COLLABORATIVE DEVELOPMENT OF UTAH'S OUTDOOR RECREATION STRATEGIC PLAN:
PROCESS AND FINDINGS FROM 14 REGIONAL WORKSHOPS

Jordan W. Smith, Ph.D.

Jake Powell

Casey Trout

Nate Trauntvein, Ph.D.

Rachel Hall

Wayne Freimund, Ph.D.

About the Institute

The Institute of Outdoor Recreation and Tourism at Utah State University does research, outreach, and teaching focused on outdoor recreation and tourism management — inside Utah and beyond its borders. Our work focuses on the social and economic trade-offs associated with providing outdoor recreation opportunities on public lands.

Jordan W. Smith, Ph.D. is the Director of the Institute of Outdoor Recreation and Tourism and a Professor in the Department of Environment and Society at Utah State University.

Jake Powell is an Assistant Professor in the Department of Landscape Architecture and Environmental Planning at Utah State University.

Casey Trout is a master's student in in the Department of Environment and Society at Utah State University.

Nate Trauntvein, Ph.D. is an Associate Professor in the Department of Kinesiology and Health Science at Utah State University.

Rachel Hall is an undergraduate student in in the Department of Environment and Society at Utah State University.

Wayne Freimund, Ph.D. is a Professor in the Department of Environment and Society at Utah State University.

Collaborative Development of Utah's Outdoor Recreation Strategic Plan

Jordan W. Smith, Ph.D.[1]
Jake Powell
Casey Trout
Nate Trauntvein, Ph.D.
Rachel Hall
Wayne Freimund, Ph.D.

Institute of Outdoor Recreation and Tourism

Utah State University

August 2023

[1] Address all correspondence to **jordan.smith@usu.edu**

Table of Contents

Executive Summary

Outdoor recreation within Utah is managed and provided through a patchwork of federal and state agencies as well as county and municipal governments. Each of these entities manages outdoor recreation following different mandates and internal objectives. Rarely has there been an opportunity for representatives from federal, state, county, and local governments to sit down, discuss the long-standing and emerging challenges they face, and collectively develop ideas about how to work towards less-disparate and more aligned outdoor recreation management systems. In late 2022 and early 2023, we convened hundreds of land managers, outdoor recreation and tourism professionals, and elected officials across 14 workshops to do just that. The goals of the workshops were to: 1) facilitate a discussion about the threats to, and opportunities for, outdoor recreation within different regions of the state; and 2) use the identified threats and opportunities to solicit input on region-specific outdoor recreation policy, program, and project needs. Information gathered through the workshop process was also used to identify outdoor recreation policy, program, and project needs common throughout the state.

The common needs identified in the regional workshops directly informed the development of the objectives of Utah's Outdoor Recreation Strategic Plan – a guiding document intended to improve outdoor recreation opportunities and support the alignment of policy and management actions across the many outdoor recreation providers within the state.

The purpose of this report is to document the collaborative process for engaging stakeholders in the development of the objectives of Utah's Outdoor Recreation Strategic Plan and to detail the findings generated from the process. The final objectives of the plan are organized into four overarching Cardinal Directions, and are shown below.

Utah's Outdoor Recreation Strategic Plan

Cardinal Directions	Objectives
Build and support collaborative processes	• Increase the ability of municipal, county, state, tribal, and federal entities to access and share resources supporting the development and maintenance of outdoor recreation infrastructure • Increase the ability of user groups, non-profits, and private industry to support infrastructure development and maintenance • Ensure infrastructure development and outdoor recreation management meets local needs
Improve awareness and education about safe and responsible recreation	• Decrease the need for search and rescue support for uneducated or ill-prepared recreationists • Foster a sense of stewardship for Utah's outdoors • Minimize conflict between different outdoor recreation activities • Increase awareness of the benefits of outdoor recreation for all Utahns
Increase access to outdoor recreation while protecting natural and scenic landscapes	• Provide a wide variety of high-quality recreation opportunities, ranging from the highly-developed to the very primitive • Ensure existing outdoor recreation assets are well maintained for decades to come
Increase the economic and health benefits generated by outdoor recreation	• Distribute the economic benefits of outdoor recreation to the areas where use is occurring • Increase the capacity of gateway and natural amenity regions to plan for, and manage, non-local visitation • Improve the ability of individuals to achieve the mental and physical benefits of outdoor recreation

The report also presents two major policy recommendations, six major program recommendations, and two major project recommendatins that, if taken, can assist in achieving the objectives of the Plan. These recommendations are tactical solutions targeted at the Utah State Legislature and the many agencies, organizations, and interests that want to improve outdoor recreation opportunities within the state. These specific policy and program recommendations are shown below.

The objectives developed through the statewide strategic planning process reflect the common aspirations for the hundreds of land managers, outdoor recreation and tourism professionals, and elected officials who steward outdoor recreation opportunities statewide. The policy, program, and project recommendations are focused solutions that can make these aspirations a reality.

Policy Recommendations

1. Develop the Administrative Structure of the Outdoor Recreation Coordinated Investment Initiative to Support Collaborative Processes

2. Streamline Processes for Private Industry to Support Outdoor Recreation Infrastructure Development and Maintenance

Program Recommendations

1. Curate and Share Outdoor Recreation Partnership Agreements

2. Identify the Preferences, and Needs, of Non-recreating Minority Populations

3. Cultivate the Development of Local Stewardship Initiatives

4. Support Local Planning Efforts That Identify Where Distinct Types of Outdoor Recreation Opportunities Should be Provided

5. Support Planning Assistance Programs Tailored to the Unique Challenges of Utah's Gateway Communities

6. Support Programs That Improve the Ability of Individuals to Achieve the Mental and Physical Benefits of Outdoor Recreation

Project Recommendations

1. Invest in Trail and Park Connectivity

2. Invest in Trail Access

Introduction

From the snow-capped peaks of the Wasatch Front to the spectacular slot canyons and red rock arches of Southern Utah, the state's landscapes support an unbelievable abundance of outdoor recreation opportunities. However, the policies, processes, and people that provide these outdoor recreation opportunities are as diverse as the landscapes on which they occur. Like many other western states, the governance of Utah's outdoor recreation opportunities can be described as complex, disparate, and misaligned. Nearly 65% of the state is under federal ownership and management, including extensive swaths of high deserts and forested mountains managed by agencies like the Bureau of Land Management and USDA Forest Service (Trout & Smith, 2023). Utah is also home to the 'Mighty 5' National Parks, which receive an exceptional amount of visitation from both Utah residents and tourists each year (National Park Service, 2023a). Utah's State Park system experiences just as many recreation visits as the state's national parks, at just under 10 million in 2022 (Utah Division of State Parks, 2023). The parks and trails managed by the state's 29 counties and 253 municipalities round out the state's outdoor recreation offerings, providing the most accessible opportunities for the state's 3.4 million people (U.S. Census Bureau, 2023).

Each agency, county, and municipality that provides outdoor recreation opportunities within the state does so under a different mission and to achieve different goals. Some federal agencies like the Bureau of Land Management and the USDA Forest Service must balance outdoor recreation amongst many other uses such as grazing and mining, following the philosophy that public lands should provide the greatest good for the greatest number of people (Wilkinson, 2015). Conversely, the state's park system as well as counties and municipalities provide outdoor recreation to improve residents' quality of life while also trying to grow local and statewide outdoor recreation and tourism economies (Kem C. Gardner Policy Institute, 2023; Utah Division of State Parks, 2022).

Given the diversity of outdoor recreation providers within the state, there have rarely been opportunities for representatives from federal, state, county, and local governments to sit down, discuss the long-standing and emerging challenges they face, and collectively develop ideas about how to work towards less-disparate and more aligned outdoor recreation management systems. In early 2020 the Utah State Legislature saw the opportunity to invest in the creation of a statewide strategic planning effort driven by the collective vision of outdoor recreation managers, planners, elected officials, and other key interests across the state. H.B. 283 created the Outdoor Adventure Commission to oversee the development of a statewide Outdoor Recreation Strategic Plan and mandated the strategic planning process be informed by a series of regional workshops and direct consultation with federal land management agencies.

Working in partnership with the Utah Division of Outdoor Recreation, our team at the Institute of Outdoor Recreation and Tourism at Utah State University developed, organized, and facilitated these regional workshops. The purpose of this report is to both document the collaborative process for engaging stakeholders in the development of Utah's Outdoor Recreation Strategic Plan and to detail the findings generated from the process. These findings include a detailed description of the policies, programs, and projects outdoor recreation managers believe can expand and improve outdoor recreation opportunities throughout Utah.

Methods

Planning Regions

The Utah Outdoor Adventure Commission chose to use the Utah Association of Governments (AOG) regions to delineate distinct planning areas for the purposes of informing the statewide strategic plan. The AOGs were created in 1970 through an executive order of Governor Cal Rampton for the purposes of "providing a uniform basis to coordinate major state plans and programs" (Executive Order, 1970)[1]. The boundaries of the state's seven AOGs are shown in Figure 1. Each AOG operates independently, with some regions being much more active and capable of engaging in the strategic planning effort than others.

Stakeholder Identification

Within each AOG region, we compiled contact information for all potential stakeholders who have a direct interest in, and influence over outdoor recreation management on federal, state, county, and municipal lands. This follows established and best-practices within the field of natural resource management for convening groups of stakeholders who have disparate, but related connections to the topic area of the planning process (Reed et al., 2009). This criteria allowed us to have clear guiding criteria for choosing who, and who not, to invite to each of the regional workshops. Individuals and groups who were not invited did not have a direct influence over the management of outdoor recreation on public lands.

We collected geospatial data on all administrative areas with publicly-accessible outdoor recreation opportunities; this included federal, state, county, and municipal lands (Smith, 2023b). We then searched the internet, utilized our research team's existing connections, and consulted with Utah Division of Outdoor Recreation staff for contact information for relevant stakeholders
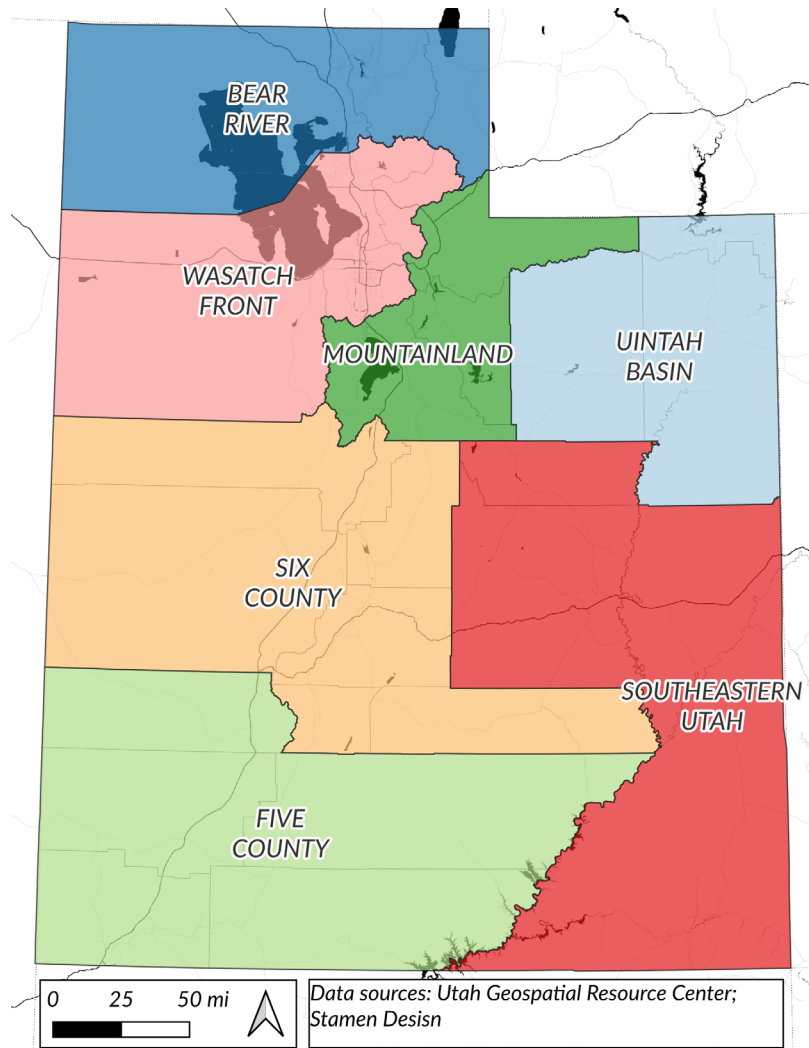
Figure 1
Utah Association of Government Regions

in the areas identified. For federal lands, we specifically included regional/area supervisors (USDA Forest Service), superintendents (National Park Service), and field office managers (Bureau of Land Management). For state lands, we included state park managers, state park regional managers, and state wildlife area managers. For counties, we included county commissioners, county destination marketing organization leads, and county park and recreation program leads (if they existed). For municipalities, we included mayors, city council members, park and recreation program leads, and planning leads. We also invited elected officials from both the state House of Representatives and Senate, if their district was included within, or overlapped with, the AOG region. We also requested representation from the Public Lands Policy Coordinating Office and the Utah Office of Tourism, both of which are state Executive Office programs. Finally, we invited staffers from federal elected officials representing areas within each AOG as well. The process of identifying potential stakeholders was repeated prior to the second round of workshops in an effort to include

elected officials and staff that may have been elected or hired between the two rounds of workshops (discussed below). The total breakdown of attendees across each of the regions is shown in Table 1.

Workshop Structure and Design

The stakeholder workshops were structured and designed to identify threats to, and opportunities for, outdoor recreation within Utah. This focus compliments other elements of the strategic planning effort that evaluate how outdoor recreation is currently provided within the state (see Smith and Trout (2023) for an overview of how outdoor recreation is currently provided within the state; see Trout and Smith (2023) for an analysis of how outdoor recreation management in Utah differs from other western states).

We used the stakeholder workshops as an opportunity to solicit information from the state's outdoor recreation managers and elected officials to identify both threats to,

Table 1
Number of Workshop Attendees

	Association of Governments Region						
Workshop	Bear River	Five County	Mountain-land	Six County	Southeastern Utah	Uintah Basin	Wasatch Front
Assets and Threats (Fall 2022)	31	34	31	23	32	21	63
Objectives, Policies, Programs, and Projects (Spring 2023)	14	27	23	13	22	18	28

and opportunities for, outdoor recreation, believing the experiences and insights of these individuals may be the only source for this type of information. Given the state has lacked any long-term planning efforts specifically focused on outdoor recreation, the personal and professional experiences of stakeholders were a logical starting point.

We designed two workshop processes focusing on either identifying threats or opportunities for outdoor recreation within each AOG region. The workshops were sequenced, with the first focusing primarily on threats and the second focusing primarily on opportunities. The first round of workshops, with one being held in each AOG region, were held in the fall of 2022; the second round was held in the spring of 2023. Table 2 lists the dates, times, and locations of each workshop. Each workshop lasted approximately 5-hours, with either breakfast or lunch provided at the beginning.

Outdoor Recreation Assets and Threats Workshop

The structure of the fall workshop series is shown in Figure 2. The workshop was organized around satisfying two planning needs: 1) validating recreation asset data collected by the project team; and 2) soliciting input on environmental, social, and managerial threats that would affect the long-term viability of outdoor recreation assets within each region. The full workshop protocol is provided in the online supplementary material.

We first presented preliminary data on the inventory of outdoor recreation assets within the region; these data were presented on large (8' × 16') foam core boards mounted to a custom frame. Workshop participants were asked to identify any existing outdoor recreation assets (e.g., campsites, pavilions, etc.) that were not currently represented on the maps with markers and also prompted to provide information describing the asset.

Table 2
Workshop Dates, Times, and Locations

Association of Governments Region	Fall Workshop Series (Assets and Threats)			Spring Workshop Series (Opportunities, Policies, Programs, and Projects)		
	Date (2022)	Time	Venue (City)	Date (2023)	Time	Venue (City)
Bear River	August 11	Noon - 5pm	American West Heritage Center (Wellsville)	May 31	Noon - 5pm	Box Elder County Building (Brigham City)
Five County	October 14	8am - 1pm	Courtyard by Marriott (Cedar City)	June 6	Noon - 5pm	Garfield County Building (Panguitch)
Mountainland	September 14	8am - 1pm	Utah Olympic Park (Park City)	May 17	Noon - 5pm	Alpine City Hall (Alpine)
Six County	October 6	Noon - 5pm	Snow College (Ephraim)	May 12	8am - 1pm	Snow College (Richfield)
Southeastern Utah	September 7	Noon - 5pm	Holiday Inn Express (Green River)	June 14	Noon - 5pm	Canyon Country Discovery Center (Monticello)
Uintah Basin	August 4	Noon - 5pm	USU Uintah Basin (Vernal)	June 15	Noon - 5pm	USU Uintah Basin (Vernal)
Wasatch Front	October 4	Noon - 5pm	Petzl America (West Valley City)	May 16	Noon - 5pm	Davis Technical College (Kaysville)

Introductions

↓

Data summary of land management and population characteristics of the region

↓

Validation of Recreation Asset Data (via large maps)

↓

Visioning exercises
- *What about the region made outdoor recreation opportunities there different from the rest of the state*
- *Stakeholders' vision for what they want outdoor recreation in the region to look like in the future*
- *Threats to outdoor recreation in the region*

↓

Threat assessment (via large maps)
- *Environmental*
- *Social*
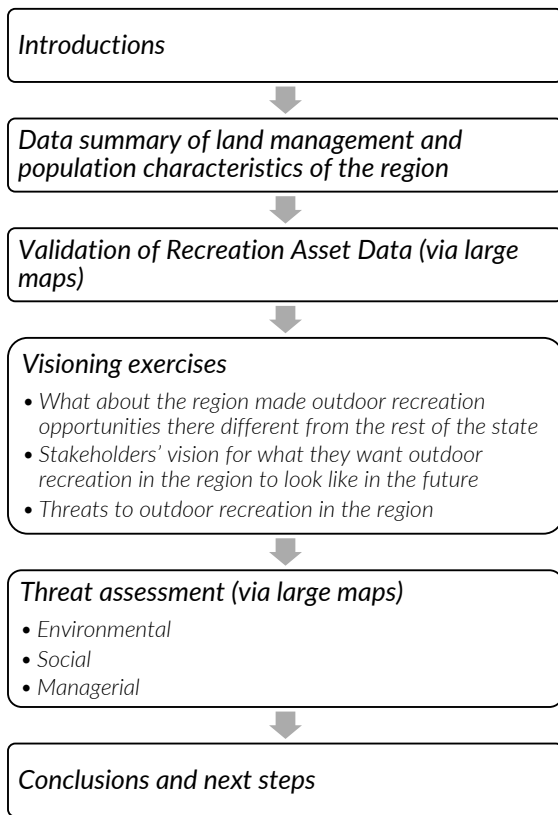- *Managerial*

↓

Conclusions and next steps

Figure 2
Structure of the Assets and Threats Workshops (Fall 2022)

In a subsequent phase of the workshop, participants were prompted to continue to explore the maps and identify any known environmental, social, or managerial threats that might affect the long-term viability of recreation assets across the region. Participants identified these threats using small stickers and companion workbooks. We framed the solicitation of threats using the 'environmental,', 'social,' and 'managerial' descriptors given these three characteristics define the types of outdoor recreation opportunities that many land management agencies provide (Manning, 2022b). Additionally, structuring the list of threats this way was intended to yield more focused stakeholder discussions. We chose to conduct the participatory exercise via paper maps and stickers, as opposed to digitally, because the more physically tangible approach has been shown to reduce participation bias and encourage more interactive participation amongst workshop participants (Pocewicz et al., 2012). Descriptors of each type of threat, as well as instructions on how to complete the sticker exercise, were shown on 2' × 3' foam core boards placed on easels next to the larger maps; the descriptors and instructions are shown in Figure 3.

The workshop also included structured small-group discussions around three specific topics designed to identify the strengths, weaknesses, opportunities, and threats associated with outdoor recreation in the region. These topics included:

- **What about the region made outdoor recreation opportunities there different from the rest of the state.** This prompt allowed stakeholders to critically think about how their region was unique. It was intended to focus attention towards those things that make outdoor recreation opportunities distinctive in the region. We wanted to avoid the "we want more of everything" response among participants in the discussions for the subsequent prompts, so this prompt was used to prime participants to think strategically about unique opportunities in their respective region.

- **Stakeholders' vision for what they want outdoor recreation in the region to look like in the future.** This prompt asked stakeholders to think more critically about the types of outdoor recreation assets and opportunities they could realistically see being developed. While by no means was this question intended to be a comprehensive visioning exercise, it was intended to spark participants' creative and critical thinking. Responses to this question were used to help guide the identification of strategic issues – the 'big picture' issues that many managers and community leaders rarely have the opportunity to discuss collectively as a group (Bryson, 1988, 2010).

- **Threats to outdoor recreation in the region. This prompt was intended to spark ideas about the diversity of threats facing outdoor recreation across each region.** Immediately following these discussions, workshop participants were guided through the map-based threat assessment discussed above. Preceding the exercise with structured small-group discussion was intended to concentrate the salience of known threats identified by the group.

A member of the research team or the Division of Outdoor Recreation was involved in each discussion group to: 1) facilitate the discussion, ensuring all members of the group had an opportunity to contribute, discuss, and generate a general level of agreement on what the collective ideas of the group were; and 2) note these collective ideas on large flip-charts placed at each group's table. The ideas noted on the flip-charts were later transcribed to identify common themes heard across all seven workshops. These common themes were used to develop an initial list of major objectives that could improve outdoor recreation opportunities statewide. This initial list of objectives was grouped into four "Cardinal Directions" based on the commonalities between objectives. The "Findings" section below details how themes heard from the first workshop informed the development of the ob-

Types of Threats

MANAGERIAL

- Inadequate **infrastructure** to meet current and future demands
- Lack of **funding** to support necessary maintenance
- Lack of **policies** to guide and support management actions
- Lack of **access** to potential recreation amenities

ENVIRONMENTAL

- **Changing environmental conditions** that threaten recreation opportunities
- **Natural hazards** that threaten recreation opportunities

SOCIAL

- **Conflict** between different outdoor recreation activities
- **Crowding** that diminishes the quality of outdoor recreation experiences

---

Instructions

Step 1
Think of an the most pressing managerial threats to outdoor recreation assets in the region.

Step 2
Take any BLUE numbered dot and place it in the location at, or near where the issue occurs. If there are other dots in the area, place your dot near where the issue occurs without obscuring the other dots.

The map should start to look something like this
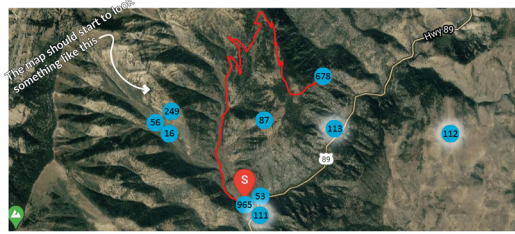
Step 3
Write a description of the issue on the corresponding numbered line in your workbook.

Your workbook should start to look something like this

111	This bridge needs to be repaired or replaced.
112	We've had so many lost hikers on this trail...a big cost for search and rescue
113	This could be a great staging area for trailers if it were bigger

Step 4
Repeat until you have located with dots on the map and noted in your workbook all known issues or you run out of dots.

MANAGERIAL

Instructions

Step 1
Think of an the most pressing environmental threats to outdoor recreation assets in the region.

Step 2
Take any YELLOW numbered dot and place it in the location at, or near where the issue occurs. If there are other dots in the area, place your dot near where the issue occurs without obscuring the other dots.

The map should start to look something like this
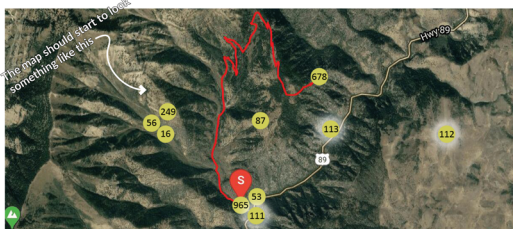
Step 3
Write a description of the issue on the corresponding numbered line in your workbook.

Your workbook should start to look something like this

111	Wetlands are always dry - no birdwatching can happen here
112	Wildfires in 2012 destroyed this campground
113	Beetle kill trees in this area pose a wildfire threat to the nearby springs

Step 4
Repeat until you have located with dots on the map and noted in your workbook all known issues or you run out of dots.

ENVIRONMENTAL

Instructions

Step 1
Think of an the most pressing social threats to outdoor recreation assets in the region.

Step 2
Take any RED numbered dot and place it in the location at, or near where the issue occurs. If there are other dots in the area, place your dot near where the issue occurs without obscuring the other dots.

The map should start to look something like this
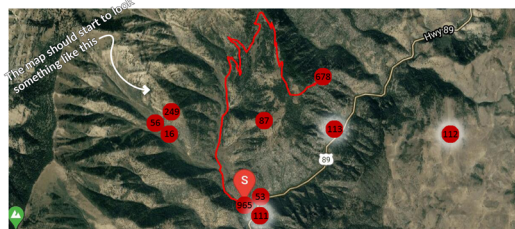
Step 3
Write a description of the issue on the corresponding numbered line in your workbook.

Your workbook should start to look something like this

111	This trailhead is always crowded. Way too many cars!
112	Constant conflict between hikers and mountain bikers.
113	This trail is too noisy on the weekends when all the ATVs are out.

Step 4
Repeat until you have located with dots on the map and noted in your workbook all known issues or you run out of dots.

SOCIAL

Figure 3
Types of Threats and Instructions for Completing Threat Assessment Exercise

jectives. The initial Cardinal Directions, and their associated objectives, were presented back to workshop participants in the second workshop, reviewed and evaluated by those in attendance, and subsequently revised by the research team based upon their feedback (discussed in the section below).

Outdoor Recreation Opportunities (Policies, Programs, and Projects) Workshop

The structure of the spring workshop series is shown in Figure 4. This workshop was focused on: 1) providing a general update on the strategic planning process; 2) presenting findings on the known environmental, social, or managerial issues threatening outdoor recreation assets throughout the region (solicited during the first workshop); 3) presenting and soliciting feedback on a draft set of Cardinal Directions and associated objectives that had emerged during the planning process; and 4) having participants identify specific policies, programs, and projects that could help the region achieve the current objectives of the plan. The overarching purpose of these workshops was to present and solicit feedback (in the form of actionable policies, programs, and projects) on a preliminary draft of the strategic plan's objectives. The full workshop protocol is provided in the online supplementary material.
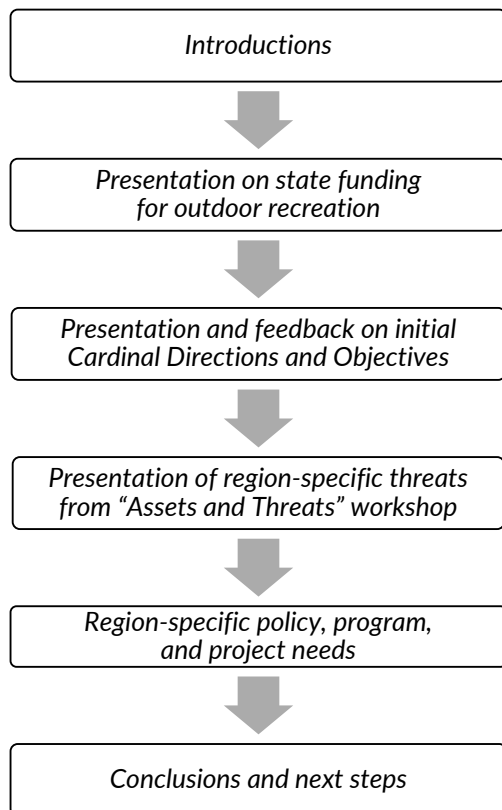


```
┌─────────────────────────────────┐
│          Introductions          │
└─────────────────────────────────┘
                 ↓
┌─────────────────────────────────┐
│   Presentation on state funding  │
│      for outdoor recreation      │
└─────────────────────────────────┘
                 ↓
┌─────────────────────────────────┐
│  Presentation and feedback on initial │
│   Cardinal Directions and Objectives  │
└─────────────────────────────────┘
                 ↓
┌─────────────────────────────────┐
│  Presentation of region-specific threats │
│   from "Assets and Threats" workshop    │
└─────────────────────────────────┘
                 ↓
┌─────────────────────────────────┐
│   Region-specific policy, program,  │
│          and project needs          │
└─────────────────────────────────┘
                 ↓
┌─────────────────────────────────┐
│     Conclusions and next steps     │
└─────────────────────────────────┘
```

Figure 4
Structure of the Opportunities, Policies, Programs, and Projects Workshops

After a presentation to update participants on the strategic planning process and major threats to outdoor recreation identified in the first workshop, participants were presented with the initial set of Cardinal Directions and their associated objectives. We described the Cardinal Directions as "general courses of action that could improve outdoor recreation opportunities across the state." Each Cardinal Direction was associated with a set of objectives, which we described to workshop participants as "descriptions of how the Cardinal Direction could improve outdoor recreation opportunities across the state." Participants were then prompted to review the Cardinal Directions and objectives and think independently about if they captured the needs of their particular region, or if there were missing objectives. Participants were then instructed to share their thoughts amongst their group and provide feedback that was generally agreed upon by all members of the group. Feedback was recorded on a digital whiteboard by a member of the research team or staff of the Division of Outdoor Recreation.

Participants were subsequently guided through a process to identify specific policies, programs, and projects that could move the region toward achieving the draft set of Cardinal Directions and associated objectives. Workshop participants were asked to individually brainstorm, and then collaboratively discuss as small groups, specific policies, programs, and projects that could move the region forwards to achieving the draft set of Cardinal Directions. The small group discussions were organized using no more than eight workshop participants, with the composition of the groups shuffled between the three rounds of discussion (policy, program, and projects) to avoid "groupthink" in any single group.

The opportunity for individuals to identify potentially beneficial policies, programs, and projects was intended to cultivate a sense of personal ownership over the specific outcomes of the Strategic Plan. The structured group discussions around potential policy, program, and project ideas were intended to help cultivate a shared understanding of the challenges facing outdoor recreation managers in Utah and aid in building social connections and a shared understanding amongst the diverse stakeholders involved in outdoor recreation policy, management, and promotion throughout the state. We defined policy, program, and projects as:

- **Policies.** Laws, regulations, procedures, ordinances, administrative actions, incentives, or voluntary practices of governments and other institutions related to outdoor recreation.

- **Programs.** Sets of related activities with a particular purpose or long-term goal related to outdoor recreation.

Strategic Plan Workshops: Process and Findings

- **Projects.** Planned outdoor recreation infrastructure development, maintenance, and management efforts.

A member of the project team or a staff member from the Division of Outdoor Recreation was placed within each group and asked to take notes on the discussion using a digital whiteboard (Google JamBoard). All note takers were connected to the same common whiteboard, allowing all workshop participants to see the activity of other groups working on the same task. The use of a common "whiteboard" also allowed note takers to align their group's notes with the notes of other groups, if they were similar. This allowed for easier qualitative grouping of policies, programs, and projects after the workshops were complete.

After the workshop, we revised the Cardinal Directions and associated objectives based on feedback from workshop participants. Then, we generated a list of policies, programs, and projects offered by workshop participants and linked them to specific objectives. These policies, projects, and programs are "tactical actions" that can be taken to help achieve the specific objectives and associated Cardinal Directions in the final Strategic Plan. The process of revising the Cardinal Directions and objectives and incorporating the policies, programs, and projects into the final Strategic Plan based on workshop participant feedback is detailed in the "Findings" section of this report.

Structured Group Discussions

Throughout the design and facilitation of the regional workshops, our goal was to cultivate a shared sense of ownership over the Utah Outdoor Recreation Strategic Plan. To do this, we designed the collaborative, interactive portions of the workshops using a set of 'liberating structures,' simple protocols to structure small group discussions. These structures provide: 1) a structured invitation to create a common focus amongst all the members of a group; 2) constraints on the physical space in which interactions are occurring to facilitate dialogue; 3) methods to ensure everyone has an equal chance to contribute; and 4) a set time and sequence for interactions to occur (Lipmanowicz et al., 2015).

Analysis

Identification of Major Threats to Outdoor Recreation in Each AOG Region

All 'data,' in the form of stickers placed on locations and post-it notes regarding major environmental, social, and managerial threats to outdoor recreation assets within each region, were digitized and georeferenced. We iteratively grouped the threats into related clusters until a set of three to five related threats were identified; this was done independently for environmental, social, and managerial threats and for each AOG region. We also transcribed and synthesized workshop discussion notes related to major threats to outdoor recreation in each region to provide additional context to the threat groupings identified through the participatory mapping exercise. The threats and associated discussion were used to inform the development of specific objectives and overarching Cardinal Directions for the initial draft of the Strategic Plan.

Outdoor Recreation Policy, Program, and Project Needs

All notes taken on the digital whiteboards were saved and subsequently organized into spreadsheets. This allowed for them to be iteratively and qualitatively binned into similar policy, program, and project needs. The qualitative aggregation process was similar to that used to aggregate similar types of threats. The aggregation process was done independently for policies, programs, and projects and for each AOG region. Common policies, programs, and projects across different AOG regions were incorporated into the final Strategic Plan.

Findings

Major Threats to Outdoor Recreation In Each AOG Region

We first present the major threats to outdoor recreation in each AOG region before briefly describing consistent threats noted across the state. The most prominent threats noted by workshop participants in each region are shown in Figure 5.

Bear River Region

Like many other regions of the state, the environmental threats to outdoor recreation in the Bear River Region consisted primarily of concerns over low water levels, which can leave prominent recreational assets inaccessible or unsafe. This was particularly noted as a threat to Willard Bay, one of the state's most visited state parks (Utah Division of State Parks, 2023). Rapid residential development with little forethought for the establishment or connectivity of outdoor recreation assets was also a prominent environmental threat in the Bear River Region; this threat was also noted in several other regions (Mountainland, Five County).

Growing demand for a select few recreation assets was the most prominent social threat to outdoor recreation across the Bear River Region. There are several recreation sites in the Logan Ranger District (Wind Caves, Tony Grove, River Trail) that workshop participants noted as receiving the lion's share of visitation throughout the District. All of these areas have parking and restroom facilities that are

MAJOR THREATS TO OUTDOOR RECREATION IN UTAH

AOG REGION	ENVIRONMENTAL	SOCIAL	MANAGERIAL
Bear River BOX ELDER CACHE RICH	Low water levels threaten water-based recreation at Willard Bay Poor trail design and lack of maintenance on Boardwalk Trail Rapid development without thought for trail and greenway connectivity	Crowding at waterfront access points on Bear Lake Crowding at major destinations in the Logan Ranger District (Wind Caves, Tony Grove, River Trail) Impact of shooting in Providence Canyon on hiking and biking	Lack of connectivity between municipalities Lack of access to Bear Lake due to Marina size (too small) and beachfront sites (too low) Lack of access to major destinations in the Logan Ranger District (Wind Caves, Tony Grove, River Trail) Lack of developed campsites in southeastern Cache Valley
Five County BEAVER GARFIELD IRON KANE WASHINGTON	Rapid urban development with poor or unplanned connections to outdoor recreation assets Drought leading to an increased risk of major wildfires, which could have major impacts on recreational assets (especially on the Dixie National Forest) Limited ability of trail reconstruction and maintenance after floods in more rural locations	Congestion and crowding in high-use areas in and around Zion National Park in peak seasons Lack of education and information about responsible recreation leading to conflict and resource degradation (especially noted in Peek-a-Boo Canyon, Tom's Canyon, Cutler Cave) Local/long-time residents resistant to outdoor recreation infrastructure development	Continued expansion of dispersed camping on public lands Lack of enforcement, region-wide Inadequate workforce housing and labor shortage in general in gateway communities Lack of recreation infrastructure around Zion National Park Inadequate infrastructure to meet current demands along Hole In The Rock Road
Mountainland SUMMIT UTAH WASATCH	Low water levels and poor water quality around reservoirs and Utah Lake Recreational debris in and around the Provo River Uncertainty about future snowfall and temperatures raise questions about long-term viability of winter recreation	Conflict between motorized and non-motorized trail users in/near Lehi and Draper Depreciative behavior and homeless camps in/around Slate Canyon Crowding and reservoirs in the summer	Lack of access and infrastructure at Utah Lake Limited planning south of Elk Ridge Lack of adequate infrastructure (parking, campgrounds, parkway trail, etc.) around Jordanelle Lack of municipal, county, and state land to develop recreation assets in the northern half of Summit County
Six County JUAB MILLARD PIUTE SANPETE SEVIER WAYNE	Flooding and human-wildlife conflict within and near Capitol Reef National Park along SR24 Trail maintenance issues on the Manti-LaSal National Forest east of US89 Mountain bike trails west of Richfield	Crowding and dispersed camping outside of Capitol Reef National Park along SR24 Conflict between motorized trail users and mountain bikers west of Richfield Overuse and lack of adequate campgrounds in Maple Canyon	Inadequate infrastructure (visitor centers, parking, and campgrounds) west of Capitol Reef National Park along SR24 Lack of staff across multiple agencies to support management of trails around Richfield Inadequate parking in Maple Canyon Lack of resources to complete the Nephi Canyon trails masterplan Lack of management presence at Burraston Ponds
Southeastern Utah CARBON EMERY GRAND SAN JUAN	Rapid growth in the popularity of dispersed camping Limited support for education about, and protection of, cultural resources Many water access points that become unusable in low-water years Limited ability to repair outdoor recreation infrastructure, particularly roads, after floods	Lack of adequate pre-trip planning information/education for many settings Unprepared or ill-prepared recreationists at many backcountry settings Increased demand for search and rescue Limited supply of developed campgrounds causes congestion and crowding	Limited enforcement capacity across the entire region Lack of adequate staging areas for OHV use, causing more use throughout municipal areas Limited parking and developed camping sites have led to displacement and environmental damage Limited ability to recruit and retain managers, planners, and seasonal staff due to the rising cost of housing and low salaries/wages
Uintah Basin DAGGETT DUCHESNE UINTAH	Many water access points that become unusable in low-water years Increased occurrence of aquatic invasive species and harmful algal blooms Limited ability to rebuild and/or maintain infrastructure (particularly unpaved roads) after flood events	Conflict between grazing and outdoor recreation throughout much of the region Expansion of mountain biking trails through informal/social trail construction Crowding, conflict, and residential development around Starvation Reservoir Conflicting visions for what types of recreation opportunities McCoy Flats should provide	Limited enforcement capacity across the entire region Lack of adequate planning assistance across federal, state, and municipal agencies Limited connectivity between recreation areas and municipalities outside of paved roads Inadequate parking and campground facilities throughout the region
Wasatch Front DAVIS MORGAN SALT LAKE TOOELE WEBER	Avalanche and flood risk in Little Cottonwood Canyon and Big Cottonwood Canyon - Low lake levels that reduce access and cause secondary threats (e.g., dust) - Spread of invasive species due to social trails along most foothill areas	Crowding and inadequate transit to recreation sites in Little Cottonwood Canyon and Big Cottonwood Canyon Conflict between recreational users and unhoused populations along the Jordan River corridor Crowding and conflict issues at Mueller Park trailhead	Lack of public transportation to recreation sites within Little Cottonwood Canyon and Big Cottonwood Canyon year round Administrative and legal hurdles to complete the Bonneville Shoreline Trail Lack of access near Mueller Park area Lack of access to major North-South recreation corridors (e.g., Jordan River Trail, Bonneville Shoreline Trail) No planning for much of western Salt Lake County and Tooele County

Figure 5
Threats to Outdoor Recreation in Each AOG Region Identified by Workshop Participants

Strategic Plan Workshops: Process and Findings

inadequate to meet current demand, particularly during the weekends and during the summer months. Several participants noted the lack of infrastructure has led to concerns about visitor safety, primarily caused by the need for recreationists to park on the shoulders of busy state highways.

Workshop participants also expressed a concern over the relatively independent, uncoordinated development of outdoor recreation assets by municipalities throughout the region. This managerial threat has led to a patchwork of recreational assets that are disconnected from one another. Similarly, workshop participants noted the lack of connectivity between municipal recreation assets and those managed by the Forest Service as a major threat to outdoor recreation in the future. This was particularly noted for the municipalities on the east side of Cache Valley (Millville, Providence, Logan, North Logan, Smithfield) as well as Garden City in Rich County.

Five County Region

Like the Bear River Region, rapid development with little forethought for the establishment or connectivity of outdoor recreation infrastructure was noted as a major environmental threat to outdoor recreation in the region. Concerns over development are especially acute, and warranted, in the southwestern corner of the state, as the region is growing faster than any other (Smith & Miller, 2020).

Workshop participants identified two prominent social threats to outdoor recreation in the region. First, relatively high levels of crowding and congestion in and around Zion National Park during "peak visitation." Second, a lack of education and information about responsible recreation at destinations that are relatively less-developed. The particular areas noted by workshop participants included Peek-a-Boo Canyon, Tom's Canyon, and Cutler Cave, all of which are in Kane County. Workshop participants noted this lack of education and information has led to conflict amongst users who are uncertain (or have been misled) about what uses are allowed at certain areas. Workshop participants also noted a lack of education and information can lead to an increased burden on county search and rescue capabilities, when required to respond to unprepared recreationists who find their lives in danger.

The most prominent managerial threat mentioned was a rapid growth in the popularity of dispersed camping across the region. This was consistently noted as a major managerial threat across the other regions in the southern half of the state (Six County, Southeastern Utah). Relatedly, other major managerial threats included the general lack of adequate outdoor recreation infrastruc-

ture around Zion National Park. This concern over the lack of municipalities, counties, the state, and other federal agencies to provide adequate outdoor recreation infrastructure around national parks within the state was consistently noted as a major threat to outdoor recreation for Southern Utah.

Mountainland Region

The largest water-based recreational asset in the Mountainland Region is Utah Lake. Concerns about access to the Lake were noted by many workshop participants. Threats to access were particularly focused on how low lake levels can reduce the ability of both motorized and non-motorized lake users to participate in recreation there. When lake levels are low, motorized boaters have less navigable water to explore which is a particular concern given the lake's natural geologic formation causes it to be relatively shallow. Issues related to access also arise because of limited built outdoor recreation infrastructure (boat ramps, docks, lakefront trails, etc.); the current inadequacy of infrastructure was noted by several workshop participants. Currently, access points to the Lake have been limited to a few municipalities that have developed marinas and Utah Lake State Park. Concerns about under investment in Utah Lake as an outdoor recreation asset may be well-founded given a recent study found nearly half of all residents of Salt Lake and Utah Counties indicated they have recreated at the Lake in the past (Smith, Miller, et al., 2023).

There were additional concerns about crowding and a general lack of outdoor recreation infrastructure around the region's major reservoirs. Most of these are managed as state parks (e.g., Jordanelle, Deer Creek, Rockport) and are prominent destinations for motorized boating in the summer months (Utah Division of State Parks, 2023).

There were also a handful of other prominent threats to outdoor recreation noted by workshop participants, however they tended to be concentrated to a particular site (e.g., recreational debris in and around the Provo River, depreciative behavior and homeless camps in and around Slate Canyon).

Six County Region

Many of the threats to outdoor recreation in the Six County Region noted by workshop participants were concentrated along the SR24 corridor extending west from Capitol Reef National Park. The concerns mentioned mirrored many of those mentioned for the Five County Region (which were focused around Zion National Park). Specific social and managerial threats included a lack of adequate infrastructure (visitor centers, parking, and campgrounds) on county, state, and federal lands west

of the National Park, while environmental threats noted by workshop participants included flooding and human-wildlife conflict.

Another common area of concern was the rapidly developing trail systems around Richfield. Workshop participants noted conflict between hikers and mountain bikers, whose use of the area in recent years has increased notably. There were also concerns over the ability of staff (across multiple agencies) to support the maintenance of the region's trail system.

Aside from issues stemming from increasing recreational use around Capitol Reef National Park and Richfield, workshop participants noted several other concerns related to management agencies' ability to develop and implement long-term plans within the region. Specific areas noted by several workshop participants included Maple Canyon (west of Moroni) and Burraston Ponds (south of Mona).

Southeastern Utah Region

Threats to outdoor recreation in the Southeastern Utah region can be characterized by a lack of infrastructure near prominent destinations (e.g., Arches and Canyonlands National Park) and relatedly, an increase in recreational activity in backcountry settings. Parking areas, developed campsites, and OHV staging areas were the most prominent types of infrastructure believed to be lacking adjacent to the regions' national parks. Some workshop participants noted this has led to recreationists being displaced further and further into the backcountry as visitation to the region has grown. Other stakeholders also noted the rise in backcountry use may not only be attributable to the lack of developed front country recreation assets and opportunities, but also a rise in the popularity of individuals wanting to recreate in more remote locations (e.g., the rise in "van life" culture). Regardless of the reason, workshop participants expressed concerns over the lack of outdoor recreation infrastructure proximate to the National Parks and Moab, and the large influx in use of the region's backcountry settings.

The displacement or attraction to backcountry settings has led to many concerns amongst managers in the region. These concerns include an increased impact to the regions' extensive cultural resources (e.g., Native American sites), degradation of remote roads which are costly to maintain for rural counties, concerns over visitor safety, and an increased need for search and rescue services.

Another major threat to outdoor recreation in the Southeastern Utah region noted by workshop participants was the limited ability to recruit and retain managers, plan-

ners, and seasonal staff due to the rising cost of housing and low salaries/wages. This threat was also noted in other regions with pre-eminent "gateway communities" (e.g., Springdale, Torrey, Bryce Canyon) and even the Uintah Basin, which has experienced notable affordable and short-term lodging shortages not because of rising tourism but because of a booming oil and gas industry.

Uintah Basin Region

Many of the environmental threats to outdoor recreation noted by workshop participants in the Uintah Basin were similar to those noted by participants in other regions. Prominent threats included drought and low water levels which threaten access to many of the region's water-based outdoor recreation assets. Drought and low water levels also increase the occurrence of aquatic invasive species and harmful algal blooms which in turn restricts how, where, and when individuals can recreate.

A unique social threat noted by workshop participants in the Uintah Basin was a continual conflict between grazing and outdoor recreation. Much of the region's public lands are used for livestock management, and the growing demand for outdoor recreation on these lands has impacted both outdoor recreationists (who encounter livestock while recreating and may be prohibited or delayed) as well as ranchers (whose livestock can be stressed and possibly injured during interactions with recreationists).

With outdoor recreation playing a relatively minor role in the economy of the region, many workshop participants indicated it has yet to be fully integrated into municipal, state, and even federal planning efforts throughout the region. Workshop participants noted an increased focus on outdoor recreation planning would be needed if the region wants to proactively plan for more visitation. This increased focus could come from internal efforts (e.g., municipal and county planning processes) or external assistance (e.g., state assistance in guiding local planning).

Wasatch Front Region

Notable threats to outdoor recreation in the Wasatch Front stem, in-part, from the region's large and rapidly growing population (Smith & Miller, 2020). They can also be partially attributable to the region's unique geography, which consists of a population of 2.5 million people directly adjacent to the steep and narrow canyons of the Uinta-Wasatch-Cache National Forest. These factors became evident by the spatial concentration of threats to the region's major canyons (Little Cottonwood Canyon, Big Cottonwood Canyon, Millcreek Canyon). Notable threats within the canyons mentioned by workshop participants included avalanche and flood risks and inadequate transit to recreation sites. Relatedly, workshop participants

expressed a concern over the spread of social trails in the foothills of the Salt Lake Valley; a spread of invasive species along these unplanned trails was a particularly acute concern. The lack of connectivity for the Bonneville Shoreline Trail was also a related, and major threat for workshop participants.

Aside from concerns about a lack of adequate access to, and connectivity of, the outdoor recreation assets of the Central Wasatch, workshop participants also noted concerns over the inadequacy of east-west trails and bike lanes that connect the Salt Lake Valley's major north-south trails (e.g., the Jordan River and Bonneville Shoreline Trails).

While most of the threats identified within the region were located within the Salt Lake Valley, several other locations were mentioned numerous times by workshop participants. These included concerns over crowding and a lack of parking at the Mueller Park trailhead as well as a general lack of any long-term planning for the west side of the Salt Lake Valley and Tooele County.

Major Policy, Program, and Project Recommendations In Each AOG Region

Workshop participants were guided through a series of group discussions to identify policies, projects, and programs that could be developed (or expanded) to improve outdoor recreation opportunities within their region (see the Methods section above for details on the structure and facilitation of the discussions). The digital notes from these group discussions, which reflect the collective thoughts of those in attendance, are shown in the online supplementary material. The major policy, program, and project recommendations in each AOG region are shown in Figures 6 and 7. There were several consistent needs described across multiple regions, these included:

Consistent Policy Needs

- **Policies that mandate responsible recreation and outdoor skills to youth.** Workshop participants frequently noted the need to more directly integrate responsible recreation and outdoor skills into the educational experience of children. Often these discussions explicitly targeted the core standards set by the Utah Board of Higher Education.

- **Policies that incentivize planning at local and regional scales across federal, state, county, and municipal entities.** Many agencies and local governments have, or currently are, developing plans related to outdoor recreation. These include master trials plans, active transportation plans, and general management plans. Workshop participants frequently noted how planning efforts were developed in isolation, without consideration of what other agencies and local governments might be planning nearby. Participants voiced a persistent need for state policy to support coordination of local, state, and federal planning efforts. This need is discussed in more detail below and in the project's review of outdoor recreation management efforts across the Western U.S. (Trout & Smith, 2023).

- **Policy that adequately funds search and rescue.** Workshop participants consistently noted the growing burden of outdoor recreation placed on counties to organize, manage, and fund search and rescue efforts. This concern was particularly acute in less populous counties which tend to have smaller county budgets to support their sheriff's offices.

- **Policies that allow federal agencies to partner and share financial resources with state and local agencies more efficiently.** Many workshop participants, particularly federal agency representatives, noted a need to eliminate much of the "bureaucratic red tape" that stands between federal agency budget allocations and getting projects completed on the ground. Workshop participants repeatedly noted Utah's Watershed Restoration Initiative as a model that could be adapted to the context of outdoor recreation, allowing federal and state agencies to jointly support projects of mutual benefit. This need is discussed more fully below and in our review of outdoor recreation management efforts across the Western U.S. (Trout & Smith, 2023).

Consistent Program Needs

- **Coordinated investments in stewardship and education.** Workshop participants frequently discussed how prevention can go just as far as mitigation when it comes to addressing the unwanted impacts of outdoor recreation. Education about responsible recreation was a persistently discussed need, as was the need to foster stewardship efforts of user groups, civic and religious organizations, and local businesses.

- **Programs dedicated to collecting data on the behaviors and preferences of outdoor recreationists.** Many workshop discussions focused on the lack of reliable data on where outdoor recreation was happening, the condition of outdoor recreation resources, and the needs of the recreating (and non-recreating) public. Currently the state lacks any persistent data collection and reporting programs that could inform outdoor recreation planners and managers, local elected officials, and state grant disbursement

agencies (the Division of Outdoor Recreation and the Utah Office of Tourism). This need is reflected in the state's current marginal support for outdoor recreation related research programs (see Smith and Trout (2023) for data and a full discussion).

Consistent Project Needs

- **Investments in trail and park connectivity.** The most consistent project need across the state was for investments in trail and park connectivity. Discussions focusing on this need included regional-wide off-highway vehicle trail networks, paved trails connecting municipalities, and connections between municipal trails and those on adjacent public lands. The specific needs of each region are shown in Figures 6 and 7.

- **Investments in trail access.** Another consistent need was for coordinated investments in trail access. Workshop participants noted how many undesirable impacts of trail development in Utah (such as the creation of unwanted social trails or on-street parking that is a nuisance to residents) stem from poorly planned access. Many workshop participants voiced a need for the delineation of major, secondary, and tertiary access points to guide major infrastructure investments in ways that concentrate access and minimize management and enforcement needs.

- Many other region-specific project needs were identified by workshop participants. Often, these were specific needs within one municipality or county, and not a general need across the entire AOG region. Interested readers are referred to the online supplementary material for the full workshop notes. Those project needs noted in Figure 6 and 7 are those that serve multiple agencies and/or entities within the region.

POLICY, PROGRAM, AND PROJECT NEEDS IN UTAH

AOG REGION	POLICIES	PROGRAMS	PROJECTS

Bear River
BOX ELDER
CACHE
RICH
	Policies that incentivize planning at local and regional scales across federal, state, county, and municipal entities
	
	Policies that adequately fund search and rescue
	
	Policies that mandate responsible recreation and outdoor skills to youth *(via standards of the State Board of Higher Education)*
	
	Policies that adequately fund the maintenance of outdoor recreation infrastructure
	
	Policies that allocate outdoor recreation and tourism dollars to the places receiving the use *(TRT and TRCC are not addressing the needs of communities and counties in the region)*
		Programs dedicated to collecting data on the behaviors and preferences of outdoor recreationists *(could be used to guide local and regional planning efforts and disbursement of state funding)*
		
		Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)*
		
		Programs that educate and train municipal and county employees on outdoor recreation planning and management
			Regional trail and park connectivity. *Specific projects included:*
			
			   Bike lanes on SR30 (Logan to Tremonton), SR38 (Tremonton to Brigham City), and US89 (Brigham City to Logan)
			
			   Water trails on and around the Bear River
			
			   Bonneville Shoreline Trail
			
			Investments in outdoor recreation infrastructure in west side of Box Elder County
			
			Investments in trail connectivity between Bear Lake and outdoor recreation destinations on the Uinta-Wasatch-Cache National Forest
			
			Investments in access points to Bear Lake

Five County
BEAVER
GARFIELD
IRON
KANE
WASHINGTON
	Policies that adequately fund search and rescue *(donations or dedicated use of tax revenues from private industry)*
	
	Policy that allows federal agencies to partner and share financial resources with state and local agencies more efficiently *(establishing programs like the Watershed Restoration Initiative could be helpful)*
	
	Policy that prioritizes local businesses in concessionaire contracts on federal lands
	
	Policies that allocate outdoor recreation and tourism dollars to the places receiving the use *(TRT and TRCC are not addressing the needs of communities and counties in the region)*
		Programs dedicated to collecting data on the behaviors and preferences of outdoor recreationists *(could be used to guide local and regional planning efforts and disbursement of state funding)*
		
		Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)*
			Regional trail and park connectivity. *Specific projects included:*
			
			   Trail along the Hurricane Cliffs from Beaver to St. George
			
			   Connectivity between Zion National Park, Kanab, and Bryce Canyon National Park

Mountainland SUMMIT UTAH WASATCH	Policies that incentivize planning at local and regional scales across federal, state, county, and municipal entities Policies that adequately fund search and rescue *(earmark on tax of 'hazardous' outdoor recreation vehicles and equipment)* Policies that mandate responsible recreation and outdoor skills to youth *(via standards of the State Board of Higher Education)*	Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)* Revising state grant programs to incentivize applicants to integrate stewardship and education into their prospective projects Programs that incentivize the conservation of open space *(e.g., impact fees, conservation easements)* Expansion of public transit to connect to outdoor recreation destinations	Regional trail and park connectivity *(prioritized through coordination amongst planners and managers region-wide)* Investments in trail access to reduce parking capacity issues *(e.g., investments in expanding major access hubs and developing secondary and tertiary access points)* Investments in outdoor recreation infrastructure around Utah Lake *(e.g., docks, boat ramps, marinas, picnic areas, and trails)*
Six County JUAB MILLARD PIUTE SANPETE SEVIER WAYNE	Policies that incentivize planning at local and regional scales across federal, state, county, and municipal entities Policies that allocate outdoor recreation and tourism dollars to the places receiving the use *(TRT and TRCC are not addressing the needs of communities and counties in the region)* Policy that allows federal agencies to partner and share financial resources with state and local agencies more efficiently *(establishing programs like the Watershed Restoration Initiative could be helpful)*	Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)* Programs to adequately fund search and rescue *(expanding or revising the Search and Rescue Assistance Card Program)* Programs dedicated to collecting data on the behaviors and preferences of outdoor recreationists *(could be used to guide local and regional planning efforts and disbursement of state funding)*	Development in Burraston Pond to meet existing use *(inadequate parking, restrooms, trails, and water)* Regionally connected off-highway vehicle trail systems Maintenance of county roads Maintenance of backcountry recreation infrastructure *(guard stations, snowmobile warming huts, etc.)*

Figure 6
Major Policy, Program, and Project Needs Identified by Workshop Participants in the Bear River, Five County, Mountainland, and Six County Regions)

POLICY, PROGRAM, AND PROJECT NEEDS IN UTAH

AOG REGION	POLICIES	PROGRAMS	PROJECTS
Southeastern Utah CARBON EMERY GRAND SAN JUAN	Policy that allows federal agencies to partner and share financial resources with state and local agencies more efficiently Policy that provides more local control over outdoor recreation and tourism related tax rates and their uses Policies that mandate responsible recreation and outdoor skills to youth *(via standards of the State Board of Higher Education)* Policies that allow municipalities and counties to more easily develop trails *(easements, eminent domain, etc.)*	Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)* Programs that incentivize stewardship activities *(e.g., free state park pass for 100 hours of volunteer service at outdoor recreation destinations)* Programs dedicated to identifying and quantifying local and regional outdoor recreation needs *(could be used to guide local and regional planning efforts and disbursement of state funding)*	Investments in trail access to reduce parking capacity issues *(e.g., investments in expanding major access hubs and developing secondary and tertiary access points)* Regional trail and park connectivity *(prioritized through coordination amongst planners and managers region-wide)* Investments in outdoor recreation infrastructure throughout Bears Ears National Monument *(e.g., visitor/cultural center, trails connecting Monument Valley to Mexican Hat, etc.)* Investments in paved trails through Helper, Price, and Wellington
Uintah Basin DAGGETT DUCHESNE UINTAH	Policy that allows federal agencies to partner and share financial resources with state and local agencies more efficiently *(establishing programs like the Watershed Restoration Initiative could be helpful)* Policies that adequately fund search and rescue *(allowing counties to charge rescue victims for costs incurred)* Policies that mandate responsible recreation and outdoor skills to youth *(via standards of the State Board of Higher Education)* Policies that increases fines for depreciative or reckless recreation behavior	Revising state grant programs to require applicants to document funding sources for maintenance of proposed projects Programs that incentivize community investment in healthy and active lifestyles *(community-wide designations based on certain criteria)* Programs to adequately fund maintenance and upgrades of signage on public lands Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)*	Trails connecting municipalities to nearby public lands *(especially in and around Vernal)* Bike route along U.S. Route 191 *(connecting Flaming Gorge to Southern Utah)* Housing for seasonal employees in the outdoor recreation industry Region-wide maintenance and upgrades of signage on public lands Water trail through Flaming Gorge National Recreation Area *(Sheep Creek to Sunny Cove)*
Wasatch Front DAVIS MORGAN SALT LAKE TOOELE WEBER	Policies that coordinate planning at local and regional scales across federal, state, county, and municipal entities Policies that allow municipalities to more easily develop trails *(easements, eminent domain, etc.)* Policies that incentivize businesses to allow employees to steward local resources Policies that mandate responsible recreation and outdoor skills to youth *(via standards of the State Board of Higher Education)*	Programs dedicated to collecting data on the behaviors and preferences of outdoor recreationists *(could be used to guide local and regional planning efforts and disbursement of state funding)* Coordinated investments in stewardship and education *(delivered through certification programs, mass-media, mobile apps, on-site messaging, and special events such as youth clean up days)* Programs that incentivize the conservation of open space *(e.g., conservation easements)* Programs that increase the public's awareness of the benefits of outdoor recreation *(e.g., park prescriptions)*	Regional trail and park connectivity *(prioritized through coordination amongst planners and managers region-wide)* Investments in east-west trail connectivity across the Wasatch Front Investments in trail access to reduce parking capacity issues *(e.g., investments in expanding major access hubs and developing secondary and tertiary access points)* Investments in accessibility for all Utahn's *(e.g., adaptive upgrades, infill projects to improve access for those without private transportation)* Region-wide maintenance and upgrades of signage on public lands

Figure 7
Major Policy, Program, and Project Needs Identified by Workshop Participants in the Southeastern Utah, Uintah Basin, and Wasatch Front Regions)

Major Objectives for Improving Outdoor Recreation Opportunities Statewide

We developed an initial list of major objectives that could improve outdoor recreation opportunities statewide based upon a review of the notes from the first workshop's small–group discussions. This initial list of objectives was binned into four Cardinal Directions based on the commonalities between objectives.

The review of the initial Cardinal Directions and objectives in the second workshop generated 236 group comments. The research team reviewed each group comment, made changes as necessary to the Cardinal Directions and objectives (all group comments, as well as notes on how they were addressed, are provided in the supplementary workshop feedback spreadsheet).

The final set of Cardinal Directions and objectives are provided in Figure 8 and described below. We also present supporting evidence for the importance of each Cardinal Direction and objective when it exists. This supporting evidence comes in the form of existing state databases (e.g., regarding Search and Rescue events) and peer–reviewed academic literature.

UTAH'S OUTDOOR RECREATION STRATEGIC PLAN

Cardinal Directions	Objectives
Build and support collaborative processes	• Increase the ability of municipal, county, state, tribal, and federal entities to access and share resources supporting the development and maintenance of outdoor recreation infrastructure • Increase the ability of user groups, non-profits, and private industry to support infrastructure development and maintenance • Ensure infrastructure development and outdoor recreation management meets local needs
Improve awareness and education about safe and responsible recreation	• Decrease the need for search and rescue support for uneducated or ill-prepared recreationists • Foster a sense of stewardship for Utah's outdoors • Minimize conflict between different outdoor recreation activities • Increase awareness of the benefits of outdoor recreation for all Utahns
Increase access to outdoor recreation while protecting natural and scenic landscapes	• Provide a wide variety of high-quality recreation opportunities, ranging from the highly-developed to the very primitive • Ensure existing outdoor recreation assets are well maintained for decades to come
Increase the economic and health benefits generated by outdoor recreation	• Distribute the economic benefits of outdoor recreation to the areas where use is occurring • Increase the capacity of gateway and natural amenity regions to plan for, and manage, non-local visitation • Improve the ability of individuals to achieve the mental and physical benefits of outdoor recreation

Figure 8
Initial Set of Cardinal Directions and Their Associated Objectives

Cardinal Direction 1: Build and Support Collaborative Processes

Given the complex jurisdictional and administrative systems across which outdoor recreation opportunities are provided within Utah, the need for building and supporting collaborative processes was a preeminent need identified by outdoor recreation managers across the state. The term "collaboration" and "partnership" are often used interchangeably to describe efforts that bring two or more entities together for the purposes of achieving a common goal (Plummer & FitzGibbon, 2004; Wondolleck & Yaffee, 2000). Collaboration is defined as "the pooling of appreciation and/or tangible resources (e.g., information, money, labor, etc.) by two or more stakeholders to solve a set of problems which none can solve individually" (Gray, 1985, p. 912). While collaborative processes are not a panacea for all of the threats facing outdoor recreation within Utah, they can improve the ability of outdoor recreation managers to address common challenges.

Collaborative processes can take many forms. They can include informal arrangements between user groups and land management agencies. For example, when a user group will maintain a cross-country ski trail on federal lands so that it facilitates the activity they are passionate about and in return, the land management agency is able to support the recreational use of federal lands at minimal cost. Collaborative processes can also include much more formalized arrangement between multiple user groups, non-profits, private industry, and land managers who agree to work together to identify and prioritize common challenges associated with outdoor recreation management; these groups may even fund efforts to address these challenges (the Zion Regional Collaborative as well as the Central Wasatch Commission are examples of more formal arrangements already in place within Utah).

Regardless of their size or level of formality, collaborative processes serve four purposes (Wondolleck & Yaffee, 2000). First, they foster the exchange of information and ideas among stakeholders. Second, they provide a mechanism to discuss shared challenges and potential solutions. This is often lacking in many outdoor recreation management decisions where a brief opportunity for "public comment" is the only interaction between a resource manager and their constituents. Third, they provide a means of coordinating (and possibly funding) the actions of the stakeholders involved. Fourth, they can allow stakeholders to address emergent issues (e.g., the use of e-bikes) in coordinated ways; thus supporting more aligned management practices across the state's many types of outdoor recreation destinations.

Why do outdoor recreation managers in Utah want to build and support collaborative processes? Stakeholders identified three primary reasons:

1. **Increase the ability of municipal, county, state, tribal, and federal entities to access and share resources supporting the development and maintenance of outdoor recreation infrastructure**

Across federal, state, county, and municipal agencies, appropriated budgets to develop and maintain outdoor recreation infrastructure are limited. Additionally, many agencies have stipulations on how they can spend certain types of monies (see Smith and Trout (2023) for a review of authorized uses of funds administered by counties and the state). Consequently, many agencies do not have enough money, or the right "type" of money, to accomplish projects they know would improve outdoor recreation opportunities on the lands they manage. New policy mechanisms are needed to allow agencies the ability to match and share financial resources that support mutually-identified outdoor recreation management needs.

POLICY RECOMMENDATION 1

Develop the administrative structure of the outdoor recreation coordinated investment initiative to support collaborative processes

HB224, passed in the 2023 Legislative Session, established the Outdoor Recreation Coordinated Investment Initiative. It is a mechanism that holds the promise of ensuring outdoor recreation managers can mutually-invest in shared interests. The Initiative allows the Division of Outdoor Recreation to enter into partnership agreements with other entities for the purposes of "managing, maintaining, expanding, restoring, and improving outdoor recreation infrastructure on public lands within the state" (Outdoor Recreation Initiative, 2023). While the Initiative has been established, its administrative structure has yet to be developed. We recommend the Division of Outdoor Recreation consider how the Initiative can be used for more than just setting up partnership agreements to jointly fund projects that are proposed or forwarded to the agency. Rather, the Initiative serves as a unique mechanism for the state to build stronger relationships with federal, county, and local outdoor recreation providers across the state. The process of identifying potential formal partnerships between the Division of Outdoor Recreation and other entities can be an opportunity to foster the exchange of information and ideas among stakeholders, provide a mechanism to discuss shared challenges and potential solutions, and allow stakeholders to address emergent issues (all fundamental purposes of collaborative processes) (Wondolleck & Yaffee, 2000).

2. **Increase the ability of user groups, non-profits, and private industry to support infrastructure development and maintenance**

User groups, non-profits, and private businesses provide an incalculable number of services that support and improve outdoor recreation opportunities across the state. In many areas of the state, user groups support the lion's share of the maintenance requirements of outdoor recreation assets. Nonprofits play a critical role in organizing and advocating for the needs of specific activities or land uses. Private industry provides the gear, technology, and tax revenues that either directly or indirectly support outdoor recreation opportunities. However, workshop participants frequently noted they were unclear exactly how they could collaborate with user groups, non-profit organizations, and private businesses.

PROGRAM RECOMMENDATION 1

Curate and share outdoor recreation partnership agreements

Typically, collaborative processes between land management agencies and user groups, non-profits, and private businesses require dedication, resolute commitments to achieve specific ends, and passionate leaders willing to champion an idea on behalf of their constituents. While these characteristics are very useful in collaborative processes, they are not essential. Not all collaborative processes need to be honorous; in fact the more they can be streamlined the more likely they are to succeed (Wondolleck & Yaffee, 2000). Consequently, it could be useful for the state to develop an online clearinghouse of outdoor recreation partnership arrangements that land managers, and their potential partners, can consider utilizing as templates to suit their own needs.

---

3. **Ensure infrastructure development and outdoor recreation management meets local needs.**

The final reason why Utah's outdoor recreation providers want more, and better, opportunities to build and support collaborative processes focuses on the need to ensure outdoor recreation management efforts meet local needs. Workshop participants frequently made reference to how what works for outdoor recreation management in one area of the state may not work in other areas of the state. Dominant recreational activities and views towards management agencies vary widely across the state, and consequently policy, planning, and management efforts need to acknowledge local contexts. Any effort to develop collaborative processes, such as the major recommendations noted above, should be done so with consideration of the variable nature of preferences and needs across

---

POLICY RECOMMENDATION 2

Streamline processes for private industry to support outdoor recreation infrastructure development and maintenance

Outdoor recreation is a major factor driving the decisions of businesses to locate in Utah. This is particularly true among the rapidly growing technology sector (Christensen, 2021). However, there are currently only a very limited number of ways that private businesses can support the state's outdoor recreation assets. Currently, this primarily occurs through volunteer activity that's compensated by the company. Alternative mechanisms that would provide private industry the opportunity to support the areas they are passionate about are needed, and if developed correctly, could help alleviate the very large deferred maintenance backlogs faced by the land management agencies that provide outdoor recreation opportunities within the state. While we were unable to identify any exemplary policies the state could look to to facilitate these public-private partnerships, some within the state show promise. In the 2023 Legislative Session, H.B.274 proposed a program that would allow private businesses to financially support the development and maintenance of outdoor recreation infrastructure, in return for an acknowledgement at the site (e.g., trailhead, kiosk, restroom, etc.). Policies similar to this should be evaluated by the Outdoor Adventure Commision, the Utah Division of Outdoor Recreation, and specifically the state Legislature. If they provide a mechanism to streamline private industry's support of outdoor recreation opportunities within the state, do not substantially alter or degrade the outdoor recreation experiences that an area is intended to provide, and align with the goals and objectives of any local planning efforts, they should be supported.

---

the state. In a previous report for the Outdoor Adventure Commission, we presented a model framework for regional planning efforts (Policy Recommendation 4 in Trout and Smith (2023)). That framework is one example of how the state can build and support partnerships while allowing local stakeholders to develop the outdoor recreation needs and priorities they believe are most important.

Cardinal Direction 2: Improve Awareness and Education About Safe and Responsible Recreation

Over the past few years, several agencies and offices across the state have placed an increased focus on the development and dissemination of information about safe and responsible recreation. Specifically, the Utah Division of Outdoor Recreation targets both off-highway vehicle users and boaters through their Off-Highway Vehicle and Boating programs. The agency has also recently allocated funding from both programs to support an education specialist (hired in mid 2023). Additionally, the Utah Office of Tourism has curated many useful articles and resources about how to recreate responsibly in the state. In addition to the efforts of these organizations, many federal land managers work to disseminate information related to safe and responsible recreation through their employees who directly interact with the public (visitor centers, entrance gates, trail docents, etc.).

Despite all of these efforts, outdoor recreation managers, planners, and other workshop participants expressed a pervasive need to improve awareness and education about safe and responsible recreation throughout the state. The need was expressed differently across the seven planning regions. Many workshop participants in the state's more rural locations discussed how a greater, and perhaps more coordinated, focus on safe and responsible recreation could decrease the burden on county sheriff's offices, who coordinate search and rescue efforts. Conversely, many workshop participants along the Wasatch Front noted how responsible recreation education messaging could help ensure "new" outdoor recreationists have satisfying experiences and continue to participate. This need was particularly salient from workshop participants who serve underrepresented groups, as individuals in these groups may lack the strong social ties and institutional knowledge that facilitate outdoor recreation participation (Johnson et al., 2001). In addition to these unique geographic differences, workshop participants also voiced consistent support for how education efforts can foster a sense of stewardship for Utah's outdoors and stoke a sense of wonder and curiosity amongst the state's youth.

1. **Decrease the need for search and rescue support for uneducated or ill-prepared recreationists.**

Concerns over the stress on county search and rescue teams were also a common concern amongst workshop participants, particularly in the state's more rural locations. Outdoor recreation managers, planners, and other workshop participants expressed concerns about an increased burden on county budgets as the demand for outdoor recreation increases disproportionate to the revenue streams that fund search and rescue efforts. Currently, county Sheriffs offices are responsible for enlisting, training, and financially supporting the costs of local search and rescue teams. This can include significant amounts of paid (and volunteer) labor, equipment purchases and maintenance, and training. Fourth, fifth, and sixth class counties[2] can support these costs with a portion of Transient Room Tax revenues[3]. Counties can also seek reimbursement for search and rescue related costs from the Utah Search and Rescue Financial Assistance Program, which is funded through a portion of off-highway vehicle and boating registration fees as well as sales of the Utah Search and Rescue Assistance Card. A more detailed review of policies and fiscal needs related to search and rescue in Utah are provided in an accompanying report (Smith, 2023a).

The perceptions of workshop participants accurately reflects the growing number of outdoor recreation related search and rescue events across the state (Figure 9). Outdoor recreation related search and rescue events have increased from between 400-500 between the late 1990s and early 2010s to upwards of 800 in recent years. The global pandemic and associated increase in remote work has reduced many of the largest barriers to outdoor recreation participation in (e.g., time, work, proximity, etc.) (Rice et al., 2020). As a result, these "new to nature" outdoor recreationists have been frequently referenced as those who are in need of search and rescue after venturing out underprepared and ill equipped (Dodson, 2023). This may well be the case in Utah, as there were 795 outdoor recreation related search and rescue events in 2020, an all-time high, and 759 in 2021 (Figure 9).

Many workshop participants shared an opinion that many, if not most, outdoor recreation related search and rescue related events could have been mitigated if individuals had received more information about what to expect on the trail,waterbody, or amenity they were planning on visiting. The Utah Division of Outdoor Recreation has focused portions of the Off-Highway Vehicle and Boating Programs towards developing and disseminating educational campaigns encouraging individuals to plan ahead and come prepared when heading outdoors. These actions may reduce the need for search and rescue over time, but could be hastened with intergovernmental coordination between the Division of Outdoor Recreation, the Utah Office of Tourism, and the county destination marketing organizations (DMOs). While each organization focuses more or less on different audiences, they collectively have a massive amount of financial resources which could be leveraged to educate outdoor recreationists within the state (see Smith and Trout (2023) for our review of the funding sources each type of entity controls).
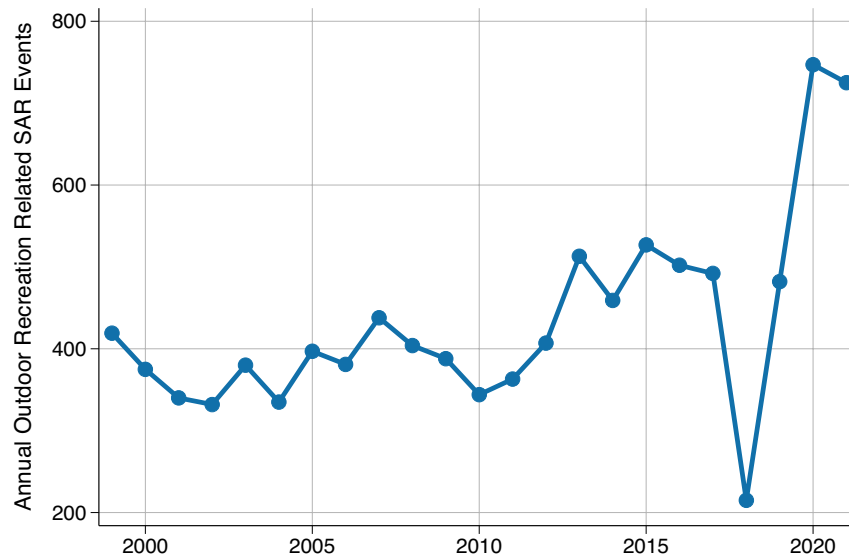
Figure 9

Annual Outdoor Recreation Related Search and Rescue Events in Utah (1998-2021)

Note. Excludes events related to training, equipment maintenance, law enforcement or fire assistance, and all non-outdoor recreation related uses of county search and rescue personnel (e.g., traffic enforcement, suicides, etc.).

Data source: Institute of Outdoor Recreation and Tourism analysis of Utah Department of Public Safety, Division of Emergency Managemetn Data.

2. **Increase all Utahns' awareness of the benefits of outdoor recreation.**

Despite acknowledging many of the threats to outdoor recreation across the state stem from a growing demand, a common theme among workshop discussions was the need to reduce the barriers to engaging in outdoor recreation. Outdoor recreation participation within the state tends to be skewed toward wealthier and predom-inantly white populations (Smith & Miller, 2020). As the state's population continues to grow, and become more racially, ethnically, and culturally diverse, there will also be a growing need to provide information about, and infrastructure to support, outdoor recreation in ways that reflect the preferences and needs of these users. This can be done in a variety of ways: targeted communication efforts such as multilingual signage (Roberts & Chitewere, 2011), outdoor recreation ambassador programs (Flores & Kuhn, 2018), and integration of explicit diversity criteria into existing grant programs (e.g., TogetherOutdoors). Oregon, for example, has established a dedicated grant program specifically for developing infrastructure that serves the preferences and needs of minority populations (Trout & Smith, 2023). Regardless of which direction outdoor recreation providers and facilitators within the state choose to take, a fundamental first step will be to develop an understanding of the preferences, and needs, of non-recreating minority populations.

PROGRAM RECOMMENDATION 2

Identify the preferences, and needs, of non-recreating minority populations

To our knowledge, the state has put no resources into understanding the recreation preferences and needs of minority populations[4]. This will be a critical first step to understanding how the state's many outdoor recre-ation providers and facilitators can increase outdoor recreation participation among those groups who are currently underrepresented in the state's outdoor spaces. This could be accomplished through a variety of means such as surveys, workshops, and focus groups. We do encourage state entities attempting to better serve non-recreating minority populations to do so systematically and pervasively across all of the types of outdoor recreation activities they work to develop. Increased minority participation in outdoor recreation is not just an issue in the state's urban areas, it also extends to destinations and activities that are more difficult and costly to access (Floyd & Johnson, 2002). The issue is substantive and pervasive enough that it will likely warrant programmatic coordination and de-velopment across the state's many outdoor recreation providers and facilitators. New positions within one, or more, of the state agencies related to outdoor recre-ation will likely need to be created to address the issue substantively.

3. Foster a sense of stewardship for Utah's outdoors.

Outdoor recreation participation has the potential to foster a sense of stewardship for the state's outdoor recreation resources. Frequent outdoor recreation participation at specific settings can instill an affinity towards that place, and in turn, increase individuals' willingness to steward the place and the opportunities it provides (Larson et al., 2018). Stewardship can involve high-effort activities, such as coordinated trail maintenance, as well as low-effort activities, such as providing small financial donations to support the maintenance of outdoor recreation activities. However, many of the workshop discussions focused on a need to cultivate this sense of stewardship, and willingness of outdoor recreationists to volunteer their time and money to support the development and maintenance of outdoor recreation opportunities.

There are no state-led mechanisms to cultivate and capitalize on the desire of Utah's outdoor recreationists to steward outdoor recreation resources. Successful efforts to date have operated at a site- or county-level. For example, the Cottonwood Canyons Foundation organizes and solicits funding for the adoption of trails in Big and Little Cottonwood Canyon. The Mountain Trails Foundation does similar work around Park City. Additionally, both Cache County and Draper City organize networks of volunteers who maintain trails in their respective locales. There is an opportunity for the state to take a leadership role in either cultivating the development of local stewardship initiatives or establishing a statewide program.

4. Minimize conflict between different outdoor recreation activities.

Improving awareness of, and education about, safe and responsible recreation can minimize conflict between different outdoor recreation activities. Outdoor recreation conflict arises when individuals' ability to achieve desired outcomes are hindered by the behavior of others (Jacob & Schreyer, 1981). Conflict often occurs when individuals have different expectations of how a specific outdoor recreation setting should be used (e.g., the modes of experience which are deemed acceptable or not). Once an individual's or group's expectations of how a particular setting should be experienced are challenged by others, the ability to achieve desired outcomes declines, individuals increasingly become dissatisfied with their experience, and often alter their own recreation behaviors so they can continue to achieve their desired outcomes[5]. While recreation managers have a variety of direct approaches to minimize conflict such as spatially and temporally separating conflicting modes of experience, indirect approaches are often much more socially

> **PROGRAM RECOMMENDATION 3**
>
> *Cultivate the development of local stewardship initiatives*
>
> There are many exemplary local stewardship initiatives across the state. These include trails foundations, "friends of" groups, activity-specific clubs (e.g., high school mountain biking clubs), and civic/religious organizations. They are all working, in some capacity, to develop and maintain outdoor recreation resources across the state. However, their efforts are often independent of one another and resourced at a variety of scales. Consequently, the good work many of these groups could be doing is delayed by uncertainties about how to formalize their organization, develop relationships and agreements with state and federal land management agencies, and manage the logistic details of coordinated volunteer efforts. The state Division of Outdoor Recreation, perhaps in partnership with external collaborators, is in a unique position to facilitate the development and organization of these local stewardship initiatives. At a minimum, the agency's resources could be leveraged to develop "best practices," online tools and resources, and a compendium of local stewardships who have navigated the complex waters of coordinated volunteer efforts on public lands.

acceptable and practically feasible. Education efforts are one of the most common methods of indirect approaches to managing conflict.

Educational efforts can be effective in two ways. First, they can promote basic etiquette and behavioral norms (Lawhon et al., 2019). Second, they can increase the tolerance towards other modes of experience believed to be in conflict with one's own desired experiences. Often, this is done by simply explaining the motivations of the other group and emphasizing similarities between the different modes of experience (Ivy et al., 1992; Ramthun, 1995). Research has documented outdoor recreationists often have empathy for the desires and need of others (Hollenhorst, Schuett, & Olson, 1995; Hollenhorst, Schuett, Olson, et al., 1995; Watson et al., 1996) and are willing to modify their own behaviors to achieve mutually desirable outcomes (Hammitt et al., 1982; Noe et al., 1982). Many, if not most, outdoor recreationists participate in multiple types of activities and consequently, can sympathize with the needs of others. In short, there is good evidence that educational efforts, whether they be through signage on-site, social media campaigns, or other means, can be used to minimize conflict amount conflicting user groups (Manning et al., 2006; Vaske et al., 2004).

Cardinal Direction 3: Increase Access to Outdoor Recreation While Protecting Natural and Scenic Landscapes

The need for increased access to outdoor recreation opportunities was a persistent theme across the workshops. We use the word "access" carefully here, defining it as the ease of getting to an outdoor recreation setting. "Increased access" may involve developing new, or expanding existing, parking lots, staging areas, put-ins, etc. in locations where current infrastructure is inadequate. It may also involve developing new parks, trails, and greenways in areas that are closer to large population centers (e.g., urban reclamation efforts). The managers, planners, and other stakeholders who participated in the workshops recognized outdoor recreation was a foundational use of our municipal, county, state, and federal public lands, and that efforts to increase access would generally be good for the public.

The strong caveat here is that the administrative context of a setting should determine if, where, and how access is increased. "Managing," as opposed to increasing, access may be well justified in some outdoor recreation settings where use is exceptionally concentrated (e.g., Arches National Park (Freimund & Wheeler, 2023)), where the biophysical characteristics of the setting prohibit use beyond a certain point (e.g., Timpanogos Cave National Monument), or where the managing agency is striving to preserve certain types of experiences and desired condi-

tions (e.g., the opportunity to experience solitude in Wilderness areas (Smith, Spernbauer, et al., 2023)). Simply building more outdoor recreation infrastructure is not a strategic solution for the state that will increase access, participation, and residents' well-being. Rather, careful thought and local planning is needed to determine if, where, and how more access is provided. If local planning efforts frame these questions around the specific types of outdoor recreation opportunities they are trying to provide, they will be much easier to answer.

1. **Provide a wide variety of high-quality recreation opportunities, ranging from the highly-developed to the very primitive.**

A common theme across all the workshops was a sentiment of "yes we want to get more people outside and benefitting from outdoor recreation, but we also don't want the place to become so crowded that the experience gets diminished." It became apparent that many outdoor recreation managers, planners, and other stakeholders had thought very critically about the types of outdoor recreation opportunities they want to provide across the lands they managed. Clarity in short-term decisions can be found when long-term objectives are set.

Outdoor recreation managers have worked to meet the diverse needs of the public by defining the types of outdoor recreation opportunities they want to provide, and then delineating where they want to provide them across

---

PROGRAM RECOMMENDATION 4

Support local planning efforts that identify where distinct types of outdoor recreation opportunities should be provided

A lack of proactive and holistic planning can result in outdoor recreation and tourism professionals rushing to develop new infrastructure that only meets an emerging need. Competition-level mountain bike courses, BMX parks, and indoor climbing gyms are a few of the notable recent examples that have gained considerable traction within the state. Are these facilities really the most immediate need to generate the most public good? They may be, but it is difficult to tell without proactive and holistic planning that clearly defines if, and where, different types of outdoor recreation opportunities should be provided. We encourage municipal, county, regional, and state organizations to begin to inventory and map the types of outdoor recreation opportunities they want to provide. The classification scheme presented in Figure 10 can be used to catalyze these efforts.

If there are regional organizations that work to align outdoor recreation management efforts across these levels of government, such as the regional outdoor recreation councils suggested by Trout and Smith (2023), these groups can lead such efforts.

Ultimately, the goal of identifying where distinct types of outdoor recreation opportunities should be provided is to focus the decisions of managers, planners, and elected officials on the "big picture" – what will provide the greatest public good for the greatest number of people. Without this clear structure in place, outdoor recreation systems tend to be dominated by settings that all serve the "average" visitor (Manning, 2022b). As a result, everything becomes generic, nothing is unique, and the needs of many current (and potential) outdoor recreationists go unmet.

the lands they manage (Manning, 2022b). The concept of developing a Recreation Opportunity Spectrum dates to the early 1960s and is now codified in the planning frameworks of several federal land management agencies, including the Bureau of Land Management and the USDA Forest Service. The concept operates on the assumption that outdoor recreation settings can be characterized by how natural they are, how intensively managed they are, and how much use they receive (Manning, 1985). Different combinations of these characteristics are more, or less, suited to distinct types of outdoor recreation activities. For example, an urban park that is intensively managed and receives a lot of use would facilitate outdoor recreation activities that are dependent upon those characteristics (like community, large family, and religious gatherings). Conversely, a Wilderness setting that receives minimal management and low levels of use would facilitate activities that are dependent upon those characteristics (perhaps backpacking or backcountry skiing). Recent research has characterized these different combinations of characteristics into eight distinct classes, each with prescriptive guidance for managers (Figure 10). The work has also used these classes to define distinct types of outdoor recreation opportunities on public lands within the state (Figure 11).
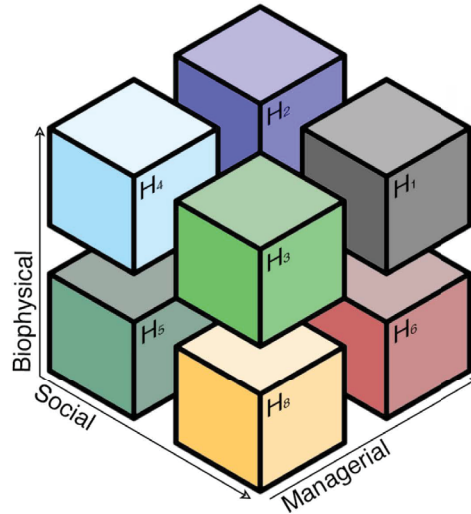
RECREATION OPPORTUNITY CLASSIFICATIONS

SETTING CHARACTERISTIC	H_1	H_2	H_3	H_4	H_5	H_6	H_7	H_8
Biophysical	high	high	high	high	low	low	low	low
Managerial	high	high	low	low	low	high	high	low
Social	high	low	high	low	low	high	low	high

DESCRIPTION OF EACH CLASSIFICATION

H_1	H_2	H_3	H_4	H_5	H_6	H_7	H_8
More natural settings with more managerial presence and heavy use	More natural settings with more managerial presence and little use	More natural settings with less managerial presence and heavy use	More natural settings with less managerial presence and little use	Less-natural setting with less management presence and little use	Less-natural setting with more managerial presence and heavy use	Less-natural setting with more managerial presence with little use	Less-natural setting with less managerial presence and heavy use

MANAGEMENT IMPLICATIONS FOR EACH CLASSIFICATION

H_1	H_2	H_3	H_4	H_5	H_6	H_7	H_8
Assure existing infrastructure minimizes ecological degradation from visitor use; continue to invest in maintenance and infrastructure; Assure existing infrastructure supports large and diverse groups.	Ensure investments in maintenance and infrastructure preserve activities with low visitor use densities.	Invest in infrastructure to minimize ecological degradation from visitor use.	Preserve opportunities for activities with low visitor use densities.	Monitor use for possible increases in demand and associated environmental impacts.	Continue to invest in maintenance and infrastructure; Assure existing infrastructure supports large and diverse groups.	Reallocate management resources to areas with more demand.	Invest in infrastructure to meet demand.

Figure 10
Classification Scheme for Outdoor Recreation Settings Based Upon Their Biophysical, Managerial, and Social Characteristics
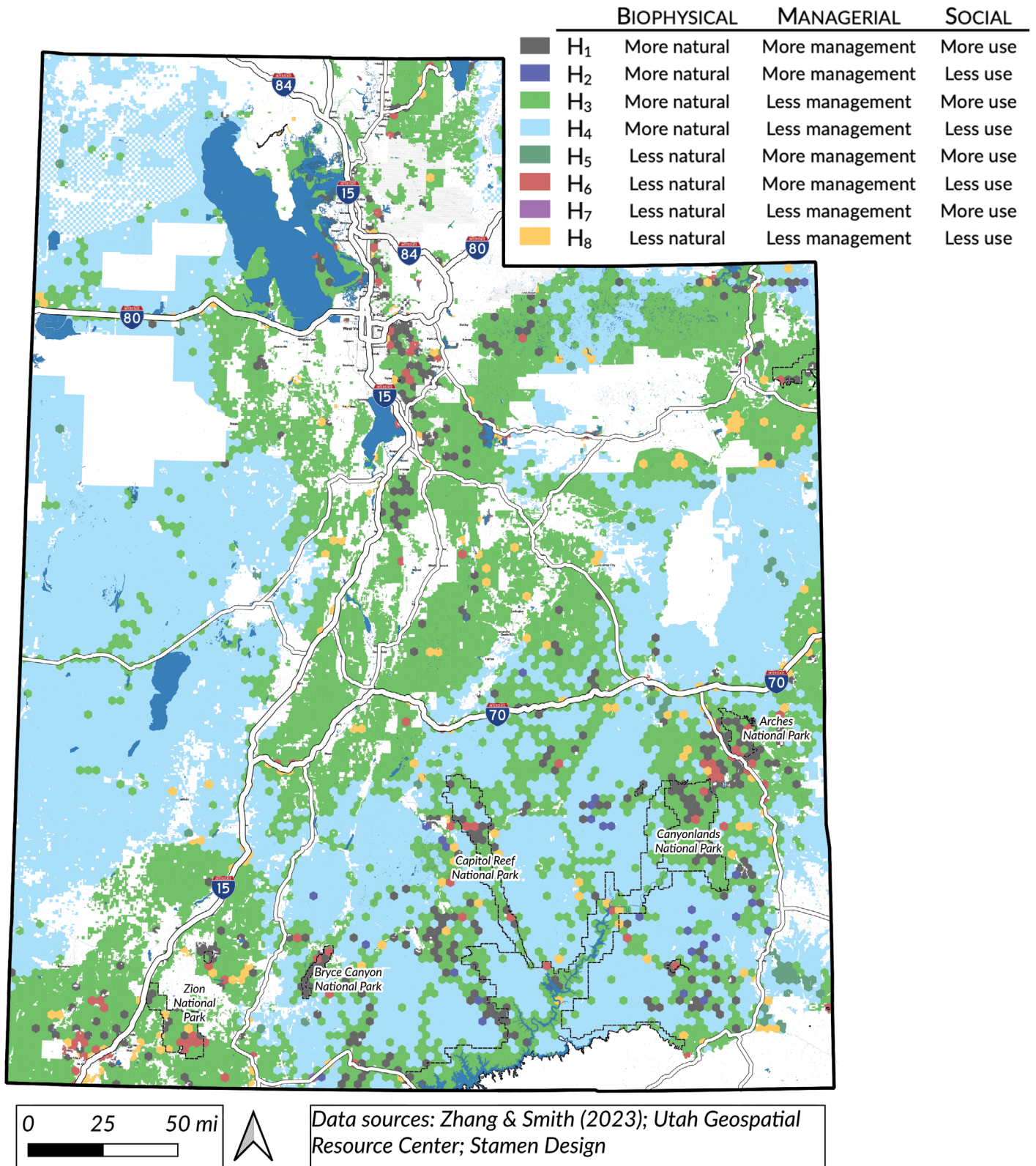*Source: Zhang & Smith (2023)*

		BIOPHYSICAL	MANAGERIAL	SOCIAL
	H_1	More natural	More management	More use
	H_2	More natural	More management	Less use
	H_3	More natural	Less management	More use
	H_4	More natural	Less management	Less use
	H_5	Less natural	More management	More use
	H_6	Less natural	More management	Less use
	H_7	Less natural	Less management	More use
	H_8	Less natural	Less management	Less use

Data sources: Zhang & Smith (2023); Utah Geospatial Resource Center; Stamen Design

Figure 11
Distinct Types of Outdoor Recreation Settings Across Utah
Source: Zhang & Smith (2023)

2. **Ensure existing outdoor recreation assets are well maintained for decades to come.**

Another very strong theme that emerged from the workshops was the need to adequately fund the maintenance of outdoor recreation assets. Workshop participants expressed concerns over the rapid increase in funding for "new" outdoor recreation infrastructure, with little growth in support for operations and maintenance costs. This was a persistent discussion point that, at times, levied concerns toward both federal and state programs. In Smith and Trout (2023), we document how the ratio of state spending on new infrastructure development to infrastructure maintenance is 13:1 ($52.8M:$4.0M). While "maintenance plans" are required to apply for many state grant funding opportunities, it is unclear how extensively these plans are vetted and if municipalities and counties know the true costs associated with maintaining outdoor recreation infrastructure to a high-standard. Yearly evaluations, vegetation control, mowing, signage updates, trash removal, flood and rain damage, patching concrete and asphalt, and possibly regrading are all regular annual maintenance costs. Municipal and county outdoor recreation planners and managers need to be aware of these costs to ensure their systems do not end up in the same situation as federal land managers, who are now facing staggering maintenance backlogs. The 13 National Park Service units within the state alone are currently facing a $387M deferred maintenance backlog (National Park Service, 2023b).

Cardinal Direction 4: Increase the Economic and Health Benefits Generated by Outdoor Recreation

Outdoor recreation has the potential to improve the economic and health outcomes of municipalities, counties, and the state as a whole. However, many workshop participants expressed an inability to fully realize this potential. Reasons cited included: state policies that distribute the economic benefits of outdoor recreation to the places where people live (primarily along the Wasatch Front) and not where they recreate; a lack of clear guidance on how to plan for a growing number of outdoor recreationists; and a limited ability to bring awareness to the mental and physical benefits of outdoor recreation.

1. **Distribute the economic benefits of outdoor recreation to the areas where use is occurring.**

Many workshop participants who work in areas outside of the Wasatch Front expressed a disconnect between the amount of outdoor recreation happening in their regions and the economic benefits that are supposed to come from local use. The general concern focused on the perception that outdoor recreationists who live along the Wasatch Front purchase the vast majority of the supplies supporting their outdoor recreation trips (e.g., clothing, equipment, food, fuel, etc.) close to where they live, as opposed to close to the places they recreate. Even when outdoor recreationists do spend money locally in less populous destinations, their purchases tend to only include food, fuel, and (maybe) lodging. Rarely do outdoor recreationists make large purchases (durable goods such as recreational vehicles) at their destinations. Concerns expressed during the workshops focused on the stress to public services (e.g., impacts to local transportation infrastructure, increased law enforcement costs, etc.) that outdoor recreationists generate and the concomitant lack of financial contributions to municipal and county tax revenues that support these services. An outdoor recreationist has to buy an exceptional amount of hot dogs and gas in Grand or San Juan County to generate the same amount of local sales tax they did when they purchased their RV and side-by-side in Salt Lake or Utah County.

Data suggests workshop participants' concerns may be true. Figure 12 shows the difference in how each county within the state ranks on the total amount of local tax revenues generated by travel and tourism and the amount of outdoor recreation use occurring within the county[6]. Counties along the Wasatch Front (Davis, Salt Lake, Utah, and Weber) as well as those on the Wasatch Back (Summit and Wasatch) rank higher on the amount of local sales tax they receive from travel and tourism related purchases than they do on the amount of outdoor recreation use occurring there. Conversely, more rural counties such as Daggett, Emery, Garfield, Grand, San Juan, and Wayne rank notably higher on outdoor recreation use than they do on local sales tax revenues from travel and tourism. These are the counties which are more likely to be fiscally burdened by outdoor recreation use.

Currently, there are very few policy mechanisms that could be utilized to mitigate the fiscal burden that outdoor recreation places on rural counties. Transient room taxes are currently administered at consistent rates across the state (Smith & Trout, 2023). It is unlikely that a variable tax structure allowing rural counties to implement a higher tax rate would solve the issue; it may even exacerbate the problem as it could disincentivize local spending in rural locations. A creative policy solution will likely be needed. Potential options for the Outdoor Adventure Commission and the state Legislature to explore could include:

- **Directly subsidize local outdoor recreation dependent economies.** Earmarking a portion of a state tax (e.g., sales tax, fuel tax, etc.) to be distributed to counties experiencing high levels of outdoor recreation and relatively low local tax revenues. These

funds would need to be dedicated to public services that are impacted by outdoor recreation (e.g., planning assistance, law enforcement, search and rescue, etc.). The Outdoor Adventure Infrastructure Restricted Account, which is funded through state sales tax, is a potential point of leverage here as it could be expanded to include funding for local outdoor recreation support services.

• **Incentivize the formation and use of local outdoor recreation related businesses.** Economic development incentives such as property tax abatements or job creation tax credits can be utilized to bolster specific sectors of the economy in specific locations (Bartik, 2020). These "place-based" incentives ease the tax burden on specific businesses, such as outdoor recreation related businesses, in an effort to encourage their growth and sustainability. State or local policy could establish these incentives to stimulate local wage and job growth in an attempt to generate more local tax revenues, subsequently spurring funding to support needed public services. Research suggests these types of incentives can lead to significant labor market benefits and property values increases (Bartik, 2018). Funding for these incentives can be drawn from differential business taxes on out-of-state business owners, an approach that may be welcomed differently depending upon municipal and county economic development strategies. These

incentives are an intriguing alternative that warrant future discussions and study across Utah.

2. **Increase the capacity of gateway and natural amenity regions to plan for, and manage, non-local visitation.**

Gateway communities are the small cities and towns located on the "doorstep" of national parks, national forests, and other public lands. These communities experience unique planning and development challenges stemming from their proximity to popular outdoor recreation and tourism destinations (Stoker et al., 2021). Major issues in Utah's gateway communities include:

• **Local housing markets that tend to be dominated by short-term rentals and vacation properties.** Short-term rentals undermine local tax revenues, as many short-term rental properties do not pay required local and state taxes (Furukawa & Onuki, 2022). Large stocks of the housing market as vacation properties have been shown to increase property tax burdens and raise the price of public services for full-time residents (Ihlanfeldt & Yang, 2023). Large proportions of the housing market being used for short-term rentals can also threaten community character and the operations of local school districts (Sodja, 2023).
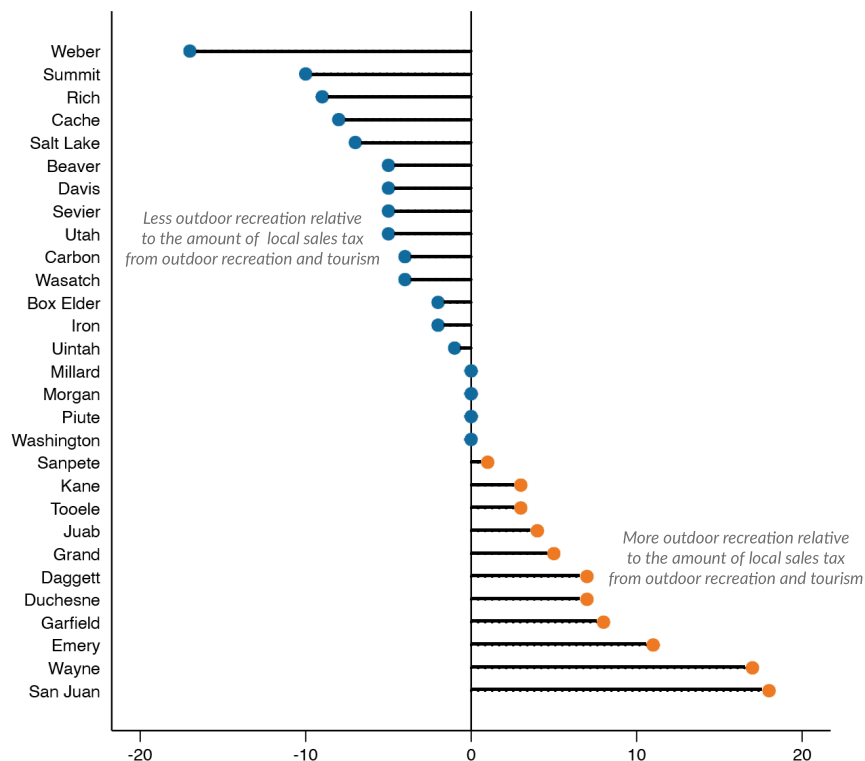

Figure 12
Difference Between County Rankings of Local Sales Tax Generated by Travel and Tourism and Outdoor Recreation Use on Public Lands
Data sources: Zhang et al. (2021), Kem C. Gardner Policy Institute (2022)

- **Large proportions of the local labor market in low-wage service sector jobs.** From the "lifties" who work at the ski resorts in the winter to the river guides who shepherd people down the rivers in the summer, outdoor recreation and tourism economies are dependent upon low-wage, seasonal, and highly transient jobs. Figure 13 shows the stark disparity in the proportion of employment in these types of jobs in several of Utah's notable gateway communities and the state's other municipalities (first panel). The mean annual earnings for these types in GNAR communities was roughly $5,000 less than comperable jobs in non-GNAR communities (second panel).

These factors, as well as several others[7], place an exceptional amount of stress on the already limited capacities of gateway communities' municipal governments. This sentiment was consistently voiced by workshop participants who work in, and with, the municipal governments located adjacent to the state's most prominent National Parks. Many of the major threats to outdoor recreation in these regions (outlined above) center around the capacity of gateway communities to plan for, and manage, outdoor recreation use in a way that both outdoor recreationists and tourists have desirable experiences and local residents can retain the autonomy and quality of life they want.
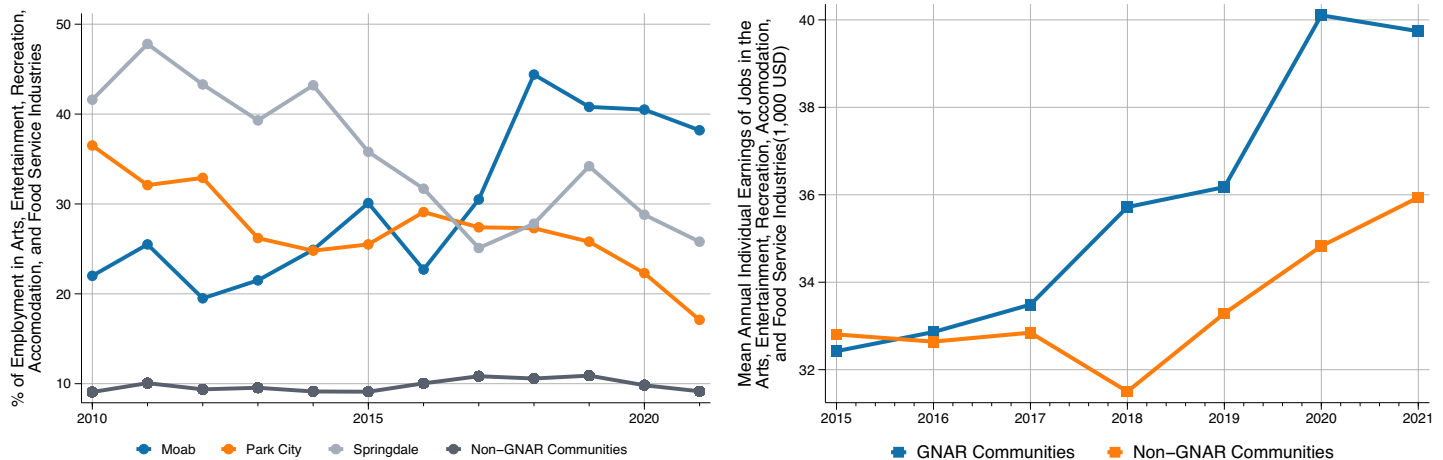

Figure 13

Trends in Employment (Panel 1) and Earnings (Panel 2) in the Arts, Entertainment, Recreation, Accommodation, and Food Services Industries

Source: Institute of Outdoor Recreation and Tourism analysis of U.S. Census data (5-year American Community Survey estimates)

PROGRAM RECOMMENDATION 5

Support planning assistance programs tailored to the unique challenges of Utah's gateway communities

Aside from the major policy recommendations outlined above, there is an exceptional need to bolster the capacity of Utah's gateway communities to plan for, and manage, outdoor recreation in ways that reflect their needs, values, and vision. Some gateway communities may not want to develop more extensive outdoor recreation and tourism economies, seeing visitors as the source of so many unwanted problems. This perspective was voiced by some in the project's workshops. Alternatively, some gateway communities may be looking to outdoor recreation and tourism as bastions of prosperity after other industries have gradually dwindled away. Regardless of their desired path forward, Utah's gateway communities need the tools and resources to chart, and achieve, their own path forward. Planning assistance programs that share best practices and lessons learned across gateway communities are needed. This is true in Utah as well as across the broader Western U.S. The Gateway and Natural Amenity Region Initiative, a partnership between Utah State University and the University of Utah, is a notable example that has gained traction in recent years. The Initiative connects community planners and elected officials from across the West and facilitates discussions that allow them to learn what has and hasn't worked elsewhere. Given the sentiments expressed by workshop participants, the differentiating characteristics that are unique to gateway communities, and the foundational role gateway communities play in serving as "launching points" for adventure, we see a strong need to support planning assistance programs tailored to the unique challenges of Utah's gateway communities.

3. **Improve the ability of individuals to achieve the mental and physical benefits of outdoor recreation.**

The final objective generated during the workshops was a need to bring more awareness to the mental and physical benefits of outdoor recreation. Many of the outdoor recreation planners, managers, and other stakeholders who participated in the workshop expressed how important these benefits were to their own participation in outdoor recreation, yet lamented at how few of the general public realized the same benefits were available to them as well. The connection between nature and health has been apparent to academics for at least several decades (Kellert & Wilson, 1993), but has received renewed attention in recent years as rates of chronic disease and mental health issues have continued to increase. Recent years have seen a growing trend toward medical professionals promoting, and even prescribing, outdoor recreation to individuals wanting, or needing, to improve their mental and physical benefits. Park Rx America, a national nonprofit that works to prescribe time outdoors as part of routine medical care, is an exemplary effort. The Utah-based affiliate program Park Rx Utah is working to mobilize health practitioners to get people outside for the purpose of improving their mental and physical health.

PROGRAM RECOMMENDATION 6

Support programs that improve the ability of individuals to achieve the mental and physical benefits of outdoor recreation

Addiction, chronic disease, and mental health issues are an unfortunate part of every Utah community. The state, counties, and municipalities are in a notable position of leverage when it comes to mitigating these unwanted issues. Connecting people to parks for a purpose and possibly with the motivation of a prescription is a growing trend that should be promoted and taken advantage of within the state. The state's Division of Outdoor Recreation as well as the Division of State Parks are well positioned to advocate for more time outdoors specifically for the purpose of participating in outdoor recreation. The state's Department of Health and Human Services could also play an integral role in advancing awareness of the many benefits of being outside; however to date the topic has remained on the fringes of their programmatic functions. Federal land management agencies are also increasingly becoming interested in advocating for the health benefits associated with using the lands they manage (Wolf et al., 2020). Collectively, there are many players who could be involved in advancing this recommendation. Realistically, it will take a substantial effort on all fronts to utilize parks and public lands to stem the tide of declining health and well-being across the state.

Conclusion

In this report, we have documented a collaborative process for engaging stakeholders in the development of the objectives of Utah's Outdoor Recreation Strategic Plan. The objectives developed through the statewide strategic planning process reflect the common aspirations for the hundreds of land managers, outdoor recreation and tourism professionals, and elected officials who steward outdoor recreation opportunities statewide.

The report also presents two major policy recommendations, six major program recommendations, and two major project recommendations that, if taken, can assist in achieving the objectives of the plan. These recommendations are tactical solutions targeted at the Utah State Legislature and the many other entities and interests that want to see outdoor recreation opportunities within the state improve. The policy and program recommendations are focused solutions that can make the aspirational goals of the Strategic Plan a reality.

Endnotes

1 AOGs were also established with the objectives of: "enabling the use, by all state and federal agencies, a common set of districts for planning and administrative purposes"; "developing a method for coordinating federally sponsored or operated program at sub-state levels, with each other, and with state programs"; "providing a strengthened role for county and municipal officials in the execution of state and federal programs at the local level"; "providing a consistent area framework for gathering, processing and analyzing of planning and administration information and data"; and "eliminating overlap, duplication and competition between various levels of government and thus facilitating the most effective use of the state's resources."

2 Fourth class counties include: Uintah, Wasatch, Sanpete, Sevier, Carbon, Duchesne, San Juan, Millard, Morgan, and Juab counties. Fifth class counties include: Juab, Emery, Grand, Kane, Beaver, and Garfield Counties. Sixth class counties include: Wayne, Rich, Piute, and Daggett Counties.

3 Utah Code 17-50-501

4 See this project's Funding Report (Smith & Trout, 2023) for a review of the state's marginal support for research into the needs and preferences of residents.

5 These behavioral changes often include altering where individuals participate in outdoor recreation (spatial substitution), when they participate (temporal substitution), and how they participate (activity substitution) (Manning, 2022a).

6 Figure 12 shows the difference in the ranking of the amount of outdoor recreation within each county (as measured by the amount of shared photographs on social media using the methods documented in Zhang et al. (2021)) and the ranking of the amount of local sales taxes generated by travel and tourism spending (as reported by the Kem C. Gardner Policy Institute (2022).

7 Other unique characteristics of gateway communities include very high proportions of local residents dependent upon non-labor income (e.g., pensions), an almost universal lack of public transportation, an acute lack of affordable housing, and exceptional wealth disparities are all major challenges to community development efforts (Stoker et al., 2021).

References

Bartik, T. J. (2018). Who benefits from economic development incentives? How incentive effects on local incomes and the income distribution vary with different assumptions about incentive policy and the local economy. Upjohn Institute Technical Reports. https://doi.org/10.17848/tr18-034

Bartik, T. J. (2020). Using place-based jobs policies to help distressed communities. Journal of Economic Perspectives, 34(3), 99–127. https://doi.org/10.1257/jep.34.3.99

Bryson, J. M. (1988). A strategic planning process for public and non-profit organizations. Long Range Planning, 21(1), 73–81. https://doi.org/10.1016/0024-6301(88)90061-1

Bryson, J. M. (2010). The Future of Public and Nonprofit Strategic Planning in the United States. Public Administration Review, 70, S255–S267.

Christensen, M. (2021). Utah Outdoor Partners survey of tech sector employees. Kem C. Gardner Policy Institute, University of Utah. https://static1.squarespace.com/static/591a01ebcd0f68629f40385f/t/60e4af164c28ec700766935e/1625599768603/Utah-Outdoor-Partners-Survey-Jan2021.pdf

Dodson, J. (2023, March 2). How should Utah handle "new to nature" visitors. Utah Business. https://www.utahbusiness.com/new-to-nature-tourists-in-utah-sustainable-tourism-national-parks/

Flores, D., & Kuhn, K. (2018). Latino Outdoors: Using storytelling and social media to increase diversity on public lands. Journal of Park and Recreation Administration, 36(3), Article 3. https://doi.org/10.18666/JPRA-2018-V36-I3-7868

Floyd, M. F., & Johnson, C. Y. (2002). Coming to terms with environmental justice in outdoor recreation: A conceptual discussion with research implications. Leisure Sciences, 24(1), 59–77. https://doi.org/10.1080/01490400252772836

Freimund, W., & Wheeler, I. (2023). Evaluating a pilot timed-entry system at Arches National Park. Utah State University.

Furukawa, N., & Onuki, M. (2022). The design and effects of short-term rental regulation. Current Issues in Tourism, 25(20), 3245–3260. https://doi.org/10.1080/13683500.2019.1638892

Gray, B. (1985). Conditions facilitating interorganizational collaboration. Human Relations, 38(10), 911–936.

Hammitt, W., McDonald, C., & Cordell, H. (1982). Conflict perception and visitor support for management controls (Miscellaneous Publication 18; pp. 45–48). University of Minnesota, Agricultural Experiment Station.

Hollenhorst, S., Schuett, M. A., Olson, D., & Chavez, D. (1995). An examination of the characteristics, preferences, and attitudes of mountain bike users of the national forests. Journal of Park and Recreation Administration, 13(3), 41–51.

Hollenhorst, S., Schuett, M., & Olson, D. (1995). Conflicts and issues related to mountain biking in the national forests: A multi-methodological approach (General Technical Report PSW-156; Proceedings of the Second Symposium on Social Aspects and Recreation Research, pp. 7–10). USDA Forest Service, Pacific Southwest Research Station.

Ihlanfeldt, K., & Yang, C. F. (2023). Are the home values and property tax burdens of permanent homeowners affected by growth in housing rentals and second homes: Evidence based on big data from Florida. Journal of Regional Science, 63(2), 470–502. https://doi.org/10.1111/jors.12629

Ivy, M. I., Stewart, W. P., & Lue, C.-C. (1992). Exploring the role of tolerance in recreational conflict. Journal of Leisure Research, 24(4), 348–360. https://doi.org/10.1080/00222216.1992.11969901

Jacob, G. R., & Schreyer, R. (1981). Conflict in outdoor recreation: A theoretical perspective. Journal of Leisure Research, 12(4), 368–380.

Johnson, C., Bowker, J., & Cordell, H. (2001). Outdoor recreation constraints: An examination of race, gender, and rural dwelling. Journal of Rural Social Sciences, 17(1). https://egrove.olemiss.edu/jrss/vol17/iss1/6

Kellert, S. R., & Wilson, E. O. (1993). The biophilia hypothesis. Island Press.

Kem C. Gardner Policy Institute. (2022). Travel and tourism county profiles. Kem C. Gardner Policy Institute, University of Utah. https://gardner.utah.edu/wp-content/uploads/County-TT-Profiles-Mar2022.pdf?x71849

Kem C. Gardner Policy Institute. (2023). Travel and tourism county profile. Kem C. Gardner Policy Institute, University of Utah. https://gardner.utah.edu/wp-content/uploads/2021-TT-CountyProfiles-May2023.pdf?x71849

Larson, L. R., Cooper, C. B., Stedman, R. C., Decker, D. J., & Gagnon, R. J. (2018). Place-based pathways to proenvironmental behavior: Empirical evidence for a conservation–recreation model. Society & Natural Resources, 31(8), 871–891. https://doi.org/10.1080/08941920.2018.1447714

Lawhon, B., Taff, B. D., Newman, P., Vagias, W. M., & Miller, Z. D. (2019). Understanding attitudes and support for Leave No Trace: Informing communication strategies with frontcountry state park visitors. Journal of Outdoor Recreation, Education, and Leadership, 11(1), Article 1. https://doi.org/10.18666/JOREL-2019-V11-I1-9290

Lipmanowicz, H., Singhal, A., & McCandless, K. (2015). Liberating structures: Engaging everyone to build a good life together. In H. Wang (Ed.), Communication and "the good life." Peter Lang.

Manning, R. E. (1985). Diversity in a democracy: Expanding the recreation opportunity spectrum. Leisure Sciences, 7(4), 377–399. https://doi.org/10.1080/01490408509512132

Manning, R. E. (2022a). Substitutability: Alternative recreation opportunities. In Studies in outdoor recreation: Search and research for satisfaction (4th ed., pp. 217–234). Oregon State University Press.

Manning, R. E. (2022b). The recreation opportunity spectrum: A range of recreation opportunities. In Studies in outdoor recreation: Search and research for satisfaction (4th ed., pp. 185–200). Oregon State University Press.

Manning, R. E., Jacobi, C., & Marion, J. L. (2006). Recreation monitoring at Acadia National Park. The George Wright Forum, 23(2), 59–72.

National Park Service. (2023a). National Park Service Visitor Use Statistics [dataset]. Integrated Resource Management Applications. https://irma.nps.gov/Stats/

National Park Service. (2023b). Utah parks infrastructure fact sheet. National Park Service. www.nps.gov/subjects/infrastructure/upload/Utah-Deferred-Maintenance-and-Repairs-Fact-Sheet.pdf

Noe, F. P., Hull, R. B., & Wellman, J. D. (1982). Normative response and norm activation among ORV users within a seashore environment. Leisure Sciences, 5(2), 127–142. https://doi.org/10.1080/01490408209512997

Plummer, R., & FitzGibbon, J. (2004). Some observations on the terminology in co-operative environmental management. Journal of Environmental Management, 70(1), 63–72. https://doi.org/10.1016/j.jenvman.2003.10.005

Pocewicz, A., Nielsen-Pincus, M., Brown, G., & Schnitzer, R. (2012). An Evaluation of Internet Versus Paper-based Methods for Public Participation Geographic Information Systems (PPGIS). Transactions in GIS, 16(1), 39–53. https://doi.org/10.1111/j.1467-9671.2011.01287.x

Executive Order, (1970). www.ubaog.org/__files/ugd/be7fa0__a4b1267a6ef644e9b5a3f09f7000a818.pdf

Ramthun, R. (1995). Factors in user group conflict between hikers and mountain bikers. Leisure Sciences, 17(3), 159–169. https://doi.org/10.1080/01490409509513254

Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., Prell, C., Quinn, C. H., & Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. Journal of Environmental Management, 90(5), 1933–1949. https://doi.org/10.1016/j.jenvman.2009.01.001

Rice, W. L., Mateer, T., Taff, B. D., Lawhon, B., Reigner, N., & Newman, P. (2020). Longitudinal changes in the outdoor recreation community's reaction to the COVID-19 pandemic. https://doi.org/10.31235/osf.io/dghba

Roberts, N. S., & Chitewere, T. (2011). Speaking of justice: Exploring ethnic minority perspectives of the Golden Gate National Recreation Area. Environmental Practice, 13(4), 354–369. https://doi.org/10.1017/S1466046611000378

Smith, J. W. (2023a). Characteristics of the demand for outdoor recreation across Utah: An overview and analysis of critical policy issues. Institute of Outdoor Recreation and Tourism, Utah State University.

Smith, J. W. (2023b). Utah's Recreation Asset Database. Institute of Outdoor Recreation and Tourism, Utah State University.

Smith, J. W., & Miller, A. B. (2020). The state of outdoor recreation in Utah—2020 (pp. 1–32). Institute of Outdoor Recreation and Tourism, Utah State University. https://digitalcommons.usu.edu/extension_curall/2153

Smith, J. W., Miller, A. B., & Lamborn, C. C. (2023). Recreationists and nearby residents' perceptions of water quality at Utah Lake (USA). Institute of Outdoor Recreation and Tourism, Utah State University.

Smith, J. W., Spernbauer, B., & Lamborn, C. C. (2023). Outdoor recreation use and indicators of the ecological, physical, and social characteristics of recreation settings in the Central Wasatch: Phase 2 trail use report. Institute of Outdoor Recreation and Tourism, Utah State University.

Smith, J. W., & Trout, C. (2023). An overview of state funding for outdoor recreation and tourism in Utah (pp. 1–13). Institute of Outdoor Recreation and Tourism, Utah State University. https://digitalcommons.usu.edu/envs_facpub/1648

Sodja, E. (2023). Planning for a GNAR(ly) future: Reimagining planning to empower your community. Institute of Outdoor Recreation and Tourism, Utah State University. https://digitalcommons.usu.edu/extension_curall/2347/

Outdoor Recreation Initiative, H.B.224 (2023). https://le.utah.gov/~2023/bills/static/HB0224.html

Stoker, P., Rumore, D., Romaniello, L., & Levine, Z. (2021). Planning and development challenges in Western gateway communities. Journal of the American Planning Association, 87(1), 21–33. https://doi.org/10.1080/01944363.2020.1791728

Trout, C., & Smith, J. W. (2023). Outdoor recreation across the western United States: A comparative analysis focused on state agencies, policies, programs, and resources. Institute of Outdoor Recreation and Tourism, Utah State University. https://digitalcommons.usu.edu/envs_facpub/1651

U.S. Census Bureau. (2023). Data.census.gov. U.S. Census Bureau. https://data.census.gov/

Utah Division of State Parks. (2022). Utah Division of State Parks, Department of Natural Resources, Strategic Plan. Utah Division of State Parks, Department of Natural Resources. https://stateparks.utah.gov/wp-content/uploads/sites/13/2022/09/Utah-Division-of-State-Parks-2022-Strategic-Plan.pdf

Utah Division of State Parks. (2023). Park visitation data [dataset]. Utah Division of State Parks, Utah Department of Natural Resources. https://stateparks.utah.gov/resources/park-visitation-data/

Vaske, J., Dyar, R., & Timmons, N. (2004). Skill level and recreation conflict among skiers and snowboarders. Leisure Sciences, 26(2), 215–225. https://doi.org/10.1080/01490400490432145

Watson, A., Zaglauer, H., & Stewart, S. (1996). Activity orientation as a discriminant variable in recreation conflict research. In C. P. Dawson (Ed.), Proceedings of the 1995 Northeastern Recreation Research Symposium (pp. 103–108). USDA Forest Service, Northeastern Forest Experiment Station.

Wilkinson, C. (2015). The greatest good of the greatest number in the long run: TR, Pinchot, and the origins of sustainability in America. Colorado Natural Resources, Energy & Environmental Law Review, 26, 69.

Wolf, K. L., Derrien, M. M., Kruger, L. E., & Penbrooke, T. L. (2020). Nature, outdoor experiences, and human health. In S. Selin, L. K. Cerveny, D. J. Blahna, & A. B. Miller (Eds.), Igniting research for outdoor recreation: Linking science, policy, and action. (pp. 85–100). USDA Forest Service, Pacific Northwest Research Station. https://www.fs.usda.gov/research/treesearch/60068

Wondolleck, J. M., & Yaffee, S. L. (2000). Making collaboration work: Lessons from innovation In natural resource managment (New title edition). Island Press.

Zhang, H., & Smith, J. W. (2023). A data-driven and generalizable model for classifying outdoor recreation opportunities at multiple spatial extents. Landscape and Urban Planning.

Zhang, H., van Berkel, D., Howe, P. D., Miller, Z. D., & Smith, J. W. (2021). Using social media to measure and map visitation to public lands in Utah. Applied Geography, 102389. https://doi.org/10.1016/j.apgeog.2021.102389