

Wilderness Experience Programs: A State-of-the Knowledge Summary

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Abstract – One of the defining characteristics of Wilderness Experience Programs (WEPs) is the centrality of wilderness—settings, conditions, and characteristics—to the delivery of the program and the client or visitor experience. Wilderness Experience Programs have been classified into three types based on their primary program aim: education, personal growth, and therapy and healing. While WEPs are generally considered to provide many human and societal benefits, the research documentation is slowly growing to support the notion that nature and wilderness can and do provide restorative client and visitor experiences. However, additional research and information to help managers understand and manage WEP activities, programs, and appropriate use of wilderness is needed.

Introduction

The restorative benefits and effects of experiences in nature and natural environments have been widely discussed in the environmental psychology literature (Kaplan and Kaplan 1989; Hartig and others 1991; Kaplan 1995). Some people come to wilderness to escape the stress and complications of everyday life or urban environments and discover many personal and societal benefits (Kellert and Derr 1998; Dawson and Hendee 2009). Others come to experience wilderness through a growing number of adventure recreation programs and activities in wilderness and wild places (Ewert and Hollenhorst 1997; Kellert and Derr 1998; Miles and Priest 1999; Gass 1993). Others have come to wilderness experiences for personal growth and leadership since the start of experiential programs such as Outward Bound in 1962, the National Outdoor Leadership School in 1965, or the more recent WildLink program that started in Yosemite in 2000 through an innovative partnership between federal agencies and non-profit organizations (Bacon 1983; WildLink 2011). Additionally, some come to wilderness to address problem behaviors and to make changes in their lives in one of the hundreds of therapeutic and clinical programs for youth, young adults, cancer survivors, or returning veterans

from conflicts over seas (Russell 2008). Finally, some segments of the U.S. population have been searching for inner personal understanding of their own human nature through connections and experiences with nature (for example, Foster and Little 1998) and wilderness (Foster 2000; Frederickson and Anderson 1999).

The connection between wilderness areas and restorative effects is well documented and has become institutionalized with numerous public, private, and non-profit organizations providing access to wilderness areas through residential programs, travel services, educational workshops, wilderness overnight and day trips, and a variety of other mechanisms to help visitors gain experience (Easley and others 1990; Friese and others 1995; Friese and others 1998; Dawson and Hendee 2009; Ewert and McAvoy 2000; Ewert and others 2010). Wilderness areas in the National Wilderness Preservation System (NWPS) are used, as allowable under the 1964 Wilderness Act (U.S. Public Law 88-577), by commercial and nonprofit organizations to deliver programs designed to provide education, personal growth, and therapy and healing for members, students, or paying clients.

The approach to reviewing this topic included our past and ongoing research on this topic and a recent survey of the literature. The intention in this manuscript is not to discuss and list every published report or article. Rather we aim to reference representative publications that document and illustrate our summary observations after reviewing the literature. We found that while the amount of literature on some types of WEPs is growing (for example, therapy and healing), literature on other types of WEPs is sparse (for example, educational).

Wilderness Experience Programs

One diverse category of programs that consciously and directly seeks restorative and educational experiences in wilderness and is dependent on a wilderness setting to enhance program outcomes has been termed Wilderness Experience Programs (WEPs). Friese (1996) outlined three criteria to determine if a program was a WEP: (1) the program provides experiences and activities that are dependent on wilderness settings, conditions, and characteristics; (2) the program provides experiences and activities that are consistent with wilderness use and primitive recreation and travel, such as noted in the definition of wilderness in the 1964 Wilderness Act; and (3) the program provides experiences and activities

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that include interpersonal and intrapersonal approaches to enhance development, intervention, education, therapy, or leadership during the wilderness experience. The three types of WEPs that have been defined and are referred to herein are: educational use, personal growth, and therapy and healing (Easley and others 1990; Dawson and others 1998a).

A continuum of WEP themes and methods was proposed and measured in a national survey of WEPs (Frieze 1996, Frieze and others 1999; Dawson and others 1998a). The study results identified three major themes and each contained three methods to achieve the aim of that theme:

- Wilderness as teacher—mountains speak for themselves; rites of passage and initiations; and reflection by participants.
- Wilderness as teacher and wilderness as classroom—environmental education; expedition learning; and field classroom.
- Wilderness as classroom—challenge and adventure activities; conscious use of metaphor; and counseling.

The continuum embraces all three types of WEPs and most programs were found to include more than one aim and multiple methods; however, the emphasis between these aims and methods varied across the three types. For example, while counseling was used in 63% of all therapy and healing WEPs, only 15% of personal growth and 2% of educational WEPs used that method.

Most programs use more than one theme or include some degree of all three themes and they evolve over time as the program develops. A single program may be represented by one aspect of the continuum in the beginning phase of the program (wilderness as teacher) and shift toward another place on the continuum towards the latter phase of the program as more in-depth and focused learning is facilitated by leaders to help in transfer of learning of the experience to their daily lives (wilderness as classroom).

Not all aspects of these programs require designated wilderness, as some activities are carried out pre-trip and post-trip off site and some programs use wildlands that are not designated wilderness but have wilderness qualities (such as large undeveloped, remote, natural vegetated lands with opportunities for solitude and primitive travel and recreation) (Dawson and others 1998b). In other words, not all activities in each program are dependent on wilderness as a designated place (such as the NWPS), but rather on wilderness conditions that may occur on publicly or privately-owned lands (that is, lands with wilderness characteristics).

Growth in these WEPs and their use of wilderness was documented in several studies in the 1980s and 90s. Reed and others (1989) surveyed managers in the NWPS about WEP programs being conducted in their wilderness units during 1987 and a significant number of managers reported such programs: educational (38%), personal growth (17%), and therapy and healing (12%). Furthermore, 5% to 12% of managers said these types of WEP uses were increasing in their wilderness unit. By 1995, 67% of managers surveyed in the NWPS reported WEP use was increasing in their wilderness area, 32% said

it remained the same, and 1% said it was decreasing (Gager 1996; Gager and others 1998). Additionally, 36% of managers reported that WEP use was growing by 25% per year or more. Frieze and others (1998) reported locating 700 potential WEPs and through surveys documented 366 of those WEPs as meeting the three criteria listed above.

WEPs are of varied size and operate with small to large client groups. Frieze and others (1998) reported from a 1994 survey that 25% of WEPs offered 5 or fewer trips per year, 14% offered 6 to 10 trips, 28% offered 11 to 30 trips, and 33% offered 31 or more trip per year. The number of clients that participated in WEP trips ranged from 17% of WEPs serving 25 or fewer clients per year, 24% serving 26 to 100 clients, 29% serving 101 to 500 clients, and 30% serving more than 500 clients per year.

The clientele served by WEPs include a wide variety of segments from the general public to specialized programs for women (Cole and others 1994; Powch 1994), to adults (Day and Petrick 2006), to troubled adolescents and teens (Ferguson 2009; Cooley 1998; Russell 2008), and to older, urban-based adults (Riley and Hendee 2000).

Educational Use

Educational use of wilderness is defined as use for wilderness and protection/conservation education program field trips, study areas for student research and projects, and as a source of examples for instruction. Educational WEPs are supported by colleges and universities that teach protected area or wilderness management and stewardship courses, conduct outdoor education programs or lead student orientation trips. Some programs, such as youth organizations, colleges and universities, and non-governmental organizations (for example, Boy Scouts, Girl Scouts, Teton Science School), have a component, or even an emphasis, on recreational activities (such as, teaching adventure, travel, and survival skills).

Descriptive research studies in the mid-1990s reported more than 200 educational WEPs most often focused on youth and young adults (Frieze and others 1998; Dawson and others 1998a). For example, colleges and universities took more than 1,500 students into wilderness as part of a course in 2002 (Dawson and Hendee 2004), a 30% decrease from previous studies in 1982-83 (Hendee and Roggenbuck 1984). Most courses focused on wilderness appreciation and use, legislation and policy, protection and management, and history; some university programs focused on environmental education, natural ecosystems, and conservation biology. Given the decline in enrollment in natural resource and forest management programs and the loss of some programs over the last decade, it is expected that the number of courses in wilderness management has continued to decline.

Literature specifically reporting on the outcomes of educational WEPs is sparse, except as a part of more generalized studies on WEPs. The general working model is that exposure to wilderness and stewardship principles will influence WEP participants toward proactive and supportive wilderness and environmental attitudes. For example, one study suggested that

wilderness program participants may be more likely to have ecocentric attitudes (balance between protecting the environment and appropriate human visitation) toward wilderness areas and stewardship (Hanna 1995). Anecdotal evidence and public interest in such programs remains very positive on the outcomes and benefits of educational related WEPs; however, additional rigorous research is needed to better document and measure outcomes that can be attributed to educational WEPs.

Personal Growth

Personal growth WEPs include programs that focus on leadership, organizational development, and personal development by challenging participants to expand and extend their abilities, skills, and personal view to exceed what they previously thought possible (that is, reduce or eliminate self limiting imagery and thought processes) and take these new found capabilities back to their everyday life and work place (Hendee and Brown 1988; Friese and others 1999).

Descriptive research studies in the mid-1990's reported more than 230 personal growth WEP's took students and clients into wilderness, including several very large programs such as Outward Bound with 30,000 clients annually. Many smaller programs serve only a hundred clients or fewer annually (Friese and others 1998; Dawson and others 1998a). Wilderness travel is often for a week to a month in duration and serves a wide range of clients in all age and social-economic classes. Different programs serve varied clientele from business executives seeking higher performance and confidence to women's empowerment groups and from youth groups to elder hostel groups.

Enhanced self-esteem and other forms of personal empowerment are the most often mentioned outcomes for participants in personal growth WEPs (Friese and others 1995; Moore and Russell 2002; Ewert and McAvoy 2000). For example, a study of students taking a 7-day WEP designed to empower and strengthen the skill and motivations of youth-at-risk in four Federal Job Corps programs was tested during 46 trips. Reported results include improved communication with other students and authority figures, a more positive attitude toward their Job Corps program, and a sense of personal accomplishment (Russell and others 1998).

Individual components of personal growth WEPs have been studied to measure their impact, such as the solo experience (Bobilya 2004), vision quest (Riley 1997), personal reflection time, group debriefing sessions, and recreational activities (Gassner and Russell 2008). The long-term impacts of personal growth WEPs have been studied through observation, self-reporting, journaling and other methods and found to have positive effects on self-esteem and personal empowerment (Moore and Russell 2002; Daniel 2003; Gassner and Russell 2008). These effects are generally measured based on staff observation and participant self-reported measures following the program; however, more rigorous research is needed to determine which components of the program contribute to the positive outcomes. Programs evolve overtime in response to staff perceived contributions of program components to

participant outcomes. Rigorous research is also needed to objectively measure the amount of effect over time following the WEP program. For example, do participants change to less self limiting behavior when returning to everyday life and work places?

Therapy and Healing

Therapy and healing WEPs seek to restore some level of balanced and normal functioning for clients with behavioral issues (such as, anger management, depreciative and vandalism activities or illegal actions) and substance abuse problems (such as, alcohol and drug use). Some programs also deal with mental health issues that can be managed in an out-patient setting. Programs involve use of the natural consequences of primitive living and travel to provide the stimulus for surfacing stress and behavioral patterns that can then be addressed through individual and group therapy sessions, as well as some solo activities in certain programs. Often these therapy and healing WEPs operate for long periods of time (21 to 60 days) in wilderness or wildland areas and are supported by professionally trained mental, social, and medical staff that travel in the field near the group to provide programmatic and emergency services as required.

Russell and others (Russell and others 2000; Russell and Hendee 2000) synthesized the delivery of wilderness therapy WEPs into three types of models:

1. **expedition** programs remain in the wilderness for the duration of the program and treatment process and are further subdivided into (a) **contained** expedition programs that are typically shorter and up to three weeks in length with the clients and treatment team travelling together and (b) **continuous flow** expeditions that are longer and up to eight weeks in length with leaders and therapists and other staff rotating in and out of the field during the program and treatment period;
2. **base camp** programs include structured facilities and activities in a base camp from which they take shorter expeditions and then return to base camp for follow up activities; and
3. **residential** programs that use wilderness experiences as a trip away from their facilities for some of their clients in longer-term residence programs like the Job Corps Centers.

A 1998 survey reported 38 therapy and healing WEPs operating. Five of these WEPs reported serving over 12,000 clients annually during 350,000 wilderness field days (Friese and others 1998; Dawson and others 1998a). These WEPs tend to focus on youth-at-risk and to some extent a wider clientele, who are referred by social service agencies, medical insurance companies, judicial authorities, and school officials. Many of the therapy and healing WEPs are part of a self-developed Outdoor Behavioral Healthcare (OBH) industry council to develop and keep high standards for their operation and to ensure the health and safety of their clientele. More recent

research is available about the OBH programs than for other therapy and healing WEPs.

While therapy and healing WEPs are a small number of programs within the broader WEPs, they have a well developed theoretical basis for their counseling and therapy activities. They fit well within the restorative aspects of wilderness as a place in nature where individuals learn to face some of their stresses and behaviors to foster growth in personal and social responsibilities and emotional growth to return to society (Kimball 1983; Gass 1993; Davis-Berman and Berman 1994a, 1994b, 2008; Russell and Hendee 2000; Russell 2001, 2006).

Therapy and healing WEPs are part of an emerging Outdoor Behavioral Healthcare (OBH) movement that uses similar theoretical approaches, therapy practice, expected outcomes, and standards of care and practice; however, not all OBH programs operate in wilderness (Russell and Hendee 2000). OBH programs most often serve adolescent males with a variety of emotional and behavioral disorders who have been to traditional counseling services and were unsuccessful and are now in an OBH program as an alternative, either through adjudication or referrals. A study in 2006 of the OBH programs in North America (Russell and others 2008) reported that the industry was still relatively unknown to those outside the industry and that standards were improving for the OBH industry programs, but were not uniform. The study summary noted these 2006 benchmarks that were improving for OBH programs:

- 84% were licensed in an operating state as an OBH program;
- 51% were nationally accredited by an OBH Council that requires monitoring of outcomes and the ratio of licensed staff to clients;
- 30% were nationally accredited by an outdoor education association that requires risk management and staff credentials;
- 88% had licensed mental health professional staff; and
- 95% evaluated treatment outcomes for clients & family.

One of the reasons that the OBH industry has worked at improving its accreditation standards is concern about several well publicized cases of abuse and death in programs for troubled youth (Kutz and O'Connell 2007). While cases of abuse and neglect are rare, they are of great concern to the public and the public agencies charged with oversight of the health care industry. Oversight includes reviewing whether programs were achieving desired outcomes or not (Winterdyk and Griffiths 1984). The OBH industry and some of its prominent spokespersons and program leaders have shown the necessary leadership and research evidence on the positive therapeutic outcomes and social benefits of their programs to maintain a positive and constructive force for therapy and healing WEPs.

Given the need for evaluation and assessment of the therapy and healing WEPs and the OBH and overall health care industry, more published literature exists for measuring the outcomes and results from these types of programs than any other type of WEP. The number of publications, especially peer-reviewed articles, and scholarly work has increased in the last decade and

has focused on six subjects that relate to therapy and healing WEPs:

- WEP and OBH program delivery process, techniques, and activities used to achieve program goals and desired outcomes (Russell 1999; Russell and Hendee 2000; Russell and others 2000; Wilson and Lipsey 2000; Russell 2000; Russell and Phillips-Miller 2002; Russell 2008; Walsh and Russell 2010);
- Client self esteem issues (Harper and others 2007);
- Client improved emotional and behavioral self control (Harper and others 2007; Gillis and others 2008);
- Maintenance of positive change, such as abstinence from drugs and alcohol (Harper and others 2007; Gillis and others 2008);
- Family involvement in the OBH and WEP process (Harper and others 2007; Harper and Russell 2008); and
- OBH and WEP staff well-being and safety (Marchand and others 2009).

The publications shown as examples are part of a growing movement toward more rigorous evaluations of programs, their outcomes—both immediately and over time—and factors that foster success and maintenance of positive behaviors in personal life and in home environments. Generally, these publications report positive short-term and long-term changes in behavior toward overall health, mental and emotional balance, better personal decision-making, less self destructive behavior, and a variety of other outcomes related to client needs and program goals. The overall effect of these programs varies from little or no measurable immediate effect to more dramatic and immediate effects; however, more research is needed to document these positive therapeutic outcomes and social benefits over a longer time frame and to compare outcomes between therapy practices.

Research Conducted

The research conducted to date has been largely descriptive studies of the various types and number of WEPs, types of clientele, operational size and approaches, risk assessments, and WEP goals and objectives (Gibson 1979; Friese and others 1995; Moore and Russell 2002). Some hypothesis and theory driven research has been conducted to assess the performance and outcomes from therapy and healing WEPs, but very little hypothesis and theory driven research on educational or personal growth WEPs (Friese and others 1995; Russell and Hendee 2000; Moore and Russell 2002). Following a detailed review of 187 pieces of research-based literature regarding WEPs, the OBH industry, and visitor experiences in wilderness, Moore and Russell conclude with this summary observation:

“Findings tend to support the notion that participation in wilderness experience programs results in positive benefits, such as enhanced self esteem and sense of personal control, and negative results from participation are virtually non-existent. However, this compilation of research based literature suggests that much of the

research in the field is reported in non-peer reviewed outlets and 'grey' literature, with less than expected in scientific journals and serialized professional outlets. Consistent with this observation is a lack of rigor noted in the sources of data on which findings are based (heavy to surveys) and the principle research methods used (few experiments or comparative studies). Additionally, there are few long term studies." (2002, p. 144)

Since that review, a growing body of research has been published in a wide variety of peer-reviewed journals that have given credibility to the OBH industry, in particular, and the WEPs, in turn, have used this research to improve programs, operations, and outcomes. Following the development of the WEP typology, research on WEPs has indicated six emerging trends: (1) the number of WEP programs and overall client numbers remain fairly stable even though the smaller programs come and go and the larger programs continue to survive and adapt to changing economic conditions; (2) access is the key issue for all programs as wilderness use permits become more difficult to obtain and use continues to increase; (3) all WEPs are developing very sophisticated risk management programs to deal with the perception that WEPs are risky, especially therapeutic programs; (4) as social issues arise, WEPs are becoming increasingly specialized, such as OBH programs for veterans dealing with Post Traumatic Stress (Ewert and others 2010), cancer survivor programs and young adults struggling with substance use issues ages; (5) the increasing presence and communication within an international community that helps to improve and inform practice; and (6) the incorporation of cultural and place factors in the design and development of WEP programs.

Management Concerns And Research Needed

Wilderness management concerns have been raised about managing WEPs related to social, ecological and managerial impacts, as well as how, where, and under what conditions to allow WEP use of wilderness (that is, where it is appropriate to have larger groups that spend long periods of time in wilderness). One example of a management concern that has been widely expressed is whether WEPs are partially or completely wilderness dependent or whether they can use wildlands that are not designated wilderness (Krumpe 1990; Dawson and others 1998a; Ewert and others 2006). A survey of WEPs found that 75% to 92% of WEPs reported that they were moderately to highly dependent on wilderness characteristics for delivery of their program, regardless of the type of WEP (Table 1). Only 50% to 57% of WEPs reported that they were moderately to highly dependent on NWPS wilderness areas for delivery of their program, regardless of the type of WEP (Table 2). Only 32% to 55% of WEPs reported that they spent 51% to 100% of their trip or program time in wilderness (Table 3). These findings are in contrast to a study of wilderness managers that overwhelmingly perceived WEPs as **not** being dependent on designated wilderness (Gager and others 1998). Krumpe (1990) has recommended that WEPs should be encouraged to use

areas with wilderness characteristics but outside designated NWPS areas when possible, which is seemingly what some WEPs are already practicing. More recent research has not been published on this trend.

Most of the seven other general types of management issues raised require additional research and have been raised as concerns by both managers and the WEPs. The priority order for those research projects is proposed to be as follows, based on the need to balance WEP use of wilderness with wilderness stewardship principles:

- the policy issues of how to regulate and permit WEP use of wilderness and whether they should pay to use wilderness (Krumpe 1990; Dawson and others 1998a; Gager and others 1998; Ewert and others 1999; Ewert and others 2006; Dawson and Hendee 2009);

Table 1—Dependence on wilderness characteristics by percent of wilderness experience programs reporting (Dawson and others 1998a).

Dependent	Education	Personal growth	Healing/therapy
High	61	76	50
Moderate	24	16	25
Somewhat	15	8	25
None	0	0	0
Total	100	100	100

Table 2—Dependence on National Wilderness Preservation Systems areas by percent of wilderness experience programs reporting (Dawson and others 1998a).

Dependent	Education	Personal growth	Healing/therapy
High	24	27	31
Moderate	30	30	19
Somewhat	29	25	25
None	17	18	25
Total	100	100	100

Table 3—Percent trip/program time in wilderness by percent of wilderness experience programs reporting (Dawson and others 1998a).

Time	Education	Personal growth	Healing/therapy
0 to 10%	26	10	25
11 to 30%	27	12	19
31 to 50%	15	23	19
51 to 75%	16	26	6
76 to 100%	16	29	31
Total	100	100	100

- how to balance use by WEPs with other user groups like commercial and private recreational groups (Gager and others 1998; Dawson and Hendee 2009);
- whether WEPs pose an activity and goal conflict with other users through sight, sound, or physical equipment used during counseling, recreational, or physical and adventure challenge activities (Dawson and others 1998a; Krumpe 1990; Gager and others 1998; Ewert and others 2006);
- whether the longer time periods of occupancy and larger group travel in wilderness causes disproportionate environmental or social impacts compared to other users (Krumpe 1990; Gager and others 1998);
- whether risk assessments of WEP programs are conducted and any increased need for search and rescue operations (Dawson and others 1998a; Krumpe 1990; Ewert and Hollenhorst 1997; Gager and others 1998; Tangen-Foster and Dawson 1999; Cooley 2000);
- whether there is any need for increased law enforcement in areas where youth-at-risk WEPs operate (Ferguson 2009); and
- how the expected human and social benefits of restorative wilderness experiences can be better documented (reduced recidivism, reduced substance abuse, and so on) (Moore and Russell 2002).

Additional research and information to help managers to understand and manage WEP activities, programs, and appropriate use of wilderness is needed (Krumpe 1990; Gager and others 1998; Russell and Hendee 2000). Dawson and others (1998a) concluded that “wilderness managers need to better understand WEPs and work with them to foster a better appreciation of wilderness as a resource for a variety of users, appropriate wilderness use and user behavior, and the need for wilderness management” (p. 104). This conclusion still applies today. While some managers would like WEPs to operate outside of designated wilderness areas, as much as program delivery would still allow the program to achieve positive outcomes, this may reduce some support for wilderness and future designations.

WEPs are generally considered to provide many human and societal benefits and the research documentation is slowly growing to support the notion that nature and wilderness does provide restorative visitor experiences. Thus, WEPs may become increasingly important as a vehicle for some people to experience and appreciate wilderness, and nature, especially when their other life experiences may not have brought them in contact with wilderness.

References

- Bacon, S. 1983. The conscious use of metaphor in Outward Bound. Denver, CO: Colorado Outward Bound School.
- Bobilya, A. 2004. An investigation of the solo in a wilderness experience program. Dissertation. Minneapolis, MN: University of Minnesota.
- Cole, E.; Erdman, E.; Rothblum, E. D., eds. 1994. Wilderness therapy for women: The power of adventure. Binghamton, NY: Harrington Park Press.
- Cooley, R. 1998. Wilderness therapy can help troubled adolescents. *International Journal of Wilderness*. 4(3): 18–21.
- Cooley, R. 2000. How big is the risk in wilderness treatment of adolescents? *International Journal of Wilderness*. 6(1): 22–27.
- Daniel, R. B. 2003. The life significance of a spiritually oriented Outward Bound-type wilderness expedition. Dissertation. Keene, NH: Antioch University.
- Davis-Berman, J. S.; Berman, D. S. 1994a. Therapeutic wilderness programs: A national survey. *Journal of Experiential Education*. 17(2): 49.
- Davis-Berman, J. S.; Berman, D. S. 1994b. Wilderness therapy: Foundations, theories and research. Dubuque, IA: Kendall/Hunt Publishing.
- Davis-Berman, J. S.; Berman, D. S. 2008. The promise of wilderness therapy. Boulder, CO: Association for Experiential Education.
- Dawson, C. P.; Tangen-Foster, J.; Friese, G. T.; Carpenter, J. 1998a. Defining characteristics of U.S.A. wilderness experience programs. *International Journal of Wilderness*. 4(3): 22–27.
- Dawson, C. P.; Friese, G. T.; Tangen-Foster, J.; Carpenter, J. 1998b. Wilderness experience programs in the United States: Dependence on and use of wilderness. In: Watson, A.E.; Aplet, G.H.; Hendee, J.C., comps. Personal, societal, and ecological values of wilderness: Sixth World Wilderness Congress proceedings on research, management, and allocation, Vol. I. 1997 October; Bangalore, India. Proceedings RMRS-P-4. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 99–104.
- Dawson, C. P.; Hendee, J. C. 2009. Wilderness management: Stewardship and protection of resources and values, 4th ed. Golden, CO: Fulcrum Publishing.
- Dawson, C. P.; Hendee, J. C., 2004. Wilderness-related courses in natural resource programs at U.S. colleges and universities. *International Journal of Wilderness*. 10(1): 33–36.
- Day, M.; Petrick, E. M. 2006. Designing residential wilderness programs for adults. Malabar, FL: Krieger Publishing Co.
- Easley, A. T.; Passineau, J. T.; Driver, B. L. 1990. The use of wilderness for personal growth, therapy and education. General Technical Report RM-193. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.
- Ewert, A.; Attarian, A.; Hollenhorst, S.; Russell, K.; Voight, A. 2006. Evolving adventure pursuits on public lands: Emerging challenges for management and public policy. *Journal of Park and Recreation Administration*. 24: 125–140.
- Ewert, A.; McAvoy, L. 2000. The effects of wilderness settings on organized groups: A state of the knowledge paper. In: McCool, S.; Cole, D.; Borrie, W.; O’Loughlin, J., comps. Wilderness science in a time of change conference. Vol. 3: Wilderness as a place for scientific inquiry. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 13–26.
- Ewert, A. W.; Hollenhorst, S. J. 1997. Adventure recreation and its implications for wilderness. *International Journal of Wilderness*. 3(2): 21–26.
- Ewert, A.; Hendee, J.; Davidson, S.; Brame, R.; Mackey, C. 1999. Wilderness access issues for education, personal growth, and therapeutic use: A U.S. panel summary. *International Journal of Wilderness*. 5(3): 13–18.
- Ewert, A.; Overholt, J.; Voight, A.; Wang, Chun Chieh. 2011. Understanding the transformative aspects of the wilderness and protected lands experience upon human health. In: Watson, Alan; Murrieta-Saldivar, Joaquin; McBride, Brooke, comps. Science and stewardship to protect and sustain wilderness values: Ninth World Wilderness Congress symposium; November 6–13, 2009; Meridá, Yucatán, Mexico. Proceedings RMRS-P-64. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 140–146.
- Ferguson, G. 2009. Shouting at the sky: Troubled teens and the promise of the wild: Helena, MT: Sweetgrass Books.
- Foster, S.; Little, M. 1998. The four shields: The initiatory seasons of human nature. Big Pine, CA: Lost Borders Press.
- Foster, S. M. 2000. Rites of passage in the wilderness: A therapeutic source of cultural and environmental recovery. In: Watson, A.E.; Aplet, G.H.; Hendee, J.C., comps. Personal, societal, and ecological values of wilderness: Sixth World Wilderness Congress proceedings on research, management, and allocation, Vol. I. 1998 October; Bangalore, India. Proceedings RMRS-P-14. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 105–107.
- Frederickson, L. M.; Anderson, D. H. 1999. A qualitative exploration of the wilderness experience as a source of spiritual inspiration. *Journal of Environmental Psychology*. 19: 21–39.
- Friese, G.; Hendee, J. C.; Kinziger, M. 1998. The wilderness experience program industry in the United States: Characteristics and dynamics. *Journal of Experiential Education*. 21(1): 40–45.

- Friese, G.T. 1996. Inventory and classification of wilderness experience programs. Thesis. Moscow, ID: University of Idaho.
- Friese, G. T.; Kinziger, M. L.; Hendee, J. C. 1999. History and status of use of wilderness for personal growth. In: Cordell, H. K. and others. Outdoor recreation in American life: A national assessment of demand and supply trends. Champaign, IL: Sagamore Publishing: 380–384.
- Friese, G. T.; Pittman, J. T.; Hendee, J. C. 1995. Studies of the use of wilderness for personal growth, therapy, education, and leadership development: An annotation and evaluation. Moscow, ID: University of Idaho Wilderness Research Center, College of Forestry, Wildlife, and Range Sciences.
- Gager, D. 1996. Agency policies and wilderness managers attitudes towards wilderness experience programs. Thesis. Moscow, ID: University of Idaho.
- Gager, D.; Hendee, J. C.; Kinziger, M.; Krumpe, E. 1998. What managers are saying and doing about wilderness experience programs. *Journal of Forestry*. 96(8): 33–37.
- Gass, M. A. 1993. Adventure therapy: Therapeutic applications of adventure programming. Dubuque, IA: Kendall/Hunt Publishing.
- Gassner, M. E.; Russell, K. C. 2008. Relative impact of course components at Outward Bound Singapore: A retrospective study of long-term outcomes. *Journal of Adventure Education and Outdoor Learning*. 8(2): 133–156.
- Gibson, P. M. 1979. Therapeutic aspects of wilderness programs: A comprehensive literature review. *Therapeutic Recreation Journal*. 13(2): 21–33.
- Gillis, H. L.; Gass, M.; Russell, K. C. 2008. The effectiveness of Project Adventure's behavior management program for male offenders in residential treatment. *Residential Treatment for Children and Youth*. 25(3): 227–247.
- Hanna, G. 1995. Wilderness-related environmental outcomes of adventure and ecology education programming. *The Journal of Environmental Education*. 27(1): 21–32.
- Harper, N. J.; Russell, K. C. 2008. Family involvement and outcome in adolescent wilderness treatment: A mixed-methods evaluation. *International Journal of Child and Family Welfare*. 1: 19–36.
- Harper, N. J.; Russell, K. C.; Cooley, R.; Cupples, J. 2007. Catherine Freer Wilderness Therapy Expeditions: An exploratory case study of adolescent wilderness therapy, family functioning, and the maintenance of change. *Child Youth Care Forum*. 36: 111–129.
- Hartig, T.; Mang, M.; Evans, G.W. 1991. Restorative effects of natural environment experiences. *Environment and Behavior*. 23(1): 3–26.
- Hendee, J. C.; Brown, M. 1988. Wilderness experience programs for personal growth, therapy, and education: An exploratory model. In: Hendee, J. C., ed. The highest use of wilderness: Using wilderness experience programs to develop human potential. Proceeding of a symposium at the Fourth World Wilderness Congress, September 1987, Estes Park, CO. Moscow, ID: University of Idaho: 5–21.
- Hendee, J. C.; Roggenbuck, J. W. 1984. Wilderness-related education as a factor increasing demand for wilderness. In: Forest resources management: The influence of policy and law; Contributions at the International Forest Congress, August 1984, Quebec City, Canada: 273–278.
- Kaplan, S. 1995. The restorative benefits of nature: Towards an integrative framework. *Journal of Environmental Psychology*. 15: 169–182.
- Kaplan, R.; Kaplan, S. 1989. The experience of nature: A psychological perspective. Cambridge: Cambridge University Press.
- Kellert, S.; Derr, V. 1998. A national study of outdoor wilderness experience. New Haven, CT: Yale University, School of Forestry and Environmental Studies.
- Kimball, R. 1983. The wilderness as therapy. *Journal of Experiential Education*. 6(3): 7–16.
- Krumpe, E. 1990. Managing wilderness for education and human development: A bane or a blessing? In: Reed, P. C., comp. Preparing to manage wilderness in the 21st century; Proceedings of the Conference; April 1990; Athens, GA. General Technical Report SE-66. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station: 83–89.
- Kutz, J. D., O'Connell, A. 2007. Concerns regarding abuse and death in certain programs for troubled youth. U.S. Government Accounting Office Report GAO-08-146T. Report and Testimony to the Committee on Education and Labor, House of Representatives, October 10, 2007.
- Marchand, G.; Russell, K. C.; Cross, R. 2009. An empirical examination of outdoor behavioral healthcare field instructor job related stress and retention. *Journal of Experiential Education*. 31(3): 359–375.
- Miles, J.; Priest, S. eds. 1999. Adventure programming. State College, PA: Venture Publishing, Inc.
- Moore, T., Russell, K. C. 2002. Studies of the use of wilderness for personal growth, therapy, education, and leadership development: an annotation and evaluation. Moscow, ID: University of Idaho, College of Natural Resources.
- Powch, I. G. 1994. Wilderness therapy: What makes it empowering for women? *Women and Therapy*. 15(4): 11–27.
- Reed, P.; Haas, G.; Beum, F.; Sherrick, L. 1989. Non-recreational uses of the National Wilderness Preservation System: A 1988 telephone survey. In: Freilich, H. R., comp. Wilderness benchmark 1988: Proceedings of the national wilderness colloquium; 1988 January 13–14; Tampa, FL. General Technical Report SE-51. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station: 220–228.
- Riley, M. R. 1997. Wilderness vision quests tap the spiritual values of wilderness. *Women in Natural Resources*. 18(1): 11–13.
- Riley, M. F., Hendee, J.C. 2000. Wilderness vision quest clients: Motivations and reported benefits from an urban-based program 1988–1997. In: Watson, A.E.; Aplet, G.H.; Hendee, J.C., comps. Personal, societal, and ecological values of wilderness: Sixth World Wilderness Congress proceedings on research, management, and allocation, Vol. II; 1998 October; Bangalore, India. Proceedings RMRS-P-14. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 128–134.
- Russell, K. C. 1999. Theoretical basis, process, and reported outcomes of wilderness therapy as an intervention and treatment for problem behavior in adolescents. Dissertation. Moscow, ID: University of Idaho.
- Russell, K. C. 2000. Exploring how the wilderness therapy process relates to outcomes. *Journal of Experiential Education*. 23(3): 170–176.
- Russell, K. C. 2001. What is wilderness therapy? *Journal of Experiential Education*. 24(2): 70–79.
- Russell, K. C. 2006. Brat camp, boot camp, or? Exploring wilderness therapy program theory. *Journal of Adventure Education and Outdoor Learning*. 6(1): 51–67.
- Russell, K. C. 2008. Adolescence substance use treatment: Service delivery, research on effectiveness, and emerging treatment alternatives. *Journal of Groups in Addiction and Recovery*. 2(2–4): 68–96.
- Russell, K. C.; Gillis, H. L.; Lewis, T. G. 2008. A five-year follow-up of a survey of North American outdoor behavioral healthcare programs. *Journal of Experiential Education*. 31(1): 55–77.
- Russell, K. C.; Hendee, J. C. 2000. Wilderness therapy as an intervention and treatment of adolescents with behavioral problems. In: Watson, A. E.; Aplet, G.; Hendee, J. C., eds. Proceedings on personal, societal, and ecological values of wilderness from the Sixth World Wilderness Congress on research, management, and allocation, Vol II, October 1998, Bangalore, India. Proceedings RMRS-P-14. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 136–141.
- Russell, K. M.; Hendee, J. H.; Cooke, S. 1998. Social and economic benefits of a U.S. wilderness experience program for youth-at-risk in the Federal Job Corps. *International Journal of Wilderness*. 4(3): 32–38.
- Russell, K. C.; Hendee, J. C.; Phillips-Miller, D. 2000. How wilderness therapy works: The wilderness therapy process for adolescents with behavioral problems and addictions. In: Cole, D. N.; McCool, S. F.; Borrie, W. T.; O'Loughlin, J., comps. Wilderness science in a time of change conference. Vol. 3: Wilderness as a place for scientific inquiry. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 207–217.
- Russell, K. C.; Phillips-Miller, D. 2002. Perspectives on the wilderness therapy process and its relation to outcome. *Child and Youth Care Forum*. 31(6): 415 – 437.
- Tangen-Foster, J.; Dawson, C. P. 1999. Risk management in wilderness experience programs. *International Journal of Wilderness*. 5(3): 29–34.
- U.S. Public Law 88-577. The Wilderness Act of September 3, 1964, 78 Stat. 890.
- Walsh, M.; Russell, K. C. 2010. An exploratory study of a wilderness adventure program for young offenders. *Ecopsychology*. 2(4): 211–229.
- WildLink. 2011. Why WildLink? <http://wildlink.wilderness.net> website accessed April, 2011.
- Wilson, S. J.; Lipsey, M. W. 2000. Wilderness challenge programs for delinquent youth: A meta-analysis of outcome evaluations. *Evaluation and Program Planning*. 23: 1–12.
- Winterdyk, J.; Griffiths, C. 1984. Wilderness experience programs: Reforming delinquents or beating around the bush? *Juvenile and Family Court Journal*. 35(3): 35–44.