



THE
CLIMBING
INITIATIVE

BEST PRACTICES

FOR THE DEVELOPMENT OF
CLIMBING WORLDWIDE



ADAPTIVE RAPTOR MANAGEMENT

BY GREG ORTON AND TAIMUR AHMAD

Key lessons

- Learn basic raptor biology so you can have informed discussions about management
- Know your local birds—not all raptors are alike
- Use a viewshed management approach to determine appropriate restrictions
- Robust monitoring can create climbing access
- Building relationships with local land managers is critical



About the authors

Greg Orton is the founder of the Southwest Oregon Climber's Coalition. He is a former soil scientist with the US Forest Service, the author/editor of Willamette, Umpqua, and Rogue Western Oregon climbing guides, and actively monitors raptors in Western Oregon. Check out his most recent work [here](#), which uses the principles discussed here to assess raptor territorial response predictors.



Taimur Ahmad is Access Fund's JEDI and Policy Associate. As part of his policy work, he collaborated with Greg Orton to create modern raptor management guidance for climbers. Originally from New York City, Taimur started bouldering on Rat Rock in Central Park. His local peregrine falcons enjoyed nesting on the George Washington Bridge in northern Manhattan.

Editors Jason Ogasian

About the best practices project

The Climbing Initiative's best practices project taps the expertise of climbing leaders around the world to share lessons learned in crag development and maintenance, environmental conservation, equity and inclusivity, community engagement, economic impact, and climbing organizations. By making this information more accessible, we hope to foster a more united and supported global climbing community. To learn more about this project and how you can support, visit climbinginitiative.org/best-practices

Cover photo by Simon Bardet



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Photo by Greg Orton

Climbers and raptors have a special relationship. As one of the few groups of people with the skillset to access raptor nests (often referred to as eyries), climbers have played vital roles in wildlife preservation, from monitoring birds to placing peregrine falcon chicks into nests. Simultaneously, cliff closures to protect breeding raptors—especially peregrine falcons—are one of if not the most consistent reasons climbing access is limited, albeit usually only seasonally.

As an environmentally-minded user group, climbers want wildlife to flourish, but we also want to climb, and losing access to our favorite crags for half the year is something

no climber enjoys. Historically, raptor closures have been long and extensive. More recently, however, modern science and adaptive management practices are creating [case studies](#) of data-driven raptor management that are far more targeted and allow birds to flourish while maximizing climbing access. This chapter explores current best practices on raptor management from a climber's perspective. It is only a brief overview—for a full exploration of this topic, consult Access Fund's newly published handbook, available for free [here](#). By understanding basic raptor management principles, you will be able to better advocate for wildlife and climbers.

KEY LESSON # 1

Learn basic raptor biology

The terms 'raptors' or 'birds of prey' refer to species of birds that are primarily carnivorous and includes falcons, eagles, owls, hawks, and vultures. Some species of raptors are sensitive or endangered due to natural and human threats such as loss or degradation of habitat, climate change, and poisoning from pesticides and lead-based products. Many areas have legal protections for specific raptor species, such as peregrine falcons. Optimal nesting sites for these birds tend to overlap with great climbing—tall cliffs with ledges well-suited for nest building.

Because successful nesting is so crucial for the long-term success of raptors, climbers need to be especially mindful of their impact on the birds we share the cliffs with.

To have productive, informed conversations with land managers and fellow climbers on how to balance climbing and raptors, we need to know the fundamentals of raptor biology. This doesn't need to be onerous, nor does it require getting a degree in ecology. Instead, it means covering essential facts:

- What do the raptors you are dealing with look like as adults and as juveniles?
- What sort of vocalizations do they make, and what do those sounds usually mean?
- When do the birds nest, and what are the stages of development the chicks go through after hatching?
- How does raptor behavior vary seasonally?
- Where on the cliff is the nest located?
- What conditions help raptors thrive? What factors can be detrimental to them?
- What is the history of raptors in your area? How successful have breeding pairs been in the last few years?

It doesn't take much time to get this knowledge—a bit of internet searching and a conversation with local raptor enthusiasts could be all it takes to gain a basic grasp of the raptor ecology in your area. If your area lacks local experts, reach out to nonprofit organizations like [Hawkwatch International](#) and/or your region's wildlife management agency to learn more about raptors. Having basic facts in mind will help you understand the rationale behind different management strategies and will also allow you to more fluently explain why you prefer one or another to both land managers and climbers.



Know your local birds

Just like humans, not all raptors are alike. The tolerance of individual birds to disturbance can vary dramatically based on location and history. What a particular raptor or nesting pair will tolerate is determined mainly by monitoring, discussed later on in this article. Four significant factors influence how tolerant a raptor will be to human behavior near the eyrie:

Type of human behavior

Low-moving activities, and activities that are somehow visually screened from the raptors (i.e. by tree cover), elicit much milder responses from wildlife.

Predictability of the activity

If the activity is repeated enough to be perceived by the raptors as regular and nonthreatening, the birds will usually show little overt response. If the activity is new and sudden, it will likely be more triggering.

Frequency and magnitude of the activity

More frequent disturbances usually lead to lower reproductive success for the raptors.

Timing of the activity

Activities that take place in the early spring, when the raptors are nesting and before the young are able to thermally regulate themselves, will usually have a bigger impact on the birds than in other times of the year.

Where human activity is non-threatening and relatively predictable, raptors have shown a remarkably high degree of tolerance, often becoming accustomed to environments that would not seem like reasonable nesting sites. This is evidenced by the healthy peregrine populations making eyries on major bridges spanning busy highways in New York City and the thriving black sparrowhawk populations living in Cape Town. Alternatively, in remote environments where the raptors are unaccustomed to human activity, the birds tend to be more sensitive and likely to feel threatened. By understanding how the four above factors vary at a local crag, the extent of nearby human activity that is allowable during a closure can be determined. A management strategy that may be entirely appropriate at a highly traveled crag close to major population centers will likely be the wrong approach for a crag in a remote wilderness setting.



Photo by Jody Jacobson

Urban peregrine falcons

Bridges in New York City were the first places peregrines chose to make eyries after returning to New York State following their elimination as a nesting species in the 1960s. NYC may in fact have the largest urban peregrine population in the country. Though at first glance a bridge with 24/7 traffic, in the middle of the nation's densest city, may not seem like a good nesting place, it in fact offers prime real estate for birds that have learned to tolerate the particular disturbances that come with an urban environment. Prey is plentiful, especially in the form of pigeons and other small birds. The eyrie is relatively inaccessible, situated high above the ground, and steep on all sides, with many "ledges" to create a nest on; very few people ever make it to the top of the George Washington bridge to disturb the birds.

KEY LESSON #3

Use viewshed management

Raptors respond first and foremost to visual disturbances. As such, the role of visual buffers is an important concept as it can result in reduced restrictions by separating critical wildlife areas from threatening disturbances. For example, hiking and other non-threatening activities can be compatible in close proximity to an eyrie or perch if that activity is visually buffered by vegetation or topographic features. In other words, the “viewshed” from the eyrie—what the birds can and cannot see—is critical in determining an appropriate buffer zone.

The above image gives an example of a nesting raptor’s viewshed. Red-shaded terrain is what the raptor can actually see. Activity in this area is more at risk of triggering a territorial response to disturbance in the raptors, though in this image ground disturbance would likely be mitigated by the extensive tree cover.

A common method used to prescribe viewshed-buffers or confirm the validity of existing closures involves sorting measures of disturbance distance into different “territorial response classes,” meaning the response of the raptors to the disturbance. Response classes include the following:

- Neutral - no response from the falcons.
- Alert distance - the distance between the disturbance and birds to the point where the birds change their behavior in response to the approaching disturbance source.
- Flight and Defensive - the distance at which the birds will flush or otherwise move away from the approaching disturbance source, and potentially actively protect their nest (i.e., dive-bombing intruders, shrieking, etc.).



What the average climber can do to support raptors

You don’t have to be in charge of a local climbing organization to have a positive impact on raptors. A few actions that all climbers can take to protect birds and maintain access include:

- Volunteering for a local raptor monitoring program, if one exists
- Respecting closures
- Donating to nonprofits focused on raptor conservation
- Building good relationships with land managers, and using that credibility to advocate for science-based adaptive management of raptors
- Helping to spread information about all of the above



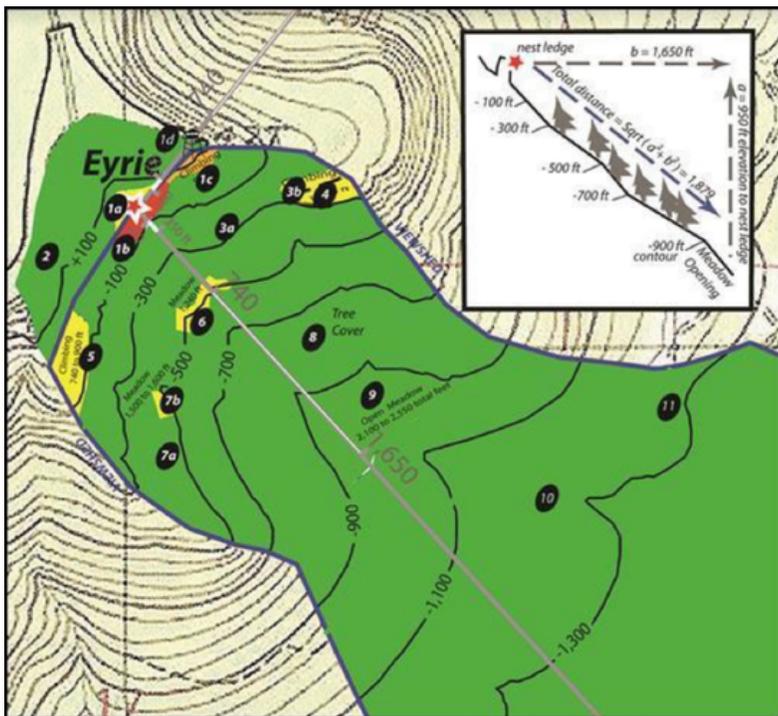
Unobstructed View	Defensive	Flight	Alert	Neutral
	35 ft	250	350	740
Obstructed View	Alert	Neutral		

Total Distance = (elevation above or below nest ledge) + (horizontal distance).
For monitoring purposes it maybe helpful to include flight as a defensive response.

The above graphic is a territorial response class prediction table. It represents the rule of thumb data on determining buffer distance when buffers have not already been established. In general, buffers should be set up to keep the falcons in the “neutral” zone to the extent possible. Distances should be regarded as a preliminary starting point until monitoring to validate real-world numbers has been undertaken. Where there is some form of visual screening, such as tree cover, buffers should be approximately 350 feet (107 m) long within the viewshed, at minimum (including the height of the eyrie above the tree canopy, or ground if there is no vegetation). Where there is no visual screening, a starting buffer should be approximately 740 feet (226 m) long within the viewshed, at minimum, until confirmation monitoring determines an appropriate size. Areas more than approximately 1,650 feet (503 m) away from the eyrie will usually not require buffering at all. Buffers outside the viewshed (i.e., behind the eyrie) will rarely if ever need a distance of more than 250 feet (76 m). Buffer distances must, of course, be adapted to the specific factors and topography of the local crag, and may need to be larger than the minimum numbers given here.

What all this means in practice is that some climbing areas, even ones relatively close to an eyrie, may not require a seasonal closure if they are adequately visually screened from the raptors. Alternatively, in places with no cover, more extensive access restrictions may be necessary. When discussing management strategies, take into account the landscape of your local crags and think about what the birds can actually see, and try to stratify the landscape into expected response classes for the birds – this will help determine where closures may or may not be necessary.

The below image is a mapped-out example of predicting response classes across a viewshed. Note how open areas, like meadows, fall into the “alert” (yellow) class if they occur close to the eyrie and the “neutral” (green) class if they occur further away or are visually screened. Most of the forested (i.e., visually obstructed) slope below the nest is neutral territory. The area immediately below the eyrie falls into the “defensive” (red) class, while open areas nearby (i.e., the cliff face where the falcons are not nesting) falls into the “flight class” (orange).



#	Area	Response class
1a	Alert	Eyrie back - climbing
1b	Alert	Eyrie front - climbing
1c	Alert	Eyrie side - climbing
1d	Neutral	Lokout tower
2	Neutral	Road
3a	Alert	Trail 1, under tree canopy
3b	Alert	Trail 1, through an opening
4	Neutral	Climbing area
5	Neutral	Climbing area
6	None	Open meadow
7a	None	Open meadow
7b	None	Open meadow
8	None	Tree-covered slope
9	None	Open meadow
10	None	Trail 2
11	None	Open meadow



For a real-world example of using viewshed management to determine appropriate restrictions, check out Zion National Park's 2021 [guide to their seasonal raptor closures](#). Note how entire cliffs are not typically closed and how routes at the base of a large formation may remain open even if there are raptors nesting at the top of the wall. This approach takes into account where and how human disturbance will be most likely to actually impact raptors. Furthermore, closures in Zion are lifted as soon as monitoring determines whether or not raptors have actually chosen to nest—if a cliff is not selected for a nest site in a given year, there is no need to keep it closed.

KEY LESSON #4

Utilize robust monitoring to create access

Monitoring is crucial in both understanding your particular birds and determining what appropriate management will be. Robust monitoring requires dedicated volunteers, many hours, and a good relationship with your local land managers and wildlife biologists. By collecting detailed data on the raptors at your crag, climbers and land managers can determine what the birds need to thrive—and tailor potential restrictions accordingly. Good monitoring may show that your local raptors are tolerant to climbing disturbance and need only a small buffer zone during nesting, allowing

more routes to stay open. Conversely, it may show that the birds are easily bothered and require more space.

Many local climbing organizations (LCOs) have collaborated with land managers to create volunteer monitoring programs, where climbers and other community members interested in raptors provide valuable data on raptor behavior. These volunteer programs are among the best ways to learn more about your raptors and build a rapport with land managers. If a volunteer monitoring program is already active in your area, get involved. If not, begin the conversation about getting one started.

Climber/land manager partnerships enhance access and protect birds

The Carolina Climbers Coalition has a [model monitoring program](#) conducted in collaboration with the North Carolina Wildlife Resource Commission. This LCO works closely with the state agency to learn where raptors are actually nesting in a given year and then determine the minimum possible closure. Closures in NC go into effect in January, but land managers regularly lift restrictions as early as March for certain crags, thanks to robust monitoring data.



Photo by James Robert Smith

Build relationships with your local land managers

Many of these suggestions are only actionable if climbers have strong relationships with their local land managers. A lack of trust between agencies and climbers makes it unlikely that land managers will be open to setting up a volunteer monitoring program or implementing targeted restrictions instead of blanket closures. Building these relationships takes time, openness from land managers to climber input, and the demonstration of good faith from climbers. That means finding ways to support local agency staff, respecting their management decisions, and educating the climbing community on the need to protect wildlife. “Management” is not synonymous with less access—with the right approach, like viewshed-based raptor protections, management can actually create more opportunities to climb.

While there are many excellent examples of collaboration between LCOs and land managers, unfortunately, there are also instances where communication breaks down. As a baseline, climbers should expect land managers to be open and transparent about how and why they make decisions that impact climbing and to use the most current available science and data. Land managers should expect climbers to adhere to informed decisions, promote wildlife protection efforts, and communicate management information to their community. If those expectations are not being met on either end, and local efforts at conflict resolution are unsuccessful, reach out to Access Fund or other organizations that might be able to help mediate. If you are located outside of the US, Access Fund can still provide counsel, but finding local experts familiar with your region’s policies on raptor management (or internationally-oriented organizations like [Hawkwatch](#)) will be crucial.

Conclusion

The climbing and land management communities have come a long way when it comes to protecting raptors. The peregrine falcon, for example, is one of the most successful recovery stories in the history of American wildlife conservation, and climbers can be proud to have played a role in that comeback. Part of what makes climbing unique and sets it apart from other sports is how it connects us to the environment. It is a truly fantastic experience to be high up on a climb level with a soaring peregrine as it goes into a dive far above the forest canopy. We have a responsibility to preserve that experience, both for the birds and ourselves.

By educating ourselves on raptor biology fundamentals, we equip ourselves to have informed conversations with climbers and land managers. As we learn more about the birds at our local crags, we better understand their specific needs, which helps biologists craft appropriate management strategies. Using viewshed management and collecting robust monitoring data helps create accurate, targeted closures that benefit birds and climbers alike. And all of these efforts are greatly enhanced by collaborative relationships between climbers and land managers. When all these factors come together, we ensure the best possible outcomes for both humans and wildlife.

FOR MORE INFORMATION, PLEASE VISIT

<https://bit.ly/climbing-and-raptors-AF>

FOR ACCESS FUND'S HANDBOOK ON
CLIMBING AND RAPTOR MANAGEMENT



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climbinginitiative.org



info@climbinginitiative.org



[@theclimbinginitiative](https://www.instagram.com/theclimbinginitiative)