

Accessing Nests

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CLIFF- AND TREE-ENTRY TECHNIQUES

Raptors nesting on trees, cliffs or cliff-like structures (bridges, buildings, towers, etc.) create unique circumstances for safe access to nests, eggs, and young. Entries should be limited to biologists who are (1) comfortable with heights, (2) have direct knowledge and handling experience with the species in question, and (3) are thoroughly familiar with safe climbing and rappelling techniques.

Entry to nests, as well as to hunting perches for diet studies, should be undertaken only with sufficient knowledge of the nest or ledge location and the current state of the nesting chronology (see Chapter 19). Searches for nests during climbs or rappels are potentially dangerous, both to the birds and the climber. Noting the exact location of the nest with a photograph taken at an appropriate scale, and recording the azimuth from the observation point to the nest, or having a ground spotter will help the climber locate the best route to the nest.

Equipment

Ropes. Static, semi-static, and dynamic ropes each have their place for tree and cliff research. Static lines have limited stretch, are extremely durable, and are suitable for very long rappels (70 m or more) and tree work, but may be less convenient on smaller cliffs. Static lines are bulky and inflexible, making them more difficult to use on short-distance nest entries. They should never be used for lead climbing where short or long falls are possible.

Dynamic ropes are used for standard rappels, and climbs up to cliff nests, and may be used on nest entries of varying lengths (up to the length of your rope). These ropes may stretch up to 7–10% of rope length, making long rappels “bouncy” and prone to dislodging rocks from above and onto the climber and study species. It is best to use 10.5–11 mm ropes for most nest entry work; thinner, 8.0–9.5 mm, ropes should be avoided even if doubled.

Ropes come in standard lengths of 50, 60, and 70 m, or spools of up to 200 m. Longer ropes provide greater utility for raptor work on cliffs, but are heavier and bulkier. Sometimes, shorter ropes are more appropriate for smaller trees and cliffs for weight, management ease, and swift ascents or descents.

Ropes can be purchased pre-treated to be more water-repellent. These are called dry ropes. Dry treatment lengthens rope life, eases rope handling, and reduces water retained in the rope under wet conditions. Dry dynamic ropes work best for most raptor cliff work, and could be the rope of choice for their versatility. Rope bags are useful for tree climbing, rappelling over brushy or sloping terrain, and when ropes need to be



Figure 1. Quickcoil technique (a.– e.). Make three small coils, make loop, pass rope under upper portion of coil making a loop that goes through upper loop, continue over and under with loops for entirety of rope. When finished, the ropes looks like it is a mess, but will easily feed out rope when thrown from the top of a cliff, or when pulled up for lead climbing.

stored while the climber is at the nest. Traditional coils often tangle when thrown from a cliff or dropped through a forest canopy, or when they are “laid” out prior to use, lengthening the duration of the climb and the stress on the study species. The “quick-coil” method can greatly expedite nest entries (see Fig. 1). Ropes, as well as all other climbing gear, should be used exclusively for climbing (i.e., not towing your car), stored

and cared for appropriately, inspected frequently for wear or damage (before and after a climb), and replaced as often as necessary.

Harnesses and gear bags. Rock-climbing harnesses are suitable for most raptor work. Specialized harnesses for tree work have metal D-ring attachments to allow the climber to lean back on lanyards while in the tree. Harnesses should fit snugly, have leg loops and

double buckles, and not have excessive wear. Indeed, all gear should be checked before and after each climb and discarded if necessary. Tree-climbing harnesses may be more practical when spurring up a tree. Nest entry gear bags should be accessible even while hanging on the rope, have numerous loops for clipping onto the rope or harness, and have double closures. Backpacks worn during climbs can change your balance point; bandolier bags, large fanny packs with a lanyard to attach bag to harness, or closeable nylon climbing buckets attached to the harness directly or hanging from it work best.

Helmets and other personal protective equipment.

Climbing helmets should be standard equipment for biologists entering nests. Rock climbing helmets are inexpensive and comfortable. Hockey helmets with plastic or wire face guards have been used for tree entries where the climber faces the dual hazards of tree branches and raptors capable of hitting the climber in the face. Neck guards should be considered for visits to the nests of larger accipiters, and some eagles if the adults have not been captured prior to climbing.

Gloves are recommended for tree climbing, but are not recommended for free climbing on rocks. Fingerless gloves may be helpful for rappelling. Gloves should be removed for processing chicks as rough handling of the chicks may cause damage to developing feathers. All loose clothing as well as long hair should be secured to prevent potential entanglement of tree branches or the rappel device. Prior to rappelling, braid your hair if longer than shoulder length, and tuck it under your shirt (braided hair can serve as extra cushion when a bird strikes your head or neck). Eye protection is helpful when falling sand or other debris is present.

Sturdy hiking boots or shoes are suitable for most raptor nest climbing. Specialized sticky-sole, rock-climbing shoes are helpful when free-climbing up to cliff nests, and can be useful on cliff nest entries where overhangs or some lateral movement is required while entering the nest.

Rappelling and ascending equipment. Ease, simplicity, and familiarity of use is important when selecting rappelling and ascending equipment. There are many descending devices such as figure 8s, belay plates, belay controllers, and more mechanical rappel devices, all of which work well. Caving descenders can be used for very long descents or with wet and dirty ropes, but they are heavy and take considerable practice to use properly. Figure 8s and belay controllers are preferred, as they are easy to use under low-light condi-

tions or when the climber is tired; the only mistake you can make is to not clip the device to your harness. All descenders should be clipped to the climbing harness using a large pear-shaped locking carabiner; however, even locking carabiners can open unexpectedly. The use of two locking carabiners with their gates opposite works best.

Ascenders should be inspected before and after each climb. They should fit your hand comfortably, and be rigged on the top and bottom attachment to weight the device properly. A prusik is a 1.4-m length of 5–6-mm cord tied as a sling and wrapped around the rope three to four times into a prusik knot, with the loop clipped into your harness. It is necessary to use these in concert with your descender. The prusik knot is kept loose around the rope by your free hand during a descent; if you are hit by a branch, rock, bird, or otherwise lose your grip on your descent line, the knot will tighten to reduce the likelihood of an injurious fall. Ascenders can be used for this purpose, but are not recommended as they can cut or damage the rope on severe falls, or can break due to stress fractures of the metal. A prusik cord also should be used as a safety device during fixed-rope ascents on rock or trees. The climber places the prusik knot on the rope, either above the top ascender to be pushed up during ascent, or below the bottom ascender. The prusik knot will tighten on the rope to catch the climber if the ascenders slip or fail. You also may put the prusik on your secondary safety rope and, when pausing to catch your breath during the ascent, pull the trailing rope through the prusik to keep it current with your height. This negates the need to tie into the rope at intervals, which adds weight to the ascending climber. The climber should become adept with rappelling and ascending so as to not require belay.

Anchor points. Preferred anchors for cliff nest entries include natural features such as large boulders, trees, and deep-rooted bushes. Vehicle frames, highway guardrails, and beams may be used as anchors when climbing on bridges and other structures. Where natural anchors are not available, slings, camming devices or chocks can be used. If the area has no natural anchors or available cracks, three or more rebar or concrete form stakes (7 mm x 1.5 m) can be pounded 1 m into firm soil at least 2 m apart to create an anchor for a self-equalizing rappel point. Few cliff nest entries require bolts or pitons to secure the climber; pitons scar rocks during removal, and should be used only if no alternative is available. If the cliff nest will be entered yearly, removable or inconspicuous permanent bolts may be appropri-

ate to expedite nest entry to secure the climber either at the top tie-off point or strategic locations on the climb. Permanent placements of protection, or practice climbs should be done outside of the nest season when nest disturbance is unlikely.

A climbing course taught by qualified instructors at a gym or controlled outdoor situation is often a good start in learning how to access nests safely. However, nothing takes the place of climbing real rocks and trees under diverse conditions to help the biologist understand their physical and mental capabilities when aloft. Advanced knowledge of the limitations of knots, slings, self-equalizing anchors, camming devices, chocks, pitons, and rebar are vital both for the climber and raptor's safety.

See Long (1993) for a thorough explanation of climbing anchors.

Techniques

Descent or ascent to tree and cliff nest sites is inherently dangerous (Fig 2.). Falling debris, unstable rocks, rotten branches, stinging insects, aggressive raptors, and inappropriate technique on the part of the climber contribute to increased risk. Northern Goshawks (*Accipiter gentilis*), Swainson's Hawks (*Buteo swainsoni*), Red-tailed Hawks (*B. jamaicensis*), Harpy Eagles (*Harpia harpyja*), American Kestrels (*Falco sparverius*), and some owls may hit biologists in trees. Bald Eagles (*Haliaeetus leucocephalus*), Red-tailed Hawks, Verreaux's Eagles (*Aquila verreauxi*), Peregrine

Falcons (*F. peregrinus*), and some owls may hit climbers while they are climbing on cliffs near active nest sites. Raptors nesting in urban areas are especially prone to making contact with climbers as they are acclimated to seeing humans and may have lost their fear or "respect." Accipiters and eagles are aggressive, and will strike the climber in the back, neck, or back of head; a light backpack and helmet are sometimes necessary for protection. Owls tend to go for the face and eyes. Swainson's Hawks and Red-tailed Hawks also will hit the climber in the face if given a chance. Climbers may choose protective glasses, or a hockey facemask attached to their helmet to protect themselves from potential facial injuries. Golden Eagles (*A. chrysaetos*), Prairie Falcons (*F. mexicanus*) and Barn Owls (*Tyto alba*) may soar high above the site, or disappear during the nest entry. California Condors (*Gymnogyps californianus*) and Peregrine Falcons may return to the nest ledge during the entry to watch the climber. The latter can be hand-grabbed for banding if done carefully.

Before entry, researchers should consider the nesting chronology of the study species including age of the young, timing of nest entry, exposure of young to the elements, approach and entry disturbance to raptors and other proximal species (nesting passerines, seabirds, mountain goats [*Oreamnos americanus*], sheep, snakes, and stinging insects), fragility of the nest, tree and rock type, moss, weather conditions, falling debris and the presence of waterfalls. Additional considerations include potential rescue options for young raptors, should they flush from the nest; and climbers, should

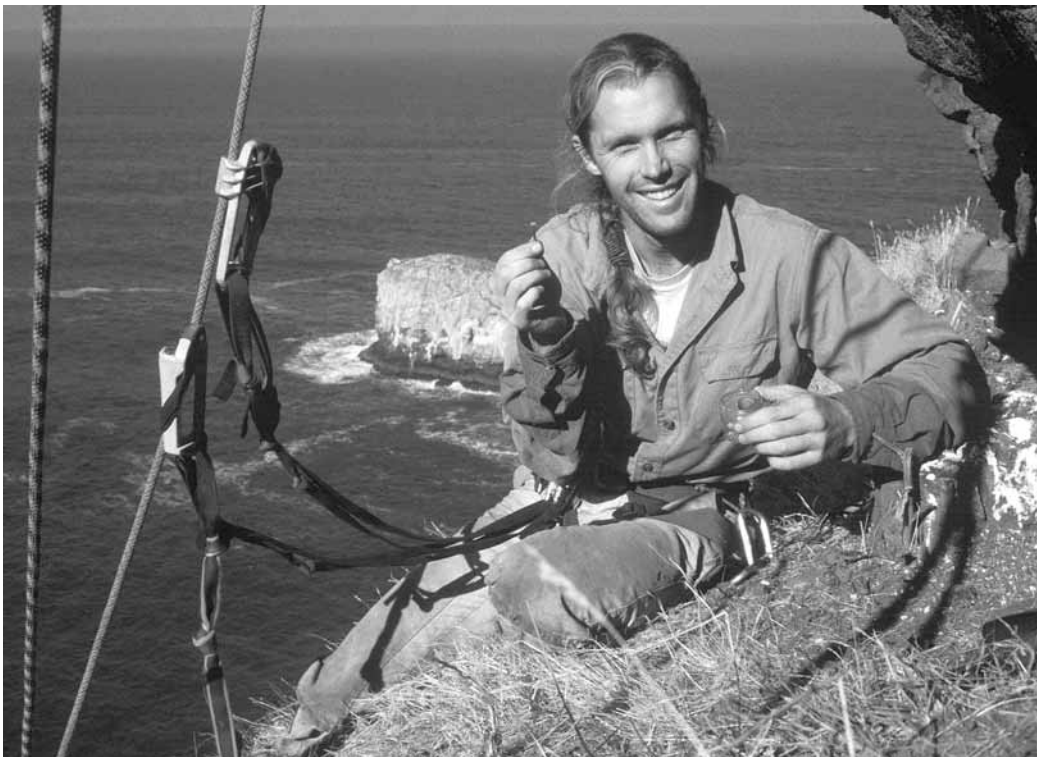


Figure 2. Climbers should remain clipped into the rope at all times when on nests in cliffs or trees. (Photo by David Pitkin)



Figure 3. Climbing trees to enter raptor nests requires skill, knowledge of the species, knowledge of branch strength, and a bit of nerve.

they fall or otherwise become incapacitated. Expedited entries and departures (within reason, considering safety factors) are goals that should reduce excessive disturbance at nests. In addition to Chapter 19, the following references have stood the test of time on considerations regarding disturbance to raptors during nest entries: Olendorff (1971), Fyfe and Olendorff (1976), Olsen and Olsen (1978), and Grier and Fyfe (1987). Supplemental information on climbing techniques includes Robbins (1970), Dial and Tobin (1994), Benge and Raleigh (1995), Jepson (2000), and Dial et al. (2004).

Tree-nest entries. Tree-nesting raptors pose special problems for raptor biologists attempting to study them. Their nests are limited by the availability of nesting habitat, but a good nest site should provide protection for the eggs, nestlings, and adults from predators (Newton 1979). Many raptors nest in trees because they offer support for platform stick nests or provide natural cavities limiting predator access and at the same time are easily accessible from the air. Raptors nesting in trees are common in both temperate and tropical environments. Accessing raptor nests in trees, and especially those high in the canopy, can be a significant challenge for researchers (Fig. 3). When entering trees, care must

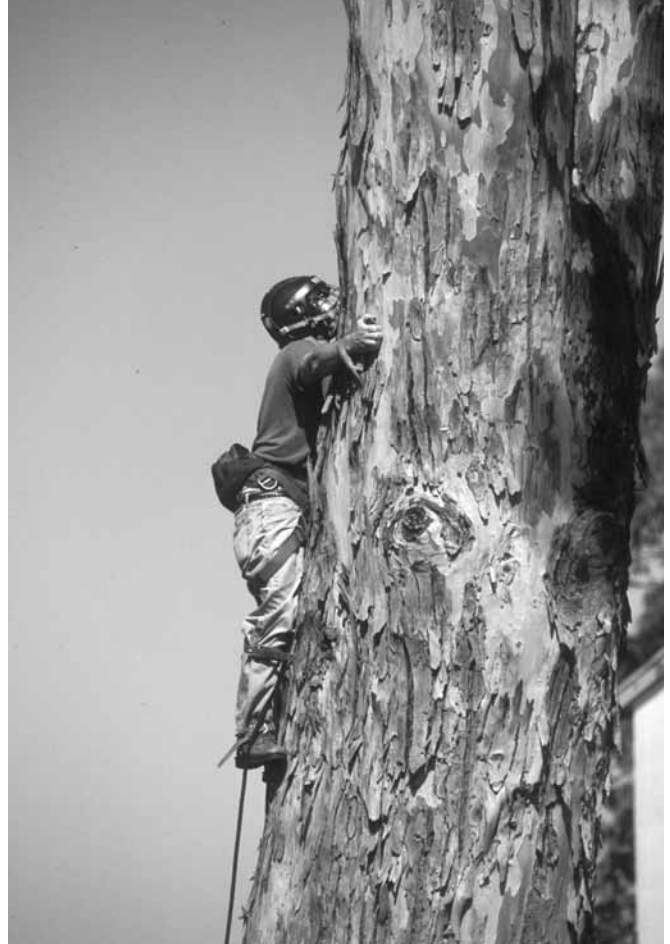


Figure 4. Free climbing large trees is possible, and can be accomplished safely. Use of spurs and a helmet with a facemask augments the safety of the climber.

be taken with snakes, bees, wasps, scorpions, other biting or stinging insects, and the potential for rotten and falling limbs.

Methods used for entering nest trees and reaching nests involve a combination of experience with tree and technical rock climbing techniques and equipment. Depending on nest site or cavity location within the tree the techniques used to ascend vary and include: free-climbing by hand from branch to branch, hugging the trunk, free-climbing a vine, using an extendable ladder, ascending a rope with technical climbing equipment, or using climbing spurs (spikes) with a specific harnessed belt with D-rings and lanyard (flip rope). Assistants or spotters should wear protective helmets in case of falling objects (e.g., tree debris, branches, and equipment) and need to stay clear of the area where climbers are working.

Free-climbing trees. Extreme caution and knowing your own ability is important when free-climbing trees. That said, free-climbing to the nest can be done safely on trees, limbs, or vines that offer support for your hands and feet, and that will hold your full body weight (Fig. 4). A good rule to follow is to always have three points of secure contact with climbing substrate (e.g.,

two hands and one foot, etc.). Carry and use webbing or rope to attach the climber to the tree for added security when at or below the nest, or when resting. Extreme caution is needed in all situations including, but not limited to, wet conditions, trees with biting and stinging insects, aggressive raptors, thorns, and weak or dead branches, vines, and tree trunks.

Using extendable ladders, and tree bicycles. Sectional arborist tree ladders can be used to get the climber up to 20 m into a tree with a straight bole, however tree ladders take considerable practice to use correctly, and time to erect. As such they are best used after the nesting season. Ladders can be difficult to transport and carry into remote field sites and are expensive. Sectional ladders are limited by height, a maximum diameter of the bole of the tree, and trees with few branches on the main trunk. Non-specialty ladders may be used for short climbs, but need to be used cautiously, angled into the branch or trunk, and “footed” or held by an assistant to keep the base from moving. Swiss tree-climbing bicycles (*baumvelo*), which cause no damage to the tree, can be used on trees with straight boles such as those in tree plantations (Seal et al. 1965, Yeatman and Nieman 1978). Even so, the climber must free-climb once the tree crown is reached. Tree-climbing bicycles, although easier to carry than ladders, are more awkward than climbing spurs.

Climbing a rope. Fixed rope ascents often are necessary to get quickly and safely into a tree after a line has been thrown or shot to a solid (live) tree limb. Fixed rope ascents also are used to get out of a cliff nest site. Ascenders should be rigged appropriately, with webbing adjusted to the individual climber. One technique (the frog) allows use of both legs for ascending. Each ascender has a hanging foot loop and security webbing attached to the climbers’ harness. Ascending is accomplished by standing in the stirrup and pushing up on the opposite ascender, while simultaneously lifting the corresponding foot. The second technique (single foot) has the climber attach the lower ascender to the harness with about 40–50 cm of 1-cm wide webbing and no leg loop; the other ascender is used with your strongest leg. This method, with practice, can be quicker, and allows the climber to maintain one foot on the cliff or tree to reduce swinging or spinning. The latter also decreases bounce and permits ascent rates of up to 25–30 m per minute. Physical fitness should not be understated; biologists should achieve a minimum of 15 m per minute ascent rate for nest entries or departures on cliffs for nest site manipulations or banding. Ascending fixed

ropes requires significant practice prior to its first use at a nest site, and the climber requires experience with technical rock climbing equipment, including static ropes, ascenders, descenders, webbing, knots, and harnesses.

Nests in large trees require biologists to throw or shoot a weighted line 10–50 m up into the tree, or across the lowest branch. Setting throw lines (monofilament or cord) vary from throwing lines with weights attached to the end, slingshots with and without fishing reels, or crossbows or compound bows with and without reels, dog training shooting devices, and free or spur climbing (Tucker and Powell 1991, Ness 1997, Jepson 2000). The weighted monofilament line is shot over the branch, tied to a 3 mm cord and pulled up, and then tied to a climbing rope that is pulled over the branch and tied off on the non-climbing side. Electricians’ tape can be used to taper the union of monofilament and cord, and cord and climbing rope to help negotiate the knot over limbs. Protection of the limb is possible by pulling a rope cover up to the branch via a slipknot, and when positioned, pulling the slipknot out of the rope. This climbing technique is detailed in Jepson (2000), and also has been used to trap raptors in tropical forests (Thorstrom 1996).

Climbing spurs. Biologists should acquire a set of quality climbing spurs, spikes or gaffs and practice prior to accessing raptor nests. Tree spurs must be weighed against legitimate concerns of damaging the tree. Considerable practice prior to entries is necessary to allow the climber to get accustomed to overall balance, and the feeling of leaning back into the harness while attached to a lanyard around the tree. Climbing spurs vary in spur length (pole or tree), and most new models are adjustable to leg length and padding comfort. It is best to wear stiff rubber-soled boots for foot support when using climbing spurs. Spur length should match the thickness of tree bark, and have straps adjustable to fit the climber. Climbers also should use gloves to protect their hands when flipping the lanyard, rope or cord up, down and around trees and branches. This climbing technique is detailed in Jepson (2000). Care should be given to trees with thin bark because of the possibility of introducing holes and scarring that might lead to insect damage and potential disease. The climber needs to practice spur-climbing trees in all conditions and situations, including vines wrapped around trees and limb changes. For limb or branch movement within the tree, a second lanyard, rope or webbing with a locking carabiner works well for security while changing the main

climbing line above and below limbs and branches. Dial et al. (2004) developed tree-transfer techniques using specialized rope grabbers shot from crossbows that may be used effectively in large canopy forests where direct ascent of the nest tree may be precluded. Climbing spurs, harness and a lanyard are easy to carry into remote field sites. This method is quick if the climb to the nest site is free of limbs and vines.

Care must be taken to avoid disturbing ants, scorpions, centipedes, wasps and bees that may be under bark and in cavities or attached to limbs on the ascent because of the movement in the tree while climbing. The climber can ascend the tree with a rope looped over a secure branch and tied off by an assistant (spotter) on the ground for a quick descent; or the climber can carry a cord to have an assistant pull up a static line. This method can be used to set lines or ropes for static line ascents in an optimal location to access a nest or nest cavity (Thorstrom 1996).

Biologists should be cautious when ascending to the nest or nest cavity. Having a ground spotter(s) helps to alert the climber if the nestlings are about to fall or jump from the nest and to run down and retrieve any young that do. If a nestling jumps, the climber should stop climbing, mentally note where the bird landed, and direct the spotter to recover it. Talking or humming softly during the climb appears to frighten nestlings less than suddenly arriving unexpected at the level of the nest. Spotters also may help the climber prepare for diving parental birds. The climber should judge whether to continue the approach if nestlings are in a precarious position.

Upon reaching the nest, a small hand-held mirror or telescoping pole mirror is useful in ascertaining the contents of a nest from below the rim. A small flashlight is useful to view inside a nest cavity or cave. The climber should get comfortable at a safe location within reach of the nest site, and should use suitable anchors such as monkeytails or limb loops for protection while in the tree to prevent long falls if a branch breaks, or spur slips. An etrier (i.e., a short, webbed ladder) or looped webbing can be thrown over and fixed on a limb above the nest to assist with nest entry, especially with large nests overhung with nest sticks. Climbers should access nestlings over the lip of the nest either by hand, or with a metal hook that can be placed around the nestling's leg to pull them toward the climber. Processing nestlings (i.e., banding, measuring, and drawing blood) can occur while in the tree if the climber is in a stable position. In many instances, it is possible to lower

nestlings to the ground so assistants can process the young or adults. Rounded, padded and ventilated chick bags or lightweight wooden or plastic box inserts for bags with a line to the ground and to a pulley or carabiner near the climber work best to maneuver the bag through limbs, or better yet, out away from the trunk of the tree. Climbers should not sit in or on the nests of even large raptors.

Descent from nest sites can involve climbing or rappelling, or both. When rappelling, the climber should ensure that the rope has free movement over a solid branch so that they may pull the rope down when on the ground. Rope sleeves over the branch should be used to avoid damaging the tree.

Cliff-nest entries. A single rope rappel usually is not the safest way to enter nests on cliffs. Most recreational and professional climbing accidents occur during rappelling; the first author has encountered instances where a weighted rope has been sliced by a falling rock, or the sheath has been cut while passing over sharp rock. Biologists rappelling down cliffs with potential for falling debris, sharp rocks, or where the raptor involved may strike the climber should use two ropes, one for rappelling and the second as the safety line. The use of two different colored ropes works best.

Rappelling is the most efficient method to reach a cliff nest site if the top of the cliff is accessible. Ideally the line of the descent from the tie-off (anchor) to the nest should be as straight down as possible with minimal lateral movement. A spotter in visual or radio contact with the climber can be very helpful. Many nest cliffs have loose rock and other debris that may be dislodged by a careless climber or the ropes. Great care should be taken during the descent to clean the route of loose material and attention paid to where the ropes will contact the cliff above the climber to avoid knocking loose rocks down upon the climber, nestlings, or eggs. Biologists should not descend directly onto an active nest, but rather should rappel about 1 m or so to the side of the ledge or nest and continue past the nest quickly, but in a controlled manner 1–8 m below and out of sight of the chicks. At this point, the biologist can put their ascenders on the rope, and get the banding bag ready before entering the nest. If, on the way past the nest, the behavior of the chicks suggests that they may jump, or are too young or too old for banding, the climber should quickly ascend back up past the nest, or rappel to the ground if possible.

The entry to the nest ledge or the level of the nest where the climber can corner the nestlings should be

one swift and controlled movement, allowing the biologist to trap the young in the nest to prevent escape. If a stick nest is present on the cliff, the movement to the level of the nest is still rapid, however the climber usually hangs in front of the nest ledge with both hands available to prevent the nestlings from leaving the nest prematurely. This technique requires considerable practice and balance. Entries for most raptor nests should be timed so they occur after onset of chick thermoregulation, but before loss of most down on the eyases (to prevent premature fledging; see Chapter 19).

Pendulum descents may be necessary near overhangs, or to transfer to different sections of the cliff or trees. The climber descends below the nest, and then swings several to many meters to the ledge, or to a crack below the nest, or the target tree. Normal lead climbing occurs from that point upward to the nest site. The climber should take extra caution on cliffs, as they will need to swing back laterally or out from the nest to the original fall line when done at the nest.

Although climbers sometimes are belayed, or lowered to the nest ledge, we do not recommend either practice under any circumstance, as it often causes debris to fall on the climber and study species, increases rope wear, and does not allow for self-rescue or quick ascents should the timing of the nest entry be inappropriate.

Climbing up to cliff nests may be accomplished with a ladder if access to the cliff is relatively easy, and the nest is not more than 8 m above the ground. Care should be taken to ensure the ladder is solidly "footed" or held by an assistant.

Lead climbing may be used for certain cliff nests. This method of climbing upward to the nest via cracks or holding on to small ledges or protrusions of the rock can be slow unless the route has been climbed during the off-season to locate difficult moves or pitches, or unless it is an easy ascent. Suitable protection devices (e.g., chocks and cam devices) often are placed on the way up the cliff and are necessary throughout the climb to prevent long, injurious falls. Protection placed directly below the nest ledge sometimes allows the climber to stand in an etrier to access the ledge, and allows an extra measure of safety should the climber fall out of the nest. Protection, including a fixed bolt, chock, or a sling wrapped around a rock or vegetation, will be left at the nest ledge to facilitate rappelling back down to the ground.

Sometimes eagles and Osprey (*Pandion haliaetus*) nest on the tops of natural rock pillars, either on shore-

lines or in the water. In such situations climbing ropes or conventional ladders may not work. Chubbs et al. (2005) describe a portable anchorbolt ladder to access such nests.

Buildings, towers, and bridges. During most nest entries on man-made structures, building or bridge managers are available for discussion regarding tie-off points, local hazards, as well as for access policy and permits. Climbers should inform local authorities prior to nest entry, so that they are aware of your activities and you are not mistaken for a terrorist or vandal, or believed to be attempting suicide.

Bridges have inherent hazards that should be considered; sudden gusts of winds and their patterns moving through the superstructure can be unpredictable; rain and morning dew can make bridge or building surfaces especially slippery. Biologists always should be tied in to firm metal objects that are securely bolted or welded to the superstructure of the bridge, window washing supports, or the tower ladder or gangway. Rusted metal and some beam edges are sharp or have rough welds that can easily slice a rope or webbing when weighted suddenly during a fall or slip; multiple points of connection to the structure are recommended. Raptors defending their nests may fly through the superstructure of bridges or around corners on power plant towers and suddenly hit the climber. When this is likely, one or more spotters should be used.

Although urban nests often are suited for media coverage, the climber should take into consideration the complexity of the climb prior to inviting the media. If the media are covering the entry, the climber should ensure that proper safety techniques are followed for all involved and that the safety of the raptors is a primary concern. It is best to discuss the needs of the camera operator, and to establish enforceable ground rules, before the climb. Most media people are responsible and want to show your project in the best possible light; however some can be careless and may neglect the safety of the birds and themselves. Mishaps are your responsibility, and accidents involving the birds or media personnel can result in loss of scientific permits, the loss of access to the site, and the permanent alteration or cancellation of your project.

Bridges, buildings and towers may have people, boats or automobiles below. All equipment should be tied with lanyards to the climber, and extreme caution should be used when stepping on ledges or beams to avoid dislodging potential falling objects such as rocks, gravel, loose bolts, and detritus.

Skill and competence with the equipment and safe climbing technique are “musts” prior to any nest entry. Nest entries into active sites are not the place to practice newly learned skills. Physical fitness, and mental clarity are vital in conducting any high-angle nest entries in trees or cliffs, and both aspects require considerable training and preparation to allow the biologist the stamina, strength, agility, and lucidity to make safe decisions before and during the climb. If tree or cliff nest entries are new to you, or you are entering nests of a species you have not previously studied, seek out one or more knowledgeable and experienced biologists, arborists, botanists, silviculturists, etc., who use climbing skills during their work, before preparing to enter a nest. A conversation with an expert may save you hours of grief, and reduce the risk of adversely disturbing the birds. It also may prevent your sudden, albeit accidental, death.

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