Bouldering: Understanding and Managing Climbing on Small Rock Formations

Prepared and Published by The Access Fund

This paper is intended to provide a knowledge base for understanding and managing bouldering as a unique form of outdoor recreation. The following topics will be addressed:

The Access Fund understands that bouldering is not appropriate in all areas and at all times. When bouldering is determined through objective analysis to conflict with other resource values it is the goal of the Access Fund to help determine what can be done to reduce or eliminate problems, and to support management actions and programs that actually solve the problems they are intended to address.

Since 1990 the Access Fund has advocated for the sustainable practice and management of all forms of climbing. Bouldering and all other climbing activities require a natural environment for a fulfilling climbing experience; therefore, the Access Fund supports — through grassroots activism, scientific study, grant making, and public policy — the conservation of climbing areas and the well-informed management of climbing resources and activities.

Copies of this paper and other information resources are available directly from the Access Fund. Please visit www.accessfund.org, or call 303-545-6772. Questions on bouldering should be directed to the Access Fund's Access & Acquisitions Director, Shawn Tierney, at 303-545-6772 #105

Bouldering is the practice of climbing on small rock formations, low enough to the ground so that no technical safety equipment (i.e. ropes) is necessary.

I. Overview of Bouldering

Bouldering — climbing on small rock formations without protection from a rope — was once considered mere practice for bigger climbing objectives. Today, many climbers consider it to be a sport unto itself. Generally speaking, the height limit for bouldering is about 25 feet. Most boulderers prefer to stay closer to the ground, with 12 to 15 feet being an average full-length boulder route, or "problem." Some boulderers even limit their climbing to horizontal traverses that never take them more than a few feet above the ground.

Bouldering is a form of climbing that can be enjoyed even by those with a fear of heights. It's also the preferred form of climbing for many of the sport's most talented rock gymnasts, who master difficult movements by practicing them in a relatively safe setting. Because bouldering does not take climbers very far from the ground, or from each other, it can be a very social activity. The impact created by large groups of people bouldering together may be substantial.

Bouldering falls are short but frequent. Most boulderers use portable mats — known as "crash pads" — to cushion falls and make uneven, rocky landings less likely to cause damage to knees, ankles and backsides. It is likely that the increased comfort and safety offered by modern crash pads, as well as the inherent simplicity and low cost of the activity, have been important factors in the rapid rise in bouldering's popularity.

II. Bouldering Demographics

Boulderers are a diverse user group. Although rock climbing once was a distinctly male-dominated activity, this has changed — statistics compiled by the Access Fund and the Outdoor Industry Association suggest that as much as 40% of all climbers are now female. Nowhere is this trend more evident than among boulderers.

A bouldering culture has evolved and become better defined in recent years. This culture may be generally described as youthful, energetic, and iconoclastic. Because bouldering requires a relatively small financial commitment in terms of equipment, it is accessible for young people with limited incomes. The climbing media have publicized bouldering areas with glamorous photographs and laudatory articles, encouraging this interest and providing fertile ground for climbing industry advertising.

"We…struggled with the basic question of what is an acceptable compromise between recreation and resource protection. The Access Fund has helped to interface with the climbing community. So far the experience has been very positive and collaborative."

-- Roy Zipp, Natural Resource Specialist, North Cascades

III. Impacts Caused by Bouldering

Like all forms of outdoor recreation, bouldering causes impacts to natural resources, some of which are unique to the activity. Bouldering impacts tend to be concentrated around the rocks themselves, sometimes in areas that may be used by few other visitors. The climbing community has proven receptive to management where there has been thorough outreach during the development of management plans. Conversely, where actions which limit or eliminate bouldering opportunities are undertaken without consulting climbers, with little documentation of impacts, or no similar actions are taken to restrict other recreational activities the climbing community may be less cooperative.

The next pages of this document examine bouldering's potential impacts in detail, and suggest possible management solutions.

Bouldering's Impacts on Resources

1. **Impact on Rock Formations**
2. **Social Impacts**
3. **Impacts on Staging Areas**
4. **Additional Concerns**

1. Impact on Rock Formations

Impact of chalk. Rock climbers, including boulderers, commonly dust their hands with gymnast's "chalk" — magnesium carbonate powder — as a drying agent, to improve grip. Chalk use often leaves a thin layer of white residue on handholds. While the environmental effects of chalk may be minimal (depending on rock type, weather, and other factors), the visual effects may be significant in areas with high visitation.

Magnesium carbonate is chemically basic. On non-porous rock such as granite, gneiss, or quartzite, chalk appears to cause little if any physical effect to the rock resource. The effects of chalk use on rock surfaces, lichens or plants growing out of the rock, or wildlife is not thoroughly understood at this time, but there is no evidence that chalk use causes harm to these or other values in any bouldering area. In the absence of more definitive information

about chalk's long-term environmental effects, resource managers may wish to encourage climbers to minimize the use of chalk. It is appropriate to prohibit chalk use within 50 feet of critical resources such as rock art, as has been done at Red Rocks National Conservation Area, a major climbing and bouldering area near Las Vegas, Nevada.

Impact on vegetation. Boulderers are attracted to the most exposed rock surfaces and rarely attempt to climb highly vegetated faces (with the exception of areas like the Pacific Northwest, where the only rock resources are thickly covered with moss, lichen or plant growth). Small amounts of lichen, however, grow on many exposed rock surfaces, and boulderers sometimes brush away moss or lichen at the point of key hand and footholds. Even if no intentional "cleaning" is done, simply using hand and foot holds will wear away the vegetation at the points of contact. Often, this process involves rubbing or scratching the hold with the fingers. Sometimes a small brush is employed for this purpose.

Left to themselves, boulderers may engage in limited "cleaning" of select rock surfaces when exploring new terrain. Widespread removal of organic material is unusual, as it is generally unnecessary (and undesirable) from the climber's standpoint.

Impact of chipping and gluing. In some bouldering areas climbers have, in discrete locations, modified the rock to create finger or foot-holds, or used adhesive agents to prevent friable flakes and lips of rock from breaking off and making a problem easier, more difficult or impossible. The practice of creating or enhancing holds in the rock is known as "chipping"; the practice of reinforcing the stability or strength of loose holds with epoxy is called "gluing." These practices, while very uncommon, have caused much controversy in the climbing world and are almost universally condemned by climbers. Although not a widespread practice, the Access Fund vehemently opposes intentional alteration of the rock for the purpose of creating or enhancing holds. We believe such actions degrade the climbing resource and eliminate challenges for future generations of climbers. Conserving the natural resources and the climbing environment should be a high priority for climbers.

2. Social Impacts of Bouldering

Unapproved trails. One of the most common resource effects at popular bouldering areas is the gradual appearance of paths connecting the various boulders. Climbers typically boulder on one rock for a period of time, then walk or scramble to nearby rocks for more climbing. If bouldering use is heavy, a web-like network of trails may develop among the boulders. This phenomenon is more or less common depending on many environmental factors, most notably the durability of the ground's surface around boulders.

On federal land, the question of whether unplanned and unapproved social trails can or should be "improved" or made permanent is guided by the National Environmental Protection Act (NEPA). NEPA requires an analysis of the affected environment and likely consequences to the full spectrum of resource values and uses before a designated trail can be developed. NEPA does not prohibit social trails; the law requires that any such environmental effect not be allowed to alter the fundamental character or key values of an area without prior planning, and that before such an effect can be improved and made permanent by the oversight agency, it must be analyzed and approved.

To comply with NEPA, federal resource managers will need to monitor social trail development (and other impacts) in a bouldering area, and determine the threshold beyond which this impact becomes "significant" enough to trigger a NEPA analysis. As the costs of such analysis, both fiscal and administrative, are considerable, federal resource managers are advised to work collaboratively with the local climbing community to determine what management actions may be taken to reduce the significance of this impact without triggering a full-blown NEPA analysis. Such preventative actions may include erosion control; rerouting of climber traffic through other, more durable areas; educational outreach; signs at parking and staging areas; and limited closures.

Noise impacts. Boulderers, particularly youthful participants, may be audible from some distance away as they encourage each other's efforts on the rock, and socialize around popular boulders. This impact can be mitigated by outreach (building a greater awareness of human sounds and their environmental effects.) Occasionally non-climbing visitors may complain to resource managers about seeing climbers on rocks in an area, simply because they would prefer to view the rocks with no human presence. This preference should not unduly influence management response in areas with multiple recreational values.

3. Bouldering's Impacts on Staging Areas

Soils and vegetation. The most pronounced effects of bouldering activity occur on the ground below and directly adjacent to heavily used boulders. Here, in the "staging area," soils and vegetation can quickly become compressed as climbers walk around below the problems, sit down to put on shoes, socialize, and fall or jump back to the ground. If the staging area is flat, impact will generally be limited to displacement of vegetation immediately below the boulder. If the staging area slopes, erosion may occur.

The displacement of soils, vegetation, and other resources in the staging areas around boulders is a potentially significant impact associated with bouldering. Since the soils directly below and adjacent to boulders often collect run-off and retain moisture better than other areas, they may prove to be critical

habitat for certain plants and wildlife. Where such resources are particularly sensitive, rare or threatened, limitations on or even temporary closures to bouldering activity may be required to protect them. Generally, such extreme measures are not necessary to achieve management objectives; outreach and education have been used successfully in many climbing areas to minimize such impacts before they become critical.

In a few bouldering areas, climbers, being unaware of area management rules and principles, have “landscaped” the staging area (i.e. cut off tree branches and leveled the ground) to make the bouldering experience safer or more pleasurable. This conduct is inappropriate, and responsible climbers have helped restore areas where such activity has occurred.

Crash-pad effects. Crash pads have become, like chalk, an important tool for bouldering. Like any tool, its indiscriminate application can have unintended (and undesirable) consequences. Crash pads positioned on the ground below boulders may reduce erosion by distributing and absorbing the force of bouldering falls. Pads can, however, cause damage to vegetation if they are draped over or leaned against grass, shrubs, bushes or flowers. Climbers should be encouraged, through outreach such as trailhead kiosk postings and educational brochures, to place crash pads only on durable surfaces.

4. Additional Concerns

Litter and Human Waste Disposal. While litter is not a significant impact at most bouldering areas (and is even less so the further into the backcountry one goes), climbers sometimes leave behind traces of their presence. Climbers should be encouraged to carry small plastic bags with their bouldering gear and to pack out all trash for proper disposal at trailheads, campgrounds, or other facilities. Inadvertent littering happens, from time to time, with every user group. However, deliberate leaving behind of trash or personal possessions without authorization is inappropriate in natural areas.

Disposal of human waste can be a significant issue in popular climbing areas without readily available toilets. Climbers should be encouraged to utilize trailhead outhouses prior to hiking in to their bouldering destination. Climber education materials can describe the proper procedure for burying solid waste if no toilets are available (200 feet from any water source, at least six inches deep, pack out all toilet paper). Most bouldering areas are not in alpine environments where burying feces becomes problematic in shallow soils; in such areas it may be preferable to smear and scatter feces rather than bury it. Provision of management infrastructure such as outhouses for a bouldering area is a significant environmental effect and may trigger a NEPA analysis.

Cultural resources. In some areas, boulders, alcoves beneath boulders, or spans of rock at the base of cliffs are archeological sites. These sites may have buried or surface artifacts, or be adorned with pictographs and petroglyphs. No visitor, including boulderers, should ever disturb an archeological site in any way. In such areas impacts associated with bouldering, particularly chalk, may need to be regulated more closely than in other areas — it would be inappropriate, for instance, to leave chalk marks on top of or even close to rock art. Some climbing areas on federal lands maintain a 50-foot buffer between rock art and climbing/bouldering routes; this distance has proven sufficient to preserve historic values. At Hueco Tanks State Historical Park in Texas, however, there is no minimum linear distance established between rock art panels and climbing routes. Rather, climbing is simply prohibited directly on, above and adjacent to these panels.

As a rule, climbers feel that the presence of rock art and other historic values enhances the bouldering experience, and want to preserve these values. The climbing community has always maintained as a standard of conduct that rock art and other archeological resources should be seen but not touched. Given the sensitivity of historic resources such as rock art, and the possibility that such resources may not be readily apparent to an untrained eye, it is prudent for resource managers to impose buffer zones between bouldering problems and archeological sites. A modest distance will prevent climbers from feeling that the buffer zone is excessive to achieve the desired management objectives, especially if no standards have been established scientifically.

The National Historic Preservation Act (NHPA) and the National Environmental Policy Act govern management of archeological and cultural resources on federal land. The NHPA's Section 106 requires "consultation" with interested parties prior to any "undertaking" (an "undertaking" is any action, or inaction, by the managing agency or authorized parties that may affect these resources). In all areas with climbing opportunities, including bouldering areas, climbers should be considered a stakeholder interest group and be formally invited to consult whenever the Section 106 process is initiated. If climbers are not allowed to participate in this process, any resulting management action that restricts or eliminates climbing opportunities may be met with resistance from climbers.

One of the biggest challenges in managing historic sites is educating the public about historic values without necessarily informing visitors of the exact locations of specific resources. This is especially true if some resources have been identified as sacred to indigenous peoples. If such resources exist in an area used by boulderers, their existence should be made clear through outreach and educational avenues, without disclosing the specific location of such resources. Where such resources are so sensitive that any human intrusion may threaten their preservation, area closures may be required but should apply to all visitors equally, not just boulderers.

IV. Management Considerations

The hallmarks of successful management of bouldering are open communication between resource managers and climbers, and proactive management responses that rely principally on education and outreach to achieve objectives. Management planning for areas with bouldering opportunities should include consideration of the views and priorities of climbers. When boulderers feel that they have been included in the decision-making process, they are more likely to comply with restrictions, and to help enforce those restrictions among their peers. In virtually all areas where bouldering is practiced, the activity has been found to be compatible with other land uses and values. Many bouldering areas have enjoyed largely unrestricted access for decades, yet have experienced minimal environmental impacts and few management problems.

Determining just what measures can accomplish management goals without needlessly reducing, or effecting the quality of, recreational opportunities requires a solid knowledge of the way bouldering is practiced in a specific management area. Both this knowledge, and good relations with the bouldering user group, are informed greatly by the assignment of a specific liaison to handle bouldering-related issues. Ideally, this liaison will have some climbing experience, although this is not essential. What is important is that boulderers perceive the liaison as willing to listen and learn about their activity, and more importantly, that he/she consider bouldering to be a valid and worthwhile activity.

Boulderers, especially young boulderers, have an extensive network of Internet sites devoted to their activity, and this fact can be put to great use by resource managers (the BLM has already done so to support education/outreach in the popular bouldering locations around Bishop, California: www.ca.blm.gov/bishop). Bouldering websites are receptive to postings from resource managers, and these sites can be a very efficient and cost-effective method for reaching this user group.

V. The Access Fund

The Access Fund is a national, 501 © 3 non-profit organization dedicated to keeping climbing areas open and conserving the climbing environment. The Access Fund is the largest climbers group in America, with over 10,000 members. To accomplish its mission, the Access Fund encourages an ethic of personal responsibility, self-regulation, and Leave No Trace® practices among climbers; works closely with local climbers, land managers, environmental organizations, and other interest groups to manage and preserve climbing areas throughout the United States; sponsors grassroots climber activism and resource stewardship; develops and distributes climber education materials; acquires and manages land; and provides funding for

conservation and impact-mitigation projects, and for scientific research relevant to the climbing environment.

VI. Utilizing the Resources of the Access Fund

Information

Access Fund staff can provide advice on subjects such as organizing stewardship projects, land acquisitions, liability, agency and climbing representative contacts and education and outreach strategies. Samples of outreach material can be provided on request. Staff also field general inquiries on access from the climbing public and provide updates to queries on climbing access arrangements.

Publications

The following publications are available from the Access Fund website: www.accessfund.org:

- Climbing and Natural Resources Management – An Annotated Bibliography.
- Supplement to Climbing and Natural Resources Management.
- Risk Management for Climbing.
- Raptors and Climbers: Guidance for Managing Technical Climbing to Protect Raptor Nest Sites.
- Climbing Management: A Guide to Climbing Issues and the Production of a Climbing Management Plan.

Education and Outreach

Text - Access Fund staff and/or local climber contacts recommended by the AF can assist agencies in producing technically correct wording and presentation of text compatible with current usage and information in climbing guides.
Logo – the Access Fund can supply a logo for signage. Signs with AF logos must be approved by the Access Fund.
Distribution –local climber contacts recommended by the AF can provide advice on distribution outlets and display points for education materials.
Website – the Access Fund website (www.accessfund.org) provides information about special access issues, wildlife and conservation issues, news updates, upcoming events and projects, and local contacts. For example the website lists U.S. locations with seasonal raptor and other wildlife climbing restrictions, climbing and resource management publications, and federal and state public lands planning initiatives.
E-News – monthly email news sent to individuals who subscribe through the Access Fund website. Provides access information and updates, details of agency planning initiatives and management plans, and upcoming events.
Newsletter – the membership newsletter, produced six times per year covers climbing access and conservation issues.

Membership Handbook - the membership handbook, sent out to all new members, provides general access information about climbing on federal and state owned public lands, and how to work with land managers on access issues.

Regional Contacts

The Access Fund supports a national network of volunteers and works closely with affiliated local climber organizations. Regional climbing representatives can provide input on climbing management issues and assist with the production of climber education materials. They can also have a key role in the development of climbing management plans and are usually available to provide input on local management issues. The Access Fund website lists current contacts and affiliate organizations. In addition, the Access Fund can help provide other local contacts (e.g. individuals from climbing gyms, guide services, retail stores, etc.)

Project Support

Grants Program – the Access Fund provides funding for access and conservation projects. Project funding categories include education, mitigation, research, facilities, and land acquisition. See website for details and to download a copy of the grant guidelines.

Special Events / Stewardship Projects – the Access Fund supports projects such as conservation work days and clean-up events by assisting with publicity and donations of climbing equipment and other prizes. The Access Fund also sponsors a national program called Adopt-a-Crag – refer to the website for more information about this event.

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