how the recreation program's contributes to the Agency mission. Leadership support was discussed by these employees:

"So recreation is kind of like the first encounter people have with the Forest Service in general. And so, if you don't have leadership that recognizes that recreation isn't just something for the "night shift," but it is part and parcel and super important and needs support."

Another interviewee expressed this theme by using the term "buy-in:"

"And I think with this new action initiative with sustainable recreation, it is going to work, but you have to have leadership "buy-in" to and work as a team to try to move things forward."

Also, leadership described as "committed to" and "supportive of" sustainable recreation management was reported by interviewees as vital to the operationalization of their sustainable recreation action-plans:

"Having leadership that is committed and feeling empowered enough to say no to the things that we cannot focus on to allow our folks the time and energy they need to implement our (sustainable recreation) action-plan."

"I have to make sure that my line officers are supportive. Currently, all my line-officers are very focused and supportive and continue to use our sustainable recreation action-plan as a tool to make us move forward."

"I think it's (leadership support) is pretty huge, because so much of it (action-plan) does rely on partnerships...working on this forest and seeing how much leadership has supported those partnerships, supporting me, (and) attending some of these community meetings. Then making it clear to the District Rangers that this isn't just a recreation program thing, but that it's a District and community thing that they need to be involved in. That's been huge to make sure that the Rangers are a part of that as well. I'd say it's huge to have leadership involved."

Integrated Resource Management

The importance of integrated resource management emerged as the researcher collected data. Integrated resource management, is a holistic path where specialists and leadership from across disciplines view the resource as a system, and approach planning efforts together (Slocombe, 1993). Through a comparison of the existing condition narratives of the eleven sustainable recreation action-plans, a current lack of integration between recreation programs and other forest resources was observed:

The recreation program is in constant competition internally with other resource functions that need to complete priority planning and implementation projects in all resource areas.

Other Forest program areas may not recognize the importance of the recreation program, how it relates/affects other resource areas, how it supports local economies, how it impacts public perception of the Forest and how the public can support the recreation program.

There is competition for limited resources between districts, zones, overhead and other program areas. The limited resources include funds, recreation personnel, as well as other resource specialists that are needed for planning and implementation projects.

The recreation program works as needed with other program areas and vice versa.

Other program areas timeframes, goals, and personnel availability do not always align with the recreation program's needs. In addition, program areas work in an environment of competing priorities.

Although a desire to integrate further with other forest program areas was expressed through the desired condition narratives inside the sustainable recreation action plans:

Recreation Program projects are fully integrated with other Forest restoration projects (e.g., forestry, range, wildlife, and watershed) to provide for complete consideration of all aspects of sustainability and efficiencies in funding, design, planning and implementation phases.

The Recreation/Heritage program continually pursues integration with other internal resource departments to provide interpretation, communication, project work, and funding, outreach and volunteer programs for the long term benefit of a sustainable recreation program.

The forest-level action-plans also identify challenges, entitled "gaps," for moving their forest-level recreation program from the current condition to the desired future state. Several sustainable recreation action-plans address how to overcome these challenges by taking specific action measures to integrate the recreation program with other resource areas:

Recreation and Natural Resource Programs will work together to conduct annual monitoring of recreation use and/or recreation sites according to Forest Plan direction.

Developing and working with partners is of interest across the forest resource areas. This will be achieved through increasing master agreements with partners, increasing the number of volunteer hours, and increasing the number of volunteers at forest events.

Jointly funding a position that can focus on looking for and bringing in partners/volunteers and assist with project identification would greatly assist the recreation program, along with the fire and stewardship program on the forest.

Forest landscape-scale restoration includes recreation planning. Incorporate vegetation and fire treatments in recreation facilities and along trails.

Community

Based on evidence from the study, forest-level recreation programs are operationalizing sustainable recreation by envisioning their agency program as part of a broader community of place and interest. By actively engaging a diverse set of community partners, recreation managers are building capacity and strengthening community stewardship of public lands.

Volunteer Program

Data collected for this research study also indicated that volunteers will play a substantial role in sustainable recreation delivery. One USFS employee states:

“Without volunteers we are not going to successfully implement our SR action-plan, because it is built on the premise that we have a decrease in budget and fewer staff to be out in the field, so we are going to rely more on volunteers and communities taking ownership of the public lands.”

The development of a recreation program volunteer program was discussed by another interviewee:

“So one of the items we’re working on is a bigger partnership program, where our partners really run a program within the forest. And so it would increase our capacity to get some work done without our employees focusing all their time on individual volunteer groups. We would have a group, a volunteer group basically running those volunteer groups at a bigger level. So it increases the capacity to do program management, whether it’s motorized, non-motorized trails, working in our dispersed rec areas.”

Across all data sources examined for this research study, increasing program capacity by managing a volunteer program and creating a recreation volunteer coordinator position was discussed:

“We created a new position which is a volunteer partnership coordinator. Through that person we worked to create a volunteer program operating plan. If that person were to move on, then the next person that comes in, can see our cooperating plan that has the SOPs to run our volunteer program. This is what we are trying to do, this is our vision for working volunteers and this is the foundation of implementing that program.”

The recruitment of a diverse volunteer pool was also recommended by one interviewee:

“You really need to have a representative there for each group, I guess each recreational opportunity represented and also demographically...maybe it’s the wrong way we are

reaching out to the community, maybe we need to go to the community and ask hey how can we get more folks involved and become public land stewards...”

Partnerships

The relationships with partners formed at the district and forest level is invaluable to the implementation of the eleven sustainable recreation action-plans according to data collected:

“I know for me as a Forest wide recreation program manager, I’m building our work priority so that we are going to work a five year priority program that I can share with our stakeholders and partners and say, “how can you help us with this workload?”

A comparison of the desired condition narratives of the action-plans revealed that partnerships are a very important component of a sustainable recreation program:

The ___ NF’s recreation program will become more socially sustainable by developing strong long-term partnerships with neighboring communities and organizations that foster stewardship and service on our public lands.

Partnerships and collaboration can lead to increased public support and improved morale by empowering citizen stewardship of public lands and resources.

Partnerships can contribute directly to the ecological, social, and economic wellbeing of rural, urban and diverse communities within a variety of projects in recreation, trails and Wilderness.

Through a comparison of action-items, data indicated, forest-level recreation program expressed a willingness to commit internal program resources to managing, better understanding and developing relationships with partner organizations:

Development and expansion of a Partnership Council to help manage volunteer and partnership program.

Identify, evaluate and assess existing partnerships according to their area of expertise and effectiveness and integrate with the annual plan of work.

Work with existing and potential partner organizations to create a non-profit partnership coalition whose mission aligns with the mission of the Forest, and who can serve as an interface for our publics. In addition this group will help establish volunteer: recruitment, management, and retention guidelines for the forest.

The Recreation Program staff understands the fine distinctions of our Forest Service roles and responsibilities and how to collaboratively work with partners without violating the intent and sideboards of the Federal Advisory Committee Act (FACA).

Individual performance plans include measures and targets for working with volunteers and partner organizations. Employees have an increased capacity to engage volunteers as a result of coordinating with non-government organizations.

Our employees are adequately trained to cultivate relationships effectively and attend continuously to all available relationships with communities and partners.

One interviewee discusses the importance a developing lasting partnerships:

"I think it's in the sense of with our partners and with the community, ideally they're part of that process in terms of identifying the goals and developing the plan, articulating the actions, identifying the resources, and a certain willingness to bring some of those resources to the table, but I think it is important that it isn't something that's imposed on the community or imposed on our partners, but that it is a true partnership and so that they have a voice and they can contribute, they help shape and guide, and then also acknowledge for the successes but they're also willing to, you know accept and shoulder the failures."

Another interviewee also expressed thoughts about letting the partner group take a "leadership" role while completing projects together:

"We need to share responsibility and we need to share leadership versus the Forest Service always leading a project. We're in the position now where partners may be leading projects and we're participating. There are advantages such as we have this kind of collective impact where ideally everybody feels like they get a win out of a project and then also it gives us opportunities to really delve into persistent challenges or issues and try to work those out."

This interviewee discussed seeking partners who are willing to take the "leadership" role:

"Reaching out and finding our partners that will step-up and assume a leadership position to start the on-the-ground implementation of the things that are incorporated in our (sustainable recreation) action-plans. Like I said, most of our external groups are very used to us doing the "heavy-lifting" and then serving in a support role. And in our (SR) action-plan that is one of the primary actions with volunteers and partners that we're looking to change."

However, one interviewee highlighted that sustainable recreation implementation requires a further understanding of where and how to use to partners to increase a recreation program's capacity.

"I'm really focused on the partnership end of sustainable recreation, and so I think some of our current constraints (to implementing our sustainable recreation action-plan) are that we're still in the process of trying to filter and understand where partnerships make sense and where they don't make sense. So I think trails is an area where partnerships, and in terms of that piece of sustainable recreation makes a lot of sense. On the developed recreation side, I don't think it makes as much sense because of the nature of the work, that's a harder nut to crack in terms of bringing the community and to help manage that."

Relationship-building between recreation programs and partners was mentioned when multiple interviewees described one external condition necessary to implement their forest sustainable recreation action-plans:

“External is reaching out and finding our partners that will step-up and assume a leadership position to start the on-the-ground implementation of the things that are incorporated in our (SR) action-plans. Like I said, most of our external groups are very used to us doing the “heavy-lifting” and then serving in a support role. And in our (SR) action-plan that is one of the primary actions with volunteers and partners that we’re looking to change.”

Another interviewee commented about an external condition necessary for sustainable recreation operationalization:

“Externally, partners, absolutely, for sure. And what we have developed and people that are willing to just work with us, to help seek funding, to help get volunteers, to coordinate volunteers, to help us get the job done.”

Conservation Education

While analyzing data throughout this investigation, the role of the recreation program as an important source for conservation education about public lands emerged. As one interviewee stated a desire to enhance the recreation program’s public education program:

“...what we’d really like to do is a bigger more robust public education and conservation education program.”

Another interviewee discussed an education program in terms of a tool which can help protect the resource:

“It’s this huge educational effort we need to make in helping people understand our resource and that if we don’t protect it, you know they’re not going to have the opportunities and experiences out here.”

A comparison of existing conditions revealed the theme of conservation education and the desire for the forest-level recreation program to provide this type of knowledge to visitors:

Conservation education is left solely to fire prevention at the districts and the partnership coordinator at the Supervisor’s office. There is no forest-wide strategy to ensure a successful integrated conservation education program.

The forest has very limited youth or adult related conservation education programs.

Conservation education is not a priority, and there is no program in place.

Consequently, instead of being proactive, this creates an environment where the forest is always reacting to requests, and struggling to provide anything of substance to the community.

Fire prevention is the (forest-level) resource area that does the most school programs.

We have a marginal environmental interpretation and education program, and it lacks coordination among program areas. Regular issues exist with small subset of visitors who lack a land ethic—they leave waste, abandon property, misbehave, vandalize, abandon campfires, etc.

A comparison of action items within the sustainable recreation action-plans also revealed the relationship between sustainable recreation program delivery and conservation education:

Begin with an internal review of our current programs, skills, and staffing involvement this is a forest-wide, multi-program topic.

Engage partners, volunteers, interpretive associations and agencies to collaboratively develop a one-stop shop for conservation education.

A successful conservation education program supports responsible users who are informed on the impacts of their use and understand how to protect resources.

Development of a formal conservation education program through staff and volunteers that serve multiple resource needs, engages youth and adults, grows volunteers, and creates strong partnerships with local agencies, communities, and private groups.

CHAPTER 5: SUMMARY, DISCUSSION AND CONCLUSIONS

Summary

. The purpose of this forest-level exploration was to learn more about how recreation programs took action to deliver sustainable recreation under the guidance of *the Southwestern Strategy for Sustainable Recreation* from 2015 to 2016. Understanding how one Region is operationalizing sustainable recreation can inform other USFS Regional implementation efforts as well as recreation management across America's public lands. The findings of this study are unique, because even though the implementation process was directed by the Regional office through a top-down approach, these results reflect forest-level action and perspectives.

The eleven forest-level recreation programs implemented *the Strategy* together as a regional effort with the support of the Regional Office for Recreation, Wilderness, and Heritage. However, each Forest conducted the process of developing a sustainable recreation action-plan independently. Therefore, the researcher deliberately chose a case-study research design (Yin, 2015) to investigate operationalization of *the Strategy* as a singular event. The flexible nature of case study research design provided the researcher the opportunity to investigate the implementation process at each recreation program independently, yet draw comparisons collectively across the eleven forest-level recreation programs.

The primary sources of data for this research study were transcripts from researcher-conducted confidential narrative interviews with USDA Forest Service forest-level employees and eleven forest-level sustainable recreation action-plans. Throughout this entire qualitative investigation the research took a grounded theory (Glaser & Strauss, 1967) research approach. Rather than consider data analysis and collection as separate practices, the researcher analyzed those data collected for this research study as a process in "constant comparison" throughout this research inquiry (Strauss & Corbin, 1994).

Operational Model Presentation

A grounded theory research approach was essential to develop an operational model for sustainable recreation management. The visual representation presented in Figure 2 elaborates on the (Knight et al., 2006) operational model for “doing” conservation planning. Figure two simplifies the process sustainable recreation program delivery from a forest-level perspective. The model was developed by the researcher, based directly on evidence of sustainable recreation implementation gathered at the forest recreation program level. Also, the operational model for sustainable recreation management is intended for use as a visual aid which guides public land recreation managers through a strategic planning process. A planning practice which McCool et al. (2007) describe:

We view planning as an iterative, inclusive process where stakeholders and planners jointly frame issues, construct futures, and choose socially acceptable, efficient, equitable, and effective pathways to those futures (p. 4).

America's federal lands provide settings where a vast portion of the American population seek the benefits of outdoor recreational activities. Numerous federal directives, dating back to the 1960s', provide guidance for public land recreation programs to manage and plan for the use of these recreation resources by the visiting public. This decision-making process has mostly entailed addressing concerns of how outdoor recreation and the development of recreation facilities “might” have a detrimental impact the physical environment (McCool et al., 2007). Largely ignored have been the central questions of how managers should deliver a relevant and high-quality recreation program to the American public in a turbulent decision-making environment.

Much change has occurred in the public lands management landscape since the first generations of the American public experienced the benefits of outdoor recreational activities. Public preferences for recreational activities are ever-evolving; and the federally managed settings often do not meet the expectations of today's visitor. Also, many of the communities which border

federally managed lands are now more reliant on the economic benefits of outdoor recreation. And, an increasingly diverse American public is also expressing an interest in playing a larger and more equal role in the management of federal lands. These factors have contributed to a virtual crisis for public land recreation management programs. Managers struggle to achieve long-term sustainability in an era of resource scarcity. Forest Service recreation managers are often saddled working in a bureaucratic environment that stifles critical and resilient program thinking and strategies.

The researcher elaborated a visual operational model that can help managers prosper in the modern complex decision-making environment. A visual display of sustainable recreation delivery be used as a tool to further sustainable recreation efforts and foster learning through the implementation process. Knight et al., (2006), state, "An operational model intellectually simplifies the functioning of conservation planning processes so they can be more easily conceptualized." (p. 409). Through the data collection process it became apparent to the researcher, a measure described above could be beneficial if it were based on a ground-level perspective. It was observed by the researcher that forest-level recreation programs across the Region planned for similar actions measures to achieve sustainable recreation delivery. However, a qualitative data analysis of the action-measures included in the eleven sustainable recreation revealed something beyond these similarities.

Without a visual display, it is difficult to develop an understanding of the interdependent relationships between the foundations of sustainable recreation interact with each other. This process builds the capacity of a recreation program to fulfil its mission. Therefore, Figure 2, is essentially a capacity-building model for Forest Service recreation management programs. The operational model for sustainable recreation conceptualizes interrelationships between: the Recreation Program, the Community, and the Agency. The model also highlights areas of sustainable recreation action areas labeled as components. By strengthening these interdependent relationships with a focus on the individual components areas included on the model, managers can strengthen the overall capacity of the recreation program.

This operational model also encourages an adaptive management approach to all component areas of the recreation program. Those who employ this operational model as a framework to assess problems and make decisions are encouraged to monitor the effectiveness of their actions as part of one singular and continuous process. The adaptive management cycle is visually displayed also as a means to promote a “learning by doing” approach to sustainable recreation management.

Also highlighted through use of dark bold arrows within the operational model are the inter-relationships between the “foundations” of a sustainable recreation: the Agency, the Community, and the Recreation Program. These “foundations” are fundamental to implementing sustainable recreation. However, of ever increasing importance in the modern decision-making environment are opportunities to leverage the relationships between these three “foundations.”

Each foundation is comprised of a group of components which identify action areas within a sustainable recreation program. Components are represented by the small circles in the visual operational model. The lines between each circle represent the links between each component area which facilitates an integrated planning process. Described further in chapter four, these broad areas of action are broadly labeled in the visual operation model, to assist in the design of sustainable recreation action measures which are best suited to increase program capacity to realize sustainable outcomes and impacts.

The operational model for sustainable recreation management presented here is intended to complement a sustainable recreation implementation strategy or public land outdoor recreation management plan. It is expected that those recreation planners who intend to operationalize sustainable recreation will integrate the model as part of a recreation planning process which incorporates public input, observation, and the best available scientific data. However, public land managers should not shy-away from incorporating this operational model in the “day-to-day” operations of a recreation program. *Figure 2* was developed with the intention to promote problem solving which increases the on-the-ground capacity to carry out planning objectives.

SUSTAINABLE RECREATION MANAGEMENT OPERATIONAL MODEL

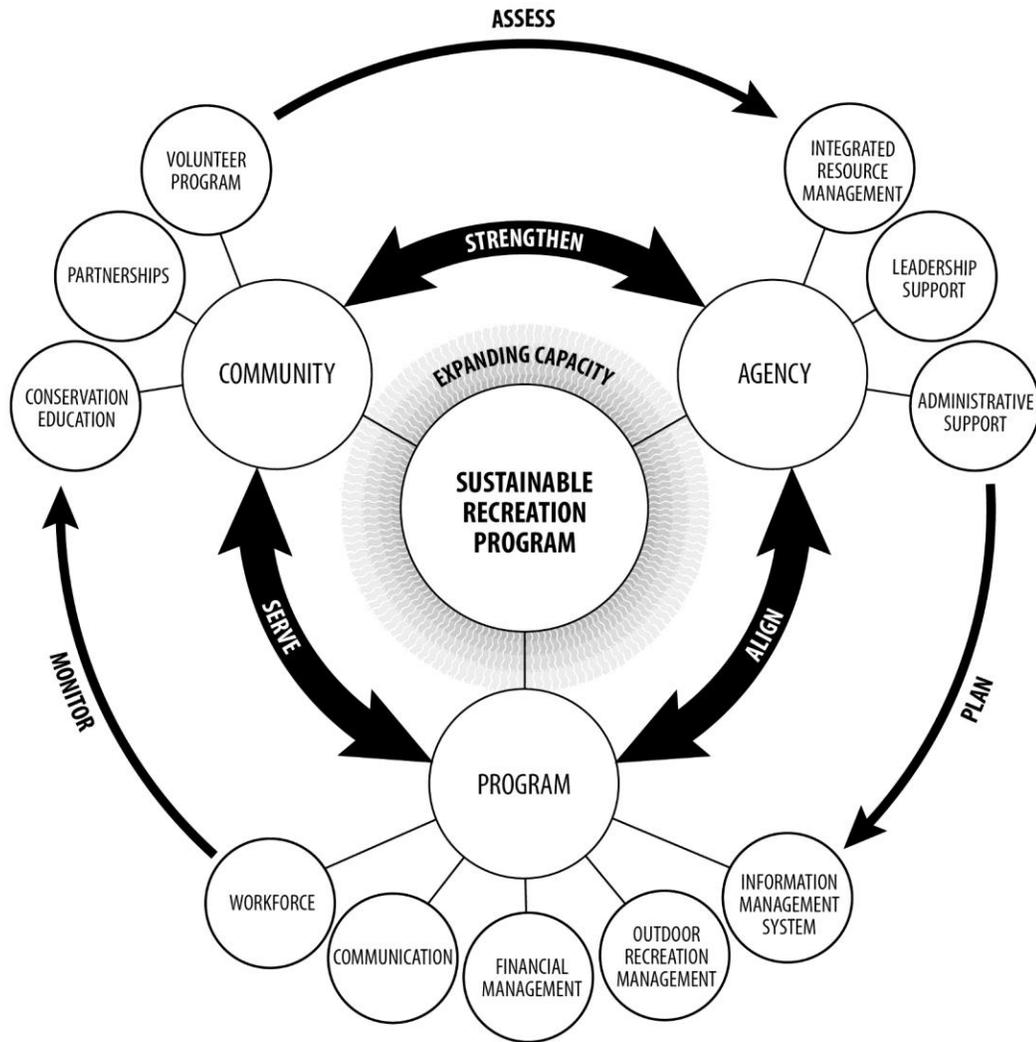


Figure 2. Visual operational model for sustainable recreation program delivery.

Conclusion

Public land recreation managers will continue to operate in a turbulent and uncertain management environment. Trends in outdoor recreational activity preference are predicted to fluctuate, and visitation to public lands is expected do the same. Managers will continue question how to deliver a recreation program which is relevant and adaptable to societal change. In addition, public land managers will frequently encounter an American public who are “satisfied” with their recreation visit but are unlikely to return to “run-down” recreation settings. Stakeholders and volunteers are growing wary of trying to partner with recreation programs which deliver action in years rather than months. The environmental resources which serve as the settings for outdoor recreation will experience the detrimental effects of visitation by a public which lacks education in environmental ethics. However, in-light of this turbulent environment, public land managers must overcome these challenges and manage forest recreation settings for the benefit of society, protection of the environment, and restoration communities.

This research study demonstrated the importance of implementing or “doing” sustainable recreation. It also highlighted the significance of adaptive management within recreation programs. Where program mangers function within consistent process of assessment, planning, and monitoring. After conduct the narrative interviews for this study, I questioned the value of years of theoretical discussions about recreation planning within our professional community. The USFS employees interviewed for this study made little mention of applying recreation planning frameworks to resolve the modern issues which their programs face. Sustainable recreation is powerful concept which can be applied to complement existing public land outdoor recreation management frameworks to solve problems. However, currently recreation professionals lack of “on-the-ground” recreation implementation literature. Each interviewee described an operating environment laden with top-down capacity building and thinking. Future knowledge about applying recreation frameworks as part of sustainable recreation implementation can be a capacity building activity, but should reflect an “on-the-ground” management perspective.

As described in the *Framework for Sustainable Recreation*, the concept of sustainable recreation is inspiring recreation program employees to move recreation programs toward an entirely different future. However, this research study suggests that an operational model for implementing sustainable recreation is desperately in need. I posed a question to each interviewee where this fact was made very obvious to me: “briefly describe a situation where a sustainable recreation principle could lead to a possible solution?” Unfortunately, I was not able to collect much useable data from this interview question. Simply put, interviewees were struggling to apply sustainable recreation to their day-to-day realities. Instead, many viewed sustainable recreation as a nice topic to discuss in planning meetings, but were unable to apply the knowledge they had gained about sustainable recreation to any “on-the-ground” situations.

Managers should seek opportunities to be creative and adapt sustainable recreation for use in their day-to-day actions. Sustainable recreation is a pragmatic tool which is intended to be put to use. It is not a static concept relegated to discussions inside leadership teams. Recreation managers across the Forest Service have used sustainable recreation as a “conceptual framework” intended for a wide range of planning purposes. However, in order to successfully implement sustainable recreation, those in the field must learn from “doing” sustainable recreation.

This does not mean that the scientific community cannot contribute to the sustainable recreation implementation effort. Further research is needed about District-level sustainable implementation. District-level, or “zone recreation” programs have a high level of interaction occurring between the community, the Agency, and other resource management program. Here, recreation employees are deeply engaged in the communities they serve and often feel quite removed from Agency resources. However, their recreation programs are really at the forefront of agency efforts achieve positive societal impacts.

Each sustainable recreation component included in the operational model can be turned into tasks or action-items that recreation managers can actually “do” to increase program capacity. Components like partnership development are not intended add to the burden, but rather quite the opposite. By applying the operational model it becomes more tangible how partners are essential

to implementing sustainable recreation. Essentially, I learned through this investigation that, in order to realize the promise of sustainable recreation, recreational professionals should implement specific management actions guided by a sustainable recreation framework. The operational model developed through this research study can help ease this challenging organizational journey.

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