

## Programs That Work

# Evolving Adventure Pursuits on Public Lands: Emerging Challenges for Management and Public Policy

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**EXECUTIVE SUMMARY:** Within the past three decades, adventure pursuits on public lands have grown, both in terms of overall popularity and activity diversity. Due to their high dependence upon large, undeveloped landscapes, participants often look to public land resources as the venue for these activities. As demands for these activities increase, significant policy and management challenges requiring systematic knowledge and understanding of these new users groups, the types of experiences they are seeking and the demands they place on the public land manager has been the outcome. In particular, two prominent adventure-related categories of activities have evolved: extreme sports and the use of the public lands for therapeutic programs. Within this context, this paper discusses current and emerging trends and issues, definitions, and structural characteristics of various participants, the relationship between selected participant attributes (such as level of experience and demands on management) and the social benefits of participation, including therapeutic and personal growth. In addition, salient issues related to the management of public lands involving these varied user groups are discussed which inevitably involve elevated user conflict and disputes regarding the right of access to these public lands. Related to the issue of conflict are the concepts of allowable activities and allowable technologies, and whether or not these entities should be permitted on certain public lands. Regardless of how public lands are managed, the exclusion of certain activities will create unforeseen and unwanted results. As the debate surrounding the increased use of adventure pursuits on public lands becomes more politicized, managers and user groups will need to determine acceptable collaborations in which the concerns of all stakeholders are addressed and validated. Continued research regarding the importance of evolving impacts will be essential in the ongoing struggle for balance between use and conservation of wilderness areas, and the pivotal role of stewardship of our public lands.

**KEYWORDS:** Adventure pursuits, extreme sports, therapeutic wilderness, policy making, natural resource management

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## Introduction

Within the past three decades, adventure pursuits on public lands have grown, both in terms of overall popularity, and in activity, diversity, and intensity. Adventure pursuits describes a broad spectrum of terms including risk recreation, adventure recreation, extreme sports and wilderness therapy, and are usually highly dependent upon large, undeveloped landscapes, often involving the public lands. The growing popularity of these activities has resulted in significant policy and management challenges requiring systematic knowledge and understanding of these new users groups, the types of experiences they are seeking, and the resultant demands they place on the public land resource base.

Two examples of current adventure pursuits attracting greater attention, by both the general public as well as natural resource managers, include the “extreme sports” phenomenon, and the use of wilderness for therapeutic and/or educational development. One of the biggest challenges facing policymakers and managers is how to deal with the dramatic increase in participation for visitors seeking elements of challenge and risk in their recreational and/or educational use of public land resources.

### *Increased Participation*

Activities traditionally considered “adventure pursuits” include mountaineering, white-water boating, caving, rock climbing, backcountry skiing, and SCUBA diving. Participation in outdoor adventure pursuits, however, has not only increased in overall numbers of participants but also in the diversity of these activities (See Table 1). Several studies have pointed to a growing and intensifying level of participation. For example, American Sports Data, Inc., (2002) reports over 9.2 million indoor and outdoor rock climbers in the United States. In another example, Cordell et al., (1999) reported that within a 1994-95 time frame, 15.2 million people participated in backpacking, 9.5 million participated in caving, and 9.0 million engaged in mountaineering. Athearn (2004) cites the approximate number of 476 climbers attempting to summit Mt. Rainier (Washington State) from the 1950s, and compares it to the 11,455 climbers’ annual attempts in the first four years of this decade. In addition, a recent study by Gager, Hendee, Kinziger, and Krumpke (1998), exploring the use of federally designated wilderness areas by wilderness experience programs, found that well over half (67%) of the managers surveyed perceived the use of wilderness areas by adventure programs to be on the increase.

**Table 1**  
**Partial List of Adventure Activities and Extreme Sports**

| Earth             | Snow            | Water               | Sky          | Combination      |
|-------------------|-----------------|---------------------|--------------|------------------|
| Base jumping      | Bobsleigh       | Bodyboards          | Aerobatics   | Adventure travel |
| BMX racing        | Extreme skiing  | Cliff diving        | Gyros        | Adventure racing |
| BMX stunt         | Sled dog racing | Drag boats          | Hang gliding | Canyoneering     |
| Stock bike trials | Skeleton        | Free-diving         | Paragliding  | Cave diving      |
| Bungee jumping    | Ski joring      | Inflatable kayaking | SCUBA diving |                  |
| Caving/spelunking | Snocross racing | Jetski racing       | Skydiving    |                  |
| Endurance running | Snowboards      | Kayaking            | Skysurfing   |                  |
| Extreme ironing   | Snow mtn biking | Kite surfing        | Soaring      |                  |
| Geotrekking       | Telemark skiing | Powerboards         |              |                  |
| Ice climbing      | Alpine touring  | Skimboarding        |              |                  |
| Inline skating    |                 | Surfing             |              |                  |
| Mountaineering    |                 | Wakeboarding        |              |                  |
| Mountain biking   |                 | Wakeskating         |              |                  |
| Mountainboards    |                 | Water skiing        |              |                  |
| Rock climbing     |                 | Whitewater rafting  |              |                  |
| Skateboarding     |                 | Wind surfing        |              |                  |
| Street luge       |                 |                     |              |                  |
| Wall climbing     |                 |                     |              |                  |
| Zorbing           |                 |                     |              |                  |

Much of this growth can be attributed to a number of socioeconomic factors, including more free time, a greater sensitivity to health and wellness issues, advances in technology, availability of high tech equipment and clothing, media exposure, a higher level of environmental awareness among the populace, and a shift from a work ethic to a leisure ethic (Attarian, 2001). Income and education are additional factors influencing participation as both have been shown to be positively correlated with involvement in adventure activities (Cordell et al., 1999).

#### *Trends in Outdoor Adventure Pursuits*

As participation in outdoor adventure pursuits continues to increase, several trends have recently emerged. In particular, trends in technological innovations, evolving activities, and the emergence of sector-specific advocacy groups have demanded the growing attention and decision-making acumen of natural resource managers.

**Technological innovations.** Advances in technology in the last two decades have given individuals opportunities to enhance their participation in different recreational experiences through improvements in communication and information, access, transportation, comfort, and safety (Ewert & Shultis, 1999). McKay (2000) suggested that, “Technological advances have given wilderness enthusiasts unprecedented access to formerly unreachable terrain, and allowed them to put miles, days, and thousands of vertical feet between themselves and rescue” (p. 150). Historically, visitors used technology to visit natural areas, while today they are increasingly using the backcountry to “play” with their technology. In other words, technology used to be a means for enhancing the outdoor experience, but today it has become an end in itself, regardless of any connection with the natural environment (Shultis, 2001). This phenomenon is noticeable in the wireless communication technology, where cellular and satellite phones

have become commonplace in society and their use more visible in backcountry settings (Attarian, 2002). In turn, the use of this technology allows backcountry visitors to expand their “bubble of safety” by allowing emergency calls to be placed from virtually anywhere in the world (Hollenhorst, 1995). This type of technology can enhance the ability of participants to deal with dangerous activities and adapt to harsh environments, but for some, over reliance on these types of technologies can create an illusion of safety (Ewert, 1995).

**Evolution of new activities.** Two examples of evolving activities on the public lands include “bouldering” and “geocaching.” Bouldering, a unique form of rock climbing, has seen a significant increase in participation over the past decade. Reasons for this growth include the limited amount of equipment required, relatively easy access, the high media exposure in the climbing literature and the availability of information through the Internet and guidebook publications (Pyke, 2001). While the popularity of bouldering is good for the climbing industry and outdoor retail shops, public lands nationwide are beginning to document impacts to the natural and cultural environments from this activity (Toland, 2004). Examples of these impacts would include soil erosion and compaction, cultural artifact destruction, and disturbances to the local neighborhood traffic and privacy patterns.

Geocaching uses handheld Global Positioning Systems (GPS) to find hidden articles by accessing coordinates displayed on the Internet. Since its inception (established 2000), over 100,000 individuals have participated in geocaching activities (Chavez, 2004). It is anticipated that a number of environmental (i.e., vegetation damage, trail development) and social impacts (i.e., inter-group conflicts, safety concerns) may pose management challenges as interest in this activity grows (Chavez, 2004).

**Increasing influence of advocacy groups.** The growing size and sophistication of various adventure-based user organizations such as the Access Fund (climbing), American Whitewater (boating), and National Speleological Society (caving) has substantially increased the political power and influence of these user groups. The result is that policymakers and managers must consider the access demands of these groups, or risk administrative appeal and litigation.

Understanding activity trends can be an important public tool for making changes in public land policy, budget, management, or infrastructure (Cordell et al., 1999). Thus, as participation in adventure pursuits grows and diversifies, greater demands will be placed on the natural settings that support these new ventures and experiences, creating challenges for resource managers. Two emerging activities in the adventure pursuits arena that have often exacerbated public policy and decision-making involve the “extreme sport” phenomenon and outdoor therapeutic programs.

## Extreme Sports Phenomenon

Outdoor recreation and outdoor sports often mirror the interests of an evolving society. Changes in youth culture have led to dramatically increased participation in “extreme sports.” From 1998-2001 the largest gains in sports participation in the U.S. have come from extreme sports, such as skateboarding (+73%), artificial wall climbing (+57%), wakeboarding (+38%), paintball (+30%) and snowboarding (+25%), while declines have occurred in traditional outdoor sports including hiking (-5%), canoeing (-12%), downhill skiing (-11%), and cross-country skiing (-13%) (American Sports Data, Inc. 2002) (see Table 2).

**Table 2**  
**Participation in Selected Sports**

| Activity   | Number of Participants (in thousands) |        | 3-Year Change |
|--|---------------------------------------|--------|---------------|
|  | 1998                                  | 2001   |               |
| <b>EXTREME SPORTS</b>                            |                                       |        |               |
| Artificial wall Climbing                         | 4,696                                 | 7,377  | 57%           |
| Inline skating                                   | 32,010                                | 26,022 | -19%          |
| Paintball  | 5,923                                 | 7,678  | 30%           |
| Skateboarding                                    | 7,190                                 | 12,459 | 73%           |
| Snowboarding                                     | 5,461                                 | 6,797  | 25%           |
| Wakeboarding                                     | 2,253                                 | 3,097  | 38%           |
| <b>“TRADITIONAL” ADVENTURE SPORTS</b>            |                                       |        |               |
| Mountain biking                                  | 8,611                                 | 6,189  | -28%          |
| Mountain/rock climbing                           | 2,004                                 | 1,819  | -9%           |
| Kayaking   | 3,501                                 | 4,727  | 35%           |
| Rafting  | 5,570                                 | 4,580  | -18%          |
| <b>TRADITIONAL OUTDOOR RECREATION ACTIVITIES</b> |                                       |        |               |
| Hiking   | 40,117                                | 37,999 | -5%           |
| Canoeing   | 13,615                                | 12,044 | -12%          |
| Downhill skiing                                  | 14,836                                | 13,202 | -11%          |

Source: American Sports Data, Inc., 2002.

Extreme sports comprise a loose collection of newer sports involving adrenaline-inducing activity. They often feature a combination of speed, height, gravity, spectacular stunts, and of course, danger. Risk levels vary, but there is always an element—an “extreme” factor—that causes an adrenaline rush which keeps participants committed to their activity. (Note: While extreme sports can induce an adrenaline rush, most often the high obtained is not a product of adrenaline, but rather from increased levels of dopamine, endorphins, and serotonin). Motivated by the desire for originality and unique experience, extreme sports, as the name implies, differ from traditional sports in that the rules and cultural norms of the sport are in a constant state of evolution and change. As a subset of the “risk recreation” or “adventure recreation” sector, the extreme sport term seems

to have originated with the ESPN X Games in 1995. This made-for-television, first-generation reality show changed “traditional” adventure activities like rock climbing and mountain biking into media-friendly “sport climbing” and “downhill” competitions.

The proliferation of these activities can be largely explained by the desire for original and innovative experiences among 70 million members of “Generation Y.” Generation Y is composed of young people between the ages of 6 to 44, depending on the source, that comprise the largest demographic in American history. Also known as the “New Millennials,” “Generation Next,” the “Digital Generation,” “Echo Boomers,” “Millennials,” “Alternative,” “New Age,” and “Action Sports,” the Y generation is a distinctive youth culture with associated clothing fashions, music, and language, with extreme sports at the center (Rainer, 1997; Wegert, 2004). Extreme sports participants typically come from a largely white, affluent, disaffected, upper middle-class, and suburban culture. As such, they present an interesting counterpoint to the black, “hip hop” and “gansta” elements of the more urban culture. While both movements are male dominated, highly athletic, celebrate danger, and test the normative limits of the dominant culture, the extreme sport culture differs in its connection to outdoor environments, or at least simulated outdoor environments like climbing walls and BMX (cross-country biking) courses. The impact this cultural movement has on the larger society is evidenced by the inclusion of several extreme sports in the 2002 Winter Olympic Games, particularly various snowboard and ski aerobatic events.

Most extreme sports are done alone or in small group endeavors that allow the participant to avoid social interaction beyond the peer group, as well as escape supervision and authority. This is in stark contrast to the broad characterization of traditional American sports as metaphors for teamwork, cooperation, respect for authority, positive youth development, and wholesome living. Extreme sports embody a general disdain for these values. Anecdotal observation by the authors suggests that participants seem to come to extreme sports from other, more traditional solitary sports like wrestling, cross-country running, gymnastics, and skiing, or from no involvement in sports at all.

### *Technology Issues and Extreme Sports*

As in many outdoor pursuits, technology innovation is a critical element of extreme sports and serves two primary functions. First, technology expands the number and variety of activities, thereby increasing opportunities for experiencing and demonstrating originality and novelty. For example, the development of the mountain bike revolutionized cycling. Likewise, high travel shocks have revolutionized mountain bikes and allow bikers to get into remote locations faster and more comfortably. In a similar case, new generation kayaks allow novice or intermediate kayakers to paddle extremely difficult whitewater and perform stunts previously unattainable even by expert boaters.

Secondly, technology can provide a higher degree of safety. While some technology enhances performance, innovations like avalanche beacons reduce the chance of injury or fatality, thereby expanding an individual's sense of safety. However, in some cases these technologies may actually increase injuries and fatalities. With avalanche beacons, for instance, backcountry skiers are more likely to ski a slope with high avalanche danger, in the belief that the avalanche beacon will "protect" them in case of an avalanche.

The emergence of extreme sports and the new technologies upon which they depend are drastically changing the way many visitors relate to the natural environment. Ironically, while some extreme sports enthusiasts often flaunt danger and risk-taking, and shun a "controlled" environment, the same remote and challenging wilderness areas are increasingly being sought by outdoor therapeutic programs to assist youth in re-establishing acceptable social parameters and in diffusing negative behaviors.

### **Outdoor Therapeutic Programs**

The use of wilderness and other public lands for therapy is an emerging treatment modality in the North American health care system for both adults and younger clients, particularly those who are seeking alternative treatment options. These therapeutic programs utilize outdoor settings in which participants voluntarily enroll, or are placed in the program by parents or custodial authorities concerned for their well-being (Russell, 2003a). Many of these programs use a wilderness or backcountry "challenge" model, as opposed to the traditional "therapy" model, which is often viewed as being too institutional and rigid, particularly for adolescents resistant or unwilling to commit to treatment. Russell and Hendee (2000) suggest that "more than 11,000 adolescent clients a year and their families are served by the more than 100 outdoor behavioral health programs, generating an estimated \$200 to \$250 million dollars in revenues" (p. 51).

The practice of outdoor therapeutic programs often involves an integration of traditional psychotherapeutic practice with wilderness and adventure experiences as part of the treatment process (Davis-Berman & Berman, 1994; Gass, 1993; Russell, 2001). Therapeutic outdoor treatment often includes individual and group therapy under the supervision of licensed professionals, and an established program of educational and therapeutic activities, focusing on client behavioral assessment and intervention by immersing participants in a natural outdoor environment. The typical duration of the program is 45 days, and engages the participants in group-living with peers, and facilitating the learning of primitive and/or outdoor skills to foster personal and social responsibility, as well as the emotional growth of its clients.

Despite the appeal and growth in the number of outdoor therapeutic programs in the last decade (Janofsky & Meier, 1999), they are often perceived as being loosely organized programs that are unlicensed by any

governmental agency and conduct little or no evaluation of treatment effectiveness. In turn, it is often surmised that this lack of oversight can lead to neglect, injury, and sometimes death in treatment. These perceptions are typically inaccurate and reflect a small number of often poorly managed programs that have received considerable media attention in recent years (Janofsky, 2001; Jenkins, 2000; Kraukauer, 1995).

### *Outdoor Therapeutic Programs and the Public Lands*

More than 85% of outdoor therapeutic programs report some operation on public lands in their region. Programs serve an average of 110 clients per year, with an average treatment length of 225 days. This suggests approximately 14,300 clients are annually served by these programs. With an average reported daily cost of \$150 dollars (a conservative estimate given some programs are supported entirely by state dollars), this industry generates over \$450 million dollars in annual revenue (Russell, 2003b). Moreover, outdoor therapeutic programs vary in the amount of time that clients spend on wilderness expeditions while in treatment, depending on program philosophy and structure. The average amount of time spent on the public lands ranges from five to 70 days and generates approximately 615,000 user days in backcountry environments annually from the approximate 14,300 clients served by therapeutic outdoor programs. Guide days were also calculated, based on an average ratio of guide-to-client (1 to 3), which equaled an additional 197,800 users (4600 guides multiplied by 43 days). This means that user days attributable to the outdoor therapeutic industry approximates 812,700 annual user days.

In addition, many outdoor therapeutic programs operate within multiple jurisdictions and land designations, primarily a combination of federal, provincial, and state lands (75%). Within the U.S. federal land jurisdiction system, these data suggest that over 400,000 annual user days are spent on lands managed by the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), the National Park Service (NPS) or the U.S. Fish and Wildlife Service (USFWS).

### *Permits and Licensure*

The degree to which outdoor therapeutic programs are permitted and licensed by various agencies is an important consideration to federal managers, state agencies, and local authorities who directly or indirectly may be impacted by their operation. This impact can come in the form of: (a) management costs by local districts that permit outdoor therapeutic programs to operate on federal lands; (b) state agencies charged with their oversight, including land management of child and youth care agencies; and/or (c) local law enforcement agencies, and search and rescue operations called into action if an incident should occur.

**Permits.** Similar to their more traditional outdoor recreation counterparts, many outdoor therapeutic programs utilize a permitting process for the use of federal, provincial, or state lands. At the federal level, programs are required to pay 3% of gross revenue. By taking half of the estimated

annual revenue (a conservative estimate given the percentage of time programs are actually operating on federal lands) and multiplying by 3% of gross revenues, outdoor therapeutic programs pay approximately \$6.7 million dollars in annual fees for permits, not accounting for potential revenues to state agencies.

**Licensing.** Up to 80% of the outdoor therapeutic programs are licensed by a state or provincial agency (88% of adjudicated and 90% of private placement programs). State agencies reporting licensed programs included: Department of Juvenile Justice, Department of Social Services, Department of Corrections, Department of Youth Services, Department of Education, and Department of Family Services. The findings for the adjudicated programs are not surprising because they have established relationships with judicial authorities in the state in which they operate. The high percentage of private placement programs who are licensed reflects a recognition by state agencies of their responsibilities to oversee standards of care, a movement which began in the late 1980s in Utah and Arizona after incidents of neglect were reported (see Krakauer, 1995). Some states—Idaho, Oregon, and Colorado for example—have recently established regulations and a licensing process.

The use of public lands for therapeutic purposes is increasing and may reflect growing recognition of the healing and inspirational qualities of wilderness. But how much use can the natural areas endure? What uses are most important? In areas already saturated with wilderness recreation and other commercial outfitting and guiding, managers may face tough decisions coordinating (and eventually allocating) access between these competing uses. These decisions may have social as well as environmental consequences, such as choosing between public recreation and/or therapeutic programs for troubled adolescents.

### **Future Issues and Implications for Public Land Managers**

In a study of managers' attitudes toward the broader wilderness experience program industry, Cordell et al. (1999) concluded that managers perceived use of wilderness and related areas as increasing. The authors also cite several other managerial concerns, including ecological and social impacts on the resource, and the lack of regulation on the industry as a whole, especially for extreme sports enthusiasts. Increased number of users often results in increased natural resource impacts such as soil compaction, exotic species invasion, and water pollution (Hammit & Cole, 1998), despite significant public investment to reduce and manage these impacts through education and public awareness. In spite of these efforts, increased use will continue to challenge managers to ensure that social, ecological, and economic impacts are minimized. The following section exemplifies some of the more prominent concerns for public land managers regarding adventure pursuits including "user conflict" and "access rights."

### *User Conflict and Public Land Management*

#### **Conflict between adventure users and natural resource managers.**

One issue that has recently gained attention in the literature is the issue of “standing,” or the right of access to, and input for, the management of public lands (Grijalva & Berrens, 2003). Standing often revolves around prioritization issues such as the permit process (e.g., Should commercial outfitting businesses get priority over private and educational groups?). Another example of conflict is the concept of allowable *activities* (e.g., Should basejumping be excluded from the public lands?) and allowable *technologies* (e.g., Should bolting of climbing routes be allowed in federally designated wilderness areas?).

Perhaps of greater concern is the question of priority. That is, should those organizations offering educational or therapeutic experiences be given priority in the permitting system over more traditional groups? Moreover, should educational and therapeutic groups be given priority over commercial or for-hire organizations, in the belief that they better serve the public good.

**Increasing conflict between adventure participants and those favoring preservation/biological perspectives.** Adventure-based users are often concerned with loss of access to public lands. Adventure or extreme sports enthusiasts do not automatically share the same land ethic as traditional, non-motorized recreation users, and in many ways may be more similar to motorized users with respect to their resistance to government authority and in demanding their share of the public lands. In part, this issue revolves around the yet unsettled question regarding the use of our public lands. Namely, should use or preservation be given greater weight in the decision-making process?

**Conflict between “extreme” participants and “traditional” visitors.** Conflict is inevitable between these new participants and traditional visitors. Backcountry hikers and horse packers often bristle at the idea of sharing backcountry resources with mountain bikers. Mountain bikers, in turn, have organized into groups in order to exert pressure on resource managers to open up more areas for mountain biking. The resulting “policy environment” is one of a perpetual three-way conflict between land managers, traditional recreationists, and a continuous new wave of extreme sport innovators and outdoor therapeutic programs. Perpetual conflict can be expected because of fundamental differences in their goals and motivations. The first tendency of managers, however, is to determine normative standards for an activity and to establish rules and regulations based on those standards. These limits rarely account for the innovation and experimentation desires of extreme athletes, resulting in inevitable conflict. Since the normative standard identified by managers tends to be aimed at smaller groups of friends and families, they are often perceived as barriers by outdoor therapeutic programs.

### *Access to Public Lands*

Recreation users, law enforcement officials, land and river managers, as well as landowners, often have differing expectations about appropriate activities and levels of use on public lands. They often hold entirely different views about the law, their rights, duties, and protections. Most serious access issues are the result of deeply rooted, dogmatic differences (Robertson, 2001). Increasing numbers of private landowners no longer allow public access to their lands because of concerns with vandalism, killing of livestock, gates being left open, fire danger, littering, potential liabilities and the desire for privacy, and exclusive personal uses (Cordell et al., 1999).

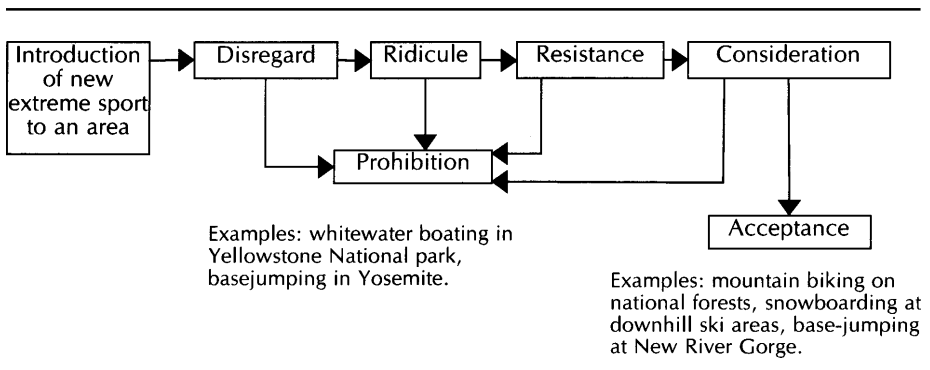
Access to public land is limited by several factors, including regulation, safety restrictions, group size limitations, use rationing and other allocation policies, and user fees. Fees are being utilized more frequently by state and federal land management agencies to help defray the costs of maintaining natural areas. As a result of these restrictions, adventure and extreme sport participants have organized into political groups, often with the primary purpose of fighting for, and defending, access rights of their constituents.

### **Policy, Planning and Management**

So what does all this mean for resource planning, policymaking, and management? The most obvious challenge will be the continuous wave of people pursuing a variety of adventurous activities and therapeutic uses of wilderness, and seeking access to public lands as a backdrop for these activities. The question planners and policymakers will be increasingly faced with is, “Are these activities appropriate for these public lands?” and what type of process will be used to make that decision?

For example, in the case of extreme sports use, reaction to these new activities often follows a highly predictable process: (a) disregard; (b) ridicule; (c) resistance, and (d) prohibition (see Figure 1). Examples include the prohibition of whitewater kayaking in Yellowstone, mountain biking in wilderness areas, base-jumping in Yosemite National Park, or ice

**Figure 1**  
**Process for Developing Public Land Policy for Extreme Sports**



climbing in a number of state park systems. In an increasing number of cases, managers are eventually forced to give consideration to the activity, which may lead to acceptance. Given the rapid rate of change, the response from resource policymakers and managers often tends to “lag” behind, despite recent moves toward “adaptive management” policymaking frameworks. This slow response often tends to evoke anger and confrontation from new user groups.

Cole, Watson, Hall, and Spildie (1996) suggest that managers need to understand their visitors and develop effective management strategies. The successful management of adventure pursuits and other new activities should focus on this concept and encourage proactive management that relies on education and information, as well as opening avenues of communication between resource managers and users. Resource managers should also take into consideration the views and priorities of stakeholders, involved NGO's, and other community-based action groups to better understand how these activities are practiced. These factors, coupled with a good rapport with the user group and a knowledgeable contact to handle activity specific issues, will greatly enhance the manager-stakeholder relationship.

### **Recommendations and Conclusions**

This paper has discussed the relatively new wave of challenges facing the development of policy and management of our public lands. These new challenges are exemplified by emerging trends in adventure pursuits, the emergence of the extreme sports phenomenon, and the therapeutic use of public land resources. Admittedly, some public land areas will remain relatively unaffected by these challenges while others will be virtually overwhelmed with demands for access and programming opportunities. Within this framework of new uses and users, considerations arise over management, research, and policy development.

#### *Management Considerations*

Managers can address the preceding trends through a process of inventorying and monitoring the use of adventure pursuits, extreme sports, and outdoor therapeutic programs that, in turn, may provide useful information for the immediate and long-term management of social, cultural and natural resources. Direct, indirect, and collaborative approaches should be continued along with more innovative approaches (Table 3). Failing to do so will only increase the already growing conflicts between many of the user groups and management. In effect, this conflict will result in a politicization of many of these situations. For example, Siderelis and Attarian (2004) suggest that proposed regulations on selected rock climbing sites will dramatically alter, at least initially, a number of variables including participation rates and amount of spending relative to each visit.

**Table 3**  
**Examples of Current and Future Approaches to Managing the**  
**Growth of Outdoor and Adventure Pursuits on Public Lands**  
 (Adapted from Cordell et al., 1999)

| <b>Management Approach</b>                                     | <b>Description</b>   |
|--|--|
| Partnerships w/NGOs  | provides project assistance for trails, comfort stations, kiosks, etc.   |
| Partnerships with environmental and conservation organizations | joining forces with groups that share similar concerns, thus broadening perspectives and influence   |
| Education programs   | creating and distributing materials that provides practical information for reducing impacts and promoting stewardship   |
| Stakeholder activism   | promotion of local initiatives through volunteers; communication with national organizations   |
| Preservation & restoration                                     | focus is on access to private lands, donations and land purchases to keep areas open for recreation  |
| Special use fees   | may be initiated to pay for rescue, parking, trail access, etc.  |
| Quotas   | implemented in order to limit use in popular or sensitive areas; may also involve reservations and permits   |
| Zoning   | identifies areas where different management prescriptions or restrictions on visitor behavior apply; may be appropriate in certain situations especially when there are conflicting uses or the resource is being compromised. |

### *Research Considerations*

With respect to adventure pursuits, extreme sports, and outdoor therapeutic programs, best management practices will necessitate the development of systematic knowledge in understanding the demographics and motivations of the participants, their activities and resource needs, and potential for substitutions. For example, do outdoor therapeutic programs require a wilderness-based setting, or will less pristine areas also work in obtaining desired outcomes?

### *Policy Development*

In some ways similar to other uses of the public lands, policy development issues will primarily focus on the following: priority of uses, access rights, allowable activities, and needed facilities or developments. In each case, questions have, or will, emerge regarding what types of uses will be considered of primary importance or value for a given location. For example, will wilderness remain essentially “off-limits” for mountain-biking even though horse travel (usually an activity permitted on wilderness lands) generally produces much more impact and environmental damage?

In addition, a number of activities, particularly those connected to extreme sports, are precluded on many public lands. The reasons for these exclusions generally involve concerns over resource damage, liability, and in some cases, a belief that the activity is not congruent with the mission of the specific land management agency. Thus, not only does access become problematic but the very legitimacy of the activity emerges as an issue. Perhaps what is needed, in the final analysis, is a re-examination of both priorities and perceptions of public land use. Perhaps the time has come for more traditional activities and users to “move over” and allow other uses and activities into our undeveloped landscapes. To the extent that the management of our public lands can accommodate these new users and uses, will in part, be indicative of how successful or conflict-ridden the overall stewardship of our public lands will become in the foreseeable future.

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