

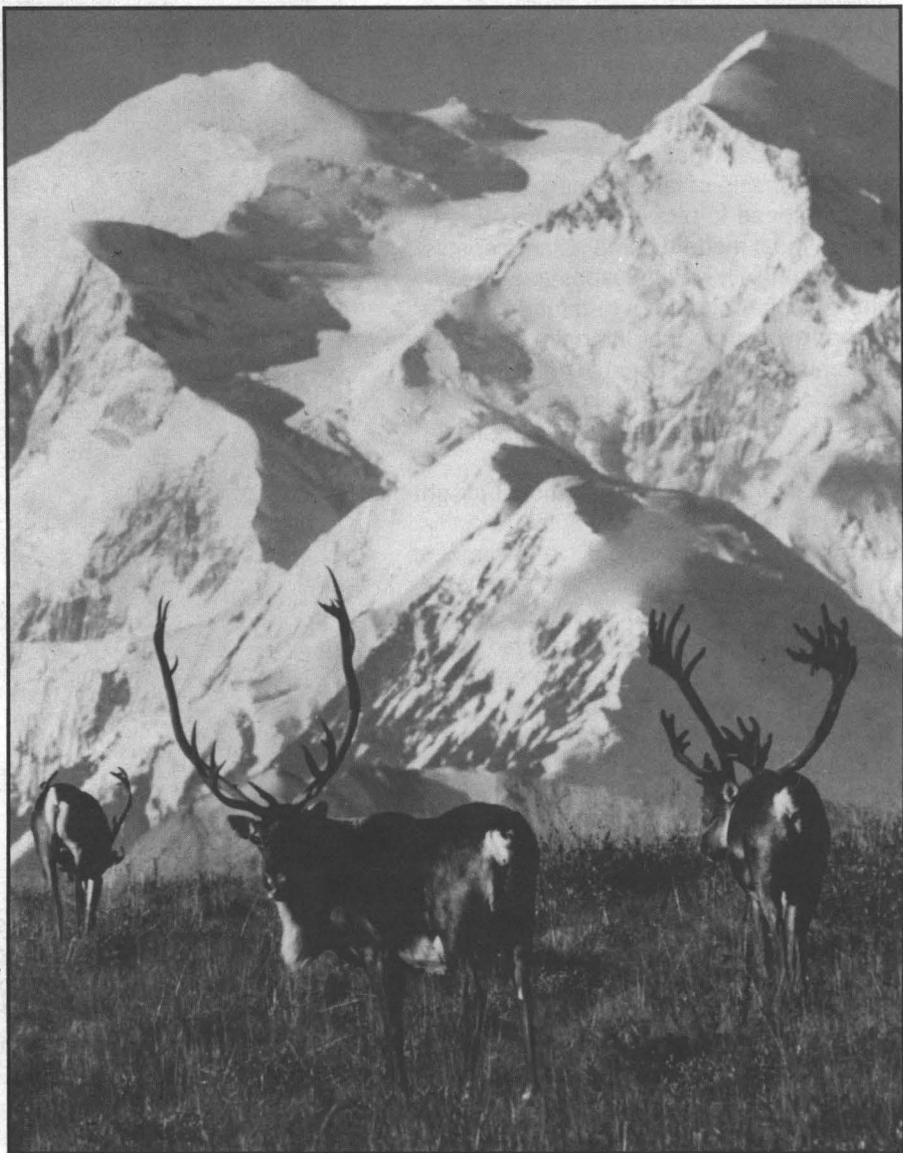
PHOTOGRAPHING WILDLIFE IN ALASKA

Alaska is an exceptional place for photography. From the tall forests and glaciated coastal mountains of Southeast, through the sweeping landscapes and snow-covered ranges of the Interior, to the vast tundra plains and barren peaks of Western and Northern regions—Alaska is renowned for its scenery and wildlife.

Spectacular concentrations of certain wildlife species produce a photographer's paradise. Opportunities are available to photograph animals which are unique to Alaska or only found in abundance here. Several areas are set aside especially for viewing and photographing where animals can be approached closely and safely.

With a minimum of camera equipment, lots of practice and patience, and a little luck—you can take photos that capture the beauty of Alaska's wildlife.

Photo by Tom Walker



Caribou and Denali

This Wildlife Watcher's Report is for beginning photographers who are just becoming acquainted with Alaska and its wildlife. Included are a description of basic photographic gear, and techniques and tips for taking wildlife pictures in Alaska. This report is not intended as a substitute for a course in photography. Many references are available to give you more information on photography in general and wildlife photography in particular (see "Selected References"). Experienced photographers interested in finding specific wildlife subjects are referred to *A Guide to Wildlife Viewing in Alaska* and local wildlife experts for advice.

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ALASKA WILDLIFE WATCHER'S REPORT

Alaska Department of Fish and Game

Game Division

A FEW BASIC CONCEPTS OF PHOTOGRAPHY

Photography is a creative art, but unlike other forms of art that seem intuitive or simple when first encountered, photography often strikes newcomers as a technical craft filled with complex rules and equipment.

One concept that some find difficult is the relationship of lens opening and shutter speed to proper exposure. Even though most modern cameras are capable of automatically setting exposures, the photographer should understand how proper exposures are determined—for cameras are not yet capable of thinking and adapting to unusual situations.

Photographs are created by capturing light on a film emulsion. Four primary factors are involved: 1) the amount of light reflected from the subject; 2) the sensitivity of the film to light; 3) the amount of light passed through the lens; and 4) the length of time the shutter is opened. Once a roll of film has been selected (see "Film Choice") and put in the camera, and a subject is chosen—the photographer (or the automatic camera) controls the "exposure" by adjusting the size of the lens opening (aperture) and the shutter speed.

The "proper exposure" is the combination of shutter speed and lens opening that allows the correct amount of light to reach the film. "Over-exposure" results from too much light; "under-exposure" from too little light reaching the film. The light meters in most 35mm cameras measure the light reflected from the photographic subject, and provide a suggested exposure.

The meter reading is usually described in terms of a shutter speed (fraction of a second) and lens opening (f/stop; remember, f/ numbers increase as the size of the lens opening decreases). Shutter speeds of 1/500 or faster are considered fast and are capable of stopping most action, while speeds of 1/30 to 1/60 are the slowest commonly used by wildlife photographers. Large (fast) lens openings, such as f/2.8 to f/4 for telephoto lenses, let in more light than smaller openings like f/16 or f/32.

The standard settings for both shutter speeds and lens openings are separated by a factor of two. For instance, 1/500 of a second is twice as fast (opens for half as long, and lets in half as much light) as 1/250, the next lower speed on the dial. On the lens aperture ring, f/5.6 lets in twice as much light as the next smaller stop, f/8.

To maintain the same exposure while switching to a faster shutter speed, the photographer must open up the lens (switch to a smaller f/ number); and conversely, to compensate for the selection of a slower shutter speed, the lens is closed down (larger f/ number). The following settings represent equivalent exposures: 1/30 of a second at f/16; 1/60 at f/11; 1/125 at f/8; 1/250 at

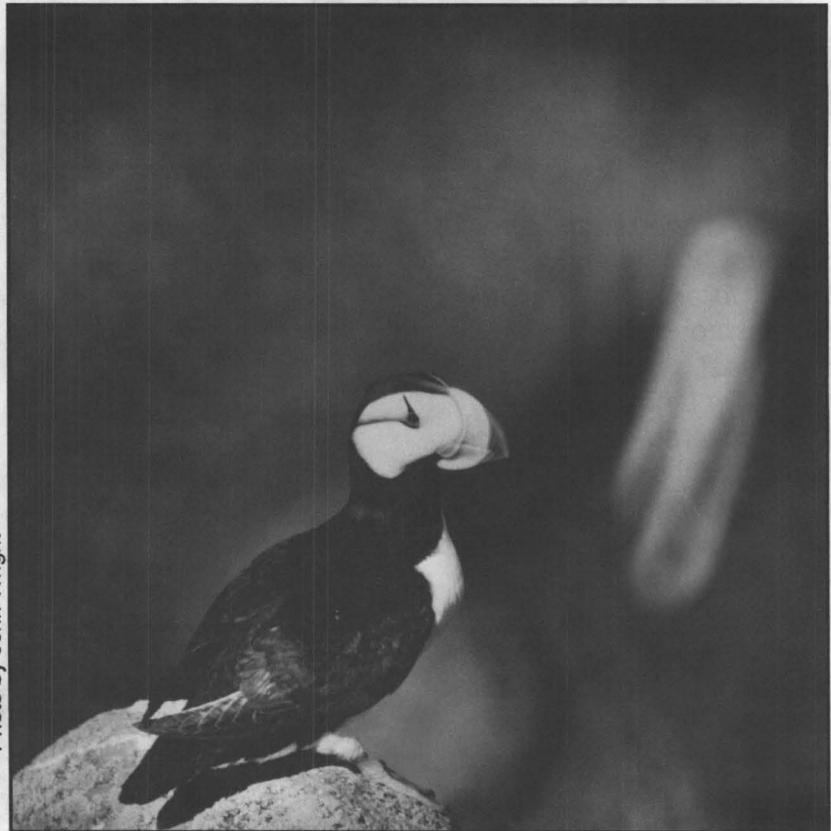


Photo by John Wright

Depth of Field—puffin in focus, walrus not

f/5.6; 1/500 at f/4; or 1/1000 at f/2.8.

It is useful to understand these relationships to correct some of the shortcomings of your light meter. When shooting a dark-colored subject in a bright snowy scene, your light meter will be influenced by the light reflecting off the snow, providing a reading that under-exposes the subject. In this case, if your meter told you to shoot at 1/500 at f/16, but you knew the snowy landscape was fooling the meter and you should open up two f/ stops to properly expose your subject, you would shoot at 1/500 at f/8 (or an equivalent exposure such as 1/250 at f/11).

The lens opening also controls the "depth of field," or range of distance which appears sharp in front of and behind the point actually focused on. The smaller the lens opening (the larger the f/ number), the greater the depth of field. A lot of depth of field is needed when the photographer desires both the foreground and background to appear sharp in a picture (so a small lens opening would be used).

Shallow depth of field can be used to isolate and accentuate a sharply-focused subject against a fuzzy, out-of-focus background—desirable in cases where the background would detract from the subject. A large lens opening would be used when shallow depth of field is desired. Most lenses are equipped with depth-of-field scales, and many camera models have a depth-of-field previewer to assist the photographer in estimating the range of sharp focus.

Equipment Selection

CAMERA: The 35-millimeter single lens reflex (35mm SLR) camera is used by most wildlife photographers, both professional and amateur. A wide variety of brands and models of 35mm SLR camera are available.

Before buying a camera, ask the advice of friends who are good photographers or people working in camera stores. Think of the conditions you will expect the camera to work in, make sure it is rugged and reliable.

Also consider future needs, are a wide range of lenses and accessories available if you eventually decide to add to your initial purchases? In some cases, a photographer's desire for a specific lens dictates which brand of camera is selected.

Once you have purchased a camera, practice using it. You wouldn't want to miss a once-in-a-lifetime photograph because you forgot how to properly operate your camera. Camera operation should be second nature.

LENSES: The lens has been called both the "eye" and the "heart" of a camera. For wildlife photography, the most important lens is the telephoto.

TELEPHOTO LENSES are used when the photographic subject cannot be approached readily without frightening it, or when it would be dangerous to get too close. In effect, a telephoto magnifies an image as it is transmitted to the film.

To determine the approximate magnification of a lens, divide its focal length by the length of the camera's "normal lens." For example, the magnification produced by a 400mm lens on a 35mm camera (with a normal lens of 50mm) is equivalent to that of 8 power binoculars.

Telephoto lenses in the 300mm to 600mm range are commonly used for wildlife photography. Photographers don't always agree on the best length. Some like a 300mm telephoto because it is easier to hold steady than longer lenses that produce greater magnification. Others claim they can hand-hold a 400mm lens. In any case, **IT IS BEST TO USE A SUPPORT WHEN SHOOTING WITH A TELEPHOTO** to lessen the chance of movement.

Camera movement, resulting in blurred pictures, is an increasing problem as longer lenses are used. When shooting without a support, the general rule is to use a shutter speed equal to, or faster than the reciprocal of the lens length—for example, 1/500 of a second for a 500mm lens.

Among telephotos, the shorter lenses are usually faster; that is, the maximum lens opening is larger, so more light is let in. Faster lenses allow the photographer to shoot under poorer lighting conditions, to use faster shutter speeds to avoid blurring, or to use slower, higher-quality film.

DON'T EXPECT MIRACLES FROM A LONG TELEPHOTO LENS. A common misconception held by many beginning photographers is that simply by using a long telephoto they will be able to "bring in" subjects from great distances. Actually, the photographer still needs to get reasonably close to an animal to get a good picture.

To fill a vertical frame two-thirds full with the image of a standing bald eagle, a photographer with a 500mm lens on a 35mm camera would have to be about 55 feet from his subject. To capture an equally large image with a 300mm lens, the photographer would have to be within 35 feet.

Getting this close entails patience and care. Telephotos are tools used by ethical photographers to "fill the frame" with images of their wild subjects while remaining far enough away to avoid causing undue stress on the wildlife.



Photo by John Hyde

600mm lens, 1/125 at f/4.5; ASA/ISO 64 Slide film.

Proper exposure for a snowy scene

ZOOM LENSES are also useful for wildlife photography. These lenses allow the photographer to choose any focal length within the range of the lens—one zoom lens can span the range of several fixed-length lenses (for example, 70-210mm). This versatility is the zoom's strong point, it permits photographers to instantly change the image size and compose by adjusting the lens, rather than switching lenses or moving closer to or further from the subject. One zoom may replace several fixed-length lenses, lightening the load in the photographer's pack. However, zooms are generally slower (have a smaller maximum lens opening), and their complex construction may make them less rugged than fixed-length lenses.

MACRO LENSES: Instead of purchasing the normal 50mm lens which usually comes standard on new 35mm cameras, many wildlife photographers select a macro lens instead. These close-focusing lenses are very useful for photographing insects, flowers, and other small, sedentary subjects. Some nature photographers prefer a macro lens of 100mm or 200mm, because it allows them to work at greater distances from their subjects. Macro lenses are generally slower than normal lenses. With the introduction of close-focusing zoom lenses in the wide-angle to short-telephoto range (for example, 35-105mm), wildlife photographers have still another choice if considering an alternative to the normal lens.

WIDE-ANGLE LENSES (35mm or shorter) are useful for recording an animal with the habitat it is found in, or for encompassing an entire herd or flock of animals. They are also the best lenses for photographing vast scenic landscapes.

BEFORE PURCHASING A LENS, carefully consider the type of photographs you will be taking. If most of your shots will be of birds at your birdfeeder, you will not need a really long telephoto lens. A zoom lens might be the best choice. However, if portraits of brown bears, caribou, and moose are your goal, a long telephoto is required. Take the time to think this over, before you end up with a dusty collection of seldom-used lenses like so many other photographers.

ACCESSORIES: If your photography will involve use of long telephoto lenses, you will need to support the camera and lens to get high-quality pictures. It is best to use a support with any lens of 300mm or more. A sturdy tripod is strongly recommended. Some photographers prefer a gunstock or monopod instead of a tripod when shooting fast action with 200mm to 400mm lenses. To further reduce the risk of camera movement, most professional photographers use a cable release rather than press the button on the camera.

Lens filters, such as skylight, haze, or UV (ultra-violet light) filters, should be fitted to all lenses. This will not only help reduce haze and excessive blue tones on overcast days (especially when using certain high-speed films), but will protect expensive lenses from scratches. The only other widely-used filter for color photography is the polarizer, which reduces glare on water (handy for photographing spawning salmon). Polarizers also bring out deeper colors, accentuating clouds against darker blue skies and enriching the greens in vegetation.

A motor drive (or auto winder) may seem a luxury—but in wildlife photography where fast action is the norm—it often enables the photographer to capture shots that might have been missed while manually cranking the winder lever. Motor drives electronically advance the film and cock the shutter as quickly as 3-5 times a second (they can be noisy), allowing you to shoot rapidly without taking your eye from the viewfinder.

The list of accessories could go on and on—some are useful, most aren't essential, and all cost money. Remember too that you will often be packing your camera gear on your back, so consider weight and bulk.

Film Choice

SLIDE FILM is used almost exclusively by serious wildlife photographers. Slides can be projected on a screen, or enlarged for prints. Magazine and book publishers prefer slides for color reproductions. 35mm print film is used primarily by those who only desire prints for personal viewing. Black and white film is most often used by photographers who do their own processing.

An important characteristic of films is their speed, or sensitivity to light. Film speeds are given as ASA or ISO numbers (ratings set by two organizations). The lower the number, the slower the speed. ASA/ISO 50 or lower is considered slow film—requiring bright lighting conditions for proper exposure, but usually providing the highest quality when enlarged or projected. Fast films (ASA/ISO 200 or greater) are useful in low light situations, to stop fast action, or when fast shutter speeds are necessary to reduce the risk of movement and blurring with long telephoto lenses—but usually have poorer color rendition and more pronounced grain. Films in the ASA/ISO 64-100 range are a good compromise. They provide high quality pictures and are fast enough for most photographic situations.

How-To's of Wildlife Photography

HOW TO GET CLOSE: STALKING is the most frequently used technique for approaching wild animals to get a good photograph. Prepare by wearing unobtrusive, soft clothing. Binoculars and spotting scopes are helpful in locating subjects at a distance. Have your camera on the tripod and fully ready before you start after your subject. Anticipate where the animal will be when you get close enough to take a good photograph, and plan your approach so the lighting and background will produce the picture you desire.

When you get closer to your subject, move only when the animal is busy feeding or otherwise occupied in an activity that will make it less likely to notice your movement. Keep still when the animal is alert. Don't move in and out of your subject's sight. Once you are in its view, it is best to remain out in the open where your quarry can keep track of you. Above all, be patient. Allow the animal to adjust to your presence.

Take your pictures as discretely as possible, you will get more "natural" poses and cause the animal less distress. **IDEALLY, YOU SHOULD STALK, PHOTOGRAPH, AND LEAVE WITHOUT UNDULY DISTURBING THE SUBJECT. WHEN YOU ACHIEVE THIS, YOU ARE AN ACCOMPLISHED STALKER AND AN ETHICAL PHOTOGRAPHER.**

A good understanding of the animals' behavior is helpful when stalking. Some species living in open areas, such as caribou, may approach rather than flee from an intruder they sense by sight. They come closer to catch the intruder's scent before deciding whether to take flight. This behavior often provides an ideal opportunity for a photograph.

In willow thickets and spruce-birch forests, however, moose may silently disappear before the advancing photographer is even aware of the animals' presence. Your chances for success may be greater in parks and other protected areas where wildlife are accustomed to human activities and do not associate them with danger. Where animals are habituated to photographers and curious sightseers it is often best to approach the animals openly, rather than furtively.

Be extremely cautious with bears. Locations with viewing facilities, such as McNeil River State Game Sanctuary and Katmai National Park, provide the safest opportunities for photographing bears. Never approach females with cubs, bears at a kill, or breeding bears in the spring. If you spot a bear in conditions that you consider safe for closer approach—let the bear know you are there from a distance, both by sight and smell. Give the bear a chance to retreat well before you are so close that it must choose between confronting you or fleeing. This will result in fewer close approaches and fewer photographs, but it will be safer.



Photo by Pat Reynolds

80-200mm zoom lens; ASA/ISO 64 Slide film.

Some animals are easier to approach than others

ANOTHER TECHNIQUE photographers use to get close to wildlife is to conceal themselves so they are not recognizable as humans. Professional photographers use blinds located near sites frequented by their desired subjects. For the majority of photographers the most useful form of concealment is their highway vehicle. Many wildlife species are surprisingly tolerant of close approach by automobiles, as long as the occupants remain quietly inside. If you see a desirable subject alongside the road, pick a safe pullout for parking where you will not obstruct traffic. A window mount or some type of padding is handy when using a telephoto lens from a rolled-down car window. Remember to shut off your car's engine, the vibrations from a running engine will cause blurred photos.

Many animals, including waterfowl, otters, and moose, seem to tolerate a closer approach from a water-borne intruder than one on land. Try photographing from a canoe, raft, or other quiet mode of water transportation.

Your home can serve as a blind to take pictures of birds or squirrels at a feeder. Photograph through an open window, from behind a curtain or a temporary blind.

HOW TO COMPOSE PHOTOGRAPHS

There is more to wildlife photography than camera gear and closeness of subject—good photographs are works of art. Composition is an important aspect of any type of art. By selectively locating the subject and properly controlling the lighting, balance, pattern, and color within a photograph, the photographer can compose an attractive picture. Art is indeed in the eye of the beholder, but many authorities have recognized some basic rules of composition.

1. Use the "Rule of Thirds" to avoid a static photo with the subject placed dead in the center. With the picture divided in thirds by imaginary lines, both vertically and horizontally, place the main subject at an intersection or along the lines connecting the intersections.

2. Don't put the horizon right through the middle of the picture. If the horizon is placed in the upper third, the picture gains depth by emphasizing the foreground. If it's in the lower third, the feeling of height is strengthened.

3. Make the main subject the center of unity. Avoid foregrounds and backgrounds that detract from it. Usually, the best photographs are simple.

4. Decide whether to frame horizontally or vertically by observing the dominant lines of the subject. For example, a standing bear probably would look best in a vertical format, while a bear down on all fours is best photographed horizontally. Photographers often forget to use vertical formats.

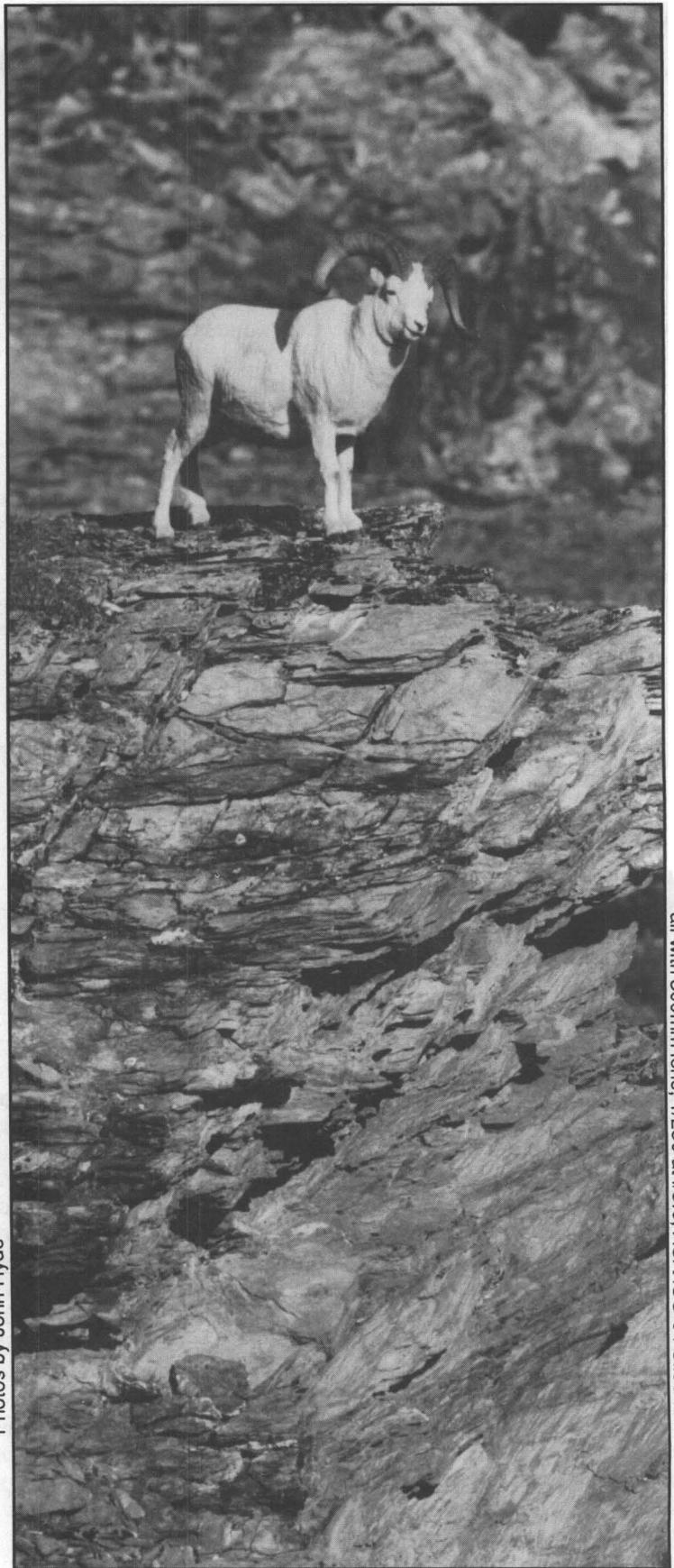
5. An object, such as a tree trunk or limb, in the foreground of a photo is useful for providing a feeling of depth or of scale—but don't let it detract from the main subject.

6. Don't be content with the first angle from which you view the subject. Move around to see if you can find a better perspective. Get down low, climb higher and look down, or circle around for a different angle or different lighting. Try shooting from your subject's level, get down close to the ground when photographing short animals like arctic ground squirrels.

7. Leave extra space in front of the subject in the direction it is looking or moving. The border of a photo defines a space, leave room for your subject's activities.

8. The human eye seeks sharpness and brightness, so be certain your subject is in sharp focus and in good light. Focus on your subject's eye, and try to capture a glint of light (catch-light) in the eye.

9. Catch your subject at an expressive moment, when a special characteristic of the animal's form or behavior is portrayed—such as the head-high, antler-back prance of caribou, or the puffed-throat breeding display of the pectoral sandpiper.



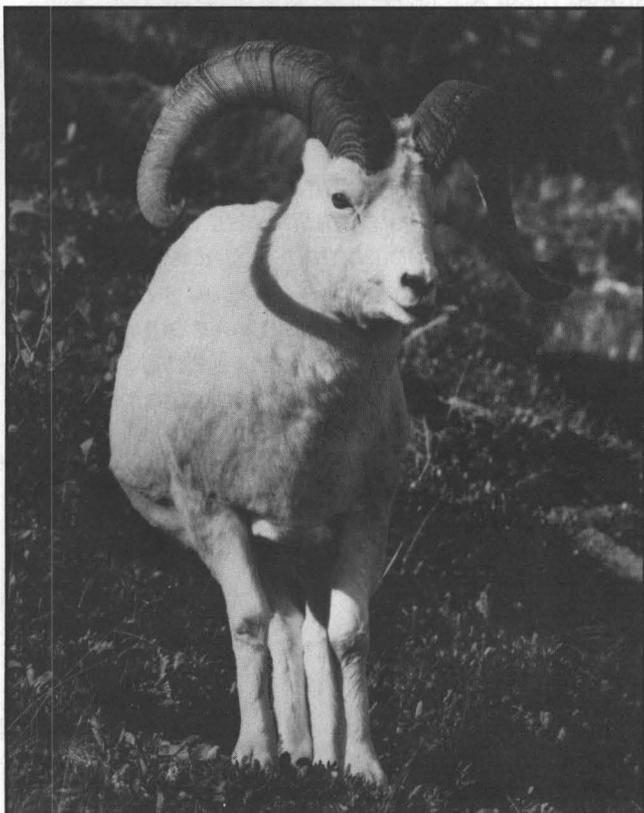
Photos by John Hyde

all with 300mm lens, 1/250 at f/5.6; ASA/ISO 64 Slide film.

A Dall sheep ram in escape terrain

HOW TO HANDLE SPECIAL PROBLEMS

TRICKY LIGHTING situations frequently occur in Alaska. For instance, when shooting a snow-covered scene you must be careful not to underexpose your subject—light meters which average readings from the entire picture field are usually misled by the bright snow. In this case, you must open up your lens one and a half or two stops over the meter reading (letting in more light by using a larger lens aperture). A correct meter reading can be obtained by moving up close and measuring just the light reflected off your subject, or off another object of similar color and lighting (the photographer's hand is often used). Another suggestion is to follow the film



A closer view of the ram



The same ram (second from left) viewed from above

manufacturer's instructions provided with each roll of film. When shooting ASA/ISO 64 slide film in a bright, sunny, snow-covered scene, an exposure of 1/500 of a second at f/8 is recommended. With partial cloud cover, open up your lens to f/5.6 with the same shutter speed.

A similar situation exists when you photograph an animal that is lighted from behind (backlighted). Your light meter will probably indicate a reading that will underexpose the subject. If you desire a silhouette this may be the exposure to use, but to get an appropriate exposure of the subject, open up the lens one or two stops or take a light meter reading off a nearby object of similar color and lighting.

Bracketing is a useful technique when you are unsure of the proper exposure. To bracket, increase and decrease the lens opening (or shutter speed) first by one and then another full stop. You end up taking one shot at the settings indicated by your meter, two with more light and two with less. One of these should have the exposure you desire.

DUNKED CAMERAS. With as much water as Alaska has, the misfortune of dunking your camera is all too likely to occur. The best advice is have your equipment insured, so you can easily get a replacement. Water is ruinous to the complex electronic circuitry found in most modern cameras.

Several methods have been suggested for salvaging soaked equipment. If the camera is doused in salt water, immediately rinse it in freshwater. Then keep it submerged in freshwater and rush to a competent repairman. Another suggestion is to rinse in freshwater and shake dry, then dry in a warm (not hot) oven, or wrap in warm, dry towels. To lessen the chance of corrosion, remove batteries until the camera dries out. Above all, rush your camera to a repair shop.

COLD WEATHER. When shooting outdoors in the extreme cold, try to keep your camera relatively warm by tucking it inside the outer layer of your clothing. Most batteries lose power when they get cold. So keep the camera and its batteries warm or exchange batteries periodically with warm ones.

Wind and rewind your film slowly (use motor drives with caution). Extremely cold weather is dry, and this promotes static electricity—static discharges show up as streaks of light on film. Film gets brittle when frozen, to keep your film from cracking, warm it up before putting it into the camera.

Avoid breathing on lenses and camera eyepieces. It is nearly impossible to remove the ice without returning indoors to thaw things out. When you return from a winter outdoor photo session, put your camera and other cold accessories in an airtight bag while they warm to room temperature. This will keep condensation from forming on the camera gear. If you have your camera set up on a tripod to photograph the northern lights, leave your gear outdoors in between exposures to avoid condensation problems. Wear thin gloves, and don't leave your nose or forehead in contact with cold metal too long or you may get frost-nipped.

Ethics and Etiquette for Wildlife Photographers

*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 on 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.***

Special care should be exercised around nests or dens where disturbance can lead to the abandonment (and death) of eggs or young. Always consider the possible consequences of your photographic activities.

The use of telephoto lenses benefits wildlife as well as the photographer. Telephotos permit the photographer to take good pictures while remaining at a distance from the subject. By staying back,

the photographer avoids causing stress, and has the opportunity to capture the subject's normal behavior rather than its reactions to an intruder.

Leave the photographic scene as you would like to view it. Rather than cutting off branches that obscure your view, try switching your position or temporarily tying the branches back out of the way. And, of course, pack out litter.

Often photographic opportunities are discovered by noticing other people who have stopped to view or photograph some interesting wildlife. Treat the other photographers as you would want them to treat you. If one photographer is at work, ask his permission to join in. When several are present, feel free to set up your equipment, but don't get in their way. Before entering private property, gain permission from the land owner.



Photo by Paul Arneson

43mm lens, 1/125 with automatic aperture setting; ASA/ISO 64 Slide film.

Respect wild animals, for their well being and your personal safety. This tame moose lived within a research compound. Most cow moose will aggressively defend their young.

WHEN AND WHERE TO PHOTOGRAPH

In wildlife photography, there are no closed seasons and few closed areas. Of course, some times and locations are better than others, depending on the species and situation or behavior you wish to catch on film.

You need to know something about your subject to know the best time. Flocks of migrating geese are generally best photographed in late April and early May when the birds stop over near populated areas on their way north to nest, while brown bears are easiest to find along coastal streams in July and August when runs of salmon are heading upstream to spawn.

The best time of day to find most animals moving about and feeding is early in the morning and late in the afternoon. However, some species like the northern flying squirrel are nocturnal. They rest during daylight hours and are active in the dark of night.

Along the coast, the activity patterns of many animals are influenced by the tide. Shorebirds usually feed on an outgoing tide, following the water's edge as mud flats are exposed. During high tides, the birds often form loafing aggregations in areas more sheltered from the elements.

CERTAIN LOCATIONS offer exceptional photographic opportunities, such as:

- the Pribilof Islands in the Bering Sea where multitudes of red-legged kittiwakes and other colonial seabirds nest and northern fur seals breed and pup on the beaches;
- Round Island in Bristol Bay where thousands of male walrus haul out on land each summer;
- McNeil River at the base of the Alaska Peninsula where brown bears congregate in summer to feed on salmon below a waterfall;
- the coastal plain in the Arctic National Wildlife Refuge where mid-summer post-calving aggregations of the Porcupine caribou herd often number in the tens of thousands; and
- Denali National Park where a variety of wildlife, including Dall sheep, grizzly (interior brown) bear, moose, and caribou can be found near the park road.

A detailed listing of locations is beyond the scope of this report. A good reference for choosing photographic sites is *A Guide to Wildlife Viewing in Alaska*. This book lists specific areas, such as parks, refuges, and sanctuaries, within each region of the State. It also includes distribution and habitat-preference information, plus viewing tips, for each of the mammal and bird species that regularly occur in Alaska.

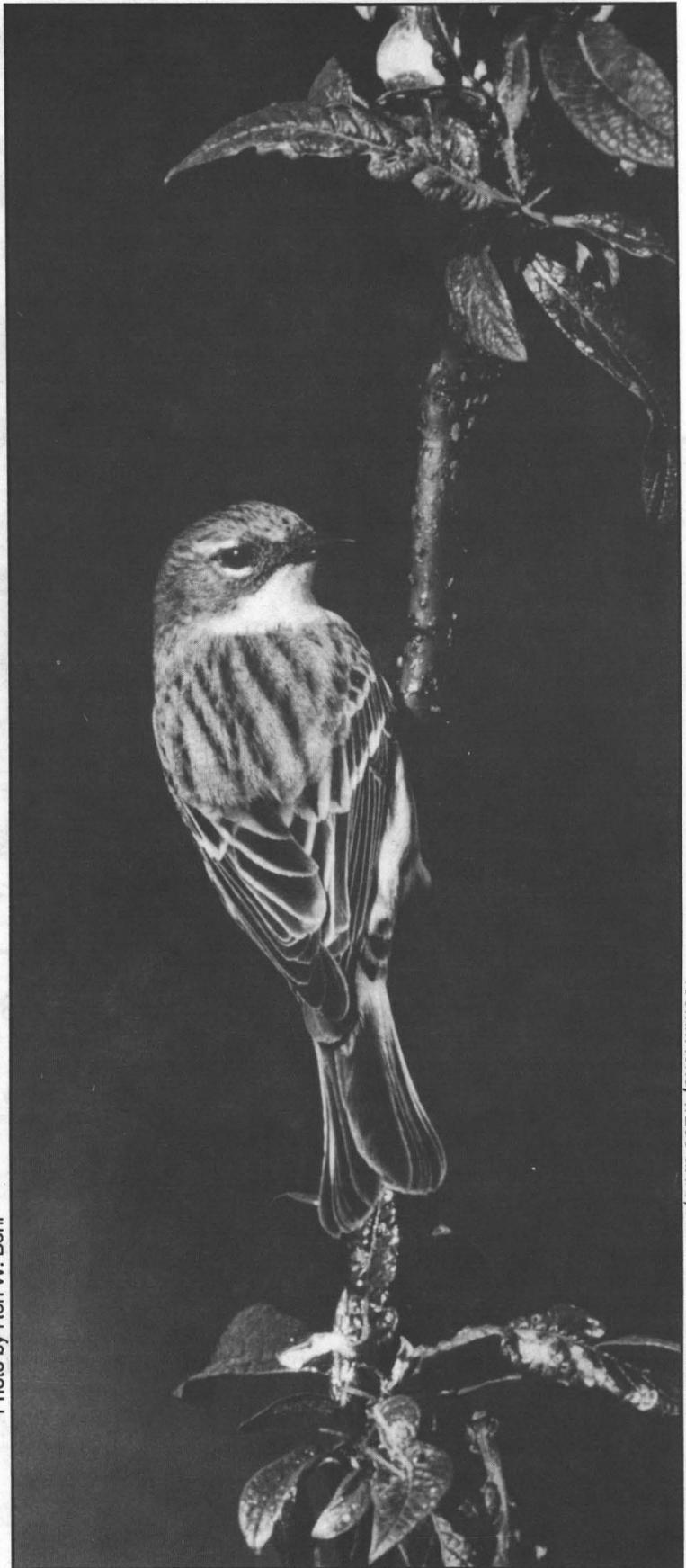


Photo by Ron W. Bohr

400mm lens, 1/250 at f/8, ASA/ISO 64 Slide film.

Many birds that breed in Alaska, like this yellow-rumped warbler, are migrants — arriving from the south each spring and departing in the fall

Photo by Larry Aumiller



55mm lens, 1/250 at f/8; ASA/ISO 125 B&W film.

An extraordinary concentration of brown bears occurs at McNeil River each summer

If you have specific photographic objectives in mind, ask a local biologist or other knowledgeable person for suggestions about the best time and location to find your desired subjects. In some cases, like McNeil River and Round Island, it may be necessary to apply in advance for permission to enter protected areas.

Long distances and great expense are not necessary for all wildlife photography. Your backyard, neighborhood park, zoo, and even the local garbage dump may provide opportunities for photographs.

You can develop your own site by creating an environment attractive to wildlife. To help create habitat for birds and other wildlife in your area, consult Wildlife Watcher's Reports No. 1-3: "Winter Bird-feeding in Alaska;" "Landscaping for Wildlife in Alaska;" and "Birdhouses for Alaska."

Written by John Wright and Paul Arneson,
Biologists, Alaska Dept. of Fish & Game

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