



Research Article

Navigating constraints and strategies for veteran outdoor access

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ABSTRACT

Outdoor programs for veterans (OPVs) support the physical and mental health benefits of nature-based experiences, seeking to mitigate the constraints to participation that veterans commonly face. But OPVs themselves often face organizational constraints to service delivery. The COMPACT Act of 2020 required the U.S. Department of Veterans Affairs (VA) to establish an interagency task force to coordinate with public land agencies to enhance outdoor opportunities for veterans. A federal information request in 2022 asked veteran organizations and the public to identify constraints they experience seeking or facilitating outdoor opportunities as well as strategies for overcoming them. We analyzed public comments ($n = 120$) received in response to the information request. In their service delivery, we found that OPVs faced internal organizational constraints as well as administrative hurdles with both the VA and public land agencies. We described strategies identified by OPVs for negotiating these constraints. OPVs supported capacity-building initiatives to improve coordination, expand access to information, provide training, and identify mechanisms to support OPV programs. They also sought streamlined services to access VA grants and public land reservation and permit systems. Such improvements could reduce constraints to participation and promote improved veteran health.

Management implications:

To provide useful ideas to the VA, land managers, and OPV providers to help make outdoor recreation more accessible to veterans, we highlight our most actionable findings.

- Improve communication about outdoor opportunities for veterans within public agencies and via OPVs. This could be accomplished by establishing direct points of contact within governmental agencies and supporting the development of a stronger professional network of OPV providers and partners.
- Provide mechanisms for OPVs to communicate concerns or needs to public agencies so these are more visible. The COMPACT Act Task Force's public comment period provided a useful mechanism to share needs and concerns related to veteran outdoor access, and more mechanisms are needed.
- Create efficiencies in coordinating among federal, state, local agencies and OPVs to communicate the value of nature-based

programs and the diverse array of providers that support outdoor opportunities for veterans.

- Create or identify financial resources and/or support for gear, adaptive equipment, travel, instruction, or other elements that support veterans' safe utilization of the outdoors and public lands as therapeutic landscapes.

1. Introduction

Outdoor recreation and nature connection can benefit veterans experiencing post-traumatic stress, traumatic brain injury, and other injuries resulting from military service (Davis-Berman et al., 2018; Greer & Vin-Raviv, 2019). Post-traumatic stress is a strong risk factor for suicide and an array of adverse mental and physical conditions in

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veterans (Krysinska & Lester, 2010). Scientists are working to quantify the short- and long-term effects of outdoor recreation and nature-based therapy on veterans and their caregivers (Vella et al., 2013; Bettman et al., 2021; Littman et al., 2021). Many outdoor programs for veterans (OPVs) have been developed to help the transition from military to civilian life (Derrien et al., 2020). OPVs (both non-profit and for-profit) typically provide equipment, transportation, information, logistical support, or other assistance and offer a range of outdoor programs, activities and settings (Ewert, 2014; Davis-Berman et al., 2018). In addition, OPVs provide a wide range of therapeutic options and vary by activity, size, duration, and structure, with different target audiences (e. g., veterans, active military, families, caregivers) (Derrien et al., 2020). Veterans with mobility challenges and disabilities rely on OPVs to improve health and well-being (Greer & Vin-Raviv, 2019). Many OPVs rely on public lands (parks, forests and protected areas) to serve as therapeutic landscapes, where biophysical, built, and social environments combine to form a space conducive to healing (Havlick et al., 2021). Despite the diversity and number of OPVs, military veterans still face constraints to outdoor recreation (Cervený et al., 2024; Hermann et al., 2023; Leonard et al., 2024). More research is needed to assess how veterans perceive constraints to accessing these spaces and develop strategies to navigate them.

In the U.S., the Department of Veterans Affairs (VA) acknowledges the potential for nature-based therapy for post-traumatic stress as an alternative or augmentation to traditional therapeutic modalities such as pharmacotherapy and psychological intervention (Reisman, 2016). The Veterans Comprehensive Prevention, Access to Care and Treatment Act (COMPACT Act) of 2020 (P.L. 116-124) was established to help prevent veteran suicide by increasing access to care for veterans at risk of harm and to provide support for veterans and their families, including opportunities to increase access to outdoor recreation programs. In the first year of the Act's implementation, nearly 50,000 veterans received free emergency suicide prevention care (Veterans Affairs, 2024).

Section 203 of the COMPACT Act directed the VA to establish an interagency task force to facilitate coordination between the VA and public land management agencies and partners to promote the health and wellbeing of veterans and their families. The task force included members from the VA, Departments of Interior, Agriculture, Defense, and Homeland Security, Health and Human Services, Army Corps of Engineers, and representatives of veteran organizations. The task force was asked to identify “barriers that exist to providing veterans with opportunities to augment the delivery of services for health and wellness through the use of outdoor recreation on public lands and other outdoor spaces” as well as provide recommendations to improve use of or access to public lands for therapeutic opportunities (P.L. 116-124). The COMPACT Act stipulated that the task force consult with existing veteran outdoor recreation organizations such as those facilitating outdoor opportunities, those providing nature therapy, as well as adaptive sports.

In 2022 the task force issued a formal request in the Federal Register, which serves as a primary source for public notification of agency actions such as rules, regulations, and executive orders. The request asked agencies and providers of outdoor recreation programs and services for veterans to contribute public comments about their programs and to identify barriers and opportunities for providing outdoor programs on public lands (87 FR 10281). This collection of comments is publicly available and provides a rich source of information about the needs of veterans and veteran organizations that can be analyzed as data. Comments received offer insights into the constraints and opportunities experienced by veterans and OPVs using public lands. The request for comments included 32 questions addressing opportunities, barriers, and recommendations for facilitating better use of public land and outdoor spaces for delivery of therapeutic interventions. While the inquiry form specifically asked respondents to reflect on barriers, we adopted a broader conceptual focus on constraints for our analysis to be more consistent with the scholarly literature. We analyzed 120 public

comments to understand respondents' perceptions of constraints and supports. Two research questions guided our analysis.

1. What do respondents describe as the constraints experienced by OPV providers to meet veterans' needs or support veterans' access to outdoor spaces?
2. Which strategies do respondents report are needed to overcome these constraints?

We paid close attention to how OPV providers identified constraints and navigated bureaucracies. This included a focus on how OPVs interacted with (a) the VA, whose processes and protocols may either sanction or deter efforts to access nature-based therapies, and (b) public land agencies, whose policies and regulations may either inhibit or support veterans' access to public land resources. By addressing these questions, we seek to expand the literature on leisure constraints for veterans and provide insights to land managers and partners seeking to support recreation opportunities for veterans.

2. Literature review

2.1. Benefits of outdoor recreation, constraints to participation, and constraint negotiation

Outdoor recreation is important for quality of life and human health and wellbeing (Thomsen et al., 2018; Twohig-Bennett & Jones, 2018). Outdoor recreation provides opportunities for nature connection, social interaction, creative play, skill development, exercise, rest, and other benefits (Zwart & Ewert, 2022). Time spent outdoors has been shown to result in improved mood, positive self-esteem, and pro-social behavior as well as reduced stress, anxiety, aggression, and negative ideations (Hartig et al., 2014).

While the benefits of engaging in outdoor recreation are wide-ranging, some groups face constraints to participation. Leisure constraints are physical, conceptual, spatial, or temporal factors that limit a person's choices, preferences, satisfaction, or ability to participate in leisure or recreational activities (Jackson, 1988; Jackson, 2000). Leisure constraints theory identified three types of constraints: *intrapersonal* (self-confidence, fear, lack of skills, or lack of belonging), *interpersonal* (need for companionship, family obligations, lack of social support) and *structural* (costs, distance to a recreation site, lack of time, or inadequate information) (Crawford et al., 1991; Crawford & Godbey, 1987). While earlier conceptions emphasized a hierarchical approach and a strict ordering of constraints, later research found that this obscured relational interactions and contextual factors (Hubbard & Mannell, 2001; White, 2008). Subsequent studies have viewed constraints as dynamic, layered, overlapping, and mutually modifying (Godbey et al., 2010). Constraint perceptions vary over an individual's life course (Son et al., 2008) and by race, class, and gender, with some socioeconomic groups disproportionately impacted (Lee et al., 2001). Some have argued that structural barriers may be difficult to overcome by individual strategies, particularly for marginalized groups (Xiao et al., 2022). The ecological model of constraints sees the individual within a broader system shaped by interpersonal, contextual, and systemic forces that require different approaches to help navigate and accommodate constraints, including collective action (Stodolska et al., 2020).

Leisure participation can result from a lack of constraints and/or a person's ability to overcome or mitigate existing constraints. Individuals navigate constraints through cognitive adjustments or behavioral modifications (Jackson et al., 1993). Negotiation strategies include time management, skill development, substitution, choosing familiar settings, engaging with organized groups, sharing transportation, and seeking information (Nyaupane et al., 2004). One's ability to negotiate constraints varies across cultures and socioeconomic groups (Xiao et al., 2022). Research on constraint negotiation on public lands shows how organized programs, guided trips, and partnerships serve as important

'negotiation supports' to lower barriers to participation (Stodolska, 2015).

Several studies have sought to identify the most salient constraints for accessing public lands for outdoor recreation. Recreation constraints commonly demonstrated across populations include fear, risk aversion, and competing activities (intrapersonal), social or family obligations (interpersonal), scarcity of time, lack of transportation and travel distance (structural) (Zanon et al., 2013; Shores et al., 2007; Nyaupane et al., 2004). Constraints to public land visitation vary by socioeconomic and cultural factors and geographies. For example, participation in outdoor recreation activities requires access to cultural knowledge (Lee et al., 2001). Underserved or marginalized groups are more likely to be constrained by lack of belonging, feeling unwelcome, fear, language barriers, safety concerns, and perceptions of discrimination (Stodolska et al., 2020). For visitation to public lands, institutional constraints (fees, signage, information, and public safety) have been identified as an important subset of structural constraints (Shores et al., 2007).

2.2. Constraints for people with disabilities

Understanding constraints experienced by people with disabilities is important for our focus on veterans. In 2023, near one-third (31%) of U.S. military veterans had a disability (Vespa & Carter, 2024). People with disabilities and mobility challenges face significant environmental and policy barriers that inhibit their access to outdoor recreation benefits (Weiler et al., 2024). Research shows that outdoor settings feature physical barriers for people with disabilities, including uneven terrain, inaccessible trails and facilities, a lack of adaptive infrastructure, and transportation limitations (Aguilar-Carrasco et al., 2023; Burns & Graefe, 2007). Some structural barriers are related to policy, such as loose enforcement of accessibility standards, lack of funds for accessibility enhancements, and lack of staff training (Bradshaw & Doak, 2022). Structural barriers also include a lack of accurate information about outdoor opportunities and accessibility features (Weiler et al., 2024). Menzies et al. (2021) found that equipment cost was a deterrent for outdoor recreationists using wheelchairs.

Public attitudes can affect participation for people with disabilities including the perception of feeling unwelcome (Aguilar-Carrasco et al., 2023). Intrapersonal constraints likely vary based on outdoor activity type. Studies of anglers (Freudenberg & Arlinghaus, 2009) and skiers (Mavritsakis et al., 2021) with disabilities both identified fear and concerns about crowding. People with disabilities negotiate constraints in a variety of ways, such as identifying accessible transportation options, pursuing adaptive technologies, and finding social support through organized groups and friend networks (Bradshaw & Doak, 2022; Burns & Graefe, 2007; Weiler, Whiting, Sajid, Dewan, & Dutta, 2025). Others advocate public agencies to adopt design approaches, such as universal design, to make sites accessible (Gupta et al., 2025).

2.3. Constraints for veterans

Veterans with PTSD benefit from outdoor recreation and spending time in natural settings (Varning Poulsen, 2017). Veterans have shown a reduction in PTSD symptoms when they spend time outdoors, particularly for longer durations (Bettman et al., 2021) and when they participate in organized skills-focused outdoor programs with other veterans (Greer & Vin-Raviv, 2019). Fitness, socializing, skill development, nature connection, and spiritual fulfillment have been identified as important motivations for veterans seeking outdoor recreation opportunities (Hermann et al., 2022). Rogers et al. (2016) found that veterans were especially motivated by a desire for social connection and personal growth. Emerging research into the benefits of outdoors or nature-based programs for veterans has focused on duration and frequency of nature exposure, the types of outdoor activities and settings that promote positive outcomes, and the variety of health effects (Greer & Vin-Raviv, 2019; Walker et al., 2020).

Less scholarship has focused on identifying constraints to outdoor recreation participation for veterans. Veterans face a unique set of constraints to outdoor recreation including intrapersonal constraints (e.g., health and fitness), interpersonal constraints (e.g., family obligations), and structural constraints (e.g., crowded outdoor spaces) (Hermann et al., 2022). OPVs can lessen institutional barriers by working with public land agencies to obtain permits, pay fees, and ensure that policies and regulations are being followed (Derrien et al., 2020). In addition, OPVs can reduce interpersonal constraints by providing a welcoming social environment that includes other veterans (Davis-Berman et al., 2018). OPVs also help veterans navigate intrapersonal constraints such as fear, safety, and lack of skills (Duvall & Kaplan, 2013).

At the same time, OPVs face their own organizational constraints that are not yet well understood in the literature. Early scholars of leisure constraints focused their attention on individual experiences and did not elaborate on how constraints are shaped or constituted by societal, political, or cultural structures and ideologies (Stodolska et al., 2020; Samdahl & Jekubovich, 1997). Contemporary scholars have emphasized the importance of moving beyond a sole focus on individually experienced constraints (and how they are negotiated) and expanding focus to the role and influence of organizations and institutional structures in shaping recreation opportunities (Kuykendall et al., 2020). Understanding OPVs' roles in constraint negotiation for veterans and how they negotiate organizational constraints themselves are therefore compelling areas of inquiry.

3. Methods

3.1. Data source

Public comments serve as a widely available source of data on public attitudes and perceptions, offering insight into perceived benefits or drawbacks of proposed actions and indications of opposition or support (Dokshin, 2022). We utilized public comments made in response to a Federal Register Notice issued by the VA on behalf of the Task Force on Outdoor Recreation for Veterans ("Notice of Request for Information Regarding Veterans Outdoor Recreation") (87 FR 10281). The request, open from February 23 - March 25, 2022, asked for information from individuals and representatives of organizations associated with outdoor recreation opportunities for veterans. Thirty-two questions focused on three themes: (a) opportunities to formalize coordination between the VA, public land agencies, and other partners regarding the use of public lands and outdoor spaces for facilitating veteran health and wellness; (b) barriers to outdoor recreation on public lands and other outdoor spaces; (c) recommendations to facilitate the use of public lands and outdoor spaces for promoting health and wellness (Appendix 1). The call for information was announced in the Federal Register and while questions were geared toward organizations serving veterans, the call was open to all. The announcement was circulated by the VA and generated responses from stakeholders including individual veterans, health and human service providers, and OPV representatives.

We downloaded the 127 public comments received. Upon review, we dropped seven comments from the sample that were not relevant to the information request, resulting in 120 comments in our final dataset. Since comments were provided in response to an open solicitation and public comment period, we consider this an opportunistic sample of the interested public that can contribute to understanding the constraints and supports for outdoor experiences for veterans.

3.2. Data analysis

We conducted a structured qualitative data analysis of the public comments. We first organized the comments in a spreadsheet, assigned each comment an identification number, and characterized respondent and comment attributes. This included characterizing each comment as

'targeted' to the questions being asked (addressing one or more of the 32 questions directly) or an open, free-form comment ('nontargeted'). We categorized each comment as focused on the personal experiences of a non-veteran ('self-focused'), the personal experiences of a veteran ('veteran-focused'), the experience of a veteran organization ('organization-focused'), or 'other.' The inquiry form asked respondents to identify the type of organization they represented, allowing us to determine whether the comment came from an unaffiliated individual or an OPV organization. For our analysis we included all comment types (veteran-focused, self-focused and organization-focused) because many respondents had knowledge of OPVs based on previous experience or exposure. For organization-focused comments, we recorded whether the organization mentioned having a formal partnership with the VA (Y/N), having a formal partnership with a public land agency (Y/N), serving veterans with disabilities (Y/N), the type of land ownership for program operations (public, private, other), the outdoor activities offered, and geographic areas served.

Our coding approach reflected a combination of deductive and inductive coding. In our first round of coding, we created a codebook with broad codes designed to capture information associated with our research questions: *constraints faced by veteran organizations, benefits of outdoor programs, and strategies to improve veteran access* (deductive coding). Code applications could overlap. To refine and test the codebook, we employed an iterative process, with two authors coding and comparing subsets of data (Appendix 2).

One author then used NVivo (Release 1, 2020) to code the full set of comments (Lumivero, 2020). A second author then reviewed coding for consistency and alignment with the codebook and conferred with the coder to adjust coding as needed (Miles et al., 2018). Outputs of coded text for each of the codes were exported to Microsoft Word. Next, two authors read the coded output and developed a list of subcodes reflecting topics associated with the codes. Instead of deductive coding to capture intrapersonal, interpersonal, and structural constraints, an inductive coding approach was used to identify the specific constraints, benefits, and strategies faced by organizations, since these were less known. Two authors then sub-coded the coded output in Microsoft Word, organized the coded output by subcode, calculated the relative frequency of subcode applications, and identified illustrative quotations.

4. Results

We describe the most common patterns of constraints faced by OPVs and strategies respondents used to overcome those constraints, also highlighting less common constraints for a more textured understanding. We excerpt illustrative quotes to ground findings in respondents' own words (numbers in parentheses indicate the comment identification number) and at times paraphrase or summarize comments (because comments were submitted in response to fixed questions, some replies were brief or offered in a bullet format, making them less quotable).

4.1. Overview of comments

We characterized 61 (51%) of the 120 comments as offering 'targeted' responses to the request for information's specific questions, and 59 (49%) as offering "non-targeted" or free-form responses (Table 1). More than two-thirds (70%, $n = 84$) of comments analyzed were focused on OPVs and less than one-quarter on individual veterans. Nearly half (49%, $n = 41$) of OPV-focused organizations mentioned formal VA partnerships, one-quarter (24%, $n = 20$) mentioned formal partnerships with public lands agencies, and 82% ($n = 69$) said they served people with disabilities. The programs took place on a variety of landownerships including 71% ($n = 60$) mentioning public lands, noting that some programs operate on multiple ownerships. We categorized recreation activities provided by OPVs into 17 categories; the most frequently mentioned were fishing (33), non-motorized boating (kayaking, canoeing, sailing, rafting) (32), hiking (31) equestrian (28), and

bicycling (25). Comments were made from entities located throughout the United States, with the highest concentration in the Northeast and Midwest (Appendix 3).

4.2. Constraints experienced by OPV providers

Our analysis identified structural factors that constrain the ability of OPV providers to facilitate outdoor experiences for veterans. We synthesized comments and categorized three types of constraints: OPV-focused, VA-focused, and public land agency-focused. We summarize results in the following narrative and provide illustrative quotations from the comments in the tables.

OPV-focused constraints were the most reported and centered on internal organizational challenges faced by OPV providers, including lack of information about partner programs, staffing shortages (particularly for trained medical personnel), needs for adaptive equipment and transportation, limited resource availability, and need for marketing and outreach skills (Table 2). Some OPVs sought to develop new programs or expand existing programs or services but lacked resources. In some cases, they could not meet high demand for programs.

VA-focused constraints identified administrative hurdles to meet VA requirements for funding, such as not allowing therapy horses on hospital grounds or being able to register their property as a VA site (Table 3). The VA grant application process was described as confusing, particularly around what constitutes acceptable outdoor activities. For some smaller and newer veteran organizations, meeting the funding requirements set out by the VA was especially difficult. Comments frequently mentioned challenges with communication and coordination at the VA. OPV providers struggled to identify a VA liaison for nature-based therapies. Several comments perceived a general lack of support from both VA administrators and medical staff for nature-based therapy and outdoor programs, noting challenges getting approval from the VA for veterans to participate in OPVs.

Public land agency-focused constraints frequently highlighted that access to public lands for veterans and OPVs was a major concern. Several comments mentioned the need to identify affordable sites for their programs (Table 4). OPVs faced challenges navigating bureaucratic processes (e.g., permits, fees) and finding information related to public land agency programs and facilities. Comments also mentioned financial challenges related to the cost of public land access, including fees for permits, resorts, passes, entry, and parking. Accessibility for people with mobility challenges also arose frequently, with concerns about inadequate trail width, rough surfaces, lack of ramps, restroom accessibility for wheelchairs, and limited parking facilities for large vehicles. Several emphasized the need for signage to direct visitors with specific mobility considerations. Respondents also felt that there was a greater need for supportive spaces for veterans with attention to visitor numbers, noise, crowding, and safety. Some comments noted that public land agencies lacked dedicated liaisons for OPVs as well as trained personnel to work with veterans and people with disabilities.

Table 1
Summary of comment characteristics.

Comment characteristics	Count (Percent)
Comment type ($n = 120$)	
Veteran-focused	28 (23%)
OPV-focused	84 (70%)
Unknown/other	8 (7%)
Program characteristics (OPVs only; $n = 84$)	
Partnership with Veteran Affairs	41 (49%)
Partnership with public land agency	20 (24%)
Serve veterans with disabilities	69 (82%)
Land ownership characteristics (OPVs only; $n = 84$)	
Operate on public lands	60 (71%)
Operate on private lands	27 (32%)

Table 2
OPV-focused constraints and illustrative comments.

OPV-focused constraints	Illustrative comments (excerpts)
Lack of information about partner programs or a professional network	• “And we know we cannot do it alone. There are thousands of therapeutic equestrian centers across America wanting to serve veterans. But they just don't have the tools needed or the appropriate facilities.” (089)
Lack of trained or licensed staff working with people with disabilities	• “More staff are imperative. Specific trained staff in therapeutic recreation for adaptive expertise, disability/injury knowledge, emergency training, etc. ... without the staff, we cannot transport and train on and operate the equipment for the veterans and their families.” (114)
Need for specialized equipment for activities	• “Space and funding have been our biggest challenges. [OPV] requires specially designed spaces, equipment, and trained staff to deliver effective programming. This can be expensive and not always seen as a priority by leadership.” (036) • “Adaptive equipment for wildlife viewing and travel on trails” (114)
Transportation needs	• “Lack of transportation, unreliable transportation or transportation insecurity, and lack of access by public transportation. Many national parks are remote in nature and are not accessible without this transportation access.” (136) • “Many of the veterans we have worked with also face transportation and housing barriers which make it more difficult to reach these individuals and for them to join programs that we offer in public lands.” (150)
Need for resources to develop or expand program offerings	• “There is a huge issue with funding! Our program has a wait list and an extremely large following but is being restrained due to lack of funds.” (029) • “We would like to stock much more gear and adaptive items but lack the space. We would like to offer 12-14 events per calendar year. We would like to be able to travel to remote sites. We would like to offer unique therapeutic experiences that will create major psychological changes.” (100)
Need for help in marketing or outreach	• “We've made connections but still haven't been able to recruit many veterans to participate. We'd like to brainstorm further how we can get veterans involved in our programming” (064) • “Our organization lacks professional fundraisers, marketing, and outreach professionals.” (148)

4.3. Constraint-negotiation strategies to support outdoor opportunities for veterans

Comments described strategies that would improve veterans' access to therapeutic landscapes and support needs for nature-based therapies. Below, we summarize constraint-negotiation strategies based on their association with OPVs, the VA, and public land agencies.

Many comments regarding OPV-focused strategies discussed the need for increased coordination across OPVs to improve shared awareness of the OPVs available (Table 5). This would help referrals to programs that align with veterans' interests and needs, such as programs for women, caregivers, or veterans with specific disabilities. Some felt that OPVs faced challenges in marketing to veterans and that they could help each other using joint marketing strategies. Some comments identified opportunities for additional training for OPVs for assistive technology and nature-based therapies. Other strategies focused on gaining access to transportation and adaptive technologies. Many reflected on the need

Table 3
VA-focused constraints and illustrative comments.

VA-focused constraints	Illustrative comments (excerpts)
Difficulty navigating VA programs, policies, and regulations; administrative hurdles	• “... our inability to access funding due to restrictions and requirements that we are often not able to meet. Some such requirements include mandating the same participants for a required amount of sessions, this can be very difficult to achieve due to the nature of the disabilities ... Another barrier that has greatly limited our ability to reach Veterans has been the national restriction at VA hospitals, preventing all equines from being permitted on grounds.” (110) • “The primary barrier to beginning this partnership has been getting our land registered as a place that the VA can utilize for their programming needs.” (132)
Difficulty navigating VA grant process	• “I only anguish that I am not given the opportunity to compete for the privilege of working with veterans of the VA, regardless of all the experience held by [OPV] and its staff regarding therapeutic recreation, as nonprofits can't compete with veteran-owned businesses.” (111) • “Our nonprofit must spend hours upon hours searching for and applying for grants and then months waiting for the grant process to find out if the organization will receive funding. Meanwhile, our veterans need service NOW, not when the money comes in.” (076).
Lack of coordination across VA-supported programs	• “There are barriers in regular communication with VA representatives in that the staffing does not provide an easily identifiable person to handle equine assisted psychotherapy at the various VA health facilities.” (124) • “I would love to see more support from the VA in referrals, meeting areas made available to our group and communication. We have presented the program on numerous occasions to the VA but do not seem to get much if anything back.” (022)
Lack of demonstrated VA support for nature-based therapy	• “Our largest barrier is the resistance and difficulty in getting medical appointments at the VA so that medical releases can be approved and issued for participation in our therapeutic/ adaptive equine programs.” (139) • “Some VA doctors won't even sign the medical statement for their patients ... because they said the VA won't pay for the service. ... However, those same doctors agreed that ... therapy would benefit their patients” (076).

for programs that meet diverse veteran and caregiver needs in terms of background, geography, frequency, and duration. Others sought continued development of programs that recognize the full cycle of care, including health promotion or prevention, structured interventions, and health maintenance. Additionally, comments emphasized that veteran-centered programming was needed to provide social support.

Comments on VA-focused strategies suggested several improvements that the VA could make to better support veteran access to outdoor opportunities (Table 6). First, improvements were suggested for the VA to take a more active role in coordinating across OPVs and public land agencies. Many suggested the need for a designated contact at the VA to support applicants for VA funding, provide information about nature-based therapy, and liaise with public land agencies about permits and

Table 4
Public land agency-focused constraints and illustrative comments.

Public land agency-focused constraints	Illustrative comments (excerpts)
Need for access to public or private lands for veterans	• “Another barrier would be the entry fee for larger groups to enter places like State parks. Partnering with agencies that seek to provide this programming would be beneficial in being able to use the sites with lower fees and potentially could set up for a transportation system between partners with public lands.” (034) • “Another obstacle as we’ve tried to coordinate programs in public sites over the last couple years has been large crowds and limited availability, which is a hindrance among many veterans who typically avoid crowded environments” (125)
Lack of information about agency rules, programs and processes	• “A portion of our population requires adaptive equipment in order to participate in outdoor recreational activities and unfortunately not all public lands allow certain pieces of equipment on those lands (i.e. an e-assist handcycle).” (123) • “We would appreciate it if the special use permit with U.S. Forest Service would be less bureaucratic. Currently, it involves a lot of paperwork on many pages. With a simple and straightforward application for the special use permit and reporting, it would make it easier. (127)
Physical access and mobility issues; lack of signage or information about accessibility features	• “The most salient barrier we face is physical access to public lands. First and most pressing of these access issues is access to wilderness rivers.” (074) • “Disabled veterans also face the increased barrier of finding information on trail and facility conditions or suitable locations within public lands that could accommodate their needs” (150)
Lack of coordination or dedicated agency staff to work with OPVs	• “Sometimes the permission to access is not communicated to entrance staff, so that multiple vehicles or van/bus transportation meet difficulty passing through due to parks not having up to date knowledge of programs or events that are either “on the books” or ongoing.” (074)
Lack of agency awareness of veterans’ needs	• “Agency staff tell us there needs to be improved training around disability and inclusion ... and more training around the use of ... adaptive equipment.” (137)

programs. Veterans Affairs also was seen as the best conduit for information for the best available science and evidentiary cases or best practices for nature-based therapy. Some OPVs looked to the VA to provide training opportunities for mental health, safety, and suicide prevention, and for funding opportunities for program development, marketing, operations, and evaluation or monitoring. Some comments suggested the VA should improve funding access and diversify types of funding to support OPV needs, such as a multi-year funding cycle. Finally, a few comments expressed that the VA should reach out to veterans they serve to identify their interest in nature-based programs.

Public land agency-focused comments described strategies that would help OPVs access public lands and services, both administratively and physically (Table 7). Many noted the need for a public land agency liaison to work with OPVs and other agencies. Several comments focused on streamlining administrative processes (e.g., obtaining permits, making reservations, allowing special access for OPVs). Others sought free or low-cost access to veterans and their families through

Table 5
OPV-focused constraint-negotiation strategies and illustrative comments.

OPV-focused strategies	Illustrative comments (excerpts)
Coordinate across OPVs to identify shared needs	• “Provide a consortium of public and private sector entities serving veterans through outdoor recreation and facilitate transparent and effective communication across these parties.” (125) • “While the efforts to provide therapeutic recreation activities for veterans are vast, they are incredibly inconsistent and uncoordinated. We are all in our own islands out there.” (126)
Improve marketing and outreach to veterans about potential program benefits	• “Establishing an awareness campaign to inform veterans of the benefits of outdoor recreation for them and their families.” (102) • “Explore the feasibility of creating an information portal to enhance marketing/promotion of existing programs and new opportunities.” (018)
Identify training needs and opportunities	• “Provide standard risk management training for organizations conducting outdoor recreation programs for veterans.” (125) • “Basic courses covering topics such as PTSD, suicide prevention, and conflict de-escalation.” (022)
Provide appropriate transportation and adaptive technologies	• “Transportation to and from public lands should also be considered. Veterans often suffer from mobility-related issues and lack of access to transportation. (133) • “More ... gear rental opportunities – programs for military and veteran families where gear rentals are subsidized.” (122)
Develop programs accounting for veterans with varied needs, at different frequencies, durations, and locations across the care continuum	• “Every veteran is different. What works for one may not work for another.” (100) • “Some feel a certain safety in being surrounded by those with similar experiences – an instant bond.” (147)

special passes or veteran discounts on fees and permits. Commenters also encouraged more information (e.g., signage, outreach, websites) detailing the physical accessibility of public land recreation areas and sites, and infrastructure improvements to promote accessible trails, surfaces and entry points. Training for federal employees to expand their awareness of the needs of veterans and people with disabilities also was mentioned.

5. Discussion

An important objective of the COMPACT Act is to increase collaboration between the VA and federal public land agencies to enhance the benefits veterans experience from outdoor recreation and nature connection. An implicit assumption is that this coordination among federal entities will reduce constraints faced by veterans and OPV providers (who serve as intermediaries for reducing constraints). Our analysis of public comments provided to the COMPACT Act’s inter-agency task force identified constraints that OPVs face in their efforts to facilitate veterans’ access to the outdoors. This public information request elicited comments from individuals and organizations that otherwise might not have been heard, creating a secondary dataset that allowed our research team to better understand constraints and strategies for negotiating them.

In seeking outdoor experiences, prospective outdoor recreationists have been shown to face a variety of intrapersonal (fear, risk aversion), interpersonal (social obligations, lack of outdoor companions), and structural (transportation needs, long travel distances, lack of

Table 6

VA-focused constraint-negotiation strategies and illustrative comments.

VA-focused strategies	Illustrative comments (excerpts)
Coordinate across OPVs and with public land agencies; establish a VA point of contact for OPVs and therapeutic recreation	• “VA and public land agencies could work together to facilitate access to public lands for veteran programs – particularly in the area of permits and scheduling” (090) • “Coordination between the VA and public land operators could be strengthened through greater visibility and communication between the multitude of agencies and intentional efforts to partner.” (125) • “Park prescription (Rx) programs can be utilized and implemented by the VA, which creates a direct collaboration and coordination between health service providers and public land agencies.” (121) • “Open dialogue with the VA, public lands and community partners about needs and ways to address them along with networking of partner to generate ideas ...” (149)
Serve as an information clearinghouse; Develop a catalogue of evidence-based models and best practices	• “A universal list-serve or platform to share information regionally would be greatly beneficial.” (150) • “Create a landing page or dedicated location for online resources dedicated to outdoor wellness where both veterans and supporting organizations can go to coordinate, collaborate, and apply for support ...” (084)
Provide training for OPVs and public land agencies on veterans needs and to VA staff	• “Increase educational opportunities for all healthcare professionals ... encourage engagement from professionals in these types of programs to be able to have first-hand experiences” (121) • “Build connections with organizations providing training and offer online. As a small organization it is very difficult with a small staff and limited funds to travel for in person courses or conventions.” (099)
Provide grants and funding opportunities to OPVs to support veterans and caregivers	• “Multi-year grants/funding for non-profit organizations providing outdoor therapy rather than an annual grant approval process.” (090) • “Provide funding that includes the families and caregivers ... The families are imperative to the success of the veterans ...” (114)
Ask veterans what they want and need in terms of outdoor programs and nature-based therapies	• “The VA needs to survey their veteran client population and ask if they would benefit from outdoor related therapy programs. All too often, the VA turns to pill medication to help our veterans cope with their issues. Sometimes, getting into nature is the drug.” (100) • “The VA and other federal agencies should survey the veteran community who is utilizing outdoor recreation activities.” (102)

information, administrative hurdles) constraints (Godbey et al., 2010; Zanon et al., 2013; Shores et al., 2007; Nyaupane et al., 2004). As Stodolska (2015) and others have noted, certain marginalized groups may be additionally constrained by factors including lack of belonging, safety concerns, or discrimination. Recreation participants with disabilities face additional barriers, including physical or health challenges (intrapersonal), stigma (interpersonal), and limited site accessibility or access to adaptive equipment (structural) (Weiler et al., 2024; Bradshaw & Doak, 2022). Military veterans navigate constraints through the support of OPVs, which aim to build skills and confidence through

Table 7

Public land agency-focused constraint-negotiation strategies and illustrative comments.

Public land agency-focused strategies	Illustrative comments (excerpts)
Coordinate with the VA and OPVs to support veteran outdoor programs; Establish an agency point of contact for veterans	• “Greater collaboration among government entities and nonprofit organizations who can effectively implement programs with greater flexibility.” (125) • “Create a permanent position ... to work as a coordinator between federal, state wildlife and natural resource agencies, the VA, and local nonprofits to coordinate, synchronize, and provide resources to improve access to public lands and waters for outdoor recreation for veterans and the military community.” (084)
Consider policy approaches to expand access to public lands for veterans	• “A large portion of Federal and State public lands currently remain inaccessible ... due to “checkerboard” or lack of easement for access. Developing an incentive program for improved access to these locked public lands would increase opportunities for access for veterans ...” (084) • “Less permitting for outdoor recreational activities for military and veteran families, i.e., a permit waiver for registered organizations.” (122)
Streamline administrative process for permits	• “Consider streamlining access permitting processes for approved veteran programs.” (126) • “As a national program, we find it challenging to keep up with the varying procedures around access, fees, etc. It would be good if they were more consistent. ...” (145)
Improve site accessibility, increase number of sites with accessibility features; improve information about site accessibility	• “Accommodating trails such as making mountain bike trails wider for recumbent and hand cycle bicycles and providing more accessible restrooms.” (123) • “More visible and effective signage and communication about trail and land accessibility, including a standardized legend or rating system for accessibility purposes” (125)
Provide staff training for public land agencies that support veterans	• “Help public land personnel better serve and understand veterans.” (119)

expert instruction (intrapersonal), provide a group environment with other interested veterans (interpersonal), and navigate bureaucratic hurdles, logistics, transportation, gear, equipment and fees (structural) (Derrien et al., 2020; Duvall & Kaplan, 2013). OPVs are an essential partner in meeting the goals of the COMPACT Act but experience their own set of organizational constraints.

To summarize the constraints and constraint-negotiation strategies associated with our findings, we organize insights into four broad categories: *coordination*, *training*, *program development*, and *access* (Table 8). These categories synthesize the patterns of constraints and constraint-negotiation strategies that we observed for OPV providers internally and within their interactions with the VA and public land agencies.

Our analysis of comments showed that OPVs need support from the VA and public land agencies to overcome structural constraints. Existing research on leisure constraints emphasizes individual experiences without reflecting on the social forces and ideologies that shape them or how constraints are navigated by organizations seeking to provide recreation opportunities (Stodolska et al., 2020; Samdahl & Jekubovich, 1997; Kuykendall et al., 2020). Our work contributes to discussions on organizational constraints, providing a foundation for future conceptual development. For veterans seeking access to outdoor recreation and nature-based therapy on public lands, governmental institutions can

Table 8

Synthesis of constraints and constraint-negotiation strategies for improving access to outdoor recreation for veterans.

		Outdoor Programs for Veterans (OPVs)	Veterans Affairs (VA)	Public land agencies
	CONSTRAINTS	STRATEGIES		
<i>Coordination</i>	Lack of coordination across veteran programs and services Lack of dedicated liaison to support veteran's programs Need for outreach and recruitment strategies about veteran outdoor programs.	Develop OPV network of providers and partners N/A Collaborate across OPVs to market program benefits	Coordinate with OPVs and public land agencies Establish point of contact at VA for nature-based therapy Build information clearinghouse about nature-based therapy and outdoor programs	Coordinate with VA and across public land agencies Establish agency point of contact for OPVs and VA Provide information about outdoor opportunities for veterans
<i>Training</i>	Lack of investment in staff trained to work with veterans and people with disabilities	Identify OPV staff training needs for working with veterans	Identify VA staff training needs about benefits of outdoor programs; Sponsor trainings for OPVs and land managers	Identify agency staff training needs for working with veterans and special needs populations
<i>Programs</i>	Need a diversity of program offerings and venues to meet needs of veterans and families	Provide a diverse range of programs serving veterans, families, and caregivers	Identify funding sources for OPVs to obtain equipment and expand programs and services	Evaluate settings to accommodate veterans and special needs visitors
<i>Access</i>	Difficulty navigating administrative processes (grants, permits) Sites unequipped to accommodate users with disabilities; Lack of information about accessibility features Need to improve veteran access to public lands.	N/A Work across OPVs to identify specialized site needs for various outdoor activities Collaborate across OPVs to identify transportation strategies to access public lands	Streamline grant processes; Identify ways to expand definitions of qualified applicants Provide information to land managers about accessibility standards and communication strategies Identify funding sources to support transportation; grants to support free or reduced fee programs	Streamline information about permits, fees, accessibility features and veteran-focused programs Evaluate site accessibility; Invest in site upgrades; Enhance signage with accessibility symbols Investigate opportunities for reduced fees and special programs for veterans and families

both facilitate and inhibit participation. Veterans' health institutions, such as the VA, support the needs of veterans seeking therapeutic recreation by sharing information about partner organizations, programs, grants, and scholarships, but also can inhibit participation through bureaucratic red tape (Herman et al., 2023; Varning Poulsen, 2017; Greer & Vin-Raviv, 2019; Poulsen et al., 2016). Our study also showed that from the perspective of those who contributed comments, the VA could better support OPVs by bolstering internal processes to expand awareness of the benefits of nature-based therapies for veterans and to align staffing toward these goals. Likewise, public land management institutions play an important intermediary role in constraining or supporting veterans' access to outdoor recreation spaces and opportunities through their administrative policies, regulations, and information distribution (Havlick et al., 2021; Derrien et al., 2020). Our study found that strategies focused on streamlining administrative processes, improving communication about programs, services, and settings, and investing in site accessibility enhancements would expand opportunities for veterans to experience positive health benefits of outdoor recreation.

5.1. Limitations

While the use of public comments as secondary data has its benefits, we acknowledge several limitations. First, the intent of this comment period was to hear from veterans, OPVs, and other allied professionals but we are unaware of specific outreach strategies used beyond the Federal Register posting. Many prospective respondents likely did not provide comments because of the timing of the request, gaps in professional networks, beliefs about the worthiness of responding, or other reasons. The overall sample size is small and our findings likely over-represent organizations and individuals within specific distribution networks. As a result, the results are not generalizable to the broader population of OPVs or veterans. Second, there was variation in the quality, style, depth of comments, and extent to which respondents addressed the questions. Some comments provided detailed responses to some questions and skipped others. Some comments provided a personalized testimony that did not address a specific question or were not relevant to outdoor programs. Such variations are expected and associated with the "public comment" nature of these data. Our analytic approach accommodated that variation and allowed for the systematic consideration of different types of comments.

6. Conclusion

Outdoor programs for veterans (OPVs) play an important role in enabling recreation opportunities for veterans and promoting the health benefits of nature and outdoor activities. Governmental institutions can facilitate access to public spaces for veterans to experience these as therapeutic landscapes. We used public comment data from the COMPACT Act's Interagency Task Force to identify constraints experienced by OPVs, and strategies for negotiating these constraints. We found that OPVs experience structural constraints in their service provision, as they navigate bureaucratic challenges with the VA (e.g., access to funds and information) and with public land agencies (e.g., permitting and access). Our findings suggest the need for structural adaptations that enable information sharing and training, streamlined reservations and permit systems, and professional networking across OPV providers, partners, and agencies. Such investments could improve awareness of opportunities for veterans, increase the likelihood of their participation in OPVs, and encourage veterans to experience public lands as therapeutic landscapes.

CRediT authorship contribution statement

Lee K. Cervený: Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Monika M. Derrien:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **David G. Havlick:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Kendra Wendel:** Writing – review & editing, Writing – original draft, Visualization, Validation, Methodology, Formal analysis.

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Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jort.2026.101098>.

Data availability

Data used for this study is publicly available.

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