

Photographing Bald Eagles

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One only needs to spend time at the Alaska Chilkat Bald Eagle Preserve to realize the attraction that Bald Eagles have for photographers. Professional photographers cluster at every turnout and points in between. They come from all over the United States and from other countries. They make their living with photography in a variety of ways, but all agree that eagle photographs are among their best sellers (Armstrong 1986). Many tours are scheduled to this preserve and seeing an individual among them without a camera would indeed be a rare sight. Even people traveling to points further north stop to photograph these majestic birds perched along the highway.

Photography also is used to gather scientific information about Bald Eagles. Time-lapse cameras have been used at eagle nests to determine such behavior as incubation and brooding time by sex and number of prey deliveries (see Cain 2008). Photography also has been used successfully to study behavior in other raptors (Enderson et al. 1972, Wille 1979).

Whatever the purpose, getting close enough to photograph eagles is difficult and in doing so photographers can often stress and even harm eagles. Regulations, guidelines and written ethics exist to help protect Bald Eagles in Alaska from overzealous photographers. Also, the use of certain techniques and equipment can help photographers obtain good photographs without undue stress to the eagles. I will discuss all of these subjects in this paper.

Regulations, Guidelines, Ethics

"Wildlife photographers generally consider their activities to be non-consumptive, that is they do not harvest wildlife like hunters, trappers and fishermen. But photographers can take a toll of their subjects, causing increased stress and even death. Therefore, it is important to keep in mind that the welfare of the wildlife is more important than the photograph."

This statement from *Photographing Wildlife in Alaska* by Wright and Arnason (1980) certainly seems to be true for Bald Eagles. Just approaching eagles usually causes them to flee long before they are within camera range. Once feeding eagles are disturbed they usually completely evacuate the area (Hansen et al. 1984) and do not return to feed until several hours later (Stalmaster and Newman 1978). Attempting to photograph eagles at their nest site may cause the birds to abandon the nest (Armstrong 1987). Even biologists working carefully around nesting eagles have caused abandonment and death of the young (Cain 2008).

Regulations restricting photographic activities around eagles are few. Probably the only established law that directly affects photographers throughout Alaska is the Bald Eagle Protection Act (BEPA; 16 U.S.C. 668688d). The most pertinent part of this act prohibits molestation or disturbance of eagles at their nests. Because of this possibility a permit from the United States Fish and Wildlife Service is required to build a photographer's blind near an eagle nest. Also Alaska state law (11 AAC 21.120) requires authorization to build a wildlife observation blind on the Alaska Chilkat Bald Eagle Preserve.

Certain guidelines exist for the Alaska Chilkat Bald Eagle Preserve that would affect photographers. In summary these guidelines are: (1) stay off the flats, (2) view eagles only from the area between highway and river, (3) do not disturb the fish in any way and (4) stop and park only in designated turnouts.

Ethics for photographing eagles are difficult to establish. All photographers develop their own ethics as their experience increases. What is ethical for one photographer may be unacceptable to another. It seems nearly impossible to approach eagles without causing them some stress, but perhaps it is the degree of stress that we should be most concerned about. Members of the Alaska Society of Outdoor and Nature Photographers pledge that "No action will be taken that will adversely impact my subject or natural setting" (Walker 1986). Although this statement is open to differing interpretations, I cannot think of a better one.

Equipment

The best source of information I found on photography is John Shaw's book *The Nature Photographers Complete Guide to Professional Field Techniques* (1984). Shaw's suggestions for lenses, tripods and cameras are in my opinion, ideal for photographing eagles.

For photographing Bald Eagles in flight I like to use a 300 mm, internal focusing, f4.5 telephoto lens. This size is light and easy to hold by hand. The internal focusing feature (IF) changes the optical elements within the lens rather than the length of the lens as standard lenses do. This means that IF lenses have rapid and smooth focusing, a real plus when working with fast-moving eagles. A motor drive is also a real asset when working with eagles in flight.

For perched and feeding eagles, a longer telephoto lens may be needed. Most professional photographers at the Alaska Chilkat Bald Eagle Preserve use the very expensive and fast (f2.8-5.6) 400 to 600 mm telephoto lenses (Armstrong 1986). The faster lenses let in more light so they focus more easily. They also allow you to use faster shutter speeds that help stop both eagle and camera movements.

According to Shaw (1984) you should use the shortest focal length you can because the longer the focal length the more vibration is magnified. Because of vibration when using telephoto lenses a good steady tripod is a must. The brands I see most often used are the heavier models of Bogen and Gitzo. Some eagle photographers use additional support such as a monopod. The use of a cable release, self timer, or mirror lock-up all help to

reduce camera movements or vibration and help yield a sharper image.

I use my 300 mm lens with a 1.4x extender for perched and feeding eagles. The extender make my lens a 420 mm f/6.4. This may not be the very best setup, but it is a compact, affordable package that yields marketable results. Shaw recommends against using any teleconverters larger than 1.4x because the loss of light, shutter speed and photo sharpness may be unacceptable.



A telephoto lens was necessary to take this picture without disturbing the eagle. Photo by Bob Armstrong.

There is some specialized equipment that might help to obtain outstanding photographs of Bald Eagles. Some devices allow you to trigger your camera from a distance or allow the bird to trigger the camera for you. This would allow you to put a camouflaged camera close to where an eagle perches or feeds and use a shorter focal length lens to get a different perspective not possible with a long telephoto lens. Combining motor drive with infrared triggering and radio controlled devices, you can trigger the cameras from up to about 60 m away (with infrared) to between 300 m and 700 m away (with radio control). I have used the infrared devices with considerable success on many different species of

birds, but I have not yet tried them with eagles. They should work wherever an eagle regularly comes to a specific spot to feed or perch. Most popular camera brands sell these devices, but they usually work only on cameras of the same brand.

One device, the Dale Beam, could be used at a known feeding or perching spot. The Dale Beam is a photo tripper that contains an infrared transmitter and receiver. It sends out a pulsed beam of infrared light which is bounced off a small reflector and back to the built-in sensor. An eagle breaking the beam, by flying or stepping through it, would trigger the camera. I have successfully used the Dale Beam for birds and found it to be very well built and able to withstand considerable abuse.

Some photographic devices might have an application to Bald Eagle research. The Dale Beam, for example, can be used with 9 to 24 volt DC power and would last many days without attendance. Data backs available for 35 mm cameras can be programmed to fire the camera at any interval you select. Their usefulness would be greatest if used in conjunction with a bulk film magazine. Some researchers have successfully used remote time-lapse camera units (Enderson et al. 1972, Wille 1979, Cain 1998).

Temple (1972) describes the construction of timelapse motion picture cameras. These units usually consist of a movie camera, an intervalometer, a photocell and a battery pack. Cain (1998) used the intervalometer to take single-frame exposures every 90 seconds and the photocell turned the system off at night to save batteries and film. The camera was housed in a 50 caliber ammunition box lined with polyurethane foam to muffle sound and prevent condensation.

Techniques

The greatest challenge in photographing eagles is getting close enough. Even when using long telephoto lenses, such as 400 mm, you need to be closer than 20 m for a frame-filling photo. In one study of eagle behavior in which the birds were approached by an observer, the mean distance at which eagles flushed was 196 m for adults and 99 m for juveniles and flushing distance generally ranged between 25 and 300 m (Stalmaster and Newman 1978). These distances are much greater than the range at which one could obtain good photographs. So how do we get close to eagles?

One method is to find an area where eagles are accustomed to human activity. The best place I know of is the Alaska Chilkat Bald Eagle Preserve during the months of November and December (Warden 1985). Eagles perch and feed in the area between Mile 18 and Mile 24 of the Haines Highway often within 15 m to 30 m of the viewing areas (Hirschmann 1988). If spawned-out salmon are available along the spring-fed channels close to the road and if most other channels farther out are frozen, one can almost be assured of good photographic opportunities. Along roadways eagles are usually accustomed to automobiles and cars can be used as a blind. On many occasions I have slowly driven up to an area where eagles were feeding and been able to obtain good photos without leaving my automobile or disturbing the birds. Window mounts, such as the one made by Bushnell, help steady the camera. Any movement within the automobile can cause camera shake, so working alone is usually best.





This Eagle's fish catching technique is captured using a motor drive, large telephoto lens and high speed Film. Photos by Bob Armstrong.

For many years eagles have been fed fish scraps in Homer, Alaska. Photographers are allowed in the area but only if they stay in their car (Walker 1988). The reasoning for this is obvious because the minute one steps out of a car all the eagles flush and often do not return that day. I have also found this to be true wherever I have used a car as a blind. According to Lee Rue III (1984) there is no better way to photograph eagles than by baiting the birds with carrion. He recommends using road-killed wildlife. Skunks should be transferred outside the car, however!

In Alaska I have found fish parts and carcasses to be ideal bait for luring Bald Eagles close enough for photography. When food is plentiful, however, such as during the time when salmon spawn, baiting usually does not work. It is illegal to use the whole carcass of some sport caught fish as bait for eagles. According to the Alaska Department of Fish and Game (1990), "Except for whitefish and suckers, the intentional waste or destruction of any species of sport-caught fish for which bag limits, seasons or other regulatory methods and means are provided, is prohibited, except that the head, tail, fins and viscera

of legally taken sport fish may be used for bait or other purposes." Under special circumstances you may be able to obtain a scientific or educational collecting permit from the Alaska Department of Fish and Game that would allow the use of sport fish. Also, I believe there is no regulation against collecting and using dead spawned-out salmon as bait for eagles or using any fish, such as staghorn sculpins, not considered a game fish.

Approaching Bald Eagles by boat may allow you to get close enough for photography. In many areas of Alaska, boats, like cars, are a familiar sight to Bald Eagles and the birds often accept their presence. For example, Bald Eagles feeding on spawning herring may ignore a kayaker paddling nearby. I have often closely approached eagles perched in a tree near shore with my bright yellow skiff. Sometimes presenting a floating fish beneath a perched eagle elicits an almost immediate spectacular dive and snatch of the fish from the water surface. To make fish float, simply inject their body cavity with air from a football pump and needle. Using styrofoam to float fish and working below an eagle's nest should be avoided. Accidental ingestion of styrofoam may harm eagles and photography near a nest site may cause the adults to abandon the nest.

Photographing eagles in flight requires certain techniques for success. It is nearly impossible to react quickly enough for single frame photos of flying eagles. I usually set my motor drive in the continuous mode and fire it in bursts of 3 to 6 as I am following the eagle in flight. Prefocusing on a floating fish can also help you obtain "in-focus" photos of flying eagles.

You can hand hold the camera most successfully if you use a shutter speed equal to or larger than the length of your lens. For example, sharp photos can be taken with a hand-held 300 mm lens at 1/500 sec but are less likely at 1/125 sec. However, with practice and luck spectacular photos of flying eagles with sharp head and blurred wings can be taken at the slower shutter speeds (Oberle 1988). I obtain the highest percentage of in-focus, sharp photos of flying eagles by using Ektachrome 400 at f/11 and 1/1000 sec on a sunny day. However, since Kodachrome is more marketable I usually settle for 1 to 3 sharp photos of flying eagles for every 36 exposure roll.

Editors' note: In recent years we have seen Bob and other professional photographers using digital cameras.

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