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ABSTRACT

This paper addresses environmental impact issues associated with rock climbing and stresses the importance of reestablishing a clean climbing ethic through climber education and ethical considerations. The adventure sport of rock climbing has grown considerably over the last decade: it is estimated that there are currently over 200,000 rock climbers in the United States. To address the potential overuse and abuse of natural resources due to rock climbing, land managers are scrutinizing climbing practices and in some areas implementing policies that compromise the future of rock climbing. Common impacts of rock climbing include soil compaction and erosion, development of multiple trails, damage to vegetation, improper disposal of human waste, disturbances to wildlife, and the use of equipment that visually damages sites. The goal of teaching clean climbing strategies is to help participants recognize the implications of their climbing experience, encourage individuals to act responsibly by emphasizing the importance of clean climbing, and help participants understand the need to establish a set of personal environmental standards. Strategies for teaching clean climbing techniques include role modeling of environmentally sound practices, hands-on learning of minimum impact techniques, use of unplanned opportunities or circumstances to reinforce clean climbing practices, and activities of service to the climbing environment such as climbing area clean-ups, trail maintenance projects, and participation in local climbing coalitions. Includes a table describing techniques and practices that minimize climber-related impacts. (Contains 15 references.) (LP)

Re-Establishing a Clean Climbing Ethic

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Abstract

This paper focuses on the impact issues currently being faced by the adventure sport of rock climbing. Emphasis is placed on re-establishing a clean climbing ethic through a variety of strategies, climber education, and ethical considerations.

Introduction

The adventure sport of rock climbing has grown considerably over the last decade. The American Alpine Club estimates that there are over 200,000 rock climbers in the United States who climb 10 days or more each year (Williamson, 1992). According to Davidson (1992) "virtually every climbing area has experienced a tremendous increase in climber visitation as confirmed by land managers across the country" (pg. 50). For example, climbing routes in Yosemite have increased from 500 routes in 1970 to over 3,000 in 1992 (Marshall, 1992)!

In addition to various social and economic factors the growth and popularity of rock climbing can be traced to four distinct eras (Figure 1.). The first era (1930-1960), *Exploration*, focused on the introduction of modern climbing techniques, first ascents, the development of technical rock equipment, and big wall climbing. The *Environmental* movement (1960-1970s) ushered in the concept and practice of clean climbing; climbing and leaving no trace of one's ascent. Protection devices including stoppers and hexcentrics were introduced by Chouinard Equipment, and the Lowe Cam (the first SLCD) appeared on the market. Exploration was followed by a period of *Innovation* (1970-1980s). During this era, the Friend was developed by Ray Jardine, and "sticky" boot rubber was introduced. The mid 1980s-1990s witnessed a climbing *Explosion*. Technology made the sport more visible and accessible. Artificial climbing walls, sport climbing, and the use of portable battery operated drills have introduced climbing to the masses opening areas which until a few years ago were thought to be unclimbable.

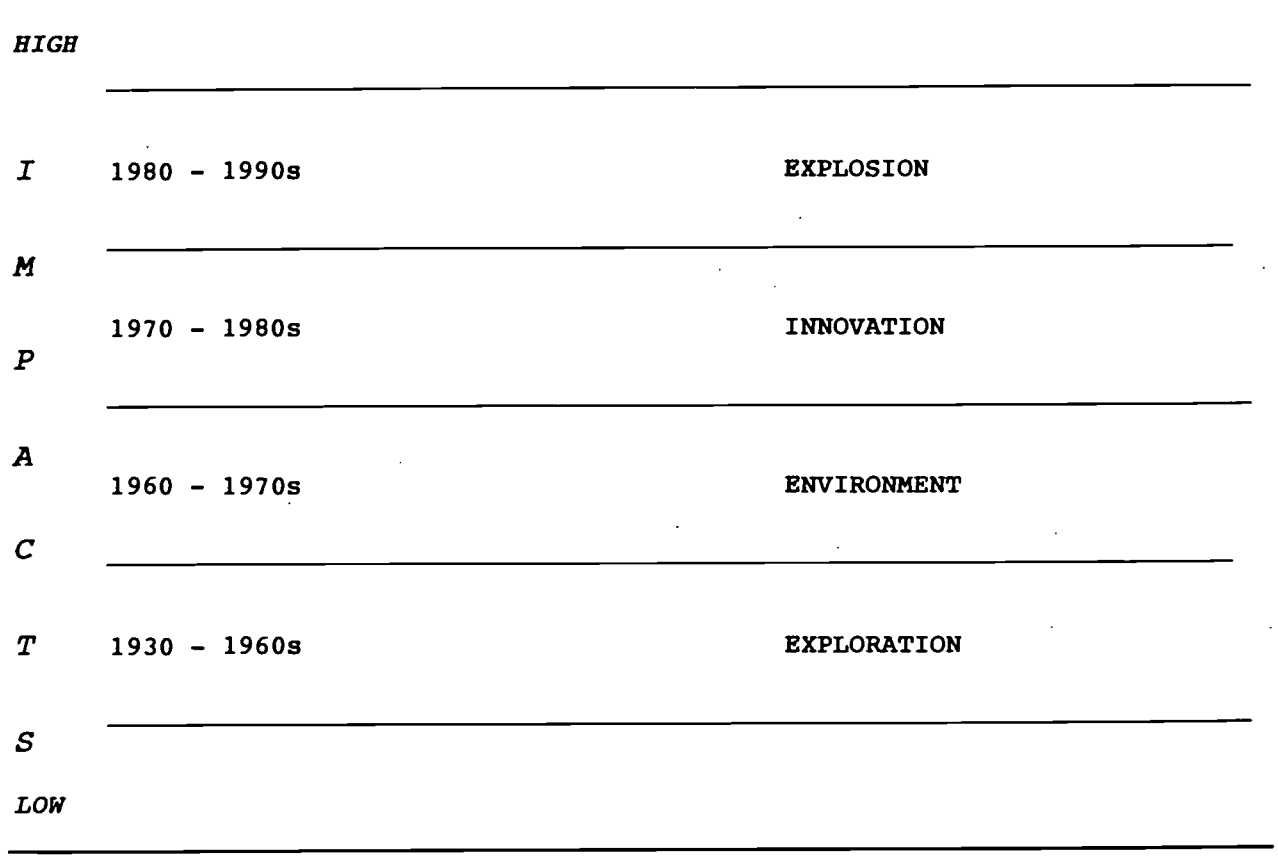
As we enter the 21st century it seems as though the climbing community has come full circle. Climbers are again exploring new areas, introducing new equipment and technology much like the early pioneers of the sport. This time around however, climbers are being confronted with crowded climbing areas, conflicts with other visitors, access and liability issues, and image problems.

Until recently, the sport has gone unregulated, However, with the increasing number of climbers visiting these areas a greater demand is being placed on the climbing resource. As a result, the potential for environmental damage and degradation of the recreation experience has become more visible. This has led to our present dilemma: How to integrate the growth of climbing with the requirements of preserving and administering public and private lands. Pritchard (in Kuss, Grafke, & Vaske, 1990) described this management concern:

"The challenge facing most park managers today is no longer how to attract visitors, but how to preserve park resources and quality visitor experiences ..... Visitor overuse and abuse of this nation's natural and cultural heritage has become one of the most widespread land management concerns" (pg. iii).

Figure 1. The Evolution of Modern Rock Climbing

1930-1990



To address these concerns, land managers throughout the country are currently in the process of scrutinizing climbing practices and in some areas implementing policies that may compromise the future of rock climbing (Davidson, 1992). With all of these concerns; impending regulations, and problems; it's time to re-establish a new clean climbing ethic, one that embraces the historical roots of the sport; adventure, challenge, independence, and respect for the vertical environment. The climbing community needs to become more "in tune" with the environment, become stewards of the land and take care of it. We need to educate and ourselves and others on how to climb cleanly, minimize our impact and leave no trace. . . .

The Impacts

Resource managers nationwide have identified numerous environmental and social impacts related to climbing activity. Environmental impacts are those impacts that change or alter the physical or biological characteristics of an area, whereas social impacts result in a negative recreation experience due to

the behavior or conduct of others (Hendee, Stankey, & Lucas, 1990). Common impacts include soil compaction and erosion, development of multiple trails, damage to vegetation both on and off the rock face, improper disposal of human waste, and disturbances to wildlife. Visual impacts to the rock and its environs, the use of fixed anchors (bolts), potential damage to historical and cultural sites, and negative recreation experiences by other visitors have also been identified as concerns. It should be noted that these impacts are based on observations by resource managers and not on empirical evidence (Attarian, 1992).

Clean Climbing

Clean climbing should be more than just placing protection that doesn't damage the rock; it's an idea that promotes stewardship and appreciation towards the vertical world and the surrounding environment. Clean climbing should reflect concern for both the social and natural environment and introduce practices and techniques that encourage responsible climbing.

The concept of clean climbing is not a new idea. In the 1972 Chouinard Equipment catalog, Yvon Chouinard and Tom Frost introduced the idea of clean climbing for the first time. This new approach to climbing was in response to the increase in climbing activity, advances in techniques, and improvement in equipment. The combination of these variables was beginning to compromise the sport. Chouinard and Frost recognized the new direction that the sport was heading and noted:

> "Armed with evermore gadgetry and techniques the style of technical rock climbing is gradually becoming so degraded that the elements vital to the climbing experience; adventure and appreciation of the mountain environment are being submerged. . . . We believe the only way to ensure the climbing experience for ourselves and future generations is to preserve the vertical wilderness and the adventure inherent in the experience. Really the only insurance to guarantee this adventure and maintain it is exercise of moral restraint and individual responsibility" (pg. 1).

Also during the 1970s the Leave No Trace program (LNT) was initiated by the Forest Service in response to the popularity of backcountry use and the impacts associated with it. This program has since been revitalized and reintroduced on a more visible scale by the National Outdoor Leadership School (NOLS) and Federal land management agencies (1993). LNT is based on six principles: (1) plan ahead and prepare; (2) camp and travel on durable surfaces; (3) pact it in , pack it out; (4) properly dispose of what you can't pack out; (5) leave what you find; and (6) minimize use and impact from fires. Clean climbing embraces these principles and others unique to the sport of rock climbing. Each of these practices have been introduced by climbers, land managers, and grass root climbing organizations across the country to minimize impacts and enhance the recreation experience (Table 1.).

Strategies

When introducing minimal impact techniques, Simpson (1993) suggested that the reasons for each technique or practice be explained to participants in order to heighten the chance for compliance. Once skills have been taught, decision-making should be relinquished to the participants allowing them the opportunity to gain a better understanding of the principles and practices introduced.

A variety of strategies can be used to help teach and reinforce the principles and practices of clean climbing. To meet these objectives, the

instructor or leader's job is threefold: (1) help participants recognize the broader implications of their climbing experience, (2) encourage each individual to act responsibly by emphasizing to them the importance of clean climbing, and (3) help them understand the need to establish a set of personal environmental standards they can use later in life (Simpson, 1993; Drury and Bonney, 1992). The following approaches to this process include: role modeling, education, teachable moments, and service.

Table 1. Techniques and Practices to Minimize Climber Related Impacts

Impact	Technique/Practice
Soil/Vegetation	· Use resistant surfaces to access or descend climbs · Use existing trails to access areas · Shortcutting causes erosion · Avoid damage to vegetation whenever possible · Use webbing around trees for rappel anchors
Fixed Protection	· Self-regulation among climbers · Limit the placement of bolts to specific areas · Peer-review process re: new routes · Paint bolts to match rock color · Ban or limit portable electric drills
Chalk Use	· Prohibit or minimize use · Encourage earth tone colored chalks · Continue use with education · Volunteer clean-up of rock surfaces · Clean route on rappel
Wildlife	· Respect seasonal closures · Be aware of critical habitats and avoid
Waste Disposal	· Dispose waste properly · Use containers (bags) for waste disposal (pack it out) · Use existing latrines/privies · Pay attention to local regulations · Learn how to construct and use a "cathole"
Visual Impacts	· Use natural colored webbing for belay and rappel anchors, etc. · Install cold shunts for permanent belay/rappel anchors · Avoid climbing within 50' of cultural or historical resources · Wear earth-tone colored clothing

1. Role Modeling

Outdoor leaders should present themselves as good role models by striving to maintain environmentally sound practices throughout the climbing experience. Role modeling by outdoor leaders and guides has been shown to be an effective way of changing resource behavior, especially in river environments, campgrounds, and backpacking areas (Wagstaff & Wilson, 1987; Cockrell, Bange & Roggenbuck, 1984; Oliver, Roggenbuck, & Watson, 1984). Similar behavior may also be effective for climbing environments. In this "practice what you preach" approach, the instructor leads by explaining the concepts of clean climbing to heighten the participant's awareness. This is followed by the instructor modeling the appropriate behavior and techniques, and leading through example. For instance, using natural colored webbing, respecting area closures, following local rules and regulations, accessing climbs via trails, or depositing waste properly. Once students begin to see and understand the practices presented, they may change their patterns of behavior (Wagar, 1976).

2. Education

The use of education and information has been identified as a successful method for minimizing the impacts associated with recreation in natural environments (Roggenbuck & Ham, 1986). However, in order for education and information programs to be effective they must be well organized and contain a variety of communication techniques to reinforce intended messages; for example, slide and video presentations and ranger contacts (Kascenska, 1987).

Outdoor programs and courses can be important venues for disseminating information and educating aspiring rock climbers on the virtues of clean climbing. Education programs that incorporate a hands on approach to teaching minimal impact techniques are generally viewed as having the greatest potential for influencing appropriate behavior (Roggenbuck, 1992). For example, the rock climbing program at North Carolina State University includes a unit on minimal impact rock climbing and uses a combination lecture and slide program to visually identify climber related impacts, discuss the implications, management practices, and introduce effective clean climbing practices. This information is reinforced during climing outings where students can implement the appropriate clean climbing practices.

3. Teachable Moments

Outdoor leaders can utilize the occasional occurance of unplanned opportunities or circumstances to present topics and reinforce clean climbing practices when presented with them. These events allow participants to explore specific issues and meet them head on. For example, your group arrives at the base of a climbing area to discover the rockface above crowded with climbers with more waiting to get started. As a teachable moment, a discussion might ensue on the issues surrounding crowding; what are the social and environmental impacts involved; how does this encounter affect your climbing experience; or what are some of the ways of reducing this type of encounter?

4. Service

Engaging in activities that promote service to the climbing environment can supplement classroom lectures and outings by encouraging students to participate in local projects to reinforce practices and attitudes developed earlier in the program or course. Climbing area clean-ups, trail maintenance projects, participation in local climbing coalitions, special events, or involvement in access issues are all ways of getting involved and giving something back to the vertical environment.

Conclusion

As outdoor educators we can provide our participants with the experiences to help them become more knowledgeable climbers and outdoorpersons. Participation in our programs can give all of us the oppportunity for fun, excitement, adventure, and challenge, Perhaps most of all, the climbing experience offers us a chance to explore and shape our attitudes towards the vertical environment and ourselves and act responsibly on its behalf.

> "Rock climbing, as such, should be accepted with the greatest enthusiasm; yet I feel that certain values should be preserved in our contact with the mountains. While it is rarely a case of the complete ascendancy of acrobatics over esthetics, we should bear in mind that the mountains are more to us than a mere proving ground of strength and alert skill. Rock climbing should be considered a thrilling means to a more important end."
>
> Ansel Easton Adams, 1932

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