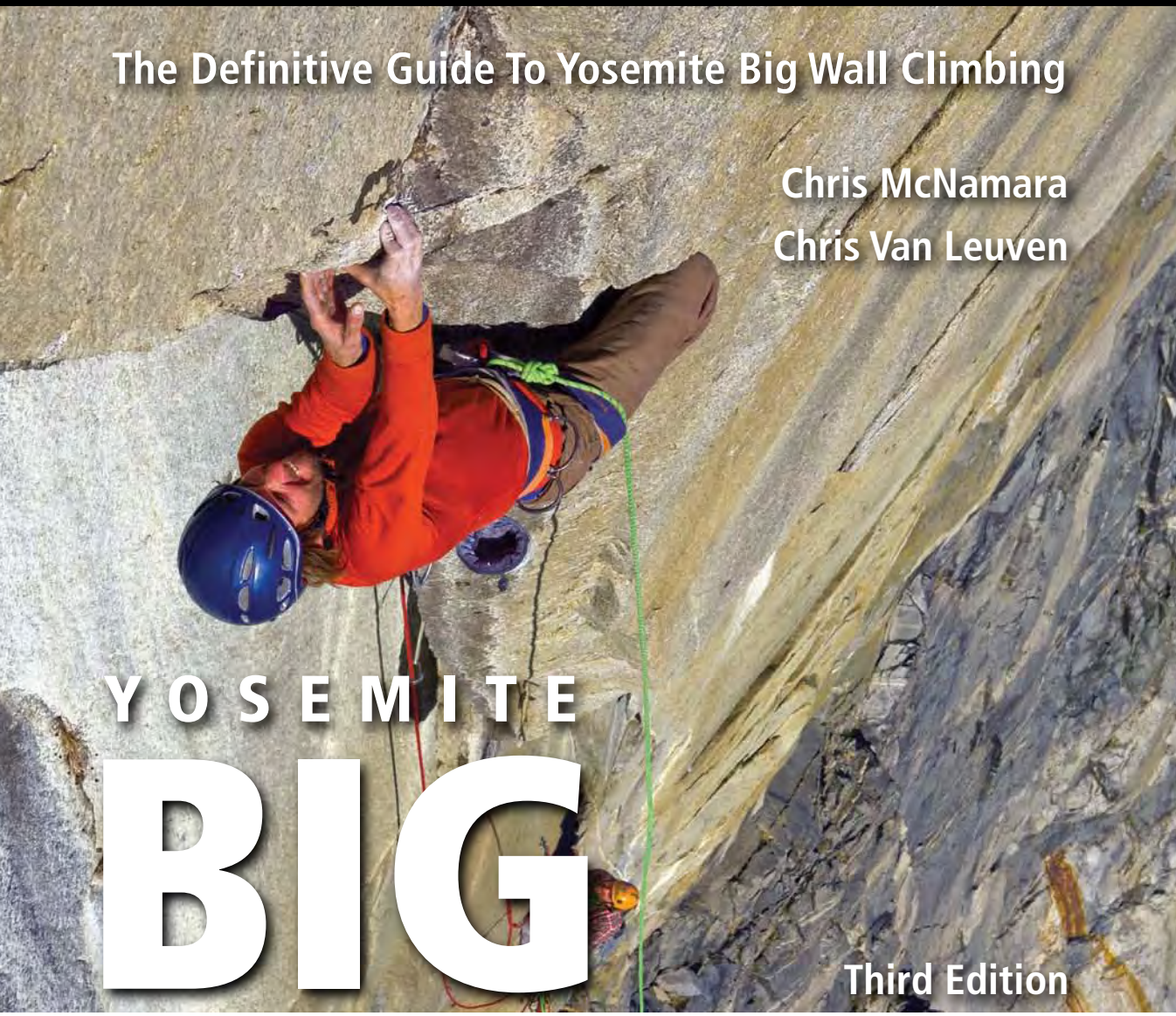
SUPERTOPO™

The Definitive Guide To Yosemite Big Wall Climbing

Chris McNamara
Chris Van Leuven



YOSEMITE BIG WALLS

Third Edition

14 New Routes!

SUPERTOPO™

Yosemite Big Walls

Third Edition

Chris McNamara
Chris Van Leuven

Published by
SuperTopo
2 Bradford Way
Mill Valley, CA 94941
www.supertopo.com

Edited by Steve McNamara and Chris McNamara
Copyedited by "Pass The Pitons" Pete Zabrok

Cover Photography
Nico Favresse on The Secret Passage, VI 5.13c R, El Capitan
Photo John Dickey
Back cover photo "Captain" Kirk Bland tends the bags on the Rurp Pitch, Pitch 8, Tribal Rite, El Capitan
Photo Bryan Law

Cover Design
Chris Van Leuven and David Safanda - www.safanda.com

Frontispiece
Jim Herson links Salathé Headwall pitches into one long stretcher of 5.13c
Photo Jim Thornburg

Contents
Ammon McNeely on the first one-day ascent of Horse Chute.
Photo Chris McNamara

McNamara, Chris
Van Leuven, Chris
Yosemite Big Walls 3rd Edition: SuperTopo

ISBN: 978-0-9833225-0-4

Contents

Warning

Climbing is an inherently dangerous sport in which severe injuries or death may occur. Relying on the information in this book may increase the danger.

When climbing you can only rely on your skill, training, experience, and conditioning. **If you have any doubts as to your ability to safely climb any route in this guide, do not try it.**

This book is neither a professional climbing instructor nor a substitute for one. **It is not an instructional book. Do not use it as one.** It contains information that is nothing more than a compilation of opinions about climbing the Big Walls in Yosemite Valley. **Those opinions are neither facts nor promises.** Treat the information as personal opinions and nothing more. Do not substitute these opinions for your own common sense and experience.

Assumption of Risk

There may be errors in this book resulting from the inadvertent mistakes of the authors and/or the people with whom they consulted. The information was gathered from a variety of sources, which may not have been independently verified. Those who provided the information may have made mistakes in their descriptions. The authors may have made mistakes in their conveyance of the information in this book. **They cannot, therefore, guarantee the correctness of any of the information contained in the book.** This book was published by the authors. No independent publisher checked the contents. The topographical maps, the photo-diagrams, the difficulty ratings, the protection ratings, the approach and/or descent information, the suggestions about equipment, and other matters may be incorrect or misleading. Fixed protection may not be where indicated, may be absent or may be unreliable. **You must keep in mind that the information in this book may be erroneous and use your own judgment when choosing, approaching, climbing or descending from a route described in this book.**

DO NOT USE THIS BOOK UNLESS YOU ASSUME THE RISK OF ITS ERRORS OF REPORTAGE OR OF JUDGMENT AND OF ITS OTHER DEFECTS.

Disclaimer of Warranties

THE AUTHORS AND PUBLISHER WARNS THAT THIS BOOK CONTAINS ONLY THE AUTHORS' OPINION ON THE SUBJECTS DISCUSSED. THEY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, AND IN ANY EVENT, THEIR LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO THE CONTENT OF THIS BOOK IS LIMITED TO THE PURCHASE PRICE OF THE BOOK. THEY FURTHER LIMIT TO SUCH PURCHASE PRICE THEIR LIABILITY ON ACCOUNT OF ANY KIND OF NEGLIGENT BEHAVIOR WHATSOEVER ON THEIR PART WITH RESPECT TO THE CONTENTS OF THIS BOOK.

Acknowledgements

The following folks contributed beta, feedback, topos, photos and support. Thank you!

Rachel Arst
Jerry Anderson
Karl Baba
Greg Barnes
Stephen Barratt
Holly Beck
Jeff Apple Benowitz
Dana Benson
Chris Bevins
Bill Binder
Bruce Bindner
Micah Bisson
Bryan Bornholdt
Erik Bratton
Jim Bridwell
Mike Brown
Roger Brown
Tommy Caldwell
Rick Cashner
Chongo Chuck
Bryan "Coiler" Kay
Mike Corbett
Clint Cummins
John Dickey
Dick Duane
Sean Easton
Doug Englekirk
Lincoln Else
Greg Epperson
Tom Evans
Nico Favresse
Mike Fiechtner
Hans Florine
Jacqueline Florine
Tom Frost
Steve Grossman
Brad Goya
Peter Haan
Ted Hansen
Doug Hemken
Jack Hoeflich
Josh Holmes
Alex Honnold
Leo Houlding
Alexander Huber
Mark Hudon
Huff House crew
Layton Kor
Eric Kohl
Mark Kroese
Bryan Law
Ben Lepesant
Adam Long
Dougald MacDonald
Gene Malone
Andrew McGarry
Kay McNamara
Kristin McNamara
Morgan McNamara
Steve McNamara
Ammon McNeely
Jesse McGahey
Mark Melvin
Scott Morrison
Jamie Mundo
DeAnne Musolf Crouch
Amanda Nolan
Todd Offenbacher
Mike Ousley
Ron Renspie
Beth Rodden
Corey Rich
Royal Robbins
Erik Roed
Steve Roper
Mick Ryan
Brian Sadowsky
David Safanda
Ernie Saldago
George Schevon
Kim Schmitz
Steve Schneider
Dave Sheldon
Mike Shore
Erik Sloan
Pep Soldevila
Jason Smith
Brian Smoot
Randy Spurrier
Greg Stock
Allen Steck
Josh Thompson
Jim Thornburg
Sean Villanueva
Clay Wadman
Jean Louis Wertz
Matt Wilder
Wayne Willoughby
Jonas Waterman
Cedar Wright
Ben Zartman
"Pass The Pitons" Pete Zabrok

What's new?

Every year the climbers up their game and the walls stay the same. That is the goal at least. Hammerless climbing continues to evolve and the iron racks are getting smaller and smaller. With your help we can accelerate this trend toward the ultimate goal: climbing every classic line in Yosemite without a hammer. Why? Because hammerless climbing is more fun, often faster, and keeps the cracks in their natural state of perfection. If there is a way to improve a perfect El Cap crack, I don't know about it. I do know that pin scars, trenched heads, and drill hooks sure are not an improvement.

One of the original goals with Yosemite Big Walls' first edition was to update the topos with clean aid ratings and modern hammerless racks. That goal continues in this third edition. More pitches have clean ratings and more routes go completely clean. I encourage you to find pitches that still have "A" ratings, do them clean and share on the SuperTopo Route Beta Section the new "C" rating.

We didn't focus on big wall free climbing topos in the Second Edition because only a handful of people were free climbing walls. That was 2005. In 2011 there are now dozens of big wall free ascents every year and the pace is accelerating. More importantly, publishing free climbing topos hopefully further inspires clean climbing. Nailing a piton on a C2 or C3 pitch that goes free changes the free route forever.

There are big changes to the racks. There are 20-50 percent fewer pitons called for on most climbs than in the Second Edition. Clean aid gear is now better. Offset small cams are no longer listed as optional. They are essential on any C2 or C3 route (you can get by without them but the routes are scarier and you are more likely to nail). The same goes for offset micro nuts: I don't even list regular micro nuts on the racks. If you still have not met a cam hook, introduce yourself. There are many more beaks called for in each topo. The advent of medium and large Peckers/beaks has changed aid climbing in two ways: 1) Peckers often are hand-placed for hooking pin scars. 2) If you do need to hammer them, they are way less destructive than a Lost Arrow, knifeblade, or angle (just be careful about fixing them in corners). They are also way more bomber. An A4 pitch with knifeblades might be A3 with Peckers. We cut down the knifeblade racks in the topos but some people might cut them out almost entirely and load up on Peckers instead.

The biggest change in SuperTopo beta for Yosemite Big Walls is not in this book but rather online. We now have:

- gear reviews of our favorite big wall gear at www.supertopo.com/reviews/
- an entire online How to Big Wall climbing guide with video
- topos for routes not included in this book
- lots of trip reports, beta, photos, updates

Some of the "information" chapters in the Second Edition have been omitted from this book but are free to download at SuperTopo.com, chapters such as Staying Alive. This decision was inspired by an awesome hand-written letter from Tom Frost. He encouraged us to cut the extras and deliver the goods. One quote from the letter: ".. your implication seems to be that climbing is all about information. Wrong direction! Poor man's for studying the rock face, getting to know El Capitan, getting connected to Mother Earth, actually going climbing."

Tom is right. Big walls are about adventure and a big walls book should inspire you to climb the route AND help you climb in your best style whether it is as free as possible, clean as possible, or both. That was the goal. Let us know if we lived up to it.

The best part of making this book was reading every single beta post and trip report on supertopo.com. Thank you to everyone who has submitted beta and improved this book and thanks in advance for your feedback to make a Fourth Edition even better.

Chris McNamara

SuperTopo Mission

- **Help climbers ascend and descend routes efficiently and safely by creating the most accurate and informative climbing topos ever published.**
- **Capture the mystery, adventure, and humor of climbing by publishing the histories, anecdotes and outrageous stories of each route.**
- **Promote clean climbing by publishing the most up-to-date rack info as well as hammerless ratings for each pitch.**
- **Stress the importance of low-impact climbing and promote stewardship of the environment.**

Visit www.SuperTopo.com Before Each Climb

There is much more beta available for free on the SuperTopo web site: www.supertopo.com. This information may be more current than the beta available here.

The web site offers additional free beta for each climb:

- photo galleries
- trip reports
- route condition updates
- closures and rockfall warnings
- route beta email alerts

The web site is packed with general Yosemite Big Wall info:

- free downloadable color topos
- road and weather conditions
- everything you need to know about staying in Yosemite Valley
- good routes for first-time Yosemite climbers
- general trip planning info

Introduction

Welcome to big wall paradise. In Yosemite Valley stand some of the most exquisite rock formations on the planet. For more updated and extensive information, visit www.supertopo.com/climbingareas/yosemite.html

Getting There

Air Travel

The closest major international airports are Oakland International (3.5-hour drive) and San Francisco International (four-hour drive). Of the two, Oakland is preferred because it is less chaotic and 30 minutes closer to Yosemite. Sacramento International is also a four-hour drive from Yosemite but has fewer connecting flights. Fresno Yosemite International is only a three-hour drive but offers the fewest flights. Since all of these airports are about the same distance from Yosemite, shop around for the best fares. Some climbers also fly into Los Angeles International, which is a seven-hour drive to Yosemite.

Train Travel

The train is not the fastest way to Yosemite but it's a cool way to travel. From Emeryville (a 20-minute bus ride from San Francisco) take Amtrak to Merced and board the Via Bus to Yosemite. There are three runs from Merced in the morning and one in the evening. The cost is $20 round trip from Merced to Yosemite. From Los Angeles, Amtrak has a bus to Bakersfield that connects with a train to Merced. From there take the Via Bus to Yosemite.

Bus Travel

Short of having a car, the bus is the best way to get from a major airport to Yosemite. From Oakland, San Francisco or Los Angeles take the Greyhound Bus to Merced and then the Via Bus to Yosemite. Plan a full day of travel if riding the bus. From June to November you can only reach Yosemite from Mammoth by the YARTS bus. You can check the latest fares and departure times at via-adventures.com and yarts.com.

Car Travel

There are four state highways that access Yosemite: 120 from the west, 120 from the east, 140 from the west, and 41 from the southwest. The fastest access from the San Francisco Bay Area is 120. Highway 41 is the best option if coming from Los Angeles or Fresno. Highway 140 is the lowest elevation road and offers the best winter access if 120 and 41 have chain controls (chains are rarely required on 140). Highway 120 from the east (aka The Tioga Pass Road) offers the best summertime access from Bishop, Utah, Nevada and eastern states. However, this road closes after the first major winter storm (usually in November) and doesn't open until the snow melts (usually late May). To access Yosemite from the east in winter, you must get to the west side access roads by driving north through Tahoe or south through Bakersfield.

You may rent a car at any airport or major city. International climbers who stay in the United States for more than a month often buy a used car in San Francisco or Los Angeles and sell it (or scrap it) at the end of their trip. To find a cheap car, look in the local papers or on www.craigslist.org.

Many people stay in Yosemite without a car. Renting a car is expensive and it's possible to reach most climbs by the free park shuttle bus. Also keep in mind that gas is not available in the Valley – try to arrive with a full tank.

Driving times and distances to Yosemite Valley

From	Time (hours)	Distance (miles)
Boulder, CO*	20:00	1,254
Fresno, CA	2:20	90
Truckee, CA	4:00	240
Los Angeles, CA	6:00	311
Bishop, CA*	3:20	95
Oakland, CA	4:00	172
Sacramento, CA	4:00	174
Salt Lake City, UT*	12:00	707
San Francisco, CA	4:00	192
Tuolumne Meadows	1:30	60

*Driving times are two to four hours longer when Tioga Pass is closed, usually from November through May.

Facing page: John Middendorf leading Pitch 7, first ascent of Atlantic Ocean Wall, El Cap, September 1985.

When to Climb

Yosemite has the best weather of any big wall climbing area on earth. That said, note that it could storm at any time in Yosemite, and often heavily. Prepare for the worst on a multi-day big wall by bringing adequate bivy gear (see Staying Alive, at supertopo.com). The best times to climb here are in the spring and fall. The summer can also be great once you get a few pitches up and out of the heat. In the winter, the Valley empties of both tourists and climbers, giving a much more pristine feel to the climbs. Winter can have good climbing weather but can also have months of uniquely wet and severe Sierra storms. The effects of these storms are made clear in the story on page 192 of the two Japanese who died climbing The Nose in a storm. Road and weather reports can be found on the Internet sites listed in the appendix or by calling (209) 372-0200.

General Weather and Crowd Trends in Yosemite Valley

Nov 15–March The walls and Valley are relatively empty with usually at least one five-day spell of good weather per month. During a mild winter one to two weeks of great weather per month are common. On any winter ascent prepare for the absolute worst, as Pacific storms can last up to a week or longer and bring heavy snow and rain.

April–May 15 Walls and the Valley are still uncrowded, but there is a 50/50 chance of

getting either good or miserable weather. This is also the time of some of the wettest Pacific storms.

May 15–June Perfect weather and big crowds both in the Valley and on the walls.

July–Aug The Valley is still crowed with tourists, but walls are uncrowded. While Valley floor temperatures are often in the 90s and 100s, temperatures on the walls 500 feet above the Valley or higher are usually comfortable in the 70s and low 80s. Still, be prepared with plenty of extra water.

Sept–Nov 15 The Valley is crowded with tourists and walls are crowded. Mostly cooler weather with an occasional heat wave. The first winter storm usually arrives in late October or early November.

Month	Average precipitation	Max/min temp in degrees F
January	6.2"	49/26
February	6.1"	55/28
March	5.2"	59/31
April	3.0"	65/35
May	1.3"	73/42
June	0.7"	82/48
July	0.4"	90/54
August	0.3"	90/53
September	0.9"	87/47
October	2.1"	74/39
November	5.5"	58/31
December	5.6"	48/26

Staying in the Park

Yosemite Valley is a small tourist town filled with buildings, roads, cars, and people. The bad news is that the restaurants, stores, and motel-like rooms take away from the natural beauty of the park. The good news is that these same things make the Valley quite accommodating. You will find pizza, burgers, groceries, climbing gear, a medical clinic, motels, swimming pools, rafts, bike rentals, and if you're unlucky, The John Muir Hotel, aka, jail.

Camping

Camp 4 is The Valley's only walk-in campground and the cheapest place to stay. You must register with the ranger in order to stay and provide identification. Space is available on a per-person basis and each camper must be present. Six people are put in each campsite; people in one group may be put in different campsites. No reservations are required, but during peak season (May–October) expect a long wait to secure a campsite. The cost is $5 per person per night. The ranger arrives at the kiosk around 8:30 am, although a line has often formed well before then and the campground may fill before everyone in line is registered. There are 35 sites and each site is a 20-foot-square patch of dirt with fire pit and picnic table. There is a bathroom and a sink, but no hot water or showers. A free parking permit is required from spring through fall. A bulletin board next to the kiosk offers the chance to find climbing partners, friends, and (used) climbing gear. All other Yosemite campgrounds require reservations during peak season. Call 800-436-PARK to make reservations or go to: www.recreation.gov

There are a variety of places to camp outside the park boundary on Forest Service Land. Check out the Forest Service web site for more info: www.r5.fs.fed.us.

Lodges and Cabins

For big bucks, stay at the Ahwahnee Hotel, or for a more modest price you can crash in a motel-like room at the Yosemite Lodge or a canvas-topped cabin in Curry Village. All lodging is expensive for what you get.

Internet

WiFi is available throughout the Valley, including the Pizza Loft/Village area (this area also has a strongest cell connection), Curry Village and the Yosemite Lodge (but you must be a paying guest registered with the Lodge). The only place officially free Internet is offered is in the Library/ Girls Club which is near the Visitor's Center in Yosemite Village. Time is limited and expect long waits. If you must have Internet, you can pay the Lodge lobby or Village Deli, for $0.25/minute.

Facing page: Half Dome. Photo by Greg Epperson

Valley Rules

• Don't poop on the wall or toss bags. Climbers have gotten fines for this. More importantly, if you don't carry your waste to the summit, you ruin the experience for dozens of climbers that come behind you. There are at least six great (and often free) ways to make a poop tube/ turd cage: read about them here: http://www.supertopo.com/gear/poop-tube
• Camping out-of-bounds violations fines range from $75 to $150. Camping at the base or top of cliffs is considered out-of-bounds.
• Camping illegally in Camp 4 is the easiest way to get busted in the Valley.
• Parking in Camp 4 without a pass gets you a $95 fine. Rangers often check this lot. The same applies to the Yosemite Lodge parking lot and other lots that are not designated as day-use. Parking in the Curry Apple Orchard is unregulated, as are many other locations. Don't sleep in your car; you'll pay a hefty fine.
• Keep your car clean: throw away trash and food or store it in a bear box. If a bear breaks into your car you may have your car impounded and receive a fine. Bears love beer.
• Bear boxes in Camp 4 are for registered campers only. The rangers occasionally confiscate food from bear lockers if they think it belongs to someone not staying in the site.
• Do not leave trash in bear boxes. This is a good way to get the boxes removed.
• When you leave a slackline in Camp 4 they must be tagged with the owner's name and contact info. They can stay up within 200 feet of Camp 4 for the duration of owner's stay. If you decide to set one up, all trees must be adequately padded to avoid damage.
• Drinking in public in Yosemite is legal. However it is not okay to drink and ride a bicycle or be publicly under the influence. These are arrestable offenses.
• Yosemite is federal land; any violation of the law is a federal offense.
• Never drive more than five miles over the speed limit inside park boundaries.
• An official list of the rules is here: www.nps.gov/yose/parkmgmt/upload/compendium.pdf

Food

Groceries are available in the Valley at the Village Store, Curry Village Store or Lodge Store, but it is much cheaper to buy groceries in Oakdale, Merced, or Oakhurst on the way. There are a variety of restaurants in the Valley that serve everything from pizza and deli sandwiches to the saltier stuff at the Ahwahnee Hotel. Here is a quick listing of some of the Valley restaurants by location:
Yosemite Lodge: "The Cafe" (cafeteria), Mountain Room Bar and Grill.
Yosemite Village: Degnan's Deli, The Loft (pizza and pasta), The Village Grill.
Curry Village: Pizza Deck (with bar), buffet, Taqueria.

Showers and Laundry

Showers cost $3 (towel included) and are available at Housekeeping Camp and Curry Village. Laundry is available at Housekeeping Camp.

Climbing Gear and Climbing Guides

The Mountain Shop (209-372-8396), located in Curry Village, is one of the premiere climbing shops in The West. From bouldering pads to haulbags to the latest route beta, they have it all. You can get climbing instruction, arrange for a guide, and also rent gear from the Yosemite Mountaineering School and Guide Service. There are also a variety of climbing shops in the San Francisco Bay Area where you can purchase gear. In San Francisco: Mission Cliffs, Planet Granite and REI. In Berkeley: REI, Berkeley Ironworks, and Marmot Mountain Works. If you are coming from the east side of the Sierra, then visit Wilson's Eastside Sports in Bishop or Mammoth Mountaineering Supply in Mammoth.

Bears

Bears have damaged cars for as little as a stick of gum or an empty soda can. If you want what's yours to remain yours, remember three things: bears are hungry, smart, and strong. Bears are responsible for close to a thousand car break-ins every year in Yosemite, as all the shattered glass in the parking lots demonstrates.

When bears smell food, even if it's locked in

your trunk or glove compartment, they shift into high gear. They get turned on by odors of containers that used to contain food, and for toothpaste and sunscreen. Bears don't even need to smell food; they see something like a grocery bag or an ice chest and associate it with food. In fact, they don't need to see that much. If a bear notices clutter inside a car he'll think, "I wonder what's under all that stuff?" and go to work.

Breaking into a car is a trivial exercise for a bear. He inserts his claws at the top of the door frame and pulls down, then climbs in and trashes the car. You can't outsmart or out-muscle a bear. Stash your food in one of the bear-proof storage lockers provided by the Park Service at all campgrounds and throughout the Valley. Proper food storage is essential to protecting your property and, more importantly, the life of the bear. When a bear starts to endanger people it may be killed by the Park Service. Visit http://www.nps.gov/yose/planyourvisit/bearfacts.htm for more info.

Anchor Conditions

Since 1997 the American Safe Climbing Association has replaced more than 2,000 bolts on Yosemite's big walls. Many trade routes have bomber belays with three good bolts instead of the eight bad bolts that were there before. Good bolts, especially on lead, encourage people to push their free climbing and hammerless climbing to the next level. When climbing above bad rivets and dowels you are more likely to reach for the hammer. The ASCA is working to replace the remaining bad bolts in Yosemite. To make a donation and get the most up-to-date information on route anchor conditions, visit the ASCA web site at www.safeclimbing.org.

Hungry bear at the base of Zodiac. Karl Bralich, peaklightimages.com

Geology of Big Wall Climbing

By Greg Stock, Geologist, Yosemite National Park

Big wall climbing is all about geology. Sure, it also involves a lot of belaying, hauling, and cursing at portaledges. But when you get down to it climbing a big wall requires reading the rock in front of you. As a result, big wall climbers tend to be intrinsically aware of, and interested in, geology and geological processes. Here is some basic geology information that will hopefully expand your appreciation of Yosemite's amazing walls.

Rockfall on El Cap, October 11, 2010. Photo Adam Long

Rock type and fractures

There are at least a dozen different kinds of granitic rocks in Yosemite Valley alone, ranging in composition from true granites like those on Leaning Tower and El Capitan, to the granodiorites of Half Dome and Liberty Cap, to the dark diorite of the North America Wall. Rock type can make a real difference in the climbing aesthetic; compare the ominous fractured diorite of the North America Wall to the clean granite splitters of the Salathé Headwall. These rocks cooled from magma several miles beneath a chain of ancient volcanoes between about 105 and 90 million years ago. Slow cooling resulted in large, interlocking crystals that make for very strong rock. In addition, unlike rocks in the Alps or the Rockies that were thrust up through the tectonic "rock crusher," the granites of the Sierra Nevada were brought gently to the surface by prolonged erosion, resulting in relatively few fractures. It is this generally unfractured nature, along with tremendous rock strength, that allows for the impressive overhangs of Leaning Tower and El Capitan's southeast face. However, even the most massive faces still have fractures, namely sheeting joints (also known as exfoliation joints) that separate relatively thin slabs of rock from the cliff. Most flakes, including the feared "expando" flakes on the northwest face of Half Dome, are peeling away along sheeting joints.

Glaciation

Once Yosemite's granites were exposed on the surface, they were sculpted by a number of different processes, most notably glaciation. Yosemite Valley was initially carved by rivers, but beginning about 3-5 million years ago glaciers entered the valley and converted what was probably a modest V-shaped river canyon into the dramatic U-shaped glacial valley of today. Repeated glaciations created the sheer walls of Yosemite Valley by abrading the cliffs and plucking away blocks. The most recent glaciation peaked about 20,000 years ago and retreated from Yosemite Valley about 15,000 years ago, leaving behind glacial polish on many Valley walls.

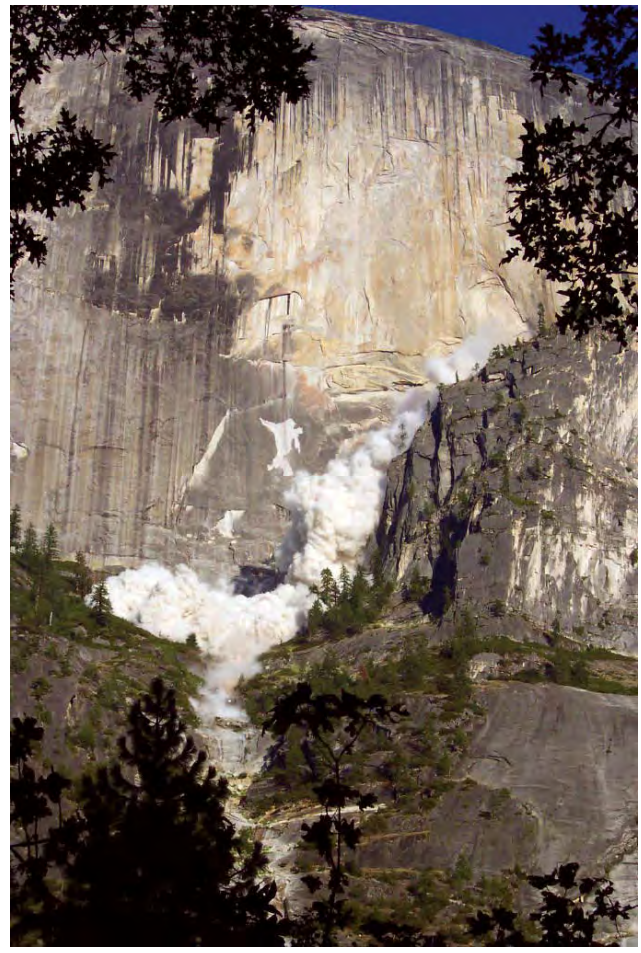
Rockfalls

The passage of large glaciers scoured a lot of loose rock from the Valley walls, yet every climb listed in this book requires an approach up a talus slope, the boulder piles that flank the cliffs. The next time you hike up a talus slope, stop and think about what this voluminous deposit represents: 15,000 years worth of rockfalls from the cliff above. Although there is some local variation (surprisingly, El Capitan has more talus per contributing cliff area than Glacier Point, despite the latter's recent activity), the unavoidable conclusion from the talus is that every cliff has experienced substantial rockfall in the past. Recent documentation demonstrates that rockfalls are also common today, with a rockfall occurring somewhere in Yosemite Valley every week on average.

Climbers have generally managed to avoid naturally occurring rockfalls, with a few tragic exceptions. However, the number of climbers on Yosemite's walls grows each year, increasing the likelihood of an incident. Scientists actively study Yosemite rockfalls but reliable prediction is unlikely to happen anytime soon. Climbers must take personal responsibility for addressing rockfall risk. How to do that? Unfortunately there are no hard or fast rules, but here are a few things to keep in mind: Rockfall detachment areas are often active over many weeks or months, so avoid climbing beneath these areas. Fresh talus and/or broken vegetation at the base of your intended climb are good indicators of recent activity. Be especially aware of cracking or popping sounds emanating from the cliffs, as these sounds have preceded many rockfalls. A helmet may not save you from a large rockfall, but it could offer protection from "flyrock," rock shrapnel that accompanies most rockfalls. Above all, use your common sense and trust your instincts; if that inner voice is telling you that the situation is not safe, it probably isn't.

Rockfalls have shaped Yosemite's big walls (the Great Roof is but one of many iconic features that owe their existence to rockfalls) but they also pose potential hazards. A SuperTopo post once compared the relationship between climbing and rockfalls to that between surfing and shark attacks. Like shark attacks, the probability of experiencing a rockfall while climbing is remote, but it is always possible. Most climbers agree that some risk is worth accepting in order to travel across the incredible granites – and through 100 million years of Earth's history – that comprise Yosemite's big walls.

Rockfall on Half Dome on July 27, 2006.
Photo Amanda Nolan



Aid Climbing Ratings

Grade Ratings

Grade ratings give a sense of the overall commitment required on a climb. Grades I and II refer to short crag routes. These ratings are seldom used.

Grade III refers to half-day routes. *Examples:* Royal Arches, Nutcracker.

Grade IV refers to full-day routes. *Example:* East Buttress of El Cap.

Grade V refers to shorter big wall routes. Fast parties may only take a day, but most parties spend two to three days on the wall. *Examples:* West Face of Leaning Tower, Prow, South Face of Washington Column.

Grade VI refers to longer big wall routes. All but the fastest teams require at least two days and usually many more. *Examples:* Regular Northwest Face of Half Dome, all routes on El Capitan.

Grade VII refers to extreme alpine big walls that require at least ten days of suffering on a huge wall in poor weather in a remote area. *Examples:* Great and Secret Show, Baffin Island; Grand Voyage, Great Trango Tower, Pakistan.

Aid Ratings

Keep in mind that aid ratings are only one measure of the difficulty of a wall climb. Weather, the length of the climb, skill, physical condition of the climber, the number of previous ascents, approach and descent, and many other factors all combine to determine the overall difficulty of a wall. Pitch ratings also can't include the dangers of bad bolts and poor fixed gear. Bolt ladders on some routes, which are theoretically "A0," have scored many 30- to 50-foot falls when rivets broke. Big airtime has also been logged on The Groove pitch of The Shield when numerous fixed pieces pulled. Question fixed gear and be prepared if it pulls.

Aid ratings are based on the number of bodyweight placements in a row. How is a "bodyweight" placement differentiated from a "bomber" placement? The only way to know for certain is to take a fall. The next best way to find out is to ask yourself, "Would I belay off this?" If the answer is "no" then it is probably a bodyweight placement.

A0 Pulling on pieces for progress while in free climbing mode. Generally no aiders are used unless you are climbing a bolt ladder.

A1 or C1 Easy aid: All placements are bomber. Little danger of falling except through pilot error. Most C1 pitches take from one to two hours. *Examples:* Many pitches on Half Dome's Regular Route, The Nose, and South Face of the Column.

A2 or C2 Moderate aid: one or two bodyweight placements over bomber gear. Five- to 30-foot fall potential. *Examples:* Many pitches on Zodiac, Prow, and Direct on Half Dome. Most C2 pitches take one to three hours.

A3 or C3 Hard aid: Three to five bodyweight placements in a row. Thirty- to 50-foot fall potential. *Examples:* Many pitches on Pacific Ocean Wall, Mescalito, and Ten Days After. Most C3 pitches take two to three hours.

A4 or C4 Serious aid: Six to eight bodyweight placements in a row and a 50- to 80-foot fall potential. *Examples:* Many pitches on Sea of Dreams, Atlantic Ocean Wall, and Native Son. Most C4 pitches take more than three hours.

A5 or C5 Extreme aid: More than nine bodyweight placements in a row. Eighty-foot plus fall potential. Most A5 pitches take more than four hours. *Examples:* Most El Cap routes, such as Reticent Wall and Nightmare on California Street, put up in the 90s.

"C" This pitch goes hammerless without relying on fixed gear. It is highly unlikely that you need a hammer on these pitches. *Examples:* All pitches on The Nose, Regular Route on Half Dome, and the South Face of Washington Column.

"A" This pitch generally requires a hammer to place pitons or copperheads. *Examples:* All pitches on the Reticent Wall and many pitches on Native Son, Lost in America, Zenith, and Sea of Dreams.

"F" comes after a "C" rating and denotes a pitch that relies on fixed gear in order to go hammerless. Ninety-five percent of the time pitches marked with "F" go hammerless, but to be safe put a hammer and a couple of copperheads and pins in the bottom of the haulbag in case fixed gear is missing. Don't remove fixed heads on a trade route unless it is a timebomb that you are replacing. The process of placing and removing copperheads eventually destroys the crack. A carefully cleaned piton usually leads to a clean aid placement. *Examples:* Many pitches on the Leaning Tower, Prow, and Zodiac.

"R" Dangerous fall potential because of the possibility of hitting a ledge, swinging into a corner or running the rope over a sharp edge. *Examples:* Black Tower pitch on Zodiac (A2R or C3R) where a fall is possible onto a ramp, Pitch 13 on the Reticent Wall (A4R) where the leader must do numerous hook and head moves above a ledge.

Note: Just because a pitch does not have an "R" or an "X" rating does not mean you can't become injured or die on that pitch.

"+" indicates a tricky or strenuous section. Found on either strenuous terrain (roof or deep corner) or an unusually tricky "boulder problem" aid move (expanding flake, huge reach). Pitches marked with a "+" are thought provoking and often more time consuming. *Examples:* The Nipple Pitch on Zodiac (C3+F), Shield Roof (A2+), and Pitch 5 of the South Face of Washington Column (C1+).

Many people wonder why aid ratings change over time (e.g. a route that was A5 in 1970 might be A3 today). The reason is that all routes go through a life cycle in which pin placements become more solid and the strongest copperhead placements are found and left fixed. Also, bolts are added both as "chicken-bolts" and because rock features fall off. To give a general understanding of this process we have provided the metamorphosis of a typical Yosemite A5 route:

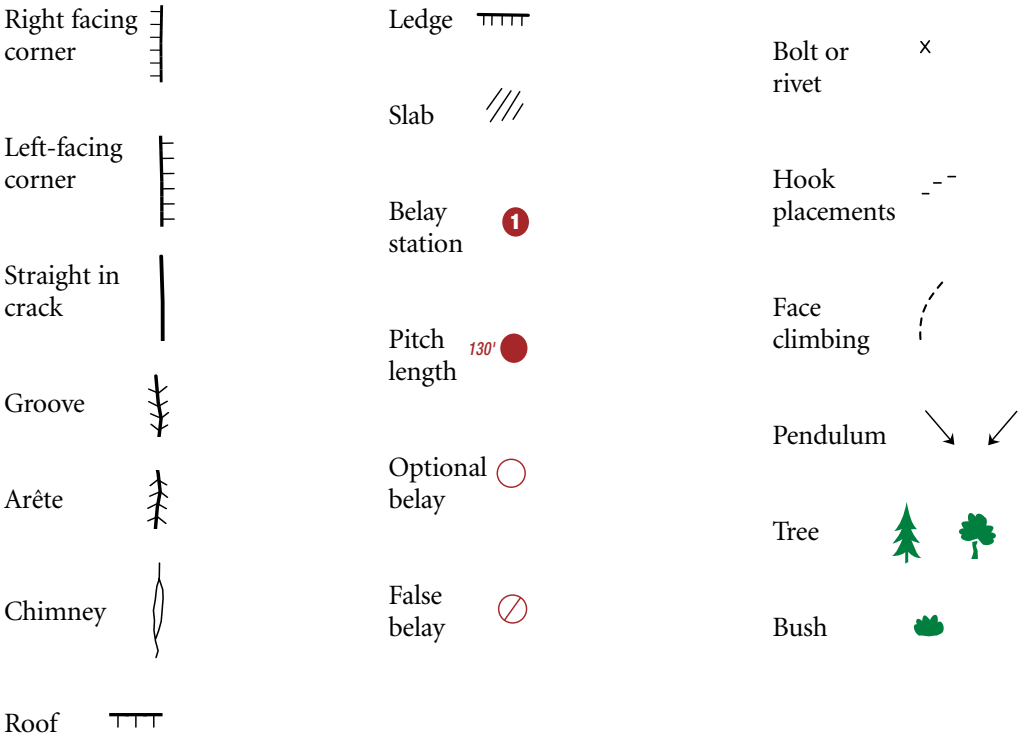
Ascents	Rating	Route Condition
1–5	A5	Little fixed gear. Fragile features.
6–20	A4	Half the heads are fixed. Some features pull so bolts are added. Pin placements are more solid. A few chicken rivets added. Belay bolts added.
21–40	A3/A4	Most heads are fixed. Most fragile features and loose rock are gone. More belay bolts and chicken bolts added.
41+	A3	Route reaches "equilibrium" as all heads in crux and sections are fixed and pin placements beat out to take hammerless gear.

Because some routes within the same grade are harder or easier than other routes in that grade, we have listed all the routes in order of overall difficulty in the appendix.

Cam Sizes by Brand

Ref Size*	BD Camalots C4/C3's	CCH Aliens	Metolius Cams	Trango Big Bros	Wild Country Friends
0.3"	000 gray	.33 black	00 gray		Zero #2-#6 covers .28-.94"
0.4"	00 purple				
0.5"	0 green C3	.375 blue	0 purple		0 red
0.6"	1 red	.5 green	1 blue		.5 orange
0.75"		.75 yellow	2 yellow		
1"	.3 blue C4/2 yellow C3 .4 gray	1 red	3 orange		1 yellow
1.25"	.5 purple	1.5 orange	4 red		1.25 purple
1.5"	.75 green	2 purple	5 black		1.5 sky
1.75"		2.5 gray	6 green		1.75 green
2"	1 red	2.5 clear	7 blue		2 pink
2.5"			small grey		2.5 royal
3"	2 yellow				3 navy
3.5"	3 blue		medium maroon		3.5 purple
3.5-4.5"			large dark blue	1 red	4 black
4.5-5.5"	4 grey			2	4 silver
5.5-7"	5 purple			3 green	5 red
7-8"	6 green (7.6" max)			3 green	6 green (7.6" max)
8-12"				4 blue	

**"Ref size" is the optimal crack width for a given camming unit. It is not the max range given by the manufacturer.*



Topo abbreviations

KB = Knifeblade piton

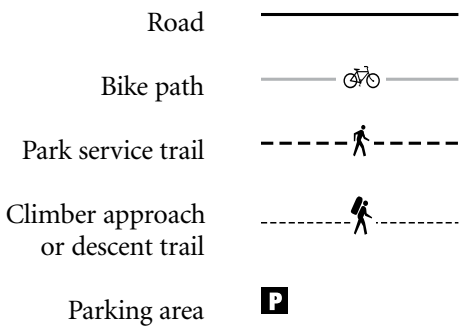
LA = Lost Arrow piton

ow = offwidth

lb = lieback

p = fixed piton

Overview graphics



Hooks

Set of hooks includes: 1 bat hook or Talon, cliff hanger, Grappling Hook, or other big hook.

Cams and offset cams

Cam sizes in the rack usually start at .33". Two of offset cams is recommended for most routes in the .33-1.25" sizes. If you don't have offset cams, bring more regular cams.

Beaks, Peckers, and Tomahawks

Substitute the word "beak" for Pecker or Tomahawk. Peckers come in the crucial medium and large sizes. Use these instead of Arrows, KB's, and angles: they are more secure and less destructive. Bring at least 2 sml, 2 med, and 2 large on A3/A4.

Heads

Most heads are fixed. The head rack may be just in case they are missing. Only clean poor heads and do so with a sharp center punch, not a funkness. Removing good heads destroys the rock. Never place a head where a piton works.

Clean Aid Tricks

One of the main goals of this book is to inspire more clean ascents. Below are the top 11 ways to do that. Go to this page to see photos: www.supertopo.com/gear/cleanaid/

Carry too many small cams

It's impossible to carry too many small cams (sizes .33-1"), just try. They weigh nothing and are the most used pieces on any aid climb. If you have too few, you have to backclean, which means you are more likely to get scared and reach for the hammer.

Offset cams

In the last edition, offset cams were "recommended" in the racks. Now we list most racks as requiring 1-2 sets. Yes, you can get up most walls without them. But offset cams are usually the most bomber clean placement in a pin scar. The difference between a tipped out regular cam or a bomber offset cam is often the difference between C1 and C2 or C3.

Offset micro nuts

These little guys get in pin scars where nothing else can. Non-offset micro nuts often won't stick at all or are more likely to get fixed.

Cam hooks

Cam hooks not only save time, they are often the only clean placement that works in a thin crack. They are scary at first, but if you "aid boulder practice" enough with them, you will cruise C2 as fast as you free climb.

Top step

Increasing your reach is usually the best way to find an elusive clean placement. Getting into that top step gives you another foot or more. There are top-stepping tips and other tips at the online How To Big Wall Page here: www.supertopo.com/gear/how-to-big-wall

Free climb

Many low-angle A2 sections can be easily free climbed. Sometimes a move or two of 5.8 or 5.9 saves ten minutes of trying to get a shallow pin scar placement to hold. Even pasting one foot on an edge and one foot in your top step can help you reach a bomber clean placement. Wearing comfortable free shoes on a low-angle aid pitch is a good idea.

Leave the hammer in the bag

On a route that you might be able to do clean, leave the hammer in the haul bag. Just by having to tag it up, you are more likely to push your clean climbing as far as possible.

Intertwine stoppers

You can make a two-foot mini cheat stick by intertwining three stoppers to snag distant rivets.

Hooks and beak hooking

Often you can hook a crack or fixed head either with a regular hook or with a beak. Medium and large sized Black Diamond Peckers work especially well. A BAT hook can also sometimes get in the eye of a RURP with a broken cable. If you are going to nail, it is much better to use a beak, Pecker or Tomahawk as they are much less destructive than Lost Arrows, knifeblades, and angles.

Hand place pitons

Many pin scars take a hand-placed piton. For extra security, give it a few pounds with your palm (leather gloves recommended). Sawed-off pitons often work the best if a hand-placed beak or Pecker won't work.

Cheat sticks

We don't use em. But if it keeps you from reaching for the hammer, go for it.

Free Climbing Grades Compared

USA (YDS) Yosemite Decimal System	UIAA	France	UK	Australia	V-Scale
5.1	I	1	M	4	
5.2	II	2		6	
5.3	III	2+	D		
5.4	III+	3-	3a 3b VD	8	
5.5	IV	3	3b 3c HVD	10	
5.6	IV+	3+	3c 4a S	12	
5.7	V-	4	4a 4b HS	14	
5.8	V	4+	4a 4c VS	16	
5.9	V+	5	4c 5b HVS	18	VB
5.10a	VI-	5+	5a 5c E1	19	V0-
5.10b	VI	6a	5b 6a E2	20	V0
5.10c	VI+	6a+	5c 6a E3	21	V0+
5.10d	VII-	6b			V1
5.11a	VII	6b+	6a 6b E4	22	V2
5.11b	VII+	6c		23	
5.11c	VIII-	6c+	6a 6c E5	24	V3
5.11d	VIII	7a			V4
5.12a	VIII+	7a+	6b 6c E6	25	V5
5.12b	IX-	7b		26	V6
5.12c	IX	7b+	6c 7a E7	27	V7
5.12d	IX+	7c		28	V8
5.13a	X-	7c+	6c 7a E8	29	
5.13b	X	8a		30	V9
5.13c	X+	8a+	7a 7b E9	31	V10
5.13d	XI-	8b		32	V11
5.14a	XI	8b+	7a 7b E10	33	V12
5.14b	XI+	8c		34	
5.14c		8c+	7c 8a E11	35	V13
5.14d		9a		36	V14
5.15a		9a+		37	V15
5.15b		9b			V16
5.15c					

Camp 4

To the casual tourist, Camp 4 in Yosemite is nothing much – just a dusty, walk-in campground. But this patch of dirt is something deeply meaningful to climbers. Following are a few words that touch on this feeling. The first two quotes were inspired by the successful effort led by Tom Frost to add Camp 4 to the National Historic Register. Because of the hard work by Tom and many others, Camp 4 and the surrounding area remains undisturbed.

"Camp 4 is important for what happened in terms of El Capitan, but it is also important as a physical localization of the entire mountaineering history of California, and that mountaineering history is not something peripheral in terms of the 19th century; it is one of the most profound ways that Californians encountered and defined to themselves what California was all about."

KEVIN STARR, CALIFORNIA STATE LIBRARIAN

"Whilst on the surface Camp 4 can be seen as simply a flat field in some trees, to climbers, wherever they are, it is much more than that. It is where a climber knows he can find people with the same passion. It is where issues of concern to climbers can be openly discussed without the formality of an organized debate… There is no other place in the world quite like Camp 4. If a cathedral is simply a pile of stones and Camp 4 only a field, then there is no understanding of what either of these mean to the people who are deeply involved."

IAN MCNAUGHT-DAVIS,
PRESIDENT, INTERNATIONAL MOUNTAINEERING AND CLIMBING FEDERATION

"Camp 4 was their spiritual home, their bastion against the outside world. There they met others who had been through their own crises, others who understood. There was a ritual importance to life in this camp, this valley. A phrase that summed up their feeling was 'living at one with the dirt.' And from the Christian idea of deliverance through toil, they spoke of purification through suffering on the granite walls."

CHRIS JONES, CLIMBER

Campfire in Camp 4.
Photo Tom Evans

Above: Royal Robbins sorting gear for the first ascent of the Salathé Wall, El Capitan 1961.
Photo Tom Frost

Left: Ben Blanton and Jason Lakey racking up in Camp 4.

Left corner: Climbers checking in at Camp 4.
Photo Tom Evans
Below: Camp 4 communication center.

Route Index

Low Impact Climbing in Vertical Wilderness

By Jesse McGahey
Climbing Ranger, Yosemite National Park

Sometimes called the "Granite Crucible" by climbers, Yosemite has always been a place where concentrated forces interact to influence advances and developments, not just the techniques and equipment we use, but also the code of ethics we follow. John Muir, the father of the American preservation movement and a Yosemite climber, bagged the first ascent of Cathedral Peak in 1869. In 1958 the father of big-wall-wine-drinking and siege tactics, Warren Harding, first climbed El Cap via The Nose route using thousands of feet of fixed ropes, 45 days of climbing, and 125 bolts. Starting with the 2nd ascent of The Nose, Royal Robbins, Yvon Chouinard, Tom Frost, and others led the change from siege to "alpine" tactics–fewer bolts, fewer fixed ropes, and fewer pitons when "clean" protection is available.

Designated as Federal Wilderness by Congress in 1984, Yosemite big walls have a higher level of legal protection than the Valley floor. The Wilderness Act mandates the National Park Service (NPS) to protect wilderness character–distinguished by pristine undeveloped nature, self-reliance, unrestricted freedom and adventure, no permanent structures or installations, and an absence of conveniences. David Brower and other climbers helped shape this legislation. Brower, a prominent Yosemite mountaineer in the 30s and 40s, was the director of the Sierra club in the 50s and 60s and his leadership helped to win the passage of the Act in 1964. The Yosemite climber should embrace the ideals of wilderness, and the development of big wall ethics over the last half-century show that, by and large, we have done so. Most climbers in Yosemite now minimize the placement of bolts and fixed ropes, they avoid using a hammer or altering the rock, they pack out their human waste and garbage, and they volunteer to help keep Yosemite's wilderness clean and unaltered–preserving a high quality experience for their fellow climbers today as well as climbers in the future.

However, some climbers are still unaware of wilderness ethics, and a few others just seem not to care. The actions of this minority, intentional or not, tarnish the image of the entire climbing community and negate our efforts to maintain the wilderness character. In 2010 alone, climbing rangers removed thousands of feet of fixed rope and several abandoned poop tubes from the walls, and–just from Camp VI on The Nose–enough trash and human waste to fill three large haulbags (and there is still much more). They also removed dozens of new fire rings constructed by climbers and hundreds of pounds of garbage and abandoned equipment from the base and summit of the Valley walls. Other park users and NPS managers are sensitive to abuse of the park, and unquestionably the best way to continue maintaining climber freedoms and limiting regulations is for us to join them as caretakers of Yosemite. The following guidelines should be part of our ethics as climbers, but they are also backed up by National Park Service regulations.

Wilderness Permits and Camping

Although Yosemite's walls are within Wilderness, Wilderness Permits are not required for overnight routes as of 2010. However, camping anywhere else in designated Wilderness requires a Wilderness Permit, and all applicable Leave No Trace (LNT) principles and rules must be followed: store food in bear canisters, camp and wash at least 100 feet from trails and water sources, build campfires only in established fire rings, bury human waste 6-8 inches underground or pack it out, and carry out all trash. Spending the night on top of El Capitan after climbing a wall is considered part of the climb, but please follow the LNT rules above and only build a fire in emergency situations. Trees are being stripped of branches and dead-and-down wood is needed to regenerate the scarce organic soils.
Camping at the base of any wall in Yosemite Valley–including El Capitan–is prohibited. This rule may seem unfair, but when you consider

that the park gets over 4 million visitors a year including thousands of climbers, and that the base of El Capitan is only a short walk from the road, it's not hard to imagine the junk show that would ensue. Camping at the base of Half Dome and other backcountry walls is allowed but only with a valid Wilderness Permit. For details about permits and low-impact guidelines, stop by the Wilderness Center for a brochure, visit www.nps.gov/yose/planyourvisit/wildpermits.htm or call 209/372-0740.

Human Waste aka "Big Wall Exit Strategies"

Climbers should be proud to have innovated the Big Wall "poop-tube" method of dealing with human waste. Long before the NPS required us to do so, climbers realized that the old brown bomber, bag-it-and-toss-it system was both disgusting and a health and safety concern. Here are a couple of tips for the right way to relieve yourself in vertical wilderness:

• Go to the bathroom in a paper bag or in a prefabricated human waste disposal bag like a Wagbag and then put that bag into a container to carry up the route. Ordinary plastic bags are not a good option and should only be used in an emergency.

• Carry your container down with you and discard paper bags into a pit toilet like those at the base of the East Ledges descent from El Capitan. Wagbags can be disposed of in bear-resistant dumpsters. Please do not drop plastic bags into pit toilets because they clog the pumps used to empty the toilets.

Every year we remove poop tubes abandoned on routes or at the summit, bags of poo dropped to the base, and turds left in cracks (Camp VI on The Nose being especially gruesome). Packing out your human waste from the summits and bases of walls should become the accepted norm in the future. The solutions are there, so this pollution is completely avoidable!

Climber-generated refuse on Camp 6, The Nose. Photo NPS

Abandoned/Unattended Property

Property left unattended for longer than 24 hours can be impounded. If it is impractical to return within 24 hours, leave ropes and equipment in place only as long as you are actively using them. Leaving your stash of gear, ropes, and supplies on top of El Cap for your personal convenience and storage year after year is selfish and not acceptable. Imagine what it would look like if every climber did the same, or if hikers were allowed to cache gear all over the park! Label and date equipment, ropes, and water bottles with your contact information if you have a reasonable plan to return to unattended equipment to avoid removal.

Fixed Ropes

Ropes fixed on walls are treated the same way as other unattended property. If you fix ropes, only do so immediately before beginning your ascent, and remove them once committed to the route. If you plan to return to a project regularly, leave your ropes in place only when you are actively working the route. Do not leave ropes or gear on popular routes–this takes away from the experience of other climbers, and can potentially create unsafe conditions. Once again, the "alpine" style was initiated by Valley climbers–check out the history of the Muir Wall or the South Face of Mt. Watkins later in this book.

The "established" fixed ropes below Heart Ledges, East Ledges, and on the Slabs approach to Half Dome are not maintained or condoned by the NPS. Do not expect these ropes to be in place, and be prepared to climb or descend without them.

The recent popularity of big wall free-climbing has added thousands of feet of fixed rope to long routes. Free climbers often rappel in to work their routes, leaving the ropes in place for easy access. By the fall of 2010, after a busy climbing season, all but a few pitches of Salathé Wall/Freerider had been fixed by free climbers and most of the lines were still abandoned in place as winter approached. This behavior could ultimately lead to more restrictions. It's amazing that there are now so many climbers able to free the Grade VIs, but consider waiting until you're strong enough to attempt them ground up or at least remove the lines when you are not using them.

Clean Climbing

Please respect "clean climbing" ethics on all routes, long and short. Avoid nailing whenever possible and don't drill new holes for hook placements or chisel head placements. Never fabricate holds or change the nature of established climbs.

Bolting and New Routes

Hand drilling protection or anchor bolts is OK but motorized power drills are prohibited. When you place a new bolt, keep in mind that you are permanently altering the rock. If planning a new wall route, take the time to talk to the local Yosemite climbing community and become familiar with the history of the area. Is your line really going to be that good? How much "gardening" will you have to do? (Intentionally removing plant life is prohibited regardless of where you are in Yosemite.) Will anyone else ever climb it? New routes have a profound impact on the environment around the route through permanent bolts, vegetation loss, erosion at the base, and disturbing animal habitat. The new route and bolting policies in Yosemite are very liberal, especially considering that most routes are in designated Wilderness. The Wilderness Act states that there should be no permanent installations, and disregard for the spirit of the law could cause the policy to change. There are hundreds of established wall routes in Yosemite–is your first ascent really worth the impacts?

Camp 4 getting "Facelifted" on The Nose, 2010. Photo courtesy NPS

Food Storage

Do not leave any food, drinks, toiletries, or trash at the base of the wall–bears deliberately seek food there because of climber trash and food caches. While preparing for a wall you must store food and all scented items in bear-resistant canisters or hang it at least 50 feet off the ground on 5.10 or harder climbing. Think that's overkill? I've seen bears climb 5.10 slab below Mescalito, 5.9 crack 50 feet up the first pitch of the Regular North West Face of Half Dome, and paw up 5.6 hand jams two pitches up After Six. They weren't climbing for fun or adventure–they were risking their lives for Clif Bars and King Cobras. In short, if you can reach your food without climbing gear (even free-soloing), it is not stored correctly.

Remember to remove all food, scented items, and even empty wrappers from your car. Bears are attracted to a mess–wrappers, beer cans, and general disarray may provoke a bear to break in to your vehicle to investigate. Bear-proof lockers are available at El Capitan Bridge, at the Zodiac parking area (Devil's Elbow), The Ahwahnee Hotel, and Bridalveil Fall, etc. (See map.) Please do not place a lock on these shared lockers.

Peregrine Falcon. Photo courtesy NPS

Peregrine Falcons

During the FA of Sea of Dreams in 1978, Jim Bridwell, Dave Diegelman, and Dale Bard discovered a nesting pair of Peregrine Falcons–the first confirmed nest in the Park in 36 years and the beginning of a remarkable recovery by this bird. Climbers have helped wildlife biologists consistently since then to ensure the species survives.

In 2009, 12 pairs were monitored in Yosemite, and they fledged 21 young. In 2010, for the first time since 1994, Peregrines nested on El Capitan; the nest site (aerie), on the North America Wall, was last occupied in 1986. To maximize reproductive success, the NPS may close areas to climbing during the nesting season, typically March 1st through August 1st. In 2010 the El Capitan closure included all routes between and including "South Seas/ Pacific Ocean Wall", "North America Wall," east to "Native Son". Routes four pitches or fewer, at the base of the Southeast Face, remained open. Climbers can expect similar closures wherever Peregrines choose to nest in future years.

Take Care of the Places You Love

Most of you reading this probably already follow these low-impact climbing principles, and we thank you for leaving no trace. But you've probably seen junk on The Nose, at the base of the Regular North West Face, or at the summit of El Cap. Please help the park by educating your friends, by picking up trash, and by volunteering in community functions like the Yosemite Facelift (yosemiteclimbing.org).

Unfortunately, the "easy" or entry-level routes are the most abused. This is what the uninitiated climber sees first, and hopefully he or she doesn't take this poor example as the norm. In 1976 Chris Jones wrote in Climbing in North America, "Whatever reason the unsuccessful climbers gave, and they ranged from equipment failure to vitamin overdoses, the crux of the matter was people were still scared of big walls." This is still true today, and if you are scared and struggling on a big wall the last thing you care about is your environmental impact. Please be patient–gain the skill to climb safely and with low impacts. It's not just getting to the top that matters, it's the trail you leave behind.

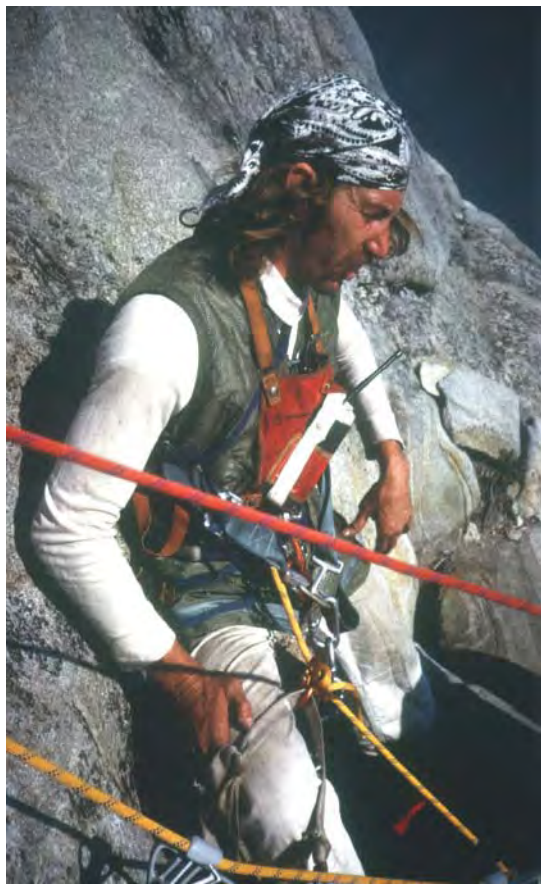
**Regulations may change and the park user is expected to be up to date. For the latest information check nps.gov/yose/planyourvisit/climbing, supertopo.com/climbing/forum.php the Camp 4 kiosk, any Wilderness Center or the Mountain Shop.*

What is YOSAR?

By Butch Farabee

YOSAR is an acronym–Yosemite Search And Rescue, the park's highly respected, nationally recognized emergency response unit. (YOSAR is an unofficial team name.) It was coined in the fall of 1972 by then SAR Officer Pete Thompson. It was somewhat an after thought, born of an ugly incident.

Just after midnight on August 1, 1972, a teenage recently-fired-but-still-want-to-be-park employee set the government's barn afire. After torching the stacked hay, his intent was to rush in and rescue the horses, become a hero, and be welcomed back as an NPS employee. It backfired–no pun intended–and seventeen horses and mules died a horrible death. Additionally, another seven nearby buildings were destroyed. (Total of approximately 20,000 square feet.) Several of these buildings were among the oldest historic structures still standing in the Valley: these included two that had been built during the Civilian Conservation Corps-era and a couple built far earlier yet by the U. S. Cavalry, when they guarded Yosemite.



Jim "The Bird" Bridwell, de-facto head and king of YOSAR performing a rescue on El Cap in the 1970s. Photo Courtesy of NPS

The barn was at the same spot the current (2010) facility is and the other buildings were near where the present (2010) SAR cache is. This fire, had it been in a large city setting, was significant enough to be a Three-Alarm Fire.

The young man had in fact, recently been employed earlier that summer on a park trail crew led by retired NPS Historian and former Trail Crew Supervisor, Jim Snyder. They were deployed near Merced Lake. He suffered a bee sting and went into anaphylactic shock and urgently needed to be flown out from the nearby Ranger Station. Much to his chagrin, his age was discovered and he was separated from his laborer position.

This disaster, in addition to the barn and animals, also consumed virtually all of the Valley's mountain rescue equipment. Just as today, it was then the largest SAR cache in the entire National Park System and one of the largest rural caches in the country. The NPS Regional Office quickly gave Thompson essentially a blank check to replace ropes, hardware, sleeping bags, clothing, dry food, stoves, rain gear, tents, etc. Items like 'biners, specially ordered in orange, arrived by the box load and the park's procurement staff insisted Pete needed to keep these highly coveted items from wandering off, ending up in someone's haulbag. So, Pete quickly coined YOSAR, which was soon stamped or stenciled onto anything and everything that would take the five letters.

In the mid-1980s, Joshua Tree National Monument adopted the term JOSAR for its SAR team, and down through the years other parks have made use of this, as well. So, what began as a simple but efficient way to identify equipment, has evolved into a term synonymous with professionalism and cutting-edge search and rescue.

Ethics

Taking Care of The Big Stone

By Steve Grossman

Big wall climbing has never been more popular. There is a report that 90 individual headlamps were tallied one summer night on the Captain in 1999. With our numbers growing rapidly and traffic on some long routes becoming intense, the need is glaring to adopt a low impact wall ethic. Each party's experience on a climb can be strongly affected by thoughtless actions of previous ascents, be it trash, human waste, pin scars, or fixed gear left on the wall.

Route preservation warrants attention on two levels: the preservation of the environment and the level of challenge. Environmental preservation includes obvious things such as packing out trash and feces. It needs to extend to dealing with urine and junked climbing hardware. Yosemite's modest summer rainfall and high climber traffic mean that some routes stink of piss all season long. Piss bottles should be used. Climbers should also consider leaving extra space and containers in their "poop tubes" to remove trash left by others. Take the time to remove old webbing, junked copperheads and any other worthless fixed gear that you encounter.

Preserving climbing's challenge requires using placements with the least possible impact. Today's extensive array of climbing tools has made hammered placements increasingly unnecessary. Many of the climbs in this book have been done cleanly. They will maintain their level of difficulty indefinitely if climbers substitute ingenuity for force. Clean aid climbing requires diligence and practice, but there is a payoff: the deep reward of having taken nothing away from a route but the grin on your face.

It is worth noting that although the terms "clean" and "hammerless" are used interchangeably in the rest of this book, here, a hammerless ascent means no hammer is carried, which is the height of commitment. As Bruce Carson wrote after the first clean and hammerless ascent of The Nose with Yvon Chouinard in 1974, "By leaving the hammer at home, the nut aficionado can regain the uncertainty and adventure of the first ascensionists." My own hammerless, 25th anniversary ascent of the Muir Wall was one of the most adventurous climbs in my experience because the outcome was in doubt to the last pitch!

Once a hammer enters the picture the outcome becomes much more predictable and the challenge is to use the least destructive option. Tip-stacked and over-driven pitons top the impact list with copperheads close behind. Mastery of aid climbing requires confidence in your testing procedures. Learn to avoid the extra couple of blows that exceed security and lead to more wear. Don't use the pick on your hammer to drive copperheads; missed blows mean instant flaring and beat placements. Carry the necessary tools for properly placing and cleaning heads. Try to use placements that will not become fixed and will lower the challenge for the next party.

Lines of fixed copperheads and unnecessary drilling degrade the character of a route. Reach inside yourself for the commitment to push your limits and leave minimal impact. Take pride in our heritage as climbers; make ingenuity and skill take precedence over expediency and force so that the challenge and adventure of big wall climbing will not become lost. Little that I have said is new. Hugh Burton in his 1975 "El Cap Update" proclaimed, "Our cliffs are an unrenewable resource. I know it's been said before, but it's got to be said again and remembered if the climbs are to remain as they are: incredible!"

Ammon McNeely and Ivo Ninov on their way to making the first one day ascent of Native Son (VI 5.9 A4).
Photo John Dickey