

Alaska Digital Wildlife Photography Handbook



Bishop's Beach in Homer near the Alaska Maritime National Wildlife Refuge's Islands and Oceans Visitor's Center



Get started with digital photography!

Use the right digital camera for you. Learn how to use your camera and transfer photos into a computer. Practice, practice, practice taking photos. Play with and manage your photos. Print, e-mail, or post your photos on the web.

Have FUN!

Photography Notes



Homer Shorebird Festival
birdwatchers- USFWS Photo

Photographers work with line, shape, texture, color and pattern.

Cameras don't capture objects. They capture light. In nature, light is always different. Winter light is different from summer light.

Morning and evening light are the best. It's far better than bright noon sun or dark night.

NO PICTURE is worth HURTING or sacrificing fish and wildlife or their homes/ habitats.



Whiskered auklets
- USFWS Photo

If you think about an animal's character in the same way you do when you take pictures of people, you'll be on the right track. Make sure you know what you want your images to say about the animal before you begin.

Many photographers start wildlife photography by reading BOOKS and all they can find about the wildlife they want to photograph.

Tell a story. Composition, color and the story are more important than detail and sharpness. Your best plan is to follow the actions of the animal. If you stick it out, you get a great shot of animals behaving naturally, which can produce some amazing results.

Usually the strongest photos are simple, clear, and uncluttered.

Use natural light and a tripod so your pictures are not blurry. Using a flash makes sharper pictures, but often scares your wildlife or makes you lose details and background. Tripods help you take great pictures with less or natural light.

Your goal as a photographer is to grab the viewer's attention, and communicate an idea, or share an experience, What photos do this best?

Before You Go - Pack your camera bag

✓	Extra Batteries and Power Source	✓	Small notepad and pen to make any notes about your pictures
✓	Extra media (compact flash card, smartmedia, SD card, xD, cd's, or whatever your camera uses)	✓	Binoculars (not required, but nice to have)
✓	Neckstrap —Use a neckstrap for your camera instead of only a wrist strap.	✓	Ziplock plastic bag (fits your camera while around water, rain, melting snow, etc.)
✓	Lens cleaner —Use only photo lens cleaners, never ammonia or clothing or paper towels	✓	Camera instruction manual , tide books, animal guides
✓	Filters or lenses (if your camera has these, be sure they're clean)	✓	USB cord or media reader to download your pictures onto a computer
✓	Identification if you lose your bag or camera - include phone, e-mail, contact information.		

Pack your tripod or monopod.



Learn Your Terms

Basic Photography Terms	
angle	▪ up ▪ down ▪ straight
distance	▪ close ▪ medium ▪ far
focus	▪ soft ▪ sharp
zoom	▪ telephoto ▪ wide-angle
framing	▪ subject ▪ shapes ▪ composition
level	▪ eye level ▪ high ▪ low
pan	▪ forward ▪ left ▪ right
composition	▪ portrait ▪ landscape



Bald Eagle. USFWS Photo

WHAT IS A MEGAPIXEL?

A **megapixel** is a million pixels. The word “pixel” originated from “picture element” (say it fast and abbreviate it and that’s how they came up with “pixel”).

The more megapixels in a camera, the better the picture quality (resolution) will be when you print the picture. Large pictures need more megapixels for picture quality.

A digital camera with 1.3 megapixels will print a 4x6 inch print. It is also small enough to e-mail or post on the web. For larger size or better quality photos, you need more megapixels.

A printer that can print 175 or more dots per inch (dpi) can make good quality pictures.

Largest Print Size	Megapixels	Resolution/ Picture Quality
Wallet Size	Less than 1 megapixel	Very low, okay to e-mail or web
4" x 6"	1 megapixel	800 x 600 low
5" x 7"	2 megapixels	1024 x 768 okay
8" x 10"	3 megapixels	1600 x 1200 average
11" x 14"	4–5 megapixels	2272 x 1704 high
13" x 19" and above	6+ megapixels	Very high

CAMERA	MEDIA SIZE*			
	128 MB	256 MB	512 MB	1 GB
6 Megapixels	40	80	160	320
5 Megapixels	51	102	204	409
4 Megapixels	64	128	256	512
3 Megapixels	106	213	426	853

*Estimated shots per digital media using high resolution





Kittiwake, USFWS Photo

Too close to birds!

- Alarm calls, repeated chirping and chipping.
- Raised head, looking at observers.
- Repeated flushing, skittishness.
- Excessive preening or pecking at dirt or foot, bill wiping.
- Pretending to have a broken wing.



Stellar Sea Lions, USFWS Photos

Too close to marine mammals!

- A rapid change in direction or speed.
- Escaping such as long dives or fleeing into the water from shore.
- Swimming in all directions.
- Interruptions of feeding or migratory activities.
- Looks aggressive or charges intruders.
- Attempts to shield a calf or pup from a human observer or a vessel.
- Vocalizations, finning, tail lobbing, tail raking, or breaching.

Keep Your Distance

Tips for Wildlife Photographers

- **Observe** animals from a safe distance without changing their behavior. Wear natural colors and avoid lotions or scents. Relax your muscles and do not stare. Animals can sense your emotions and may feel a direct stare is a threat.
- **Approach wild animals slowly** and quietly. Avoid sudden movements. **NEVER CHASE WILDLIFE FOR PHOTOS.**
- **Do not ever feed** the animals. Learning when animals feed can help you find the animals.
- **Never throw rocks or things to get attention.** Harassing animals is against Alaska State Law. Always leave space for an animal to get away. Be especially careful around females with young, spawning, and nesting areas.
- **Research.** Learn wild animal signals that tell you that you are too close. This is your signal to sit or stand quietly or move slowly away. You may lose your picture, but you will be safe and so will the animal. More viewing and wildlife tips: <http://www.wc.adfg.state.ak.us/index.cfm?adfg=viewing.tips> and wildlife guides: <http://www.wc.adfg.state.ak.us/index.cfm?adfg=guides.main>

Fox kit,
USFWS photo

Too close to mammals!

- Head raised high, ears pointed in the direction of the observer.
- Skittishness, the animal jumps at sounds or movements.
- Animal moves away or lowers head with ears back ready to charge, erect hairs on neck and shoulders.
- Displays of aggression or nervous behavior.



How to start and what to do



*Bar-tailed godwit,
USFWS Photo*

Research birds in your area and when or where they migrate. Learn all you can.

Use bird identification books, such as *Peterson Field Guides* or *National Geographic's Field Guide to the Birds of North America*. Check your library or internet.

- **Use binoculars or spotting scopes and observe.**
- **Practice.** One of the easiest places to start bird photography is at a bird feeder. Set up your tripod and try to capture birds perched, hovering, grooming, or eating.
- **Wear boots and old clothes.** Use care around mud flats, beaches, woods, and waterways. Know tide schedules, as shorebirds, seabirds, and waterfowl follow the tides when they feed.
- **Check the weather** and know what to expect for light.
- **Prepare your equipment in advance, use a tripod.** Birds are constantly on the move. Tripods help you capture fast action without making blurry pictures.

Birds at the Nest



Glaucous-winged gull in nest. USFWS Photo

- **Never approach too close to a nest, handle eggs, or baby birds!**
- **Discover when and where your bird nests.** Great horned owls nest when it is still winter. They don't make their own nests, but use hawk nests.

Birds

Bird Festivals

Birding festivals and the nonprofit Bird Treatment and Learning Center can provide some great photo opportunities and help you learn about birds in Alaska.



Rock Sandpipers USFWS Photo

- Alaska's Bird Treatment and Learning Center in Anchorage <http://www.birdtlc.net/>
- Kachemak Bay Shore Bird Festival in Homer <http://www.homerlalaska.org/shorebird.htm>
- Copper River Delta Shorebird Festival in Cordova <http://www.cordovachamber.com>
- Stikine River Garnet Festival in Wrangell <http://www.wrangellchamber.org/garnet.php>
- Sandhill Crane Festival in Fairbanks <http://www.arcticaudubon.org/crane.html>
- Alaska Bald Eagle Festival in Haines <http://baldeaglefestival.org/>
- Alaska Hummingbird Festival in Ketchikan <http://www.fs.fed.us/r10/tongass/districts/discoverycenter/index.html>

- **Watch for nest-building activity.** Hawks and eagles often collect twigs, branches, or greens before laying eggs. Hummingbirds collect spider webs by wrapping them around their bill.

- **Prepare your camera and equipment away** from the nest, so you'll arrive ready to take pictures. Attach camera to tripod, carry a chair or stool.

- **Be prepared to wait** at the nest to get your picture. Move as little as possible. You may want to wait for the parents to leave. When the flash goes off, the birds will flutter, but should return and soon ignore the flash.
- **Did you know? Bird parents should never be away from a nest for more than 20 minutes.**



Alaska Mammals

Moose

Moose are unpredictable. With all wild animals, give them space. Do not feed them. Even a calf can injure you if it charges. When a moose charges, it kicks forward with its front hoofs. Keep your distance! Back off!

Take pictures from behind a solid barrier where you don't get the moose's attention. If possible, avoid using a flash. The flash may catch the moose's attention.

Look at your picture. Frame the moose and be aware of your light. Be patient and wait for your picture. Running and moving moose are very difficult to photograph.

Danger signs. To know if a moose may attack, look for:

- ⌚ Long hairs raised on back hump
- ⌚ Ears laid back
- ⌚ Licking lips
- ⌚ Walks right at you or appears to charge



Moose calf, USFWS photo

Bears

ALWAYS use caution when around bears. Taking pictures of bears at a zoo or Big Game Alaska Wildlife Center is the SAFEST way. KNOW your bears, read all you can about them.

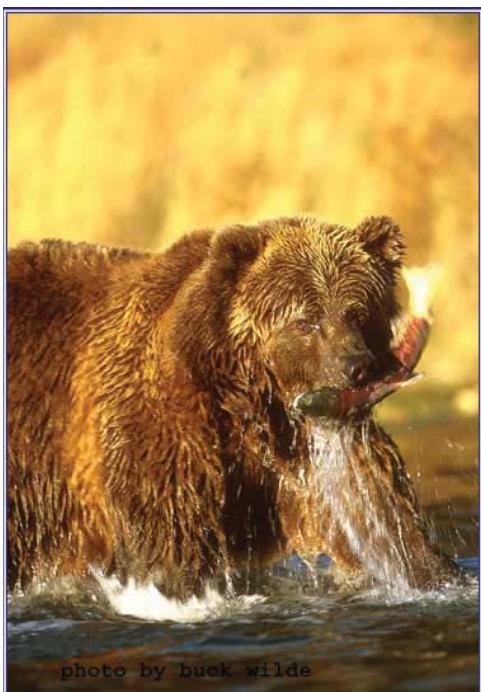
Bears are often moving. They are difficult to capture on film. Their little beady eyes can get lost without some sort of light striking them.

Many photographers visit McNeil River or Brooks Camp and take pictures of brown bears standing in a waterfall and catching leaping salmon. This is not the way most bears catch fish.

Photographing a fishing or moving bear takes more skill than that of a grazing or resting bear. This is because of the action and having to deal with water.

Overcast days seem to be the best light for bears.

A cool thing about bears is being able to photograph their sides or with light coming behind them. Their hairs just naturally glow. Sometimes just capturing the bear's paws or prints can make an awesome photo.



Brown Bear with Salmon, USFWS photo



Marine Mammals

Taking pictures of marine mammals is different because of the ocean. You need to practice. Often you will be in a moving boat. The light and motion is constantly changing. It is one of the most difficult types of wildlife photography.

Try going on a nature cruise from Seward, Whittier, Homer, or anywhere they are offered. Practice taking pictures of marine mammals using a tripod.

Water reflects light and is constantly moving. Water is part of the picture and the landscape. Ice and snow also reflect light.

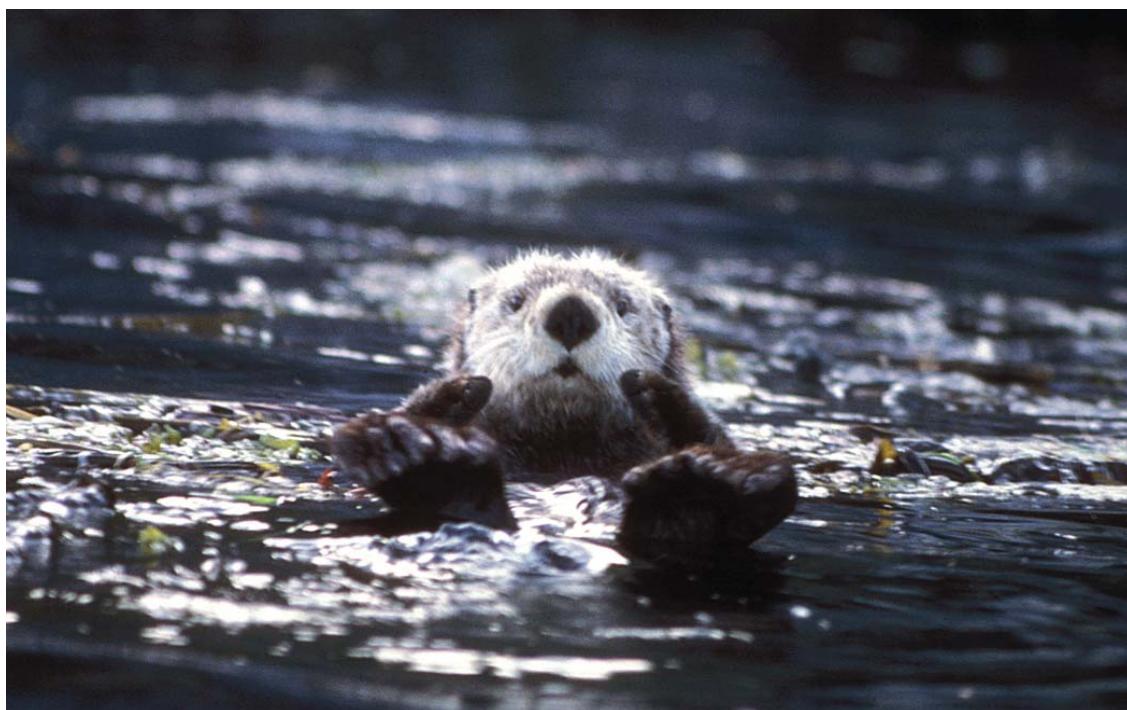
You need to learn how to take pictures from a distance. As with all wildlife, unless you are in a zoo or animal park, you need to be careful. Some marine mammals are endangered. You can help save these mammals by keeping your distance. Do not harrass wildlife, it is against Alaska state law and can mean a \$1,000 fine and up six months in jail.

Research – The more you learn about marine mammals, the better you will be able to take pictures of them.

To get a good marine mammal photo, you must be patient. Allow the animal to approach you or your boat. Never chase a sea lion, sea otter, or any other subject. The trick is to change your own behavior to make the subject curious.

It's amazing how creatively marine mammals can avoid having their picture taken. Many seem to take great pleasure in approaching a photographer's boat up close, only to dart out of range before you can click the picture.

One way is to ignore the animal completely. Focus your attention on the bottom or some other creature, and the animal may come close to investigate. Another trick I use is to pick up a rock, and repeatedly toss it up and catch it. Frequently a nearby sea mammal will come in and investigate.



Sea Otter
USFWS Photo



Fish

Where to get good fish pictures: If you visit the Seward Sealife Center or aquariums, you can get good pictures of fish in water. Salmon spawning areas, clear creeks and streams, and clear ponds or lakes are good places to take pictures of fish.

Underwater photography. Some digital cameras have special “underwater housing” to take the camera underwater. There are some disposable waterproof cameras that you can use in the water. Most professional pictures are taken by scuba diving photographers with special equipment. For underwater digital photo tips or equipment, check

<http://www.wetpixel.com>.

Live fish photos are tough to get! Most people know how to take pictures of their fishing catch, but it's harder to get live fish. Have you tried to capture live fish in the water?

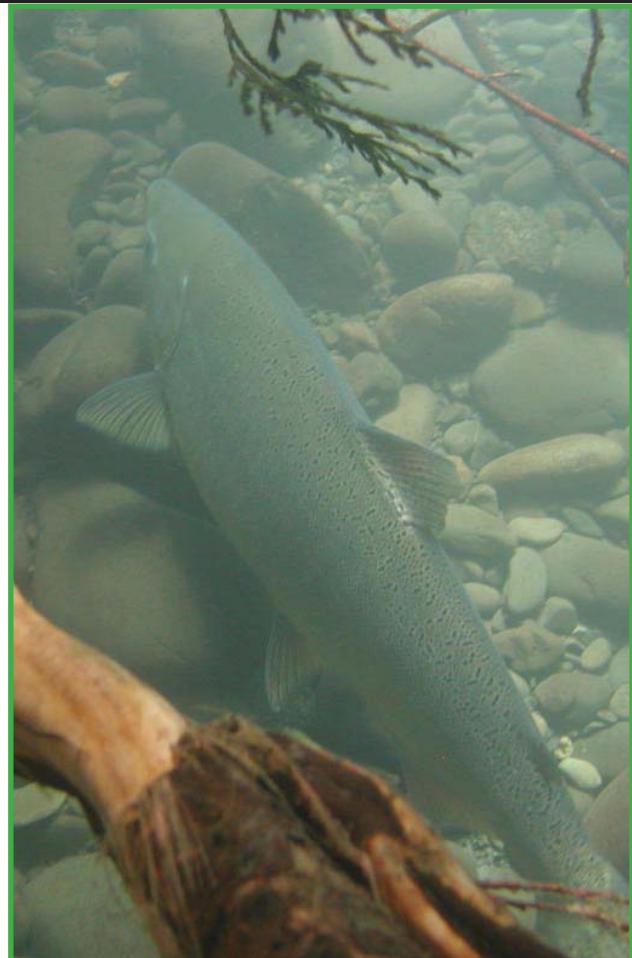
Fill the frame. You see it larger than it is and often have too much in the picture.

When taking pictures through an aquarium, remember light reflects off the glass! Angle your camera to reduce the reflection or put it right up against the glass.

Using a flash can stop the fish motion. If you don't use a flash, it is better to take pictures with the room dark and only the aquarium lighted. It is also better not to point towards the water surface. Fish can see light and colors, so don't be surprised if your flash or shadow frightens them.



Grayling, USFWS Photo



Salmon swimming in creek,
USFWS Photo

Too close to fish!

- ⌚ Fish see you and skitter away or hide.
- ⌚ Fish abandon spawning places (holes in the creek or river bed dug by the fish) and move to deeper water or under cutbanks.
- ⌚ Fish don't move back onto spawning places.
- ⌚ Spawning behavior stops.

Note: Never walk into waters where fish are spawning. Take pictures from the banks.



More Tips

Look for what makes pictures work — or not work

RED or GLOWING Eyes

The cause of red-eye is biology—the pupils expand and contract when exposed to light. In bright light, the pupils are small; in low light they can get really big. Your flash travels through the dilated pupil and reflects light off of the blood vessels behind the retina inside the eye. This reflects light back at the camera in the form of a distracting red spot.



The cause of a yellow or green glow is also biology—most animal eyes have a **tapetum** (ta-PEE-tum), human eyes do not. The tapetum lies beneath the retina. It acts like a mirror and reflects light back through the retina to better capture light. Animals that are active at night have a tapetum.

Tapetums cause a yellow or green glow when light hits an animal's eyes.

- **You can usually fix red eyes, but not yellow or green glow,** using your photo software. Did you know loons have red eyes?
- **Turn the lights on.** Turn on a light, use daylight, or move the subject to a brighter area. Pupils become smaller and this reduces the red-eye reaction in your pictures.
- **Look away from the lens.** A flash located close to the lens causes more red eye because the light directly hits the pupil. Have the subject look away, above the camera, or to the side opposite the flash.
- **Get a removable flash.** The best solution for red-eye is to move the flash away from the lens. This is possible on cameras with a hot shoe or tripod for an external flash, but not on cameras where the flash is built-in.
- **Know your flash range.** Even the most powerful flash only works at close range. Outdoors the flash has half its indoor range because there are no ceilings or walls to contain the light.
- **Use red-eye reduction.** Many cameras have a setting that reduces red-eye. The camera does a “pre-flash” to open the pupil before the actual flash goes off. This can be frustrating with wildlife, because many animals will look away during the pre-flash, which can ruin the picture.

Practice at Home.

Use your pets or stuffed animals to practice! Try taking pictures in different light and capturing their eyes. You can try many poses in all kinds of light and learn what works.

Practice Framing.

Compose your pictures. Make a frame from cardstock, cardboard, construction paper, poster paper, etc.



- **Cut a rectangle** in the center.

Look through the rectangle and pretend it is your viewfinder.

- **Zoom.** Move it forward and backward.
- **Landscape or Portrait.** Try turning it to see how the picture looks better.
- **Find the best picture** with the frame, before you use your actual camera. Now take the *real* picture.

Use the Experts.

Contact your local National Wildlife Refuge, Alaska Zoo, Big Game Alaska wildlife park, and reindeer or muskox farms.

Digital Image Library.

The U.S. Fish and Wildlife Service's Digital Image Library and Alaska Digital Image Library is on the web at <http://images.fws.gov/>

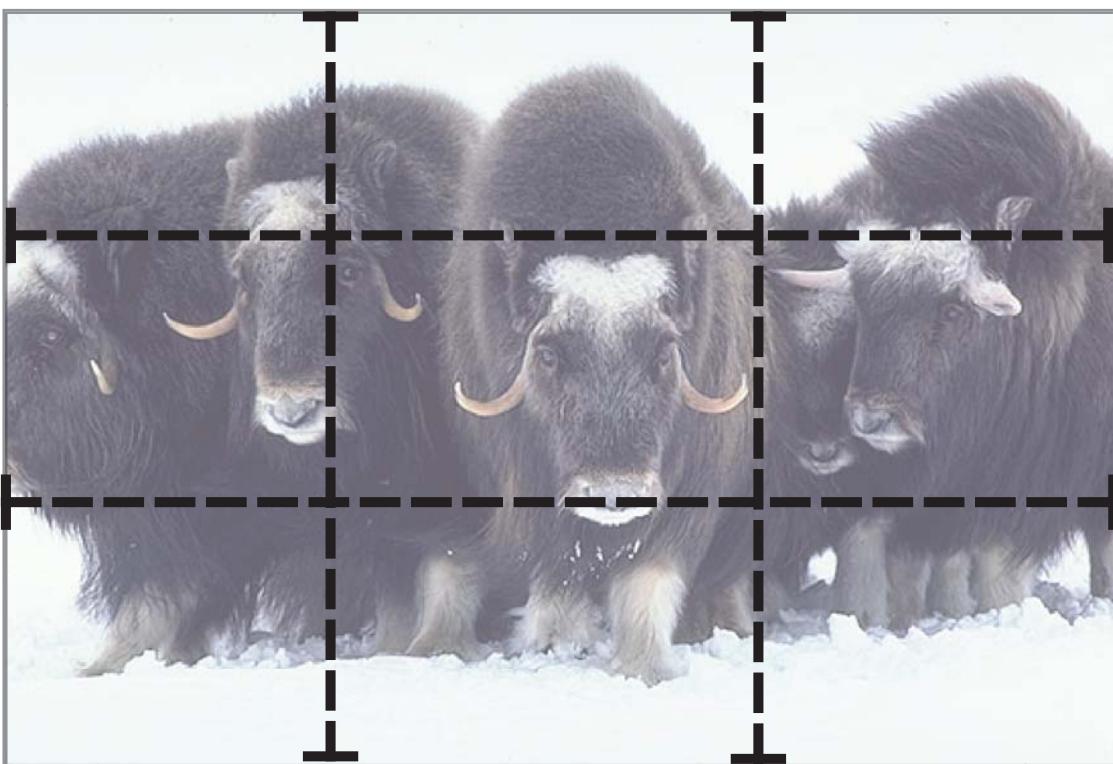


Rule of Thirds

One of the most popular ‘rules’ in photography is the **Rule Of Thirds**.

The rule works like this:

- Divide your picture into thirds. Focus your attention where the two lines come together.
- **How to do it.** Look at the musk oxen picture below. The dashed lines show where your imaginary lines should be to divide this picture into thirds. There are three boxes on each line and three columns. You should move your camera so the subject of your picture is where these lines come together. Good places to put things are at the first line from the bottom or edge of the picture, or a third of the way in from the left. Practice framing things in the middle, top, bottom, or away in the corner. See how using the Rule of Thirds changes your picture.
- **Using the Rule of Thirds** helps make your pictures nicely balanced and easy on the eye. It helps get rid of the ‘tiny subject surrounded by vast empty space’ when you use only the center of your viewfinder.



Musk oxen, USFWS Photo

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You can find this handbook online http://alaska.fws.gov/external/education/pdf/ak_digital_photography_handbook.pdf
and graphics from the USFWS Alaska Digital Image Library <http://images.fws.gov>

Karen has worked as a USFWS photographer on special assignments, often with her husband, Ron, a graphic artist with USFWS External Affairs. Karen is a former photographer for the U.S. Department of Health and Human Service's Health Resources and Services Administration, National Institutes of Health, and other Federal agencies. Her photos are published in newspapers and publications. She is a lifelong photographer, and specialized in photography at the University of Maine and Rochester Institute of Technology.

