



Ducks of North America  
E.J. Peiker



The Photographer's Guide





# Ducks of North America - The Photographers Guide

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This book is dedicated to all of the tireless workers who make it their life's work to preserve our natural environment and fight against the constant economic and political pressures to wipe out habitat which contributes to species extinction. You make it possible for our current generation, and future generations to enjoy our natural wonders and its beautiful wildlife.

# Ducks of North America - The Photographers Guide

## **Ducks of North America The Photographers Guide**

E.J. Peiker

E.J. Peiker, Nature Photographer

Chandler, Arizona, USA

[ejpeiker@cox.net](mailto:ejpeiker@cox.net)

[www.EJPhoto.com](http://www.EJPhoto.com)

Facebook: <http://www.facebook.com/pages/EJ-Peiker-Nature-Photographer/150804446733>

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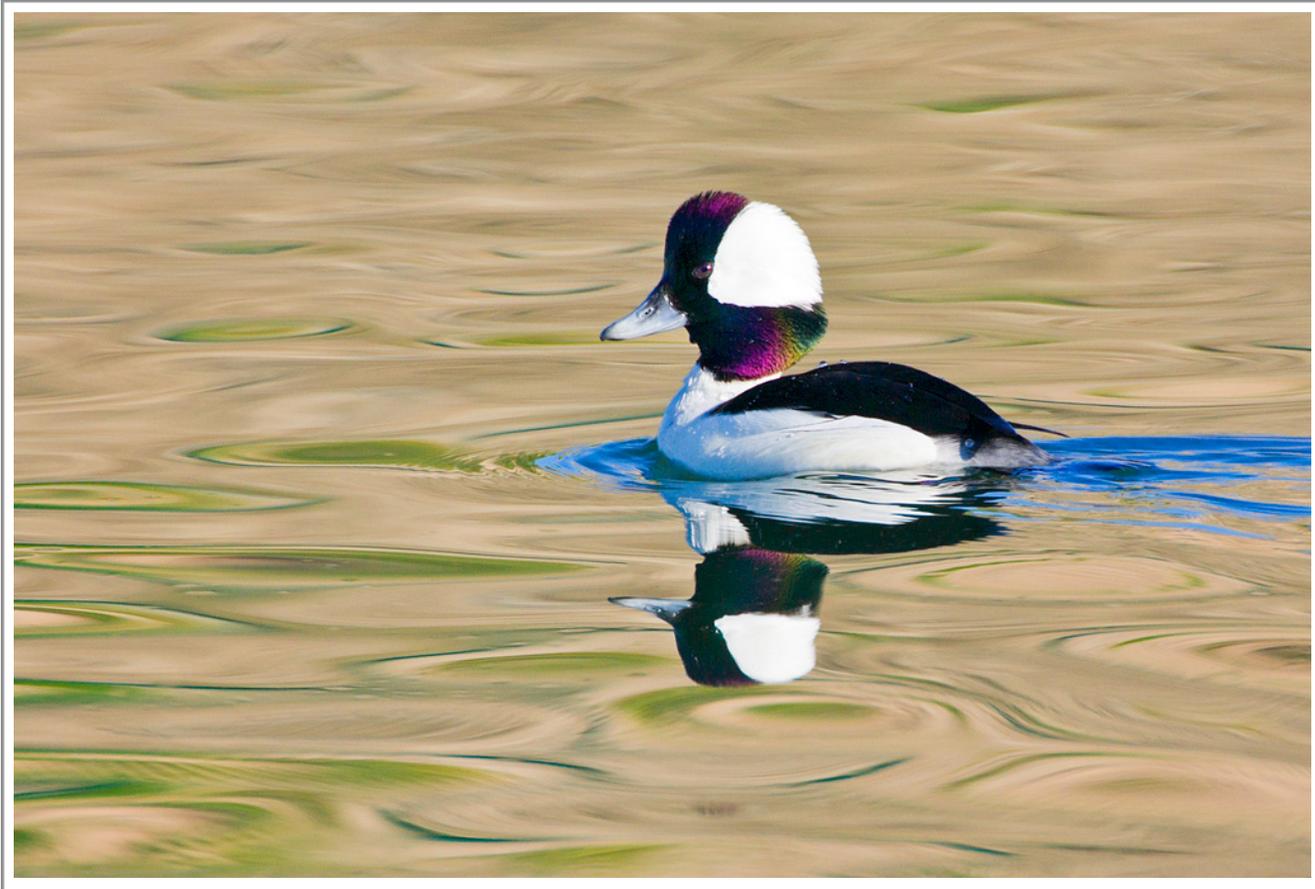
Jim Urbach and KK Hui - Thank you for providing the images of Masked Duck and Garganey, the only two species that occur in North America that I do not yet have in my files.

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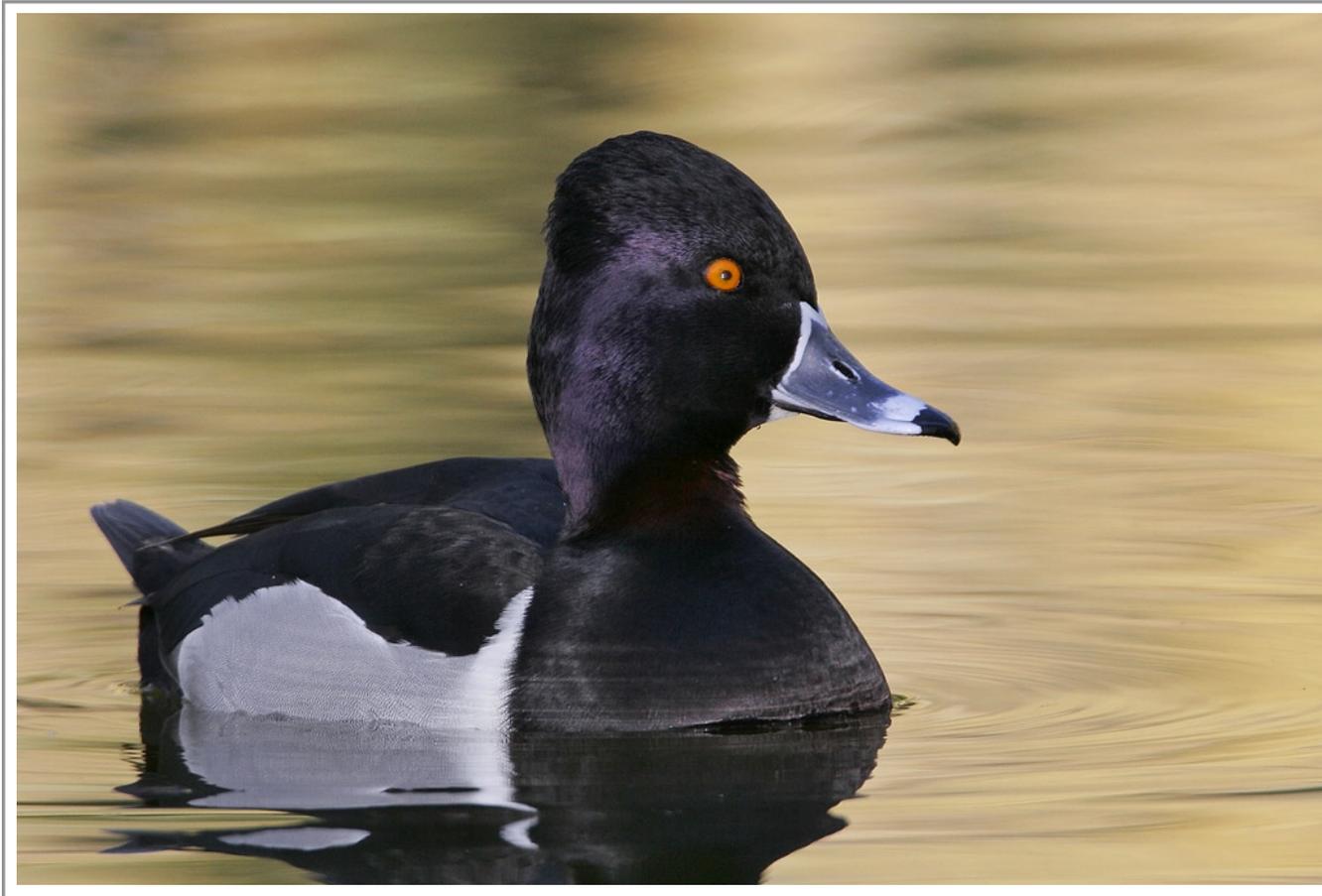




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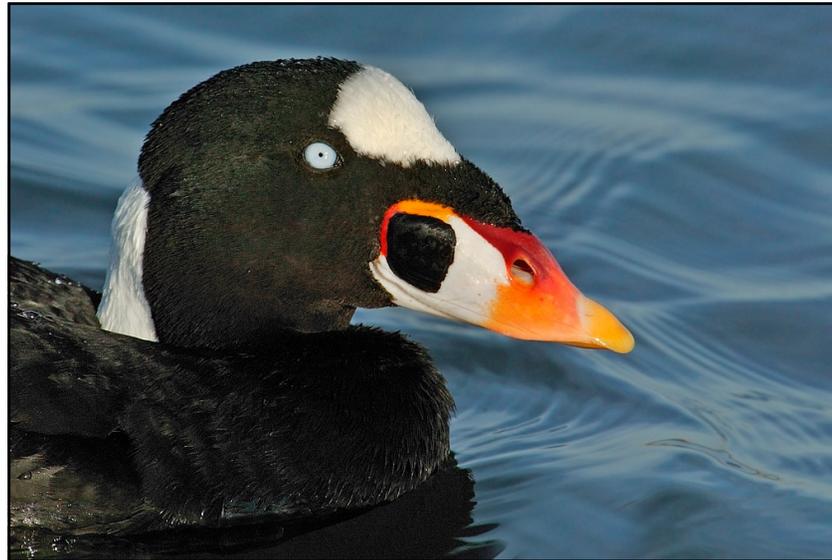
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## Introduction

I have often been asked why I like to photograph ducks so much. Ever since I was a young boy, I have loved their ungainly waddle when on land and their graceful ability to cut through water and air as if they were defying gravity and friction. Some of the most incredible patterns in nature are found in the plumage of ducks. Their colors range the entire spectrum and in one case, every color in the spectrum is contained in one bird - the male Mandarin Duck. Another intriguing thing about them is the ability to completely transform from a drab brown bird into an incredible array of colors in just a few weeks when the male of many species molts from non-breeding plumage into spectacular breeding colors. Finally, ducks have a lot of personality and are much more intelligent than most people realize. There are a number of individual ducks that come back year after year to the Phoenix area that immediately recognize me from the previous years and become very tame around me while they stay away from people that they don't know. There is a familiarity and a knowledge on their part that this particular human won't hurt me.

Bird photography is one of the most challenging types of photography but also one of the most rewarding. When



photographing birds, we are challenged with small moving subjects, often at relatively great distances. They are sometimes obscured and are often very skittish. Many ducks, especially male ducks (called drakes), have a large tonal range that challenges your camera's ability to simultaneously record dark areas without underexposing them and the bright areas without overexposing them. Birds won't always sit in the

position with the best light angles and have no concept of what poses work best for photographers (did I say they were smart?). In order to get beautiful images, it often requires specialized photo gear that is heavy and expensive. But when you do get a really great shot, it is a very rewarding experience that will put a smile on the photographers face for hours.

Over the years I have accumulated what some have called the world's largest collection of waterfowl photographs. I have no way to verify this claim but I do have over 20,000 publication quality waterfowl images in my library. You can see a significant sampling of them, as well as a comprehensive list of all species by visiting my Wild Waterfowl of the World Directory on my website: [www.ejphoto.com/wild\\_waterfowl\\_species.htm](http://www.ejphoto.com/wild_waterfowl_species.htm)

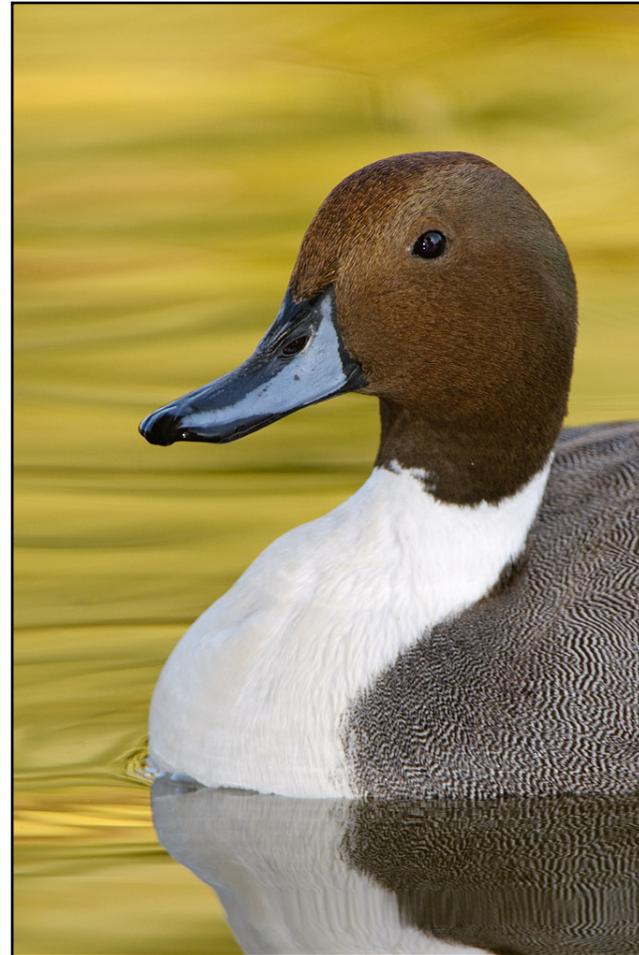
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There are currently 155 recognized species of waterfowl in the world; 124 are considered ducks. The remainder are Geese and Swans. Some people also refer to Loons and Grebes as waterfowl but this is an incorrect classification. I have had a goal of photographing every waterfowl species for over a decade and at the time of this writing in early 2011, I have approximately 130 of the 155 species in my library. This includes every native duck to North America except Masked Duck. All 37 native species and another 46 species that are either accidental visitors or captives are included, complete with photographs.

Since I have photographed virtually every type of North American duck, I felt it was time I published a photographer's guide to the ducks of North America and this book was born. In these pages I will cover the fundamentals of waterfowl photography including equipment, approach techniques, photographic technique and field technique. This is followed by a species account of every single duck in North America with pictures, information about them and how to photograph them. Most important to the photographer, I have also included some of the best places that I know to photograph each species. Even though most birds have a skittish nature, almost every species has a place where they are approachable. While this is by no means an exhaustive location guide, it will give you places where you have a good chance for getting great photographs. Some may detect a slight bias to the Western United States. While I have made every effort to include places throughout North America, I have lived in the western USA including California, Oregon, New Mexico and Arizona for the last 28 years so there is a higher sense of familiarity with the West than the East. This book is not intended to replace a good Bird Guide such as Sibley's Guide to Birds and does not depict every species in all

possible plumages, but rather as a photographic complement to such a guide to help you get great photographs of our quacking and whistling friends.

Thank you for purchasing this eBook. I hope it enhances your photography and knowledge of our North American Ducks.



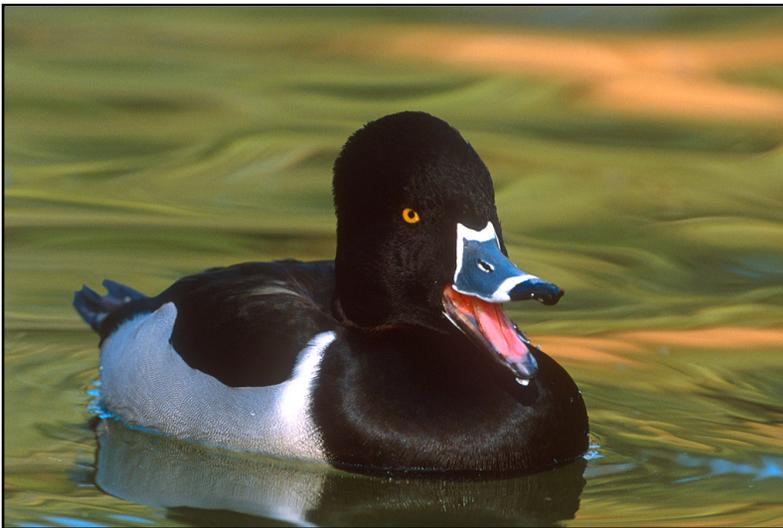


Equipment

## Equipment

There is a common saying in photography that it isn't the equipment, it's the photographer that makes a great image. While it certainly requires a skilled photographer to consistently produce high quality results, some things are just not photographable without the right equipment. Unfortunately, to reach the upper echelons of bird photography, a significant investment in equipment is usually necessary. However, it is possible to get excellent results with more modest equipment, especially if you plan to shoot more in urban areas where ducks are more habituated to humans.

The basic set of requirements is a camera, a telephoto lens, a camera support such as a tripod and optionally a light source such as a flash (strobe) unit. These items can be purchased starting at about \$300 and can range up to the price of a



luxury car or a small house. The capabilities of the equipment and what you can ultimately achieve with it is relatively well correlated to the price.

This chapter introduces some terms such as aperture, ISO, shutter speed and others. If these terms are not familiar to you or you feel you don't have a good grasp of them, rest assured that they will be covered more thoroughly in the next chapter: Field Techniques.

### Casual Shooter or Beginner's Kit

Some of today's point and shoot cameras can produce excellent results as long as the weather is good and there is plenty of light. Look for a point and shoot camera with a large optical zoom ratio extending into super telephoto range. This is usually expressed in 35mm equivalent focal length even though the actual focal length of the lenses are much lower due to using a small sensor. A focal length range that goes beyond an effective 400mm, preferably to 500mm or more is desirable. Built in image stabilization when you get to such large focal lengths is a must. This goes under the name of IS, VR, and OS, among others depending on the manufacturer. Stabilization will give you sharper results since internal elements in the lens or camera will attempt to correct any camera shake.

A good quality light tripod and a small but high quality ball head to mount the camera on is also necessary for good results. Avoid tripods that have a center column or at least get a tripod where the center column is removable. This is so you

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can get low to the ground without the center column limiting how low you can get. With few exceptions, the closer you can get to eye level of your subjects, the better your photos will be.

This kit will allow the aspiring bird photographer to photograph ducks that take up a good percentage of the frame especially in situations where the birds are habituated to humans or in captive situations. It will also allow you to take great shots of birds with their habitat included. These types of shots are very popular in many parts of the world. To maintain great detail, as long as the light is good, you should use relatively low ISO values. ISO 400 or lower is recommended. Lower ISO results in better image quality and less digital noise but is more susceptible to blurring in poor light. This is caused by subject or camera movement since the camera will select slower shutter speeds at lower ISO values.



The built in flash units on point and shoot cameras are not usually powerful enough to use on birds. Many of the better point and shoot cameras have provisions for an external flash unit that attaches to a hot shoe on the camera. Cameras like this are more desirable than those that don't have this provision since they give you the flexibility of using flash on darker days or to fill in extra light when needed.

Point and shoot cameras can take great photos of static subjects. When birds aren't moving around too much, these cameras have plenty of time to autofocus and take the shot. However, point and shoot cameras have two shortcomings that prevent them from being good cameras for moving subjects. When you want to capture a bird in flight, or one that is moving around significantly such as a swimming duck, the

slowness of the autofocus system and the shutter lag on these cameras can become problematic. Point and shoot cameras, since they do not have mirrors, must use an autofocus technique called contrast detection. This is much slower than the phase detection autofocus system used in more advanced cameras. When a subject is moving, contrast detection autofocus systems simply cannot keep up. It also takes it much longer for initial focus acquisition, which often means that the bird has moved or left

altogether by the time the picture is taken. A second shortcoming is shutter lag. Shutter lag is the time it takes from when you push the shutter button with your index finger to when the picture is actually taken. This delay can range from about one tenth of a second in the best point and shoot cameras to as much as a half second or more with older models. With these cameras the focus acquisition delay and the shutter lag delay are additive and can result in the photo

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being taken more than a second after the shutter button is pressed.

### Intermediate Shooter or Hobbyist Kit

As photographers using the Casual/Beginner photo gear gain experience and find themselves in many situations that their point and shoot equipment is simply incapable of photographing, they often start shopping for Digital Single Lens Reflex (DSLR) cameras with interchangeable lenses. The DSLR system requires one to buy into a certain brand because lenses and camera bodies are separate entities at this level. Lenses are not interchangeable between different camera brands since every camera manufacturer uses their own proprietary lens mount. The most popular are Canon, Nikon and Sony but there are other excellent choices such as Pentax and Olympus. Any of these systems can give you great results and the one you choose will dictate which lenses

you can use. The various systems are ergonomically different and have substantially different user interfaces. It is best to determine which camera system offers the lenses that you are interested in, which camera body feels best in your hand and which camera's user interface is the most intuitive to you. Your lenses can be used on future camera bodies as long as you stick with the same camera manufacturer. In the digital age, camera bodies become outdated fairly fast but lenses can often be used forever. Therefore, it is recommended that you purchase the best possible lenses that you can afford. If you decide to upgrade to a professional camera body, you may not have to buy as many new lenses since the ones you have are already up to the task of the more demanding new camera. Fortunately there is a vibrant used camera gear market so even if you can't afford the best lenses at this point, you will likely be able to get a good return in the used market later. Camera gear from the big three (Canon, Nikon, Sony) depreciates at a relatively low rate and sometimes even



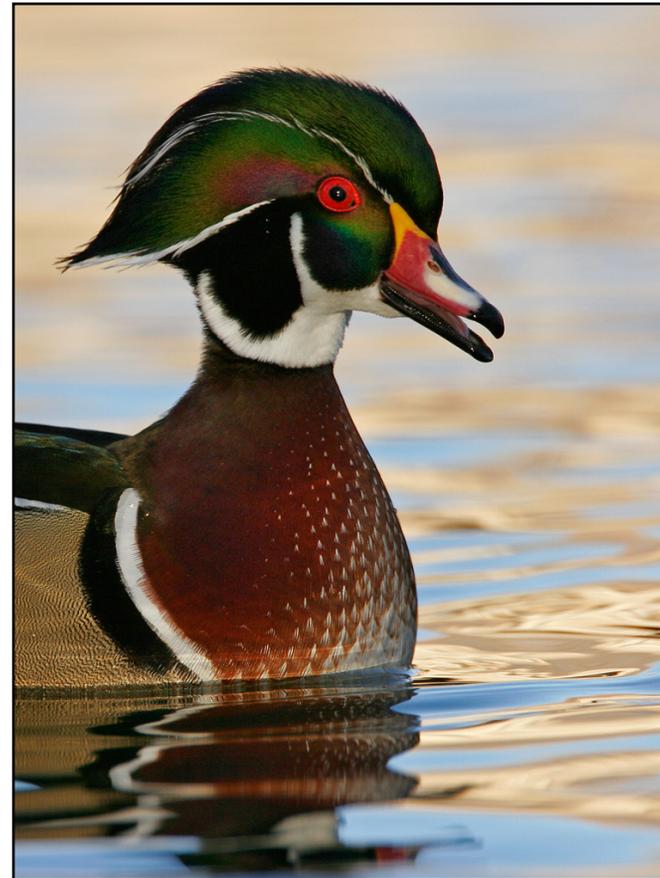
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appreciates if replacement gear comes on the market at a higher price point. Third party manufacturer's lenses such as Sigma, Tamron and Tokina, depreciate more rapidly, often losing 50% of their value in three years while a Nikon or Canon lens has only depreciated 10-20% in that same time. However, lenses from the big three are more expensive to start with.

A consumer grade DSLR with a frame rate of at least 5 frames per second is recommended. The camera body should be a cropped sensor model such as Nikon's 1.5x crop bodies (called DX by Nikon) or Canon's 1.6x crop bodies. The camera should have an advanced multi point autofocus (AF) system with excellent predictive autofocus algorithms so that the camera focuses accurately even on moving subjects. All of the manufacturers make DSLRs that meet these requirements although they are generally not the least expensive models. Cameras with a capability of 5 or more frames per second tend to have upgraded autofocus systems compared to their lower end and slower shooting siblings. When reading reviews of cameras for potential purchase, pay special attention to comments on autofocus performance.

A lens that has a focal length of at least 400mm is recommended, although serious bird photographers will want even longer lenses. Third party manufacturers make some excellent zoom lenses that go to 500mm. If using prime lenses such as a 300mm f/4 or 400mm f/5.6, a 1.4x converter is a great accessory to give you more reach. Note that Canon non-professional cameras will not autofocus if you use an f/5.6 lens with a teleconverter. Nikon cameras maintain AF in this situation but their AF speed is significantly degraded.

A sturdy tripod (without center column), a high output flash unit, a good ball head or light Gimbal head are also needed. A desirable accessory is an off camera flash mount that gets the flash away from the lens resulting in a lower chance for red-eye or steel-eye. This is an effect that occurs when light from the flash bounces off the back of the subject's retina and returns into the camera lens making the pupil look red or silver.



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The kit described in this section will allow publishable and professional looking results. Its shortcomings compared to the professional gear discussed in the next section, are lower frame rate so the peak of action may not always be captured, autofocus systems that can't track the fastest movements or acquire focus in poor light, shutter lag of 50 to 150 milliseconds which could result in missing the peak of action by a small amount, and lower image quality in low light due to poorer high ISO digital noise performance. While these shortcomings are significant, excellent technique can often overcome many of them and the gear described here is much lighter and dramatically less expensive than pro gear. Many professional photographers do quite well with higher end consumer gear. The highest end consumer grade equipment is sometimes referred to as prosumer gear. This indicates that it sits squarely in between the highest end pro gear, and consumer gear. Prosumer gear will have a mixture of features



from the consumer line and from the high end pro line which often gives them a lot of capability at a reasonable cost.

### Advanced Shooter or Professional Kit

For a dramatic jump in the price and capability of your gear, stepping up to pro gear will allow you to take photos that simply cannot be taken with lesser tools. Pro gear includes fast camera bodies with highly capable autofocus systems, very high frame rates, and exceptional high ISO noise performance. Professional grade lenses include some of the finest camera optics ever put into photographic lenses utilizing exotic glass compounds and manufacturing techniques. Of course these capabilities also come with "exotic" prices. A single 500mm f/4 lens with image stabilization easily costs more than the entire Intermediate Shooter Kit and you don't yet have a camera or any other necessary tools. The well equipped bird photographer often is carrying more dollar value on their body while in the field than the cost of the car that got them there.

The pro bird photography kit consists of two professional grade camera bodies or one pro and one prosumer body, a large aperture super-telephoto lens, a large aperture intermediate telephoto lens, and a short telephoto lens. Additionally, 1.4x and/or 1.7x and 2x teleconverters, a strong tripod made of exotic materials, a Gimbal suspension head, a high power flash unit with Fresnel lens, and external battery pack are all part of the tool kit.

The major manufacturers all have a flagship professional camera model that represents the fewest compromises and the highest capability possible for the price point. Characteristics of the professional camera body include a strong metal housing (usually magnesium) that is weather

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sealed from dust and moisture, a frame rate of 8 or more frames per second, a highly advanced multi segment metering system, a multi sensor high speed autofocus system with advanced predictive AF algorithms, the best digital sensor technology currently available, and a very low shutter lag in the 20-50ms range. The combination of these characteristics, gives the duck photographer incredible capabilities including in flight shots, focus tracking of complex movements, focus capability even in very poor light, and excellent image quality when shooting at high ISO values.

The super telephoto lenses in a pro kit usually consist of either a 500mm f/4, 600mm f/4 or 800mm f/5.6 lens. These lenses have exceptional light gathering capability due to their large apertures. Lightning fast autofocus motors and built in image stabilization is universal in modern lenses of this type. Manufacturers produce optically matched teleconverters that extend the range of telephoto lenses while minimizing image quality degradation. Only the very best teleconverters are recommended for the pro kit.

Intermediate tele-photo lenses in the pro kit are often 400mm f/4, 300mm f/2.8, or 200-400mm f/4 lenses, although some prefer the lighter weight of a 300mm f/4 or a 400mm f/5.6.

The king of the short telephoto lenses for the bird photographer is the 70-200 f/2.8 lens with image stabilization. Others include 70-200mm f/4,

80-400mm or 100-400mm lenses but these tend to be slower to acquire focus due to their reduced light collecting capability.

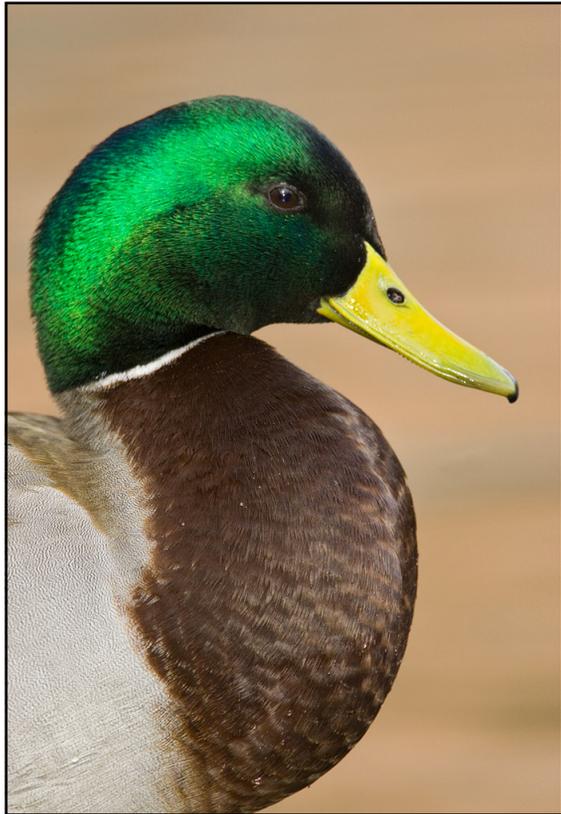
For camera support, a strong carbon fiber tripod is recommended. The tripod must have both vertical rigidity as measured by its load capacity and torsional rigidity that prevents rotational moments in a side wind when large telephoto lenses with big lens hoods are attached. The load capacity should be at least twice what the gear it will carry weighs. As always in duck photography, the tripod must be able to get very close to the ground.

The pro kit includes two different tripod heads. For the very large super-telephoto lenses, a Gimbal style head is highly recommended. A Gimbal head allows free motion in all directions with the large size and heavy weight of these lenses. They achieve this by balancing the lens on a shooting platform that can move in all three dimensions with minimal physical effort. This makes shooting moving subjects much easier. They prevent lens flop which occurs when a heavy lens is mounted on a ball head and it wants to flop over on its side unless the ball head is tightened with extreme forces, which can damage the head or injure the photographers hands and wrists. More and more manufacturers are producing excellent Gimbal heads so the photographer now has choices. Mounts where the lens foot attaches to the side are not recommended. While they



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do work well when properly used and are a more economical solution, side mounts have two key disadvantages. The first is that the lens foot is under a constant turning moment which can lead to fatigue in the foot over time. Second, it is much easier to drop a lens during mounting and dismounting with a side mounted foot. The preference is a Gimbal head where the lens foot is below the lens when mounted such as the Wimberley WH-2 or the 4th Generation Mongoose with optional bottom mounting platform. As stated, new designs



are coming to market so these recommendations could change with time. The intermediate telephoto lens can often also be used with a Gimbal head.

The second head in the professional kit is a good quality ball head to use with your short tele and any other lenses you might have such as a standard lens or wide angle lens (neither are used often in bird photography so they have not been included in the pro kit here but most will want a lens in the 24-70mm or 24-120mm range as well). This ball head should have enough load capacity to also mount your super-telephoto lens in a pinch. There are several manufacturers that make exceptional ball heads including Really Right Stuff, Arca Swiss, Acratech, Markins, and others. Only heads that utilize the Arca Swiss style quick release system are recommended.

A flash unit and a flash bracket with extension cable to get the flash well above the camera is required in the pro kit. This prevents red-eye or steel-eye and allows the flash's illumination to clear the large lens hood of the super telephoto lens. The most powerful flash unit that is compatible with your camera system is recommended. Flash power is identified by the manufacturer with a Guide Number (GN) rating - the higher the number, the more light output the flash is capable of.

Many photographers use a Fresnel lens system such as the Flash Extender (also known as Better-beamer) that concentrates the beam of light by recovering light that would otherwise be wasted outside of the frame when using long telephoto lenses. Not only will this provide more flash range, it will also speed up flash recycling time when you aren't using full flash power since concentrating the light results in less flash power being needed in a given situation.

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When taking multiple frames in rapid succession, an external flash power pack can be very beneficial. The camera manufacturers and third parties such as Quantum make these. On many flash units, recycle time will be shortened from as much as 15 seconds to about a second with these external flash power sources. When using partial flash power, often the photographer can get three or four flash bursts in rapid fire succession before the flash needs a second or two to recharge.

### Other Equipment Considerations

One must be able to carry all of this gear. For travel, a backpack or rolling luggage that is airline carry-on size approved is needed. In the field many photographers use backpacks although getting gear in and out can be a slow process that results in the bird having moved on. Belt systems alleviate this problem but aren't designed to carry long lenses well. Many photographers mount their long super-telephoto lens and camera securely on a Gimbal head and then carry it over their shoulder while carrying other lenses and accessories in a belt system or small backpack. This allows very fast set-up when a subject is spotted. It is very important to always make sure everything is securely attached and tightened if using the "over-the-shoulder" method or risk damaging expensive gear when it falls to the ground.

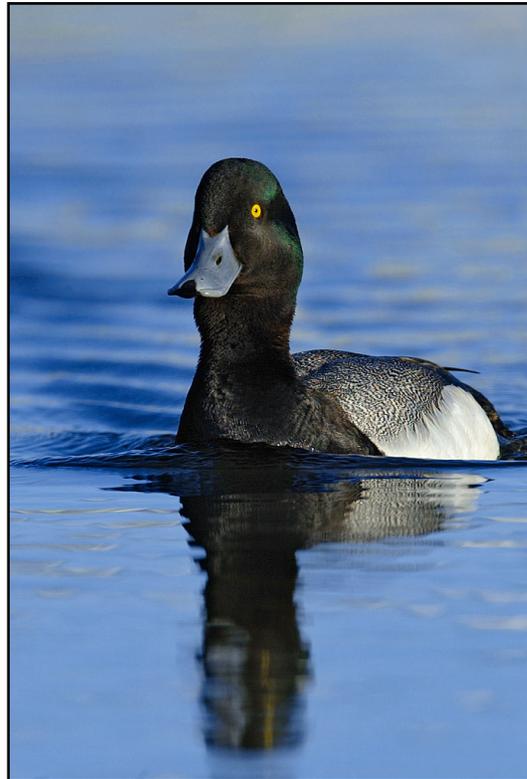


Photo storage, or recording space, is another consideration. Most camera bodies use either Compact Flash cards or SD cards. All of the card manufacturers make several different card speeds as indicated in MB/sec. Faster cards allow more frames to be taken before having to pause and catch up writing photo files to the cards. This is a consideration when photographing of birds in flight where many frames in rapid succession are often taken. Faster cards also transfer pictures to your computer in less time. Digital photographers also need a good storage system for all of the photos they take and elect to keep. This is usually on a high capacity hard drive or solid state drive. Be sure to also have at least one up to date backup and preferably two or more backups to safeguard your photos. People that earn their living through photography and serious amateurs, keep one backup copy in another location in case of fire or other disaster.

The gear that has been described in this chapter ranges from a few hundred dollars to tens of thousands of dollars. It is recommended that the photographer always buy the very best equipment that their budget allows, especially with lens purchases. This will result in fewer upgrade cycles ultimately saving money.

Note: The author's up-to-date equipment list can always be found at: [www.ejphoto.com/Equipment.htm](http://www.ejphoto.com/Equipment.htm)

Field Techniques



## Field Techniques

### Approaching Wild Ducks

Ducks that have experienced hunting pressure are very wary of humans and a careful slow approach will be necessary. Those that are habituated to people are much easier to photograph. Whenever possible, seeking out habituated ducks in photogenic settings will result in great photos while relying less on approach techniques.

Public parks, zoos, ponds or waterways in urban and suburban locales are often the best spots for duck photography. The birds that visit these areas are generally not hunted and they see a regular stream of people everyday allowing them to become habituated to humans. In many cases, people feed ducks making them seek out human contact. It is not unusual in urban settings to get waterfowl so habituated that even typically skittish species will eat out of your hand. Many people choose to feed ducks bread but this is not recommended and can result in intestinal blockage. If you are going to try to attract ducks with food, feeding them cracked corn or a duck feed is far preferable. Either are available at larger pet centers. Cracked corn is by far the most economical and is tolerated universally well by waterfowl. This is an effective technique in urban areas to reduce subject distance. Be careful about offering food to ducks in non-urban areas



where ducks are naturally wary of humans. In these areas, it may habituate them to humans where it is not safe for them to be habituated. Birds that migrate from totally wild areas such as northern tundra to urban centers immediately become unhabituated when they return back to their wilder territories.

Unless ducks are coming toward you and expecting a handout, even in areas where ducks are habituated to

humans, it is best to use a slow and methodical approach. Otherwise it is likely your subject will swim or fly away. Approaching slowly in a crouch and traversing back and forth while avoiding direct eye contact will usually get you significantly closer than walking right up to them and plunking down your tripod. Ducks' wariness increases overnight so if you are going to photograph them in early light and you are among the first humans they see that day, expect them to be much more skittish than in the

afternoon after they have been exposed to people all day. Therefore, much greater care must be taken in approaching waterfowl in the morning. Using techniques for ducks not habituated to people, as described below, may be necessary.

Fortunately, most species have at least one location on Earth where they are used to human presence and can be

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successfully photographed. In the guide to North American species later in this book, some of these places are listed.

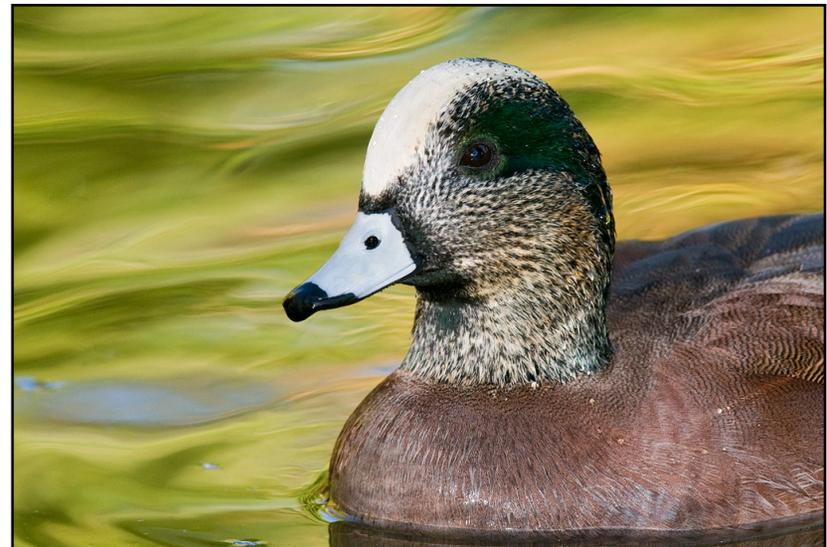
The approach for wild ducks is more sophisticated and requires more patience to be successful without scaring your subject away.

There are a number of ways to do this and often these need to be used in conjunction with each other. First, one must wear attire that is not likely to scare the bird. Birds have excellent visual systems with receptors that can detect light in the ultraviolet spectrum. For this reason wearing white or blue or anything that has been washed with bleaching agents is highly detectable by a bird's visual system. Wearing earth tones such as greens and browns allows the human to blend in more with nature. Breaking up the colors by wearing something in camouflage is even more effective. Birds will still see you, they just won't be as alarmed as fast. Earth tones covering your equipment, especially white items such as Canon telephoto lenses can help but are no panacea. Attire wise, the most effective camouflage is a gillie suit, which turns a person into a facsimile of a plant. This might get you a few extra feet but your movements are still easily detected by birds.

Using terrain to mask your arrival can be an excellent way to get closer to birds. Utilizing breaks in the terrain to shoot through is also effective. Hiding behind trees or approaching from behind trees so that you cannot be seen will allow a closer approach. Getting low and simply moving slightly to the left or right of the tree to photograph is one of the best techniques for photographing skittish ducks in the wild. Remember that if you can see them, they can see you and they are very sensitive to movement.

If there is no cover that can be easily used, do not walk directly toward the duck. Walk parallel to it as if you are walking past the bird and traverse back and forth slowly getting closer over a period of time. This is best done low, in a crouch or even slithering along the ground keeping your gear in front of you. Be constantly aware of the duck's mannerisms. If it suddenly stops what it is doing and looks around, it is alert to your presence. Stay put until the bird goes back to what it was previously doing. Then proceed even more slowly than before, stopping every few feet. An approach can take a long time in open terrain.

If you are approaching a diving duck, moving only while the bird is underwater will allow a much closer approach than moving while it is on the surface. Most divers stay down between 20 and 30 seconds. Observing the bird and getting a sense of how much time you have to move and get set-up will



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be beneficial. If the waters are not turbulent, often you can tell where the duck is under the water by observing bubbles that come to the surface. Training your lens and pre-focussing on the bubbles will allow faster framing and focus acquisition when the duck surfaces.

With difficult subjects, consider an approach by water. Virtually all threats to a duck are from land or air; thus, they are much more wary of a land approach. If you can get in the water unseen or on the opposite side of the water away from the duck, they will generally allow you to approach more closely. In warm and clean waters this can be done wearing anything you want as long as it isn't white or blue. In colder or muckier water, using chest waders is advisable. Be very careful of your footing and use your tripod as a stabilizing aid when moving in the water. Shoes with felt soles have more traction in water.

Another way to get close to ducks for photography is to allow them to come to us. This can be done by using a blind (also known as a hide). Setting up a blind at the edge of the water or even in the water before dawn and getting in it before the ducks become active can be a great way to get close shots. It is especially effective if you can leave the blind set up for a few days prior to your photography. This allows the blind to become part of the environment and largely ignored. The duck will hopefully approach closely as long as you do not make any loud noises, sudden movements, or other things that might startle it.

A car can also be an effective blind. Often you can photograph wary subjects from the car window that would not allow a similarly close approach outside the vehicle. A

structure can be used for cover by staying very close to it and not altering its silhouette substantially.

Using terrain, structures, blinds, or whatever you can do to prevent the duck from sensing a threat in your presence will dramatically increase your odds of getting a great photo.

### Exposure

Photography is the art and process of recording light. The amount of light recorded by the recording medium, be it film or a digital sensor, is called the exposure. Today, that recording medium is usually a digital sensor.

There are three primary factors that control how much light reaches the recording medium - Shutter Speed, Aperture and ISO. During the 20th century, the recording medium was primarily film. The entire roll of film is manufactured at a specific ISO, so once we select the film, the only remaining exposure variables are shutter speed and aperture.

Shutter speed is the amount of time that the shutter remains open and aperture is the size of that opening. A longer shutter speed increases the amount of light that reaches the recording medium and a shorter duration shutter speed decreases the amount of light that reaches the recording medium. A larger aperture, which is measured in f-stops, increases the amount of light reaching the recording medium and a smaller aperture decreases it. To confuse things a little, a larger f-stop number is actually a smaller lens opening and allows less light in while a smaller f-number is a larger lens opening and lets more light in. The f-number is simply the focal length divided by the size of the opening. If we take a 400mm f/4 lens as an example,

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the lens opening needed to achieve  $f/4$  is then 400 divided by 4 or 100mm in diameter. If the front element of a 400mm  $f/4$  lens is measured, it will measure very close to 100mm in diameter. A 400mm  $f/2.8$  lens then must have a lens opening that is 400 divided by 2.8 or approximately 143mm. You can quickly see why the large aperture lenses are so much bigger and heavier than the smaller aperture lenses. A general rule of thumb is that the weight of a lens doubles for every f-stop increase in maximum aperture.



If a 400mm  $f/4$  lens has a 100mm front element, how do we achieve smaller apertures since virtually all lenses can be “stopped-down” to smaller aperture values such as  $f/5.6$ ,  $f/8$ ,  $f/11$ , etc? Lenses have what is called an aperture diaphragm built into them. If you or the camera selects a smaller aperture, the aperture diaphragm closes down to achieve the proper lens opening for that aperture value. To provide a brighter field for focusing, the viewfinder shows a view through the lens at its maximum aperture (referred to as “wide open”).

ISO is the sensitivity of the recording medium to light. A lower ISO number is equivalent to a lower light sensitivity. ISO 100 is half as sensitive to light as ISO 200 and one quarter as sensitive as ISO 400. A photograph taken at ISO 100 can be taken with half of the exposure at ISO 200 and one fourth the exposure at ISO 400. With film, the film is rated at a certain ISO (formerly ASA) from the film manufacturer. Typically, photographers set the camera to the ISO that the film is rated at. If that speed does not allow fast enough shutter speeds, we can “push” the film to a higher ISO, thereby underexposing it intentionally. We must then tell the processing lab to push process it. The lab adjusts their development times in an attempt to compensate for the underexposure caused by pushing the film. While this is effective, there are some drawbacks. It generates more film grain and there is a reduction in the film’s dynamic range. The entire roll must be pushed and push-processed. The photographer cannot change ISO as the conditions change without rewinding the roll of film in the camera and putting a different roll in it.

In the age of the digital camera, the photographer can change by the ISO at any time to meet the shooting conditions. If a photographer has the camera at ISO 200 when there is plenty of light, he or she can easily switch to ISO 400, 800 and

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beyond as conditions get darker. The drawback to doing this is that at higher ISO values, digital noise starts to creep into the photograph. Modern cameras are getting better with each new generation and noise at higher ISO values is becoming less of an issue. Tools to remove noise in photos on the computer are also continually evolving and getting better.

In the digital imaging world, we have three variables that affect how much light reaches the sensor in a camera. Shutter speed is the variable that blurs or freezes motion. If you are photographing a moving subject, unless you are intentionally blurring it, you will need a fast shutter speed.

Aperture is the variable that determines your depth of field. Depth of field is the amount of space in front and behind the exact point that the camera was focused on that is also rendered in focus. Larger apertures (smaller f-numbers) will have less depth of field than smaller apertures. This means that the area in front of and behind the point of critical focus that is also rendered sharp will be minimal. Aperture can then be used creatively to vary how the background looks. If you want a softer blurred background, a large aperture is needed. If you want the background to be in focus or less out of focus, a smaller aperture is required. Since what is seen through the viewfinder is at the maximum aperture of the lens, many cameras provide a button that can close down the



aperture diaphragm to the selected aperture value so that the photographer can preview the actual depth of field that will be recorded in the photograph.

ISO is the variable that determines the sensitivity setting of the sensor (or film). A higher ISO value, results in less light needed to get a proper exposure.

When combining aperture, shutter speed and ISO, we are left with a single equation with three variables. In the exposure equation, we have one desired outcome - to get a properly exposed image. We have three variables that we can tune to accomplish this and for a given outcome, changing any one of them must result in a change of either one or both of the others.

If you are unable to achieve the shutter speed needed to freeze the action with the depth of field we require to get all parts of the subject sharp, the only choice is to increase the ISO to a value that allows the necessary shutter speed and aperture setting.

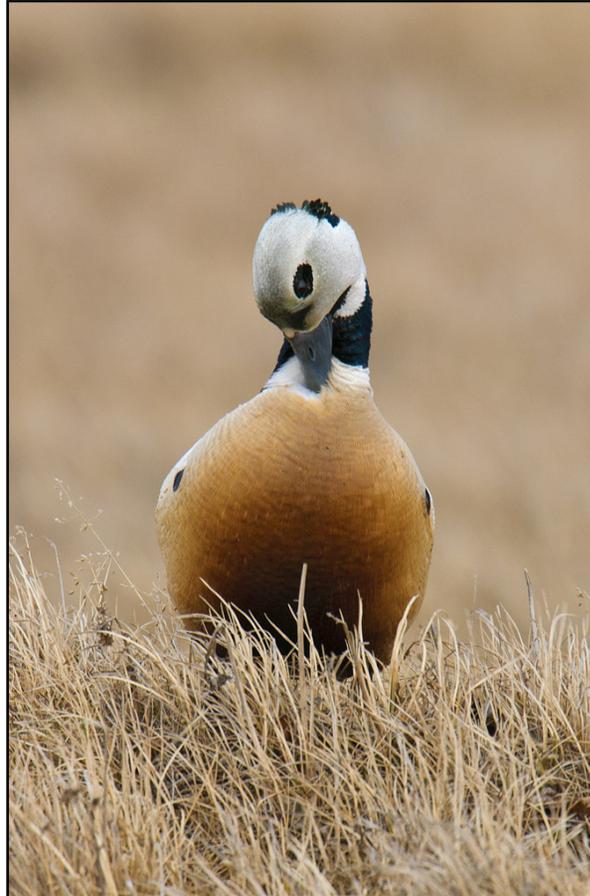
If we need more depth of field so that the entire subject is in focus we must reduce the lens opening and shoot it at a smaller aperture. To compensate for this loss of light we then have to either photograph the subject at a longer shutter speed or a higher ISO or a combination of the two. Similarly, if we want to blur the background more, we will need a larger

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lens opening and must compensate for the increased amount of light by going to a faster shutter speed or lower ISO or a combination of both.

All cameras today have automatic modes that can take care of all or some of the exposure decisions for us. Cameras have, at minimum, four exposure modes: Program, Aperture Priority, Shutter Priority, and Manual.

**Program Mode:** There are two types of program modes that are common. One makes every decision for you including what ISO to use and whether or not flash is used. The other allows the photographer to select the ISO and then makes all aperture and shutter speed decisions. Program mode is often used by beginners or those not wanting to bother with figuring out the correct settings. While this can often result in good pictures, it will rarely give you the best photograph possible since it can't make depth of field decisions for you nor does it know if your subject is moving or stationary. To deal with this, many consumer models also have situation specific program modes that adjust the program's bias to the type of situation that you are shooting. For example, switching to the landscape mode will trade shutter speed and ISO for maximum depth of field by using smaller apertures. Conversely, the sports mode will try



to set the camera for the fastest possible shutter speeds while trading off depth of field and ISO.

**Aperture Priority:** This mode is also known as Av mode which stands for Aperture Value. In Aperture Priority mode, the photographer selects the ISO and the aperture. The camera then selects what it thinks is the appropriate shutter speed based on its internal meter. This exposure mode is very popular with bird photographers as it gives them complete control over the depth of field which can be important with the long lenses used in this type of photography. Aperture priority is excellent in changing light situations since the shutter speed is automatically adjusted to compensate for the changing light. The weakness of this mode is that the shutter speed can get too slow to freeze the action as it gets darker or if you are shooting in shade. Unless the photographer is keeping an eye on the shutter speed the camera selects, motion of the subject can result in unwanted blur in the picture.

**Shutter Priority:** This mode is also known as Tv or Time Value mode. In this mode the photographer selects the shutter speed and ISO and the camera selects the aperture. This is especially useful when intentionally blurring a subject using a longer shutter speed or when you need to freeze your subject at all costs. The disadvantage of this mode is that you have no depth of field

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control since the camera is making the aperture value decision.

**Manual:** In manual mode, the photographer makes all of the exposure decisions (ISO, shutter speed, and aperture). This mode gives the photographer the most control but at the cost of the highest workload. The meter can still be used to guide you and it will show exposure changes based on the decisions you make for the three variables. In manual mode, the meter reading is the camera's exposure evaluation of the exposure settings you have selected. In an automatic mode, the meter reading determines the values of the exposure settings that the camera has chosen. Manual mode can be challenging in situations where the light is constantly changing since the photographer has to be aware of even subtle changes and adjust the exposure variables to deal with the changing light.

**Auto ISO:** Many of the newer cameras also have an auto ISO mode. There are quite a few variations on how cameras deal with this but in general, the photographer makes decisions about either shutter speed or aperture or both, and the camera then adjusts the ISO value to get the proper exposure. This mode can be very useful in constantly changing light but noise can vary from shot to shot as the ISO value changes. To help alleviate this problem, most implementations allow you to set an ISO value that the camera won't go above.

The author almost always uses manual mode because it provides the maximum amount of control. There are many advanced amateurs and professionals that use Aperture Priority. Far fewer use Shutter Priority or Program mode on a regular basis. Whichever mode you use, there are some adjustments to the camera's exposure recommendation

needed in certain situations. We will cover these later in this section.

A chapter on exposure without more information about the camera's meter would be incomplete. All cameras have a built in meter that measures the light and feeds that information to a central processing unit (CPU) in the camera. In the automated modes described above, the CPU uses this information to make a determination on how to take the photograph and then does so when the photographer depresses the shutter button. In manual mode, the meter simply shows the photographer in the viewfinder whether or not his choices will result in what the CPU thinks is the correct exposure. Meters range from relatively rudimentary implementations that average the whole scene to highly complex evaluative matrix meters with many segments including a computer algorithm based on thousands of potential shooting situations. The meter and its algorithms try to interpret what type of scene is being photographed and



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then make decisions based on that information. Some meters are even able to differentiate colors and make metering suggestions based on color values.

There are four in-camera meter patterns that most DSLRs utilize:

Whole frame averaging - averages the light in the entire frame with no special emphasis on any part of the frame and then suggests an exposure to make the average of the whole frame a mid-tone that falls half-way between white and black called 18% gray.

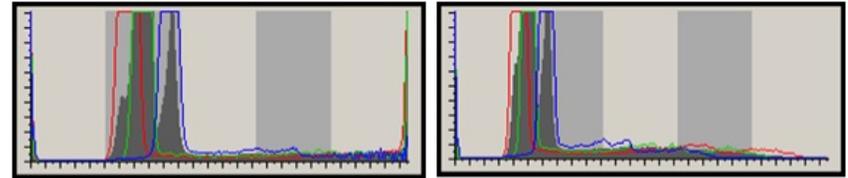
Center weighted metering - averages the light in the whole frame with emphasis on the central part of the frame and then suggests an exposure to make the central average a mid-tone.

Spot metering - allows the photographer to meter a small spot in the frame and then suggests an exposure to make that spot a mid-tone.

Evaluative or Matrix metering - uses a number of segments throughout the frame to try to evaluate dark and bright areas and integrate all of this information into an exposure suggestion based on internal algorithms that attempt to give optimal exposure to all parts of the photo.

While all of these metering patterns are useful, the most useful meter isn't actually a meter at all. It is the histogram on the rear LCD of the camera. The histogram is a representation of all of the tonal values in the photo with the darkest being on the left and the brightest being on the right. A properly exposed photo has no data spike on the left or right edge of the histogram. If you are shooting in RAW format, you should push the tonal data in the histogram as far to the right as

possible without any part of the histogram piling up on the right edge. This records the most information possible and is illustrated below:



The histogram on the left shows overexposure. Notice the large spike stacked up against the right side of the graph. This would result in areas that appear “blown-out” with no white or highlight detail. The histogram on the right is from the same photograph taken with a faster shutter speed. There is no spike on the right edge of the histogram but the data extends to the right edge so highlight detail will be retained. In this example, both have a small spike on the left side indicating that some dark details have been lost. In some situations this is unavoidable as the tonal range of the scene exceeds the ability of the sensor to capture it. In situations like this, it is usually desirable to have the spike on the left side rather than the right. Our visual system is biased toward avoiding overexposure by forcing our pupils to close and our eye lids to cover part of the eye (squinting) to prevent too much light from striking the retina. We do this at the expense of being able to see detail in the shadows. Thus, it is more acceptable to our eyes to have areas in a nature photo that are detail-less black, than detail-less white.

The most accurate “meter” we have on our cameras is the histogram. It is the most useful piece of information shown on our camera’s LCD displays. Whenever possible, it is a great idea to take a test shot, look at the histogram and then adjust

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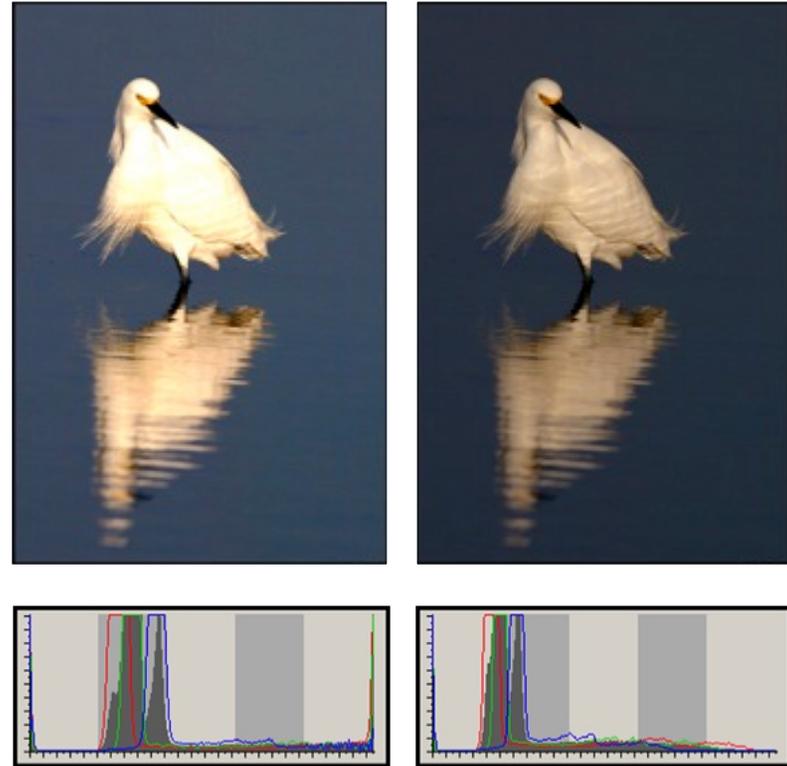
your exposure based on what you see. Many cameras provide separate histograms for each color channel in addition to the luminosity histogram. If so equipped, checking each color channel is an even more accurate metering method.

Many nature subjects, especially birds, and specifically ducks have extreme tonal ranges. The range from the darkest tone to the brightest tone in a picture is the tonal range. The camera's specification that describes the tonal range that it can capture is called Dynamic Range. This is sometimes referred to as Dmax - the maximum dynamic range. Only by carefully selecting exposure parameters will we be able to record as much of the tonal range of a subject as possible.

A number of duck species have dark colors such as blacks, blues, greens and purples along with bright whites all in the plumage of the same bird. This presents a challenging exposure situation. By pushing the information in the histogram as far to the right as possible without going over the edge as shown in the left histogram, we assure ourselves of recording as much detail in the bird as we can. This is technique commonly called "expose to the right".

The camera's built-in meter will often recommend an exposure that is too bright for white or very bright shades of other colors. This is due to the way a camera meter works. Regardless of which type of metering pattern you are using, the meter makes an attempt to render whatever tonal range is being metered as a mid-tone. If the photo has a large dark area such as a background or if the subject is dark and there are small bright areas, averaging those still leaves the average tone darker than a mid-tone. The meter will then calculate an exposure to render what it is seeing as a mid-tone, thereby overexposing the brighter parts of the image. This is best

illustrated by showing the actual photos with the histograms that were used earlier:



In these photos, the water is darker than a mid-tone and it takes up a large portion of the image. The photo on the left was taken at the meter recommended exposure which resulted in overexposure of the bird and blowing out the white feather detail. The meter was fooled by all of the darker toned areas. In the second image, an exposure that is one stop less than the meter recommended exposure was used resulting in much better feather detail and no blown out highlights.

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Beware of overexposing whites. This is best done through the use of the histogram. Also, turn on the blinking highlight feature on your camera if so equipped. This will show you where the areas of overexposure are immediately after you have taken an image on the LCD's image review.

Depending on the type of meter, metering pattern, and the manufacturer, you will often need to reduce exposure by one third stop to as much as 1 2/3 stops below the meter recommendation when there is a large area in the photo that is darker than a mid-tone. If you are using an automated mode such as Aperture Priority, you will have to utilize exposure compensation. With exposure compensation you are telling the camera to override what the meter wants the camera to do by the amount of the compensation. In the example image of the Snowy Egret, one would "dial-in" minus 1 stop of exposure compensation.

One of the drawbacks of an automatic exposure mode is that it changes exposure based on the size of bright and dark areas in the frame. Regardless of how big the bird is in the frame, the aperture, shutter speed and ISO should all remain constant since the bird's tonality doesn't change and the water's tonality doesn't change by simply zooming in and out. However, to an automatic exposure system, you are changing the amount of dark area and bright area in the picture and therefore the average tonality. As a result, the automatic system will change the exposure. Herein lies the power of the manual exposure mode. In an automatic exposure mode, the photographer must change the amount of exposure compensation as the white bird gets bigger or smaller in the frame to maintain the same exposure values. In manual mode, once you determine the correct exposure, zooming in and out results in no change necessary to the exposure values

since the camera is not making any adjustments that need to be overridden. It may, however, take a little longer to get the correct initial exposure and if the light changes, you have to manually change exposure settings. Your ability to assess changes in light and determine the initial exposure will likely dictate whether you shoot in automatic mode or manual mode.

If you are photographing on an overcast day and the color in the water is white or light gray, there is a good chance that the tonality of the frame is brighter than average. The camera's meter will try to render an average mid-tone thereby underexposing the scene. In situations like this, often one must use more exposure than the meter recommends or "dial-in" positive exposure compensation. This is illustrated in the Green-winged Teal photo on this page. Due to the large area that is brighter than a mid-tone, the photo was taken by exposing one stop (+1) over the recommended exposure on the camera's internal evaluative meter. This prevented underexposure of the duck's head.



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Regardless of whether you shoot in manual or automatic, on a bright sunny day with rich dark colors in the water, or on an overcast day where the water is light gray, verification of the correct exposure should be based on the histogram.

Below are additional exposure tips for duck photography:

- A duck swimming in calm water requires a shutter speed of 1/400 sec or faster to prevent motion blur. In turbulent water, a shutter speed of 1/800 or faster is recommended. If the duck is at rest and the water is calm, you may be able to use shutter speeds as low as 1/200 with a sturdy tripod. Faster speeds are needed for hand holding.
- Be sure, if shooting in aperture priority mode, that the shutter speed does not get too slow when the duck swims into shade or the sun is getting low in the sky.
- On sunny days, ISO 200-400 will give you the best dynamic range and lowest digital noise while being able to maintain a fast enough shutter speed to freeze subject motion.
- On dark days, you may have to accept some digital noise in order to maintain an adequate shutter speed to avoid motion blur. Use ISO 800 or even 1600 on some of the cameras known to have good noise characteristics.
- Select an aperture that allows enough depth of field to render the subject sharp. This is rarely the maximum aperture of the lens. Typically apertures around f/8 or higher are used when shooting ducks that take up one quarter of the frame or more.
- If photographing a duck in flight, a shutter speed of 1/2000 or faster is desirable to render it sharp. Exceptional panning technique is required due to its speed.



- If you intentionally want to blur the action to imply motion, shutter speeds from 1/15 to 1/60 sec are the most effective. This is one time when shutter priority mode can be useful.
- Most water is darker than a mid-tone. Often our eyes fool us into thinking it is not. Unless you are shooting on an overcast day, the water of ponds, lakes, rivers and oceans are one to two stops below a mid-tone. This results in overexposure of bright areas if relying solely on the camera's meter and an automatic exposure mode. An exposure that is less than what the meter suggests or negative exposure compensation is necessary if there are any bright areas on your subject. Virtually all male duck species, due to their white plumage areas, and some female ducks require between 1/3 and 1 2/3 stops less light than the meter's recommendation in water on sunny days.

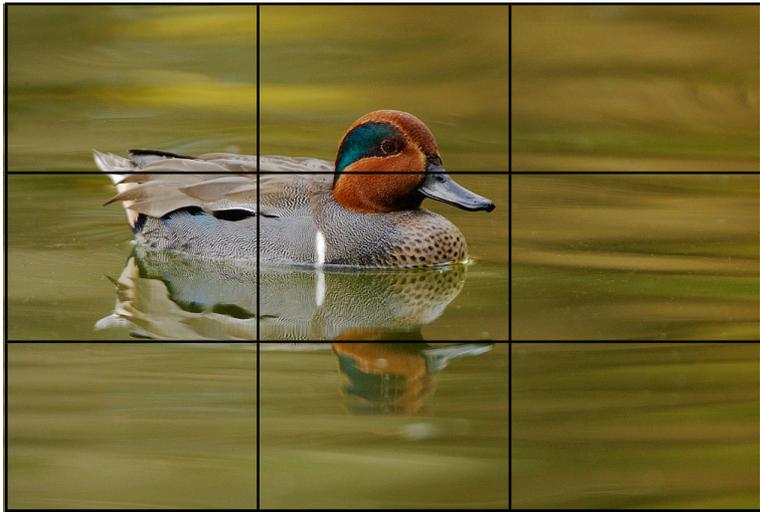
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### Composition

Composition is very subjective. What one person sees as a fantastic composition, another person may see as boring, stagnant or unflattering. There are however a few guidelines that can be of benefit.

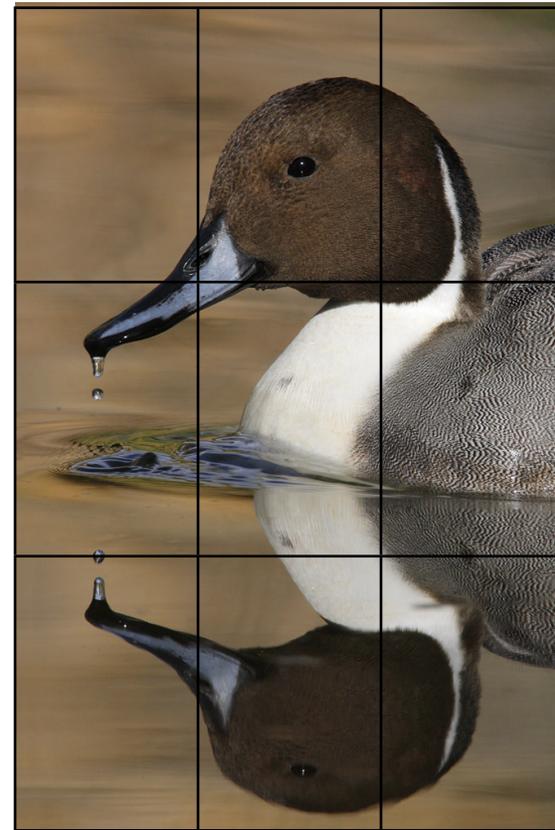
The Rule Of Thirds is the most taught composition “rule” in photography. The rule is to divide an image into nine equal parts using two horizontal lines and two vertical lines, each one third of the way in from the edge. Important compositional elements should be placed along these lines or at their intersections. This is illustrated in the image below.

The Green-winged Teal’s main point of focus, its head, is placed on the top one-third horizontal dividing line while its body is placed at the intersection of two lines of thirds in the upper left of the photo. As a bonus, the head’s reflection is placed at the lower horizontal line of thirds. This illustrates a



carefully composed image following the rule of thirds. Accomplishing this in the field while a duck is swimming can be difficult but with practice it gets easier to do.

The portrait mode photograph of a Northern Pintail illustrates the rule of thirds when shooting verticals. In this example, the head of the male Northern Pintail is bisected by vertical line of thirds in the upper right, the bill in the upper left and the head roughly lies in the upper line of thirds.



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A simplified way of stating the rule of thirds is to avoid putting the primary focus of the subject in the center of the image. Putting the main focus in the center is less objectionable in vertical compositions (or portrait mode) because we are used to seeing portraits of people with the head along the vertical centerline. However even in people portraits, the eyes are rarely in the center and eyes tend to be the primary focal point for a portrait.

The horizontal (or landscape mode) photo often conveys action. For this reason, you generally want to leave more space between the bill and the edge of the photo than the tail and the edge of the photo. The Common Eider photo on this page illustrates this. The duck was placed in the frame so that the bulk of its body is right of center and the duck is facing to the left. By leaving more room on the left, it conveys the sense of the duck swimming from right to left. In this case the duck was actually stationary but the only thing that gives that away is the lack of a breast wake. One can think of horizontals as an action format where something is moving through the frame.

The vertical (or portrait mode) photo is often used for portraiture and can therefore be thought of as a more static format. The vertical image of a Northern Pintail on the previous page, even though the duck is swimming, feels more posed than the horizontal example.

Unless we are photographing them head-on, ducks are wider than they are tall which often makes the horizontal orientation the preferred orientation when the entire bird is in the frame. Vertical compositions work well for head and breast portraits in or out of the water. It is common for beginning waterfowl photographers to put the head in the center zone of the rule of

thirds grid in portrait orientation photos. This almost always results in an unbalanced photo compositionally; there is simply too much space above the bird's head. While it might be good to take some shots like this to leave room for a header if shooting for a magazine cover, in most situations this is not a balanced composition. Similarly, when shooting horizontal compositions, one often sees the body of the duck dead center in the photo which puts the head and bill too close to the edge. This can also cut off any reflections of the duck that might be



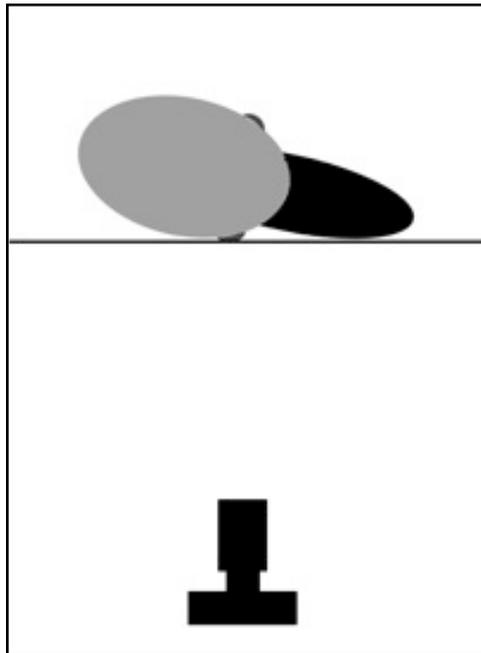
at the bottom. For this reason, it is advisable to select an autofocus sensor point that is above the central one. This forces the photographer to place the head and eye in the upper parts of the photo resulting in a better composition. Don't allow the default center autofocus point dictate your composition.

Whether to shoot a subject in a vertical or horizontal orientation is a creative choice. Quite often a photographer

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gets in a rut and simply shoots all photos in horizontal mode because the camera's controls are generally laid out for horizontal shooting. Make sure you try both orientations as each one can convey a very different sense and mood in the subject. If you plan on getting photos published on the covers of magazines, having a good library of vertical shots is important.

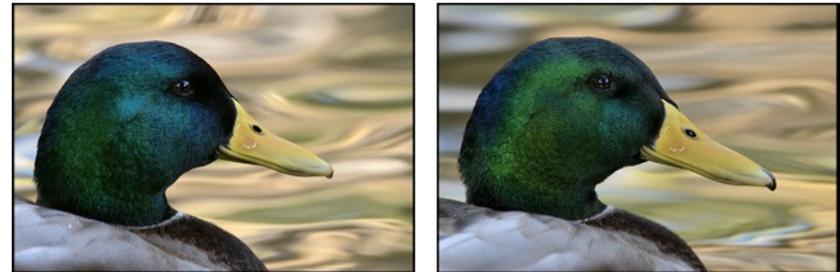
Bird photos, and especially duck photos, often look their best if the subject's head is turned slightly toward the camera resulting in the bird's eye and bill being in the same plane and parallel to the film or sensor plane. This is illustrated by the overhead drawing of a duck's head and camera below:



Keeping the eye and the bill in the same plane has the benefit of insuring that both are simultaneously in focus since they are equidistant from the camera. This reduces depth of field concerns.

One can think of the horizontal line in the illustration as the limit for how far away the bird can turn its head from the camera. Any angle of the head where the bill is either in the same plane as the eye or the bill is closer to the camera than the eye can result in a good photo. If the bill falls behind the plane due to the head turning away, connection with the subject is lost and even lighting on the head can suffer.

We can see the difference in the two Mallard head shots taken less than a second apart:



The difference in head angle is subtle, yet the aesthetic difference is substantial. In the image on the left, the Mallard's head is turned slightly away from the sensor plane. With the light coming from behind the photographer, one can see a loss of detail in the plumage in front of the eye and the bill looks shorter than is customary for this species. In the image on the right, the Mallard's green head is seen in its full glory as is his big yellow bill. Perhaps 5 to 10 degrees difference in head

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angle makes the one on the left a throw-away image and the one on the right a keeper.

Backgrounds, foregrounds and perches are an important compositional element. When a photographer is looking through the viewfinder and has his subject framed well, it is easy to overlook everything around the bird. This includes things in front of the bird, the background and what the bird is perched on. Photographing the bird without any consideration for the other important elements in the photo is referred to as "target-lock". Reflections of other birds, reeds cutting through the subject, ugly floaters in the water, and a messy unattractive background are all objectionable parts of the composition and the photographer should take care to eliminate them.

Blurring the background in the field is done by selecting a relatively large aperture (low f number) to limit the depth of field and making sure the background is at a significantly farther distance than the subject so that it is thrown out of focus. An easy to remember rule of thumb: pleasing backgrounds with telephoto lenses can be achieved with larger apertures when the background is at least twice as far from the camera as the subject is; farther is even better. Remember that looking through the viewfinder renders the image as if it were taken at the lens' maximum aperture. If you are not shooting at a wide-open aperture, the background will appear smoother in the viewfinder than it will in the photo. Using the DOF preview button will give you an accurate representation of the background in the final photo.

The Black-bellied Whistling Duck on this page was found standing on an unattractive perch so only a small amount of it was included. One could argue that the perch feels a bit cut-

off at the bottom and more of it could have been included but since it was quite unattractive right below the lower edge of the frame, the photographic compromise was made to not include it. Photographers continuously face compromises. Each situation will present different circumstances and the art of



photography often comes down to balancing these compromises in order to produce a successful image. The messy background was smoothed by using a large aperture which limited the depth of field, thereby, throwing it out of focus. Care was taken in composing this image in order to emphasize the beauty of the subject but also deemphasize the undesirable elements that were present in the scene. Without this level of care in the composition, this would not have been an effective photo due to the unattractive conditions around the beautiful duck.

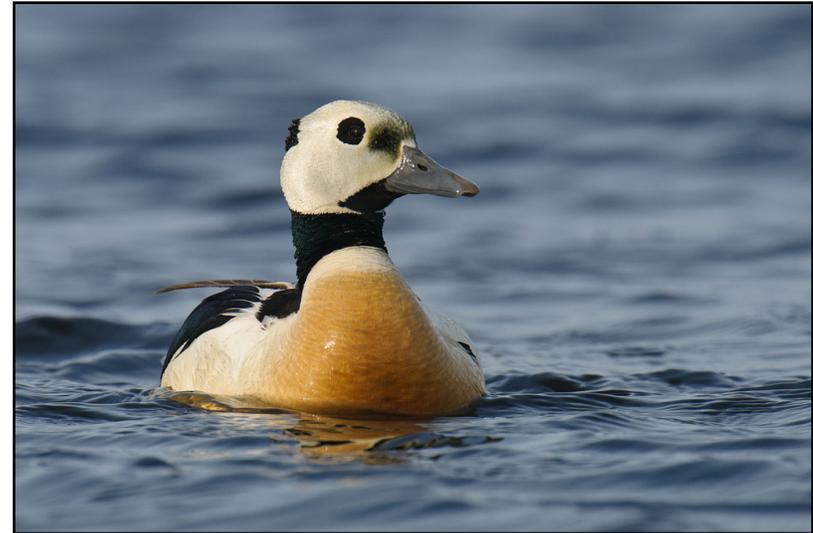
For photos that include habitat and environment, shorter focal lengths and smaller apertures are often used. The subject is

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usually smaller in the frame and the environment around the bird must be in focus. To ensure that the photo is level, any reflections should be vertically aligned. The photo of the Radjah Shelduck pair in their habitat illustrates these points.

Photographing your subject with the camera as close to eye level of the subject as feasible will generate the highest return of great shots. A higher level of intimacy between the viewer and the subject is achieved when the photographer and subject have eye contact. Of course this isn't always possible but getting low to the ground to get a low shooting angle when the duck is in water or on land is important. If your subject is on a perch, adjusting your tripod's height to get as close to eye level is similarly important. This may even mean getting in the water as is the case with the Steller's Eider taken in Barrow Alaska well above the Arctic Circle in icy water.

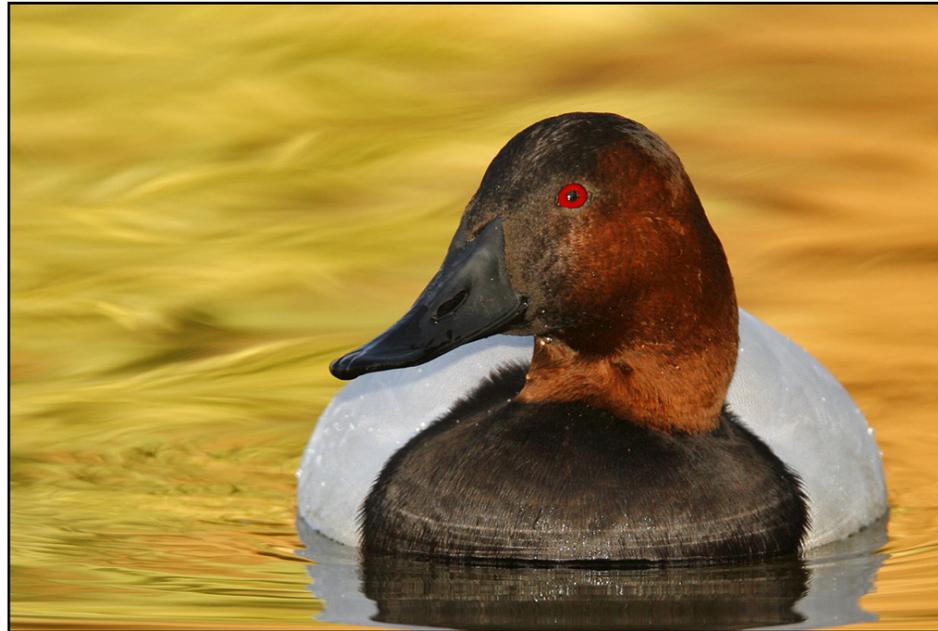


Pre-visualization is an important concept in photography. Most great photographers spend a lot of time thinking about what type of image they would like to take, what it will look like, how it will be composed, what the background consists of, what pose the subject is taking, etc., etc., etc. This pre-visualization allows you to set goals in your photography and also gives you an insight into what types of photographs will be compelling or convey emotion. Perhaps you want to photograph a mother feeding her young on smooth water with a deep blue reflection in warm early morning light. Or maybe you have in mind a male and female mating in the golden glow of a corn field. A beautiful breeding plumage drake in flight with its wings in the maximum up position against a rich green background may be what you would like to add to your photo collection. These pre-visualizations allow you to seek out the subject, the environs and hone your technique so that when the opportunity presents itself, you are ready and you get the shot. Pre-visualization is a means by which the photographer

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applies his or her sense of aesthetics to a subject in a particular situation or environment. Pay attention to your mind's eye, as this is ultimately what dictates your personal photographic style.

Excellent compositions, made with care, will provide the viewer with a sense of being at the scene while rendering the subject in an aesthetically pleasing and artistic manner. With moving subjects, this can be challenging but lots of practice and a prior understanding of what a good photo looks like will make compositionally excellent photos more and more routine. Many texts have been written on the subject of composition and it alone could fill up a lengthy book. The reader is urged to make composition a constant and ongoing area of study. Reading about and studying photographs that you like can accomplish this. When one combines technical knowledge with a great sense for composition and strong pre-visualization, the photographer has the tools to make fantastic images on a regular basis.



### Natural Light Photography

Photography is the art of recording light on film or with a digital sensor. All photographs have a source of light that illuminates the subject. This light is either a natural source, an artificial source, or a combination of both. Light has intensity, direction and temperature (color). Unless you are photographing

something that is phosphorescent or doing astrophotography, natural light is supplied exclusively by the star that lights up our planet during the day - the Sun. Artificial light can be supplied by any number of light sources but in bird photography, it is usually a flash unit (strobe).

Most nature photographers love early morning sunlight or evening sunlight due to its warm color. Light travels through more of the atmosphere before reaching the subject in morning and evening. This

causes the blue wavelengths to be partially absorbed leaving more yellow and orange. The hour around sunrise and sunset is referred to as the "golden hour" since the light gives everything a golden glow. Contrast this light to light at mid day, which is biased toward blue. Using warmer morning or evening light will usually result in more pleasing photographs than is possible during the middle hours of the day.

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The angle of the sun in relation to the subject is very important in determining the look of the final photograph. A subject will appear markedly different when recorded with front, side or back lighting. Each one of these lighting situations presents different challenges for the photographer.

The easiest, and often most pleasing, lighting situation for birds is when the subject is front-lit. In this situation, the light is coming from behind the photographer and hitting the subject squarely and directly. As long as the light source is behind and between your shoulders when your body is square to the subject, the photo is considered to be front-lit. The most important thing to ensure proper illumination of the head, in a front-lit photo is to make sure that the bird's head is not turned away and preferably is turned slightly toward you. Recall the overhead diagram in the Composition section.

The direction that the duck is facing can be the difference between a successful photo and a throw away photo. In the Ring-necked Duck photo on this page, the sun is coming over the left shoulder of the photographer lighting the bill and eye. The back of the head has gone dark but since the head is facing to the left, the area from behind the eye to the bill is properly illuminated. Had the duck been facing to the right, rather than to the left, the back of

the head would have been properly illuminated and the dark area would have been between the eye and the bill. When looking through the viewfinder, one must be aware of these lighting changes as the duck is swimming or moving around. Taking a photograph when the area from bill to behind the eye is shaded will rarely end up aesthetically pleasing.

The biggest drawback to front lighting is that texture in the feathers is not recorded as clearly as it would be if the light

was coming from the side. This is especially true on white birds and it can make them look washed out and detail-less. Ducks, due to their multitude of colors and patterns generally do not lose much detail when photographed with front lighting.

Backlighting is the opposite of front lighting. In a back-lit shot, the sun is behind the subject and shining towards the camera. Backlighting is rarely used in duck

photography but there are situations where it can be effective. Back lighting is mostly used for photographing silhouettes where emphasis is placed on the surroundings and the subject is allowed to be completely black. A flash unit can be used to balance light in this situation so that a silhouette does not





occur. We will cover how to photograph a non-silhouetted subject that is backlit in the section on using flash.

Side lighting is everything that falls in between front and back lighting so there are many angles of light which are considered to be side lighting. In general, side lighting tends to enhance the texture of a subject. This is particularly useful for white or mostly white birds, which show poor feather detail in direct front-lit situations. Certain poses or head positions can result in shadows of the bill or other body parts across the subject when using side lighting. A careful photographer will wait until the pose is aesthetically pleasing and the head is tilted slightly towards the camera without the presence of distracting shadows falling over the body. Supplemental or fill flash technique can be used to minimize these shadows and create compelling images balancing natural sidelight and supplemental light. The King Eider to the right is front-side lit but the head turn allows his face to be fully illuminated.

### Outdoor Flash Photography

Mastering the use of artificial light in outdoor situations is a big challenge for many photographers. Through years of teaching photographic workshops, one constant among participants is the lack of thoroughly understanding flash technique. Often, even experienced photographers avoid flash at all cost since their results have been inconsistent.

Flash is a very important tool that can open up many new photographic opportunities and allow you to get excellent results even in less than ideal light conditions. These include cloudy days, shade, mixed light, backlit situations, high contrast situations and more. Supplemental outdoor flash can be used to handle otherwise impossible situations such as a subject that is perched in shade but the background is lit by bright sunlight. It can bring out colors that might not otherwise be seen and reduce contrast so that your sensor or film can successfully record the entire dynamic range inherent in the



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scene. It can even warm up the bluish cast of shade without changing the color of the background.

The Equipment chapter reviewed the general tools needed for successful flash photography of ducks. Advanced shooters and those wishing professional looking results will need a powerful flash unit that is dedicated to the camera model so that it can operate in unison with the camera's computing system. A flash bracket to move the flash away from the lens axis to reduce red-eye and steel eye is recommended. A Fresnel lens attachment will narrow the beam of light and increase the range of the flash and is also recommended. Ideally, the flash unit is coupled with an auxiliary external battery pack for rapid charging. Finally a cable to connect the camera to the flash and one to connect the battery pack to the flash complete the flash set-up.



The source for artificial lighting is the flash unit. It consists of a high discharge flash tube, a capacitor that stores charge and control electronics. The capacitor is charged by batteries that are in the flash unit or in an external high capacity battery pack. The flash unit then discharges the charge stored in the capacitor through the flash tube in a short duration high power burst of light. This duration typically ranges between about

1/1000 second and 1/32000 second depending how much flash power is required to properly illuminate the subject. It is a common misconception that the flash duration is the same as the shutter speed. In most situations it is dramatically shorter. Advanced flash units have the capability to zoom their head to adjust the illumination angle of the beam of light. These heads generally can zoom between approximately 20mm and 120mm with some of the higher end units going as wide as 14mm and as long as 200mm.

The camera and its electronics play a big role in the capability of the overall flash system. In a basic automatic through-the-lens (TTL) flash system, a flash sensor inside the camera and the camera's computer detect the amount of light from the flash unit that is reaching the scene. When the proper amount of light for the selected flash exposure setting is accumulated, it sends a signal to the flash unit to stop discharging its

capacitor.

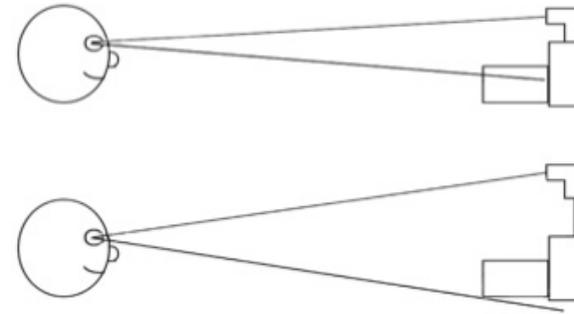
Modern TTL flash systems have added significant capability through the use of sophisticated electronics in an attempt to produce more consistent results in varying situations. These systems go by names like iTTL and eTTL. In such a system, the camera commands a short pre-flash to measure the light

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required to illuminate the scene. It measures this with its multi-segment matrix or evaluative meter. It will weight the exposure to the metering segment that contains the active auto focus sensor, thereby biasing the flash output to the in-focus area of the photograph. It then couples this information with distance information read from the lens and integrates it all to come up with the flash exposure. All of this happens in the 25 to 75 milliseconds between shutter button depression and image capture.

Most flash units have a manual setting that gives the photographer complete manual control of flash output. In a manual flash system, the camera simply tells the flash to fire at a specific time. The amount of flash power discharged is left completely up to the photographer and depends on what flash power setting is manually selected on the flash unit. As is always the case with flash units, power is modulated via flash duration or the amount of time that the flash is illuminated.

When the angle of incidence between the flash head and the center axis of the lens is less than 3 degrees, unflattering red-eye or steel eye can occur in most living things that have a retina. Red-eye happens when light hits the retina in the back of the eye and bounces back into the camera lens. When the angle of light is increased by getting the flash off of the camera so that it bounces back in a manner where it doesn't enter the lens, red-eye is avoided. This is illustrated in the line diagram. In the top diagram, the flash is mounted on the top of the camera and close to the lens axis resulting in light bouncing off the retina, back through the lens and onto the camera's sensor. In the second scenario, the flash is elevated higher above the lens axis, thereby increasing the angle. The light from the flash now bounces off of the retina and does not enter the lens passing harmlessly below the lens opening.



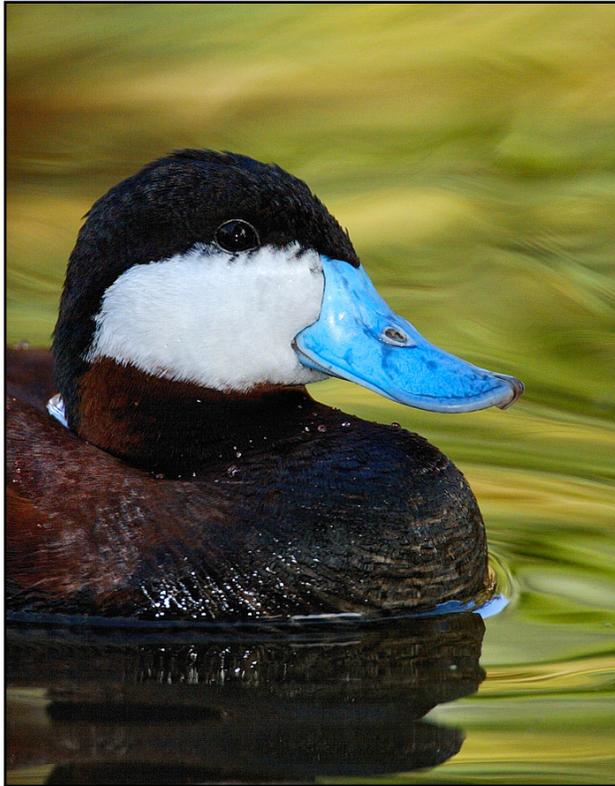
Flash brackets are used to elevate the flash to increase this angle beyond the 3 degrees needed to ensure that red-eye does not become a problem.

Big super-telephoto lenses with large lens hoods can block some of the light from a flash unit if it is mounted on the camera. This is a second benefit of using a flash bracket. It gets the light source off the camera and higher up preventing this from occurring.

A Fresnel Lens attachment is recommended when using long lenses and the subject distance is more than 20 feet. These go under the name of Flash Extender, Better Beamer, and Project-a-flash. Since flash heads only zoom to the 100-200mm range and duck photographers are usually using focal lengths that are significantly longer, a lot of light is wasted by the flash due to its wider angle of coverage. A flash head that zooms to 120mm has an angle of illumination of 20 degrees. A 500mm lens has an angle of view that only covers 5 degrees. So all but the center 5 degrees are wasted light that is being projected outside of the area of the photograph. If this light can be concentrated, thereby recovering it, we could bring much more flash power to bear on our subject. Enter the Fresnel lens; it concentrates the flash unit's light output to an 8 degree angle which is the angle of view of a

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300mm lens. Concentrating the light into a tighter beam results in an approximate doubling of the maximum range of the flash. In a situation where the photo does not require full flash power, less output is required from the flash with a Fresnel lens in place due to its concentration of light. This results in faster flash recycle times since the capacitor was not fully discharged.



Typical flash units recharge in 3 to 15 seconds after a full power flash burst using their internal batteries. The time needed depends on the unit itself, the type and health of

batteries involved and how much power was expended in the previous flash burst. With an external power pack, charging of the flash capacitor is left to these higher current batteries or a combination of both the internal batteries and the external battery pack. The flash's control electronics continue to be powered by the internal batteries. This results in a full recharge in the one to two second range compared to as much as 15 seconds when using lower grade or weak internal AA batteries only. If a full power flash burst is not required, we can often get 3 to 5 flash bursts before a full one to two second recharge is needed. The batteries in the flash head will last a long time when using an external flash battery pack. If the flash starts behaving strangely, it usually means that the internal batteries need replacing.

Since the flash duration is generally shorter than the time the shutter is open, the camera and flash interaction must be timed appropriately. Flash synchronization or Flash Sync is the term used to denote this interaction. The flash sync speed is determined by the camera model and is defined as the fastest shutter speed which still maintains an open shutter during the entire duration of the flash burst. This is typically 1/320, 1/250 or 1/200 of a second with 1/250 being the most common. Camera manufacturers have found a way to overcome this shutter speed limitation and it is discussed below.

There are three types of flash synchronization:

- Front Curtain Sync is also referred to as First Curtain Sync. This is the mode that the camera and flash are set to at the factory. In this mode, the flash fires immediately after the shutter opens at the beginning of the exposure. It is therefore synchronized to occur as soon as the first shutter

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curtain movement completes. The advantage of this method is that the flash fires as closely as possible to the time when the photographer intended to take the picture. The disadvantage is that a moving subject can have a ghost pattern in front of it at slower shutter speeds. This is caused by the ambient light component of the exposure. In this situation, the subject looks as if it was moving backwards. When taking a flash photograph with first curtain sync, the following sequence of events takes place:

- The shutter button is depressed
- The shutter curtain opens
- The flash fires
- The remainder of the selected exposure time completes
- The shutter curtain closes

- Rear Curtain Sync is also referred to as Second Curtain Sync. In this mode, the flash fires immediately before the shutter closes at the end of the exposure. The advantage is that a moving subject will have any ghosting, due to a slow shutter speed, behind the subject. This is more natural looking and conveys a sense of forward motion. The disadvantage is that the flash does not fire until the end of the exposure which can be significantly after the photographer intended. In wildlife and duck photography since short exposures times are typical, this is rarely a problem. When taking a flash photograph with second



curtain sync, the following sequence of events takes place:

- The shutter button is depressed
- The shutter curtain opens
- The selected exposure time elapses
- The flash fires just before the shutter curtain closes
- The shutter curtain closes

- High Speed Sync - Most cameras and external flash units allow shutter speeds much faster than the synchronization speed by utilizing a flash photography method known as high speed synchronization. Both camera and flash unit have to be set-up for it. Consult your user's manual for how to enable it on your gear. It works by turning the flash tube on before the exposure starts and leaving it on until after the exposure is complete. During that time the flash outputs a high frequency pulsating light. The pulsating nature of the light is not visible to the human eye. This has the advantage of allowing the photographer to use any shutter speed and

allows flash to be used even on bright days when the fastest sync speed would be too long for the ambient conditions resulting in overexposure. The disadvantage is that due to the duration that the flash has to pulse, the power is significantly reduced. A general rule of thumb is that the flash's range is approximately halved in high speed sync mode. An additional issue is that the flash pulse is not a short duration pulse as it is in either front or rear curtain sync, therefore, it has no ability

to freeze motion. This is however mitigated by the faster shutter speeds used when shooting in high speed sync mode. When taking a flash photograph in high speed sync mode, the following sequence of events takes place:

- The shutter button is depressed
- The flash starts a high frequency pulse
- The shutter curtain opens
- The exposure time elapses
- The shutter curtain closes
- The flash turns off

The author uses rear curtain or second curtain sync for photographs taken at the sync speed or slower and uses high speed sync when faster shutter speeds are required. One convenience that the camera manufacturers have built into their systems is that if the camera and flash are set for high speed sync, as soon as the shutter speed gets slow enough to use regular front or rear curtain synchronization, the camera/flash system automatically changes to a normal sync mode. Canon users however must be aware that if they are set-up for high speed sync and the shutter speed gets to the sync speed or slower, the system defaults to first curtain sync regardless of what synchronization mode is selected in the camera's custom functions.

Equipment requirements and exposure concepts with and without supplemental light have been covered. Below, field technique that utilize flash to create improved waterfowl imagery are detailed.

The single most important principle that must be thoroughly understood when using flash is:

**EVERY FLASH PHOTO IS TWO EXPOSURES IN A SINGLE FRAME!**

One exposure is created by the ambient light that is present and the second is from light supplied by the flash.

In nature photography, our background is often significantly behind the subject so the ambient light will be the primary source illuminating the background. The inverse square law for light tells us that for every doubling in distance from a light source, the illumination provided by that light source will quarter. This means that if a subject's distance from the light is doubled, the light source must be made 4 times as strong to get the same illumination on the subject as before. If the background is twice as far from the flash unit as the subject, it will receive one quarter the light from the flash as the subject will. One can easily see from this that flash will have a larger influence on the subject than it does on the background. The flash exposure is determined by the power output of the flash. The ambient exposure is determined by the illumination that is inherently present in the scene and the camera's ISO, aperture and shutter speed settings. When we take a photo, both the ambient light and the light from the flash is recorded in a single frame and its intensity is transmitted to the recording media.

A full understanding that every flash photo is two exposures in a single frame and the implications of this allows the photographer to choose what type of flash method will provide the most pleasing illumination of the subject and background.

Fill flash is the most common method for flash use in outdoor daylight nature situations such as duck photography. By definition fill flash adds additional light to supplement the existing ambient light. It can brighten shadows, reduce heavy

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contrast, add a catch light to the eye of your subject, and provide color balance to shady areas that can take on a blue cast.

When taking a fill flash photo, the photographer sets the correct ambient exposure utilizing the aperture, shutter speed and ISO controls as if no flash was going to be used. Flash is then added at a reduced exposure setting to achieve a desired result. Typically flash compensation settings are between  $-2/3$  and  $-3$ . For duck photography a setting of  $-1 \frac{1}{3}$  to  $-2$  is usually appropriate. Canon users will tend to use more negative flash exposure values than Nikon or Sony users due to slight differences in the systems and how they meter the light from flash.

Setting the flash compensation varies by system and flash model. Some cameras allow flash compensation to be set with a control on the camera and others require setting it on the flash head. If your camera allows flash compensation to be set via controls on the camera, it is recommended to

become proficient at making adjustments using this method. It allows you to make quick flash compensation changes without removing your eye from the viewfinder.

In a fill flash situation, by definition, the flash exposure is less than the ambient exposure. All DSLR cameras have an ambient exposure and a flash exposure scale. Pro bodies usually show them both simultaneously while most consumer bodies require the user to push a button to see the flash exposure scale. This is usually the button that has a lightning bolt on it signifying flash. Consult your camera's user manual for the exact method of displaying the flash exposure setting with your equipment.

Below are two photos taken less than a quarter second apart. The left photo utilizes ambient light only and is not flashed. The right photo uses a  $-1 \frac{1}{3}$  compensation pulse of fill flash. Note the harsher shadow thrown by the bill on the breast and the reduced dark feather detail on the photo taken without flash.



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Taken by itself, the unflashed photo is acceptable. When compared to the picture with fill flash, one quickly sees how the use of flash improved it.

Another technique for using flash in the field is called flash as main light. This technique is not well understood by many photographers. Flash as main light is necessary when the ambient light levels are insufficient to successfully create the desired image. Typical examples when flash as main light is useful include dark days, night, deep shade, or when the subject is in shade and the background is not. By definition, flash as main light means the flash is providing more light than the ambient light provides. Beginners may find Program Mode on the camera an easy way of utilizing flash as main light. Program mode, however, limits the photographer's creative input. Aperture Priority mode allows more photographer input but the shutter speed must be monitored carefully. A slow shutter may result in ghosting of the image if there is any subject movement. For the greatest control of flash as main light, manual exposure mode on the camera coupled with advanced TTL mode on the flash is recommended.

In duck photography, it is common for the subject to be in shade while the water it is swimming in has bright reflections. There can be as much as an 8 stop difference in the correct exposure between them. This is a very difficult exposure situation. Exposing the water properly will throw the subject in silhouette and exposing the subject properly will significantly overexpose the water. The most successful image in this situation will result from flash as main light. To accomplish this the flash is used as the main source of illumination for the duck while the ISO, shutter speed, and aperture settings are used to properly expose the water.

In the Canvasback hen example below, the camera's exposure controls were set to render the water a pleasant shade of yellow with an ambient exposure of 1/800sec, f/8, ISO 200. The flash was set to 0 or no flash exposure compensation. Due to the fast shutter speed needed to prevent overexposure of the water, high speed sync mode was utilized. A Fresnel attachment was mounted on the lens to give the flash unit enough reach.



The Canvasback is in shade but the water is bright yellow due to reflected light off of dried palm fronds on the other side of the pond. Setting the camera to record the water properly and then using the flash as the main source of light on the subject achieved a proper balance. If this had not been done, the Canvasback would have been a silhouette.

The second illustration demonstrates how flash as main light improves color balance and subject detail in shade or overcast conditions. The Bald Eagle photos below were taken just a few seconds apart under identical ambient lighting conditions. The background is the distant Gulf of Alaska under an overcast sky and is therefore light blue-gray. The first photo is an ambient light only picture. No flash was used and the exposure was set to properly record the Eagle. Upon review of the image on the camera's LCD, it was immediately apparent that the resulting photo was a bit drab. The similarity in tone between the background and the Eagle's head washed out the Eagle. Additionally, to get a marginally adequate shutter speed of 1/100 second to freeze camera or motion, an aperture of f/5.6 had to be used on the 500mm lens that this was taken with. The shallow depth of field due to this large aperture resulted in the tip of the bill and the plumage at the top edge of the Eagle's head being slightly out of focus. The second image uses the flash as main light technique to solve both of these problems. Reducing the ambient exposure by



two stops darkened the water. An aperture of f/8 and a shutter speed of 1/200 was selected. One stop of light was reduced by going from f/5.6 to f/8 and the second stop of light was reduced by going from 1/100 to 1/200 of a second. Each of these halved the amount of light reaching the sensor. As a result, the water only received 1/4 of the exposure of the original shot improving it from a washed out gray to a pleasing medium blue. Without the addition of flash, these changes would result in substantial underexposure of the Eagle. Its brown body plumage would be black and no feather detail would be recorded. By using the flash as the main source of light for the subject, proper exposure was restored and the color balance for the Eagle is now better since the flash is daylight balanced rather than the cool color balance of an overcast day. Furthermore, the change in aperture from f/5.6 to f/8 increased the depth of field providing a sharp bill tip and head feather detail and the faster shutter speed reduced the probability of recording any blur.

Balanced flash is the term used when flash and ambient light contribute equally to the final exposure. In nature photography, this is rarely a planned situation but can sometimes spontaneously result from fine tuning flash and ambient exposure settings for a subject against a specific background.

So far we have discussed only automatic flash utilizing the modern TTL flash metering system. It works very well but usually requires some negative flash exposure compensation on outdoor subjects to prevent an over-flashed look. In general, the flash exposure compensation for fill flash will most often be between -1 and -2 with a recommended starting point of -1 2/3. For flash as main light, a setting of -1/3 works well in

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many situations. However each situation and equipment is different and some experimentation may be necessary.

There are situations where foregoing the advanced TTL system built into our camera/flash systems can provide more consistent lighting. If the subject to camera distance is fixed, as it would be when shooting a bird on a specific perch from a blind or a fixed location, then the use of manual flash can be very beneficial. The advantage of manual flash in this scenario is that the flash power is not influenced by the brightness of the background, the size of the subject in the photo, where subject is in the frame, or whether the bird is presenting bright parts of its plumage or its darker feathers to the camera. Regardless of what the tonal situation is, the flash output is identical since the TTL system is not analyzing the scene and adjusting the flash power. The disadvantage is that the flash output does not change automatically if the subject moves farther or closer away. You are restricted to shooting the subject in that one spot or in other spots that are the same distance from the camera. To overcome this, one could manually keep adjusting the flash power whenever the subject distance changes but with birds, this will likely result in missed shots. If you are using flash as main light in a manual flash situation, simply determine the distance from the camera to the subject, read the scale on the flash and adjust the power on the flash unit until the distance on the scale matches the shooting distance. For fill flash, set the flash power so that the distance scale reads between 1/4 and 1/2 the distance to the subject. For example, if the subject is 30 feet away when it is photographed, set the flash so that the distance scale shows 15 feet.

If you are using a Fresnel lens with manual flash you must cut the distance scale reading on the flash in half since the lens is

concentrating the light and doubling its intensity. In the example above on a subject that is 30 feet away, for a flash as main light shot, a 15 foot setting would be correct and for fill flash a 7 or 8 foot setting would be correct.

Various lighting situations and recommendations for adding flash are detailed below. These are starting points and some exposure adjustment may be necessary to get optimal results with your equipment and in your situation:

1. Front-lit subject in diffuse light - in this situation flash is usually not needed but it can sometimes restore daylight color balance to the subject without affecting the color of the water. It can also add a catch light to the eye in situations where none is present making the animal appear more alive. The Green-winged Teal drake below illustrates a shot taken in this manner.



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2. Front-lit subject with the sun high in the sky - fill flash can add light to open up detail in shadows and darker areas. A flash exposure compensation setting that is 1 to 2 stops below the ambient exposure will significantly improve this situation. The shadow on the neck of the Wood Duck from the bill is reduced substantially by fill flash.



3. Side-lit subject - The area of a subject opposite of the light can be too dark. Reducing the contrast through the use of supplemental flash can restore illumination and balance to the shaded side. Underexpose the ambient about 2/3 of a stop to bring down the illumination on the lit side and add flash at about a -1 setting to add detail to the shaded side.

- The Wigeon has light coming from the left but flash keeps the unlit areas from being too dark.



4. Subject and background are in shade - This is a flash as main light situation. The flash exposure value will be above the ambient exposure value. Background brightness can be controlled with aperture and shutter speed.



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5. Subject is in shade with a bright sunlit background - This situation illustrates that every flash photograph is a combination of two exposures, one from the ambient, the other from the flash. Adjust the ambient exposure so that the background has a pleasing luminosity and adjust the flash so that the subject has the correct exposure as illustrated by the Redhead in shade with bright water.



An excellent way to practice photographing the situation where the subject is in shade and the background is bright is to set up a subject, perhaps a small stuffed animal, on a stool in a garage. Situate the camera so that the background for the subject is the bright sky outside. You have now created the scenario where your subject is in deep shade and the background is very bright. Next set the ambient exposure for the background and the flash exposure for the subject. Vary both to see different effects. By practicing this ahead of time, when the situation presents itself in the field, you will be ready.

### Lens Technique

Taking razor sharp photos requires excellent long lens handling techniques. Here is a fictional, but common example of the first time super-telephoto owner:

Jill just got that first "big gun" lens after years of seeing Jack's incredible duck photos from the local pond. She has been wanting to get one of the expensive super-telephoto lenses for a long time and has saved long and hard to buy one. The day has finally arrived and Jill is ready to become a serious bird photographer with the delivery of a new 600mm f/4 lens. For those times when she needs even more reach, she also purchased a 1.4x, and 2x matched teleconverter. This is a serious investment! Jill is eager to use her new gear and she sets out to start photographing the ducks and songbirds at the pond. In the evening after her first shoot with the big lens, she sits down and reviews her images on her computer. "There must be something wrong with this lens. I had it on my tripod and the image looked sharp in the viewfinder but most of these photos are fuzzy," Jill says.

This is an all too common occurrence when using "big glass" for the first time. The big enemy of sharp pictures with long telephoto lenses is undesired camera/lens movement. Even the slightest movement is dramatically magnified by long telephoto lenses. Comparing the effect of movement between a short lens and a super telephoto lens is similar to imagining the movement of the end of a pencil when moving your wrist slightly. The end of the pencil moves a small amount. Now make the same wrist movement holding a yardstick. Notice how much more movement there is at the end of the yardstick compared to the pencil. The same thing holds true for long

lenses in relationship to shorter ones. Motion at the end of long lenses is a main contributor to fuzzy images. Factors contributing to lens motion include wind, an unstable platform or even the camera's mirror movement.

Below are some basic tips and requirements to get sharp images with long lenses:

- Hand holding any lens larger than a 300/f2.8, 300/f4 or a 400/f5.6 will most likely result in a blurred picture unless you are using very fast shutter speeds. There are very few situations in nature photography where hand holding longer lenses will provide a higher percentage of keeper photographs compared to taking them with the camera and lens mounted on a sturdy tripod. If you can't use a tripod, a monopod is an improvement over hand holding but that is a compromise in stability. Sports photographers often use a monopod and very high ISO settings to freeze the action but their end product, newspapers and magazines, can handle the noise more easily than fine art prints and nature publications can.
- A sturdy tripod is a necessity. The tripod must be able to handle the weight of your lens, camera, tripod head and any other accessories you attach to it with plenty of margin. If your tripod doesn't have a weight capacity rating that is at



least double what your rig weighs, assume it isn't strong enough. A tripod should also have torsional rigidity. This is the resistance that a tripod has to twisting moments. When a big lens is mounted on the tripod with its large lens hood in place and the wind hits it from the side, the rotating forces can be significant. A good tripod should resist this rotation or the lens can buffet. Tripods that are lightweight have high

load capacity and excellent torsional rigidity are usually made of expensive carbon fiber. There are many excellent aluminum tripods that will also do a great job but they weigh much more than their carbon fiber counterparts and have poorer vibration absorption qualities. An alternative that falls between aluminum and carbon fiber in performance, weight and cost is basalt.

- The tripod head must support the weight of the camera, lens and any other accessories with ease. The head must provide smooth rotation allowing a moving subject to be tracked but must also resist motion when the photograph is made. For very large lenses, only a Gimbal type head satisfies these requirements. Larger ball heads are capable of handling big lenses but are more difficult to use as they have a tendency to let the lens flop over when loosening the ball head. If their tension knob is set high enough to prevent flop, the resistance to desired motion when repositioning the lens is

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too high resulting in missed shots.

- It is best to tighten down all of your tripod head and tripod collar knobs. If the subject is moving and panning is necessary this is not possible. In this case some tension is desirable to prevent undesired motion but not so much that panning results in jerkiness of the camera as it is moved.
- Whenever possible, spread the legs of your tripod to a wide stance. Most tripods capable of handling big lenses have three open positions: the normal position which has the legs open at about a 60 degree angle to the ground, a middle position which has the legs open at about 30 degrees to the ground, and a flat position which has the legs wide open and the tripod platform either resting or nearly resting on the ground. The wider open positions, especially with the legs fully retracted are the most stable.
- Use the best long lens technique you can! Long and heavy lenses are much steadier if you use your arms, hands and face as vibration dampers. These lenses are big and present a large surface for the wind to influence. Additionally, when the mirror swings up prior to the shutter curtain opening, vibration is induced by the camera, which is then amplified by the large magnification of the big lens. To minimize this vibration, compose the image and then place your left hand and arm on top of the lens at or near its center of gravity. You will immediately see the image stabilize in the viewfinder. Push your face up against the back of the camera and hold the camera body with your right hand in the normal shooting position. Tweak the focus if necessary and gently depress your index finger to take the photograph. Only the muscles in your index finger should move. If your arm has any movement, you will be inducing vibration into the system.

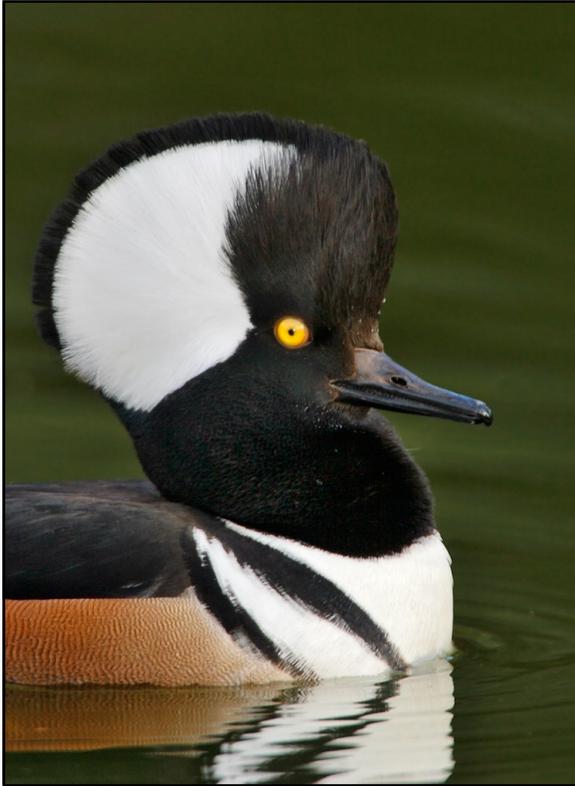
With proper long lens technique, the photographer's body mass dampens vibrations in the long lens system.

- If your lens has Image Stabilization (IS) or Vibration Reduction (VR) that is compatible with tripods - use it! Stabilized lenses use gyro technology to move an element in the lens to counteract the effects of lens motion. Realize that it takes about one second after lightly depressing the shutter button for a stabilization system to become fully effective
- Teleconverters increase the focal length of your lens and reduce the effective aperture. A 1.4x converter increases focal length by 1.4 times while reducing the amount of light getting to the film plane by one full stop (50% less light). If you mount a 1.4x teleconverter to an f/4 lens, the result will be an f/5.6 lens/converter combination. As an example, a 500mm f/4 lens becomes a 700mm f/5.6 lens. A 2x converter doubles the focal length while reducing the light to the film



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plane by 2 full stops (75% less light). In our example, the resultant optic is now a 1000mm f/8 lens. The reduction to the incoming light results in slower shutter speeds. These factors can put the sharpness of the image at risk. Increasing the ISO on cameras that have good high ISO noise characteristics can mitigate this problem. Teleconverters also add several lens elements and magnify any shortcomings in the lens it is attached to. For this reason teleconverters degrade the maximum image quality attainable with the lens. The best teleconverters try to minimize this as much as possible through the use of



expensive and exotic glass. In most cases, a matched 1.4x teleconverter coupled with excellent technique will produce very little to no loss in quality that is actually visible. 2x teleconverters, even when everything is perfect will usually start to show some image quality loss. This may or may not be a problem for the photograph depending on its intended use. If a closer approach is possible and is safe, this is desirable to using a teleconverter, especially a 2x teleconverter.

- Making sure that all of your tripod controls are tightened is even more important with teleconverters. You may be able to get away with slightly loosened controls with a 1.4x converter and fast shutter speeds in good light but once you use a 2x converter, it is strongly recommended to make sure all of the controls are tightened.

Experienced bird photographers frequently use their vehicle as a blind. Our avian friends aren't nearly as intimidated by a 5000 pound SUV as they are of a human making a slow approach on foot. There are several ways to take sharp photos from inside your car with long lenses. One obvious requirement in any photograph with long lenses from a vehicle is that the vehicle should be completely still. This means that passengers are not moving, the engine is off, and the car is not influenced by wind or passing traffic. Pointing the vehicle into the wind will minimize any buffeting on windy days.

There are a number of support methods for camera and lens in a vehicle. A pillow or beanbag draped over an open window will provide both support and dampen vibrations. This is a surprisingly stable platform and can be used to make very sharp photos even at 1000mm. An even more stable variant of this method is to mount the camera on a ground pod and

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then place that on top of the beanbag. A ground pod is a support used to keep a camera stable very low to the ground. They often resemble frisbees with a tripod head mounted in the center. As always, a hand draped over the top of the lens will help dampen out any camera induced vibration.

Another method is to purchase a window mount. There are several on the market that attach either onto the car window or the door at the base of the window. These mounts will accept any type of tripod head and turn your vehicle into a stable camera support system. Using the long lens techniques above, it is possible to take very sharp pictures at close range.

Using a vehicle's sunroof if so equipped, is also a possibility. If your sunroof is large enough you can put the camera on the roof resting on a beanbag or ground pod with tripod head and then photograph using all of the long lens techniques discussed. This method is perceived to be more threatening by most wildlife than shooting out of a window and you will likely not get as close. It is however an effective method to get closer to eye-level if your subject is on a high perch.

### Ducks in Flight

Making photographs of birds in flight is a challenging and specialized area of bird photography. Ducks are especially difficult subjects in this regard. They are high speed flyers with some species topping 45 MPH (72 KPH) in level flight. They accelerate from a standstill to top speed very quickly and can

bank and turn much faster than one would predict for a bird with a relatively large body. The window of opportunity for making excellent flight shots is extremely limited, a few seconds or less.

Photographers must combine a solid knowledge of the systems and capabilities of their camera with the physical skills necessary for split second target acquisition, panning, and shutter depression.

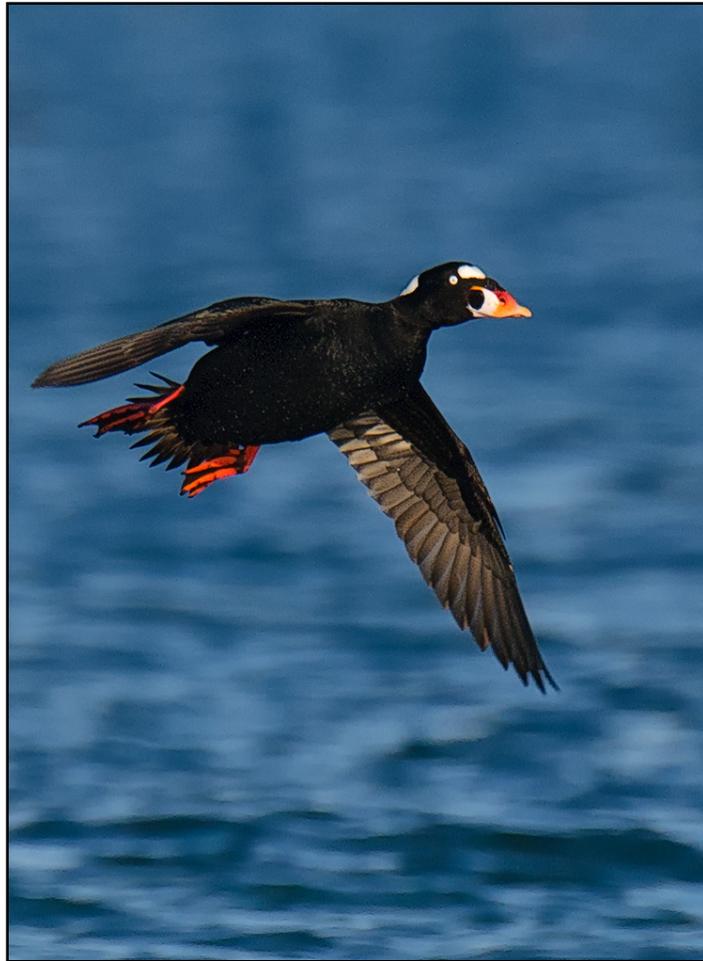
Autofocus with predictive tracking is essential for fast action flight shooting.

Consumer grade camera bodies and point and shoot compact systems do not include sufficiently sophisticated systems to predict subject position at the instant the photograph is made. Serious flight shooters use prosumer or pro bodies exclusively.



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There are two types of flight shooters, those that handhold and those that use a supported system. A supported system reduces the weight managed directly by the photographer but also may restrict quick positioning for odd angle approaches or quick turns. Handholding affords the photographer complete mobility to track approaching birds from any angle.



For hand-held flight photography, popular equipment includes a 300mm f/4 or 400mm/f/5.6 lens on a cropped sensor camera body such as most of the prosumer models. Some of the very best prosumer bodies carry the same autofocus system as the professional version but are lighter weight making them easier to use for hand held flight shooting. A 300mm f/2.8 lenses with and without a 1.4x teleconverter is also commonly used but can get tiring over time due to the considerable 8lb (3.6kg) weight for this combination. Some physically stronger photographers prefer hand holding lenses as heavy as a 500mm f/4 lens mounted on a pro body. This combination weighs approximately 12 pounds (5.5 kg). Others find this too unwieldy and tiring for any more than very short periods of time and opt to mount this combination on a tripod with a Gimbal head. Ball Heads are not recommended for flight shooting of birds because it is very difficult to pan smoothly in three dimensions. Larger lenses such as the 600mm f/4 or 800mm f/5.6 lenses are usually mounted on a Gimbal head that allows effortless freedom of movement in all directions. There are other specialty solutions such as gun stocks that some prefer but are not common.

The primary skill one needs to acquire to be successful at this type of photography, whether hand-held or supported, is panning with the subject. Panning is the term for tracking a moving subject. Being able to maintain a single autofocus sensor on a specific part of the bird becomes less challenging over time and is not easy for most people. The best technique keeps a single sensor on the bird's eye throughout the entire shooting sequence. Setting up the camera for autofocus point expansion, continuous autofocus, and high speed frame rates maximizes the chance of success. Autofocus point expansion is an artificial intelligence system in better cameras that will automatically hand off autofocus function to an adjacent

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sensor than the one that is tracking the target if that sensor momentarily comes off of the target. Continuous autofocus (or AI Servo for Canon shooters) keeps the subject in focus while it moves and enables the predictive AF algorithms that calculate where the subject will be at the exact time of exposure, compensating for shutter lag. A fast frame rate will allow the photographer to record a burst of images and then later choose the picture with the best focus, best wing position, and best head position.

One can practice panning technique in their own backyard starting out on airplanes, which are relatively slow moving due to their altitude.

Keep a single AF sensor on exactly the same spot on the airplane for 20 seconds or more as it moves across the sky. Once this is mastered, practice on cars or other predictable moving subjects keeping the AF sensor on precisely the same spot of the subject at all times. Next try it on higher flying birds and then graduate to lower flying yard birds. It may take daily practice at first before becoming proficient. Panning is a learned skill that requires hand-eye coordination. Your skill will improve with practice. As with other hand-eye

coordination skills, proficiency will deteriorate if it is not used regularly, but it will return quickly with more practice.

Since a duck in flight is moving rapidly and its wings are flapping, a fast shutter speed is necessary. Strive to use a 1/2000 second or faster exposure time. It will be very difficult to freeze motion with slower shutter speeds. When the light is

poor, increasing ISO can provide faster shutter speeds but the trade off will be increased digital noise. With birds that glide or soar, slower shutter speeds can be successful if the panning exactly matches the speed of flight at the time the shutter is depressed.

Seeking out an area where ducks frequently fly in a predictable manner between two or more points will increase the chances of capturing a great duck in flight photo.



A solid understanding of exposure coupled with excellent long lens support and handling will maximize your chance of producing professional looking images of ducks. Nothing will improve your skills more than practice, practice and more practice.

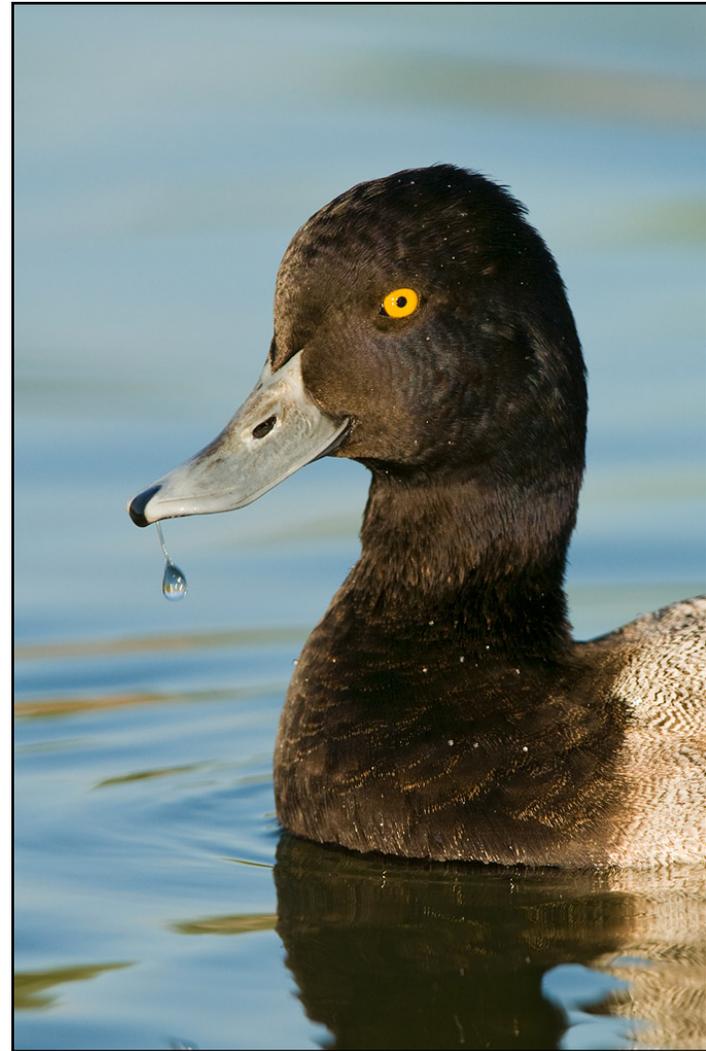
Ducks of North America



## Native Ducks of North America

In the following pages, a taxonomic listing of all North American native species is presented. This is followed by a chapter on ducks that are accidental migrants, escapees or captive birds that can be photographed in North America. Specific considerations with respect to subject behavior and photographic technique is given on a species by species basis to increase the photographer's odds of making great photographs. Locations where photographers have found consistent success in photographing each species are included. While this is by no means comprehensive, it will point the reader to locations where their odds of success are good. Subjects are denoted as captive (C), habituated but wild (H), or totally wild (W) by location.

In general, captive ducks are the most approachable but often are not in the most attractive and photogenic habitats and may have their wings pinned or even clipped to prevent escape. Habituated ducks can also be relatively easy to photograph and are often found in more pleasing surroundings like city parks or on open water in zoos. Wild ducks are often more difficult subjects and approach may be very difficult. In some cases they are nearly impossible to photograph or require a floating blind. By far, the best photographic opportunities come from habituated ducks in areas with beautiful water. Virtually every species has some place where great photographs are possible.



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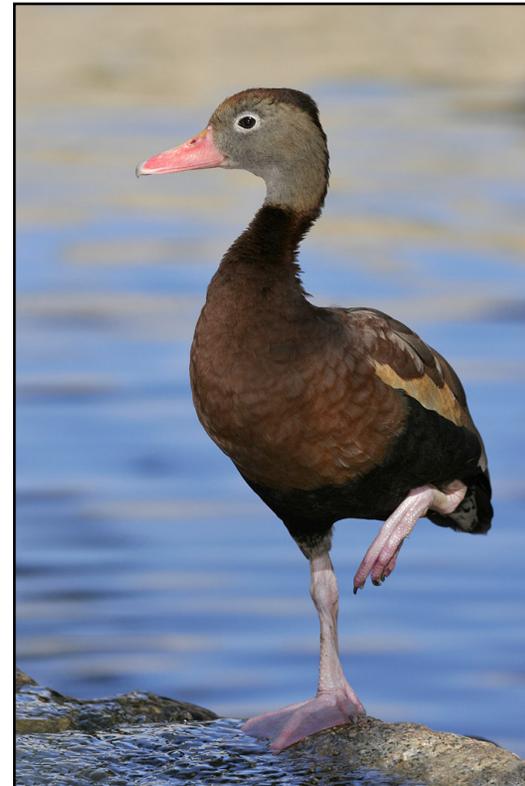
Black-bellied Whistling-Duck  
*Dendrocygna autumnalis*

The Black-bellied Whistling-Duck, like other whistling ducks is not sexually dimorphic - male and female are identical in appearance. Photographically, they are fairly easy to expose since they have very little white in their plumage, however, one must be careful not to underexpose this species as this will result in all feather detail on its dark areas being muddled or lacking altogether. This duck is also generally not a very skittish species making close up photography possible.

The easiest locations to photograph this species are in the southwestern USA, especially along the Arizona - Mexico border where they are abundant in areas of permanent standing water. They are more easily found in summer in this region but can also be found in winter. The southern tip of Texas also hosts these birds year round as does the west coast of interior Mexico where they are abundant. They are

also common in all of equatorial South America. These birds tend to move in flocks and individuals don't necessarily come back to the same spots year after year.

Reliable spots: Wildlife World Zoo, Litchfield Park, AZ (H); Ponds at Kino springs, AZ (W); Viera Wetlands, Melbourne, FL (W); Palm Beach Zoo, FL (C)

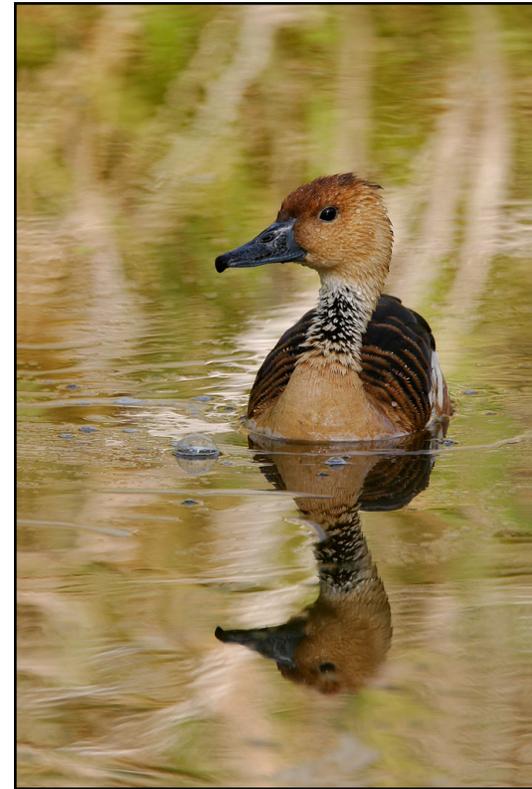


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### Fulvous Whistling-Duck *Dendrocygna bicolor*

The Fulvous-whistling duck is not sexually dimorphic - male and female appear identical. They have very little white in their plumage but the plumes on their sides are a cream color that can easily be overexposed in bright sunlight. Care should be taken to preserve detail in black areas. While more skittish than the Black-bellied Whistling-Duck, if care is taken it is often approachable in areas where ducks are not hunted. Imported species such as Plumed Whistling-Duck and Wandering Whistling-Duck can easily be misidentified as Fulvous Whistling-Ducks if photographing at zoos or private collections.

Fulvous Whistling Duck is primarily an equatorial species and is abundant north of Argentina. The west and east coasts of



non-Baja Mexico, southern Arizona, southern Texas and south Florida are recommended areas to photograph this species year round in North America. The Texas and Louisiana Gulf Coast are home to these ducks in summer but they are rarely found in abundance anywhere in the USA.

Reliable Spots: Kino springs, AZ (W); Crandon Park, Key Biscayne, FL (H); Wildlife World Zoo, Litchfield Park, AZ (H)

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### Muscovy Duck *Cairina Moshata*

The Muscovy Duck, in its pure form, is very rare and becoming nearly non-existent due to cross breeding with feral populations of the Domestic Muscovy. Pure Muscovy Ducks have similar appearance between male and female but the male has a slightly larger and more crested head and a more substantial bill. Domestic Muscovys can vary greatly between male and female in unpredictable ways. The easiest way to identify a pure Muscovy Duck from a Domestic Muscovy is by looking for red on or around its head. The Domestic always have red areas, pure Muscovys do not. Domestic Muscovys invariably have white plumage where a pure Muscovy Duck is black to dark green all over with the exception of an occasionally visible white wing patch. Your odds of finding a pure Muscovy are very slim. The photo below illustrates as pure of a Muscovy as you are likely to find. If your aim is to



find one, your best bet is inland from the east coast of Mexico in sheltered and wooded areas along a pond or swamp. You will almost certainly not find a pure Muscovy in the USA or Canada.

Photographing a domestic Muscovy can be challenging because many have very dark green, blue and black colors in addition to bright whites. This presents a dynamic range problem,

which is common to photographing many species of ducks. To overcome this, push the exposure as far to the right on your histogram as you can without overexposing and creating blinking highlights. Some Domestic Muscovys are mostly white. In that case, simply “expose to the right” so that none of the whites are blown out.

Reliable Spots: Many public places or city parks with water in southern Florida. These are ubiquitous in urban areas in southern Florida.



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Wood Duck  
*Aix sponsa*

The male Wood Duck is perhaps North America's most colorful and spectacular looking native duck. Drakes, in breeding plumage, show a wide spectrum of colors from yellow to green, blue to red and black to white. This can make photographing them a challenge, especially in full sunlight. Drakes are best photographed in shade with a bit of fill flash while swimming in water with colorful sun lit reflections or in very early or late low angle light. The photographer has to be very careful not to overexpose the white areas, especially around the head. Wood Ducks usually hold their heads low and close to their bodies but the best shots are in the alert position with their head up, stretching their neck and thereby revealing their drooping crest. Female Wood Ducks are less challenging as they present a lower dynamic range. Care must be taken to avoid overexposure of the white eye patch.

Wood Ducks are at their most colorful in winter. They are dabbling ducks - they feed by dipping their head into water rather than diving.

Wood Ducks are among the most abundant ducks in North America and especially the United States. You can generally find them in lakes that are surrounded by larger trees with cavities that they use for nesting. They are most abundant along the west coast of the USA and throughout the southeastern USA but can be found throughout the eastern US and in the southwest in winter.

Female Wood Ducks and Female Mandarin Ducks can often be mistaken for each other. The Wood Duck has a thick white eye patch where the Mandarin Duck has a much thinner eye-ring with a trailing tail.

Reliable Spots: Rio Grande Zoo, Albuquerque, NM (H); Santee Lakes, Santee, CA (H); North Chagrin Reservation, OH (H)



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### Mallard *Anas platyrhynchos*

The Mallard is the most abundant duck on earth and is often overlooked as a photographic subject due to its ubiquity. Their range is constantly expanding and they can be found throughout most of North America and the Northern Hemisphere. Their range is expanding into the Southern Hemisphere as well. They hybridize with many other species of ducks and most feral ducks have a significant Mallard component.

Striking photos can be made which show the male's iridescent green head in breeding plumage offset by a bright yellow bill, white collar and brown breast. Female Mallards display elegant brown mottled plumage that looks exceptional in early or late light. In summer, when not in breeding plumage, the male looks similar to the female but with a yellow bill instead of the orange bill of the Mallard hen. They are prolific dabblers;



their larger body and long bill allows them to dabble in deeper waters than most dabbling species.

Properly exposing a female Mallard is quite easy as they are a mid-tone all over their body. An exposure that is at or near the meter reading will work well unless the water is very dark or very light and takes up more than 2/3 of the photograph. A negative 1/3 to 2/3 exposure compensation in very dark waters and a positive compensation in bright water may be necessary. The iridescence of the male Mallard's head presents some photographic challenges. Even the slightest head turn away from the sensor plane will render the area between the eye and bill black and its iridescence will be lost. Do not to overexpose the bright yellow bill in sunlight.

#### Reliable Spots:

Most ponds, public parks, waterways, lakes throughout North America (W-H).



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### Mexican Mallard *Anas diazi*

The Mexican Mallard is currently classified as a sub-species of Mallard but in has been included separately because this status is subject to change. It is similar in size and behavior to Mallard. Male and female Mexican Mallard have a similar appearance to the female Mallard from a plumage perspective, but the drake has the same bright yellow bill as male Mallard while the female has the more drab orange to olive bill. Mexican Mallards are becoming very rare due to hybridization with Mallard.

Proper exposure of Mexican Mallard is quite easy if you do find an approachable bird, as they are mid-tone all over their body. An exposure that is at or near the meter reading will work well unless the water is very dark. A negative 1/3 to 2/3 exposure compensation in very dark waters and a slight positive compensation in bright water may be necessary to



prevent overexposure of the bill since the meter wants to brighten the water to a mid-tone.

#### Reliable Spots:

There are few reliable spots for pure Mexican Mallard even in Mexico due to hybridization with Mallard. There are occasional sightings in Southern Arizona, South and Central New Mexico and Northern Mexico. It is best to keep an eye on local bird lists ([www.birdingonthe.net](http://www.birdingonthe.net)) to find them. One fairly regular spot is the Albuquerque Zoo main pond which will get one or two visitors in some years.

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Mottled Duck  
*Anas fulvigula*

Mottled Duck is a Mallard-form that is very similar to American Black Duck and Mexican Mallard in size and appearance. Male and female are differentiated by the color of the bill, which is bright yellow for the male and olive-drab to orange on the female. Breeding males look similar to non-breeding Mallard drake, Mexican Mallard and breeding male American Black Duck but are lighter overall. Mottled Duck, is unique among North American Mallard-forms with a black outline at the base of the male's bill. They are dabbling ducks and are more reclusive than Mallard preferring the cover of marshy areas that they can easily hide and feed in. They are virtually always in a male/female pair.

Once finding an approachable Mottled Duck, photographing them from an exposure perspective is quite easy as they are mid-tone all over their body. Generally an exposure that is at

or near the meter reading will work well unless the water is very dark and takes up a large portion of the photograph. A negative 1/3 to 2/3 exposure compensation in very dark waters and a slight positive compensation in bright water may be necessary. Avoiding overexposure of the male's bright yellow bill and lighter colored cheeks is the main challenge for this species. Getting separation between male and female can be a challenge as they tend to stay in close proximity to each other. Mottled Ducks are common, but rarely found in large numbers, throughout the peninsula of Florida and can also be found along the Texas Gulf of Mexico coast. Marshes, wetlands, and salt marshes are their preferred territory.

### Reliable Spots:

Viera Wetlands, Melbourne, FL (W); Circle B Bar Reserve, Lakeland, FL (W); Wakodahatchee Wetlands, Delray Beach, FL (W); and other marshy wetland areas throughout Florida.



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### American Black Duck *Anas rubripes*

The American Black Duck is a dabbling Mallard-form that is very similar to Mottled Duck but has darker plumage on its body. Similar to other North American Mallard-forms the male's bill is bright yellow and the female's bill is a darker olive tone.



The darker overall body color of the American Black Duck can fool the camera's meter. Since the body is darker than a mid-tone. Some overexposure can occur in the bright bill. This is especially true in sunlight and when the water is dark. An exposure compensation of  $-1/3$  to  $-1$  is needed in

situations like this. On overcast days, an exposure at the meter reading is usually perfect unless the water is very light and the duck takes up less than  $1/4$  of the frame.



American Black Ducks can be photographed in the eastern portion of the Midwestern states and Canadian provinces. They can also be found along the central to northern east coast of North America. Fresh or salt water marshes and ponds is their preferred habitat. They are a summer species in the eastern Canadian provinces, year round in the American north east and Great Lakes states, and a winter species in the central eastern half of the US.

#### Reliable Spots:

Waters around the Lincoln Park Zoo, Chicago, IL (H); Castalia, OH (H/W); and many ponds and lakes throughout the Midwest and east.

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Gadwall

*Anas strepera*

The Gadwall is an elegantly plumed medium sized dabbling duck. The male is especially attractive in breeding plumage with his peach colored wing feathers that are arranged neatly on top of their body. Females are often overlooked due to their similarity to northern Pintail hens but are easily differentiated by bill color. Pintail has a blackish silver bill; female Gadwall has yellow along the sides of her bill.

Gadwall can be found throughout the Northern Hemisphere in ponds and marshes. In North America their winter range includes the southern tier states and all of Mexico. They are found year-round in the Pacific Northwest states, along coastal British Columbia and in the upper Midwest in summer. Ponds throughout the southern half of the USA in winter are the best locations to record the peach colored feathers on the male.



Gadwalls are generally not found in large numbers in any location but finding a single cooperative subject in excellent plumage can result in many great images..

Gadwalls are usually easy to expose since they don't present any bright plumage. There is a small white patch from their secondary wing feathers that is sometimes visible but these rarely have any notable feather detail so extra overexposure care is usually not necessary. Be sure to capture the drake at angles that show off the peach colored primary feathers.

Reliable Spots:

Scottsdale Greenbelt, Scottsdale, AZ (W-H); Santee Lakes, Santee, CA (W-H), San Joaquin Sanctuary, Irvine, CA (W-H)



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### Northern Pintail *Anas acuta*

Many photographers consider the Northern Pintail to be the most elegant duck in North America and for that reason they are highly coveted photographic subjects. The male, in breeding plumage, has a very rich brown head with a white breast plumage that extends up the back of the neck. It also has a very long tail (which is its namesake) and a silver-black shiny bill. The female is similar in appearance to the female Gadwall but with a silver-black bill rather than a yellow and black bill.

Pintails can be very difficult to approach. Finding a place where they are habituated will improve the odds of getting great Pintail photos substantially. They present an exposure challenge due to their dark head and bright, highly reflective breast and neck. Unless it is overcast and the water is very bright, Pintail males require less exposure than the meter suggests. In sunlight, this can be as much as  $1 \frac{2}{3}$  stops less. Even in shade, especially if the water is dark, as much as a -1 exposure compensation is necessary. Photographing them while dabbling, with their tail high in the air can result in a fun photograph. The photographer has to be very careful not to cut-off the tail. The long tail makes it easy to place the bill too close to the opposite edge of the photo. Compositional rules should be watched closely in the viewfinder.

Pintails range throughout most of the Northern Hemisphere including all of North America. They are often found in large flocks but are very skittish.

Reliable Spots: Phoenix Zoo/Papago Park (H), Phoenix, AZ; Bosque del Apache NWR, New Mexico (W); Semiahmoo Park, Blaine, WA (W); Drayton Harbor, WA (W)



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### American Wigeon *Anas americana*

The American Wigeon is a medium sized, sexually dimorphic duck. In breeding plumage, the male's head is solid green from the eye through the nape with green speckles below eye level and a buffy white stripe extending from the bill to the crown. He has a pinkish brown breast. The female is also pinkish brown and the entire head has a speckled appearance that is slightly darker above the eye.

The female is very easy to expose when swimming in water and not displaying her white underside since the entire visible part of the bird is made up of mid-tones. Therefore the meter reading on the duck itself will generally be correct and one need only compensate for the water. In most situations, females will be shot at no compensation to -2/3 compensation from the meter reading unless the water is much brighter than a mid-tone. If she is out of the water, care must be taken to

not overexpose her white belly. Males are a bit more challenging as it is relatively easy to overexpose the whitish head stripe as well as his white femoral tract (the area on the side of the hind quarter below the wing and in front of the tail). Males will often require -2/3 to -1 1/3 exposure shift from the meter reading in sunny situations.

American Wigeons are found throughout all of the continental USA, Mexico and much of sub-Arctic Canada. They are a winter bird in the southern third and a summer bird in the northern 2/3 of the continent and are year round birds in parts of the eastern US.

#### Reliable Spots:

Papago Park/Phoenix Zoo, AZ (H); Upper Newport Bay, CA (W); Pond at New Mexico Tech, Socorro, NM (H); Reifel Sanctuary, Delta (Vancouver), BC. (W)



## Ducks of North America - The Photographers Guide

### *Northern Shoveler* *Anas clypeata*

The Northern Shoveler has the longest bill of any North American duck. It uses it to skim food and strain water on the surface while swimming. The male, in breeding plumage, is stunningly beautiful with his yellow eye, green iridescent head, rufous flanks, and snow-white breast. The female's markings are more subtle with mottled variations of tans and grays. She has the same long bill in orange. Shovelers prefer habitat that provides cover for them to hide under such as trees and shrubs close to shore that drape over the water. They tend to be quite skittish but fortunately there are some places where they have become somewhat habituated. Their range covers much of North America with the exception of the Arctic areas of the continent. In summer they are found in the Western part of the continent north of 40 degrees latitude. They can be found in peak plumage in winter along the coastal USA, southern tier states and throughout all of Mexico.



Northern Shoveler is one of the most difficult ducks to photograph because they are often skittish and because their colors usually extend beyond the dynamic range of many cameras. The combination of the male's very dark green head, black bill and black wing coverts combined with dark water almost always fools the meter into overexposing the brilliantly white breast. In sunlight, -1 to -2 stops below to the meter reading is required. Even in overcast with bright water, it is rarely necessary to expose more than what the meter suggests. Exposures that protect the white breast often result in an underexposed the head. For this reason, the male is usually best shot in low contrast situations like overcast with the addition of some flash to show the iridescence of the head. The female is slightly brighter than a mid-tone and is generally easier to expose. In sunlight, take care not to overexpose the lighter portions of her plumage.

#### Reliable Spots:

San Joaquin Sanctuary, Irvine, CA (W); Phoenix Zoo, AZ (W-H); Bosque del Apache National Wildlife Refuge, NM (W)

## Ducks of North America - The Photographers Guide

### Cinnamon Teal *Anas cyanoptera*

The Cinnamon Teal is a beautiful richly colored duck that is highly sought after by bird photographers. The male's cinnamon and black color is spectacular in sunlight. The female's dainty and elegant scalloped flanks present a very pleasing pattern. In flight or when stretching their wings, the topside has both pale blue and green colors on the inner half of the wing which makes for an interesting contrast to the reddish color of the rest of the bird. Exposure of both genders is relatively easy since they are fairly close to a mid-tone. When the water is darker than a mid-tone, some negative compensation to the camera's meter reading may be necessary but rarely more than 1/3 to 2/3 stops below the meter reading.



The Cinnamon Teal is primarily a Western US and Mexican dabbling duck. For much of the US it is a summer bird and for most of Mexico it is a winter bird. Along the California coast and southwestern Arizona, it is a year round bird. They prefer shallow ponds and can often be found in water discharge areas where vegetation is close to the surface. Like all North American Teal species, The Cinnamon Teal is a small duck although it is slightly larger than the other North American Teals.

#### Reliable Spots:

Gilbert Water Ranch, Gilbert, AZ (W); San Joaquin Sanctuary, Irvine, CA (W); San Diego Wild Animal Park, Escondido, CA (H); Upper Newport Bay, CA (W); Bolsa Chica Ecological Reserve, Huntington Beach, CA (W)

## Ducks of North America - The Photographers Guide

### Blue-winged Teal *Anas discors*

The Blue-winged Teal is one of North America's smallest ducks. Only the Ruddy Duck, Bufflehead and Green-winged Teal are smaller. It is found throughout a large portion of the continent. Its summer range covers the southern half of Canada and all of the USA except the deep south and southwest. In winter it can be found in the southeastern US, all of Mexico and parts of the US southwest and west coast. They are dabblers that prefer shallow ponds and can often be found in water discharge areas where vegetation is close to the surface.

The Blue-winged Teal drake has a dark head which may vary from a dark blue, to dark gray, and sometimes even has a hint of purple depending on the light. Its characteristic marking is a large white crescent between the bill and the eye. The female is similar in appearance to the other Teal species with

scalloped feather patterns. A whitish area at the base of the bill distinguishes the Blue-winged Teal hen from other Teals.

The male's white crescent on a relatively dark head presents the biggest challenge in photographing this species. Care must be taken not to overexpose it but at the same time the darker head plumage should also not be underexposed. Contrast can be reduced by photographing them in overcast or in diffuse early morning or late evening light. Meter compensation in the -1 range is often necessary for a proper exposure but can vary depending on the background. The female is easier to expose by simply insuring that the lighter area behind the bill is not overexposed.

#### Reliable Spots:

Bolsa Chica Ecological Reserve, Huntington Beach, CA (W); San Joaquin Sanctuary, Irvine CA (W); Sonoran Desert Museum, Tucson, AZ (C); Crandon Park, Key Biscayne, FL (H); Viera Wetlands, Melbourne, FL (W)



## Ducks of North America - The Photographers Guide

### Green-winged Teal *Anas crecca*

The smallest of the three North American Teal species, and the most skittish, is the Green-winged Teal. It is found over the entire continent, in every state, and every province. Its summer range is the northern half of the continent and its winter range is southern half with the winter/summer divider roughly in the Montana and Dakotas latitudes. The female is similar in appearance to the other Teal species but somewhat smaller. Green scapulars can usually be seen on her, which is rare on the Cinnamon and Blue-winged Teal. In breeding plumage, the male has a brown head with an iridescent green area that starts at the eye and fans out to the back of the head and down his nape. His breast is peach colored with small black spots. The American Green-winged Teal and the Eurasian Common Teal are currently considered variants of the same species. The most visible difference is a white bar behind the breast on the adult male American variant.



The hardest part of photographing a Green-winged Teal is getting close enough to one of these small birds. Concealment techniques such as camouflage clothing or a blind (hide) and being in position while it is still dark can be effective. Look for this species in marshy ponds with vegetation near the surface. They are dabbling ducks with a small body, so stretching deep for food is not a possibility.

Exposures for males and females tend to be similar and are dictated primarily by the water and the white areas on the bird. Exposing so that the white's are in the right-most region of the histogram will result in a correct overall exposure.

Reliable Spots:

Upper Newport Bay, CA (W); Gilbert Water Ranch, Gilbert, AZ (W); Granary Ponds, Churchill, MB (W)

## Ducks of North America - The Photographers Guide

### Canvasback *Aythya valisineria*

Canvasback is the largest of the Pochards or Genus *Aythya*. They are diving ducks, seeking out food while swimming to the bottom of the marshes or lagoons that they prefer.

Canvasbacks range throughout most of sub-Arctic North America except the Eastern and Hudson Bay regions of Canada. In summer they can be found throughout the western part of the continent in the northern tier states and the western half of Canada. In winter they prefer the southerly climates of Mexico and the southern states of the USA. The area between these two regions is year round habitat for Canvasback. Canvasback is hunted throughout North America making them very shy. For this reason, urban ponds are usually the best locations for photographing them.

The male has a dark reddish brown head with a distinctive red eye. In breeding plumage the male's body is very light gray. This turns to a darker tan-gray color during non-breeding months. Female has a light brown head and body year round. Males and females have a long black bill that slopes distinctively into the forehead.

No special exposure compensation is needed to photograph the Canvasback hen since she is primarily a mid-tone. If photographing her in dark water, be careful not to overexpose the lighter neck area. The male, in breeding plumage presents a larger dynamic range. Selecting an exposure that pushes the whitish area as far to the histogram's right without going over the edge will leave detail and color in the darker head and bill. Since they are divers, it is often best to reposition while the bird is underwater.



Reliable Spots:

Phoenix Zoo, AZ in winter (H); Choptank River, MD (W)

## Ducks of North America - The Photographers Guide



Redhead  
*Aythya americana*

Redhead is a large diving Pochard, which is found primarily in the USA and Mexico with some ranging north into Alberta and Saskatchewan during summer. It is found throughout the southern tier states, mid Atlantic states and Mexico in winter.

The male Redhead has a bright red iridescent head and a yellow eye. The bill is silver-blue with a white stripe separating it from a black bill tip. The breast is black and the body is gray. In non-breeding plumage, the appearance is similar but more dull throughout. The female is light brown all over. Female Ring-necked Ducks and Redheads can have similar appearance but Redhead is larger and has a much rounder head.



Photographically, Redheads are relatively easy from an exposure perspective but one must mind the histogram, especially the red channel, when photographing the male to ensure detail in the head is not lost. If the dark breast is prominent in the frame, the metering system can be fooled into recommending an overexposure. The female is a mid-tone all over the body and is only slightly brighter than the meter's calibration so proper exposure of the background will be the primary consideration for exposure. Since these are diving ducks, repositioning while they are under water will often allow a closer approach than trying to approach them while they are on the surface of the water.

Reliable Spots:

Kennedy park, Tucson, AZ (W); Reid Park, Tucson, AZ (H);  
Palm Beach Zoo, FL (C)

## Ducks of North America - The Photographers Guide

### Ring-necked Duck *Aythya collaris*

The Ring-necked duck is a widespread small diving duck. It is very similar to the Tufted Duck of Asia and Europe in both behavior and appearance. It, however, does not have the tuft on the back of its head and the Ring-necked female has a white eye ring that Tufted Duck does not have. Ring-necked Duck has a distinct crown. In most situations, the “ring-neck” on this species is not visible, however, when the male raises his head and extends his neck, in frontal sunlit conditions, a subtle reddish ring can be seen at the base of his neck. The male’s black head can take on a purple or green appearance in low angled light. The sides of the male in breeding plumage ranges from white just behind the breast to a light gray flank area. This fades to a darker grayish brown in summer. His bill has very a very distinct white outline. The female is grayish brown all over except the white eye ring and a lighter area at the base of the bill and chin.



Ring-necked Ducks are very sociable and curious. They are often found in flocks and are among the most approachable ducks. They are found throughout sub-Arctic North America. They reproduce in Canada and winter along the southern US states and all over Mexico.

The male, in breeding plumage, exhibits a dynamic range that may be impossible to fully record in sunlight. Utilizing the “expose to the right” technique and photographing them in shade with the background in reflected sunlight works best. For a wing-flapping shot, find a Ring-neck that is preening. They invariably finish with a powerful wing flap that lasts for several seconds. Since they are usually in groups, making sure that parts of other birds are not included in the frame is important. Look for individuals at the edges of the flock.

#### Reliable Spots:

Papago Park/Phoenix Zoo, AZ (H); Agua Caliente Park, Tucson, AZ (W); Viera Wetlands, FL (W); Bolsa Chica Ecological Preserve, CA (W);



## Ducks of North America - The Photographers Guide

### Greater Scaup *Aythya marila*

Greater Scaup and Lesser Scaup are similar in appearance. Greater Scaup is a bit larger and has a slightly more rounded head but there is enough overlap between them that these are not definitive ways to identify them. The surest identifying trait is the tip of the bill. The nail on Greater Scaup is broad and bell shaped while on Lesser Scaup it is narrow and cylindrical. Males have a dark green head with yellow eye and very light gray sides. The green head darkens to nearly black and the sides become a dirty gray in non-breeding plumage. The female is a rich brown in the frontal regions and somewhat paler brown starting behind the breast. A variably sized white patch can be seen at the base of the bill.

Greater Scaup is a northern duck and is most commonly found in Canada and Alaska, especially in summer months. It can be found along the Atlantic and Pacific coasts of Canada and



the USA and the Pacific coast in Mexico in winter. Careful observation of groups of Lesser Scaup in the interior USA and Mexico in winter will sometimes reveal a Greater Scaup.

Scaups are divers and can be difficult to approach, especially in areas where hunting occurs. Moving into position while they are diving will usually result in a closer approach. Photographing the male can be challenging due to his dark head and light sides. One must be careful not to overexpose the sides or underexpose the head so that the green color is visible. In some light, the dark green areas may look purple. The female, being mostly dark, can sometimes fool the meter into overexposing the surroundings and her white face patch.

#### Reliable Spots:

Granary Ponds, Churchill, MB (W); Bolsa Chica Ecological Preserve, CA (W); Stanley Park, Vancouver, BC (W); Semiahmoo Park, Blaine, WA (W)



## Ducks of North America - The Photographers Guide

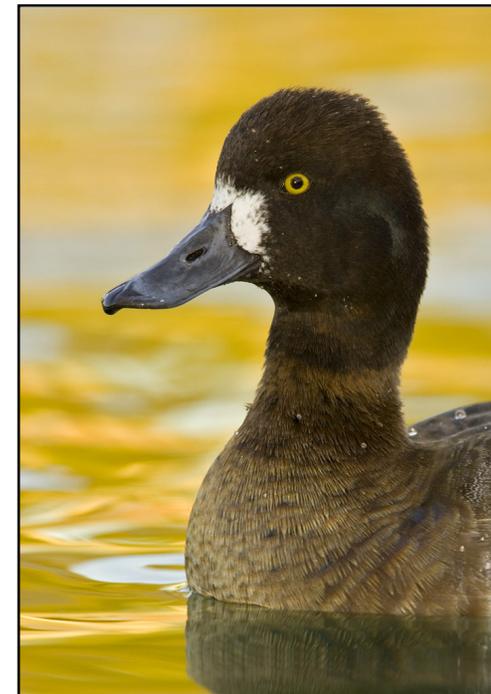
### Lesser Scaup *Aythya affinis*

Lesser and Greater Scaup are similar in appearance. Lesser Scaup is a bit smaller and often has a small bump at the rear of the crown but there is enough overlap between them that these are not definitive ways to identify them. The surest identifying trait is the tip of the bill. The nail on Lesser Scaup is narrow and cylindrical while on Greater Scaup it is broad and bell shaped. Males have a dark green head with yellow eye and very light gray sides. When not in non-breeding plumage, the green darkens to nearly black and the sides become a dirty gray. The female is a rich brown in the frontal regions and somewhat paler brown starting behind the breast. A variably sized white patch can be seen at the base of the bill. Lesser Scaup is widespread throughout North America. It reproduces in Western Canada and Alaska and winters in the southern tier of the USA and Mexico and along both coasts.

Scaups are divers and can be difficult to approach, especially in areas where hunting occurs. Moving into position while they are diving will usually result in a closer approach. Photographing the male can be challenging due to his dark head and light sides. Care must be taken not to overexpose the sides or underexpose the head so that the green color does not record as black. In some light, the dark green head can look purple. The female, being dark all over, can sometimes fool the meter into overexposing the surroundings and her white facial area.

#### Reliable Spots:

Bolsa Chica Ecological Preserve, CA (W); ASU Research park, Tempe, AZ (H); Stanley Park, Vancouver, BC (W); most lakes in Southern California in winter.



## Ducks of North America - The Photographers Guide

### Common Eider *Somateria mollissima*

Common Eider is a large Arctic and sub-Arctic diving duck. It is the most abundant of the four Eider species. They nest in summer on tundra and spend the rest of their year on open water. Males in breeding plumage have a black crown and black sides with bright white on the rest of the body except for a greenish neck and nape. The bill is a long chunky yellow wedge with no curvature that extends to the forehead. The female is either pale tan-gray for the interior race or brown for the coastal race (shown below).

Eiders are heavily hunted and can be difficult to approach. It is best to wait at least two weeks after hunting season ends before trying to get close. Photographing male and female is very different. Female is one of the easiest ducks to expose due to her all over mid-tone appearance. The male is one of



the most difficult to expose due to his huge dynamic range. Pushing the histogram all the way to the right without going over the edge is imperative for getting usable exposures. This will allow you to record as much detail as possible but, some black detail may have to be sacrificed.

As is the case with all Eider species, travel to a good photographic spot for breeding plumage can be difficult due to the remote northerly locations they prefer. By far the easiest place to photograph this species is in Iceland, however there are a few places in North America where photographable Common Eider can be found.

#### Reliable Spots:

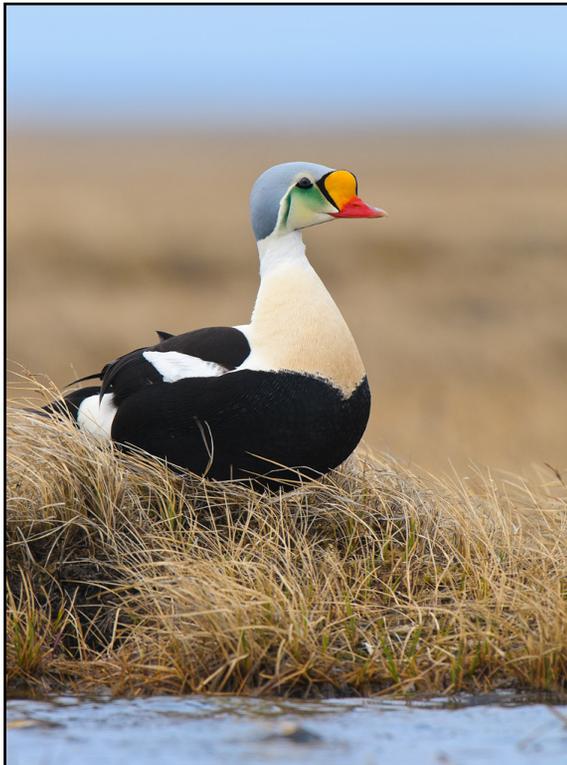
Hudson Bay, Churchill, Manitoba in summer (W); Rankin Inlet, Nunavut in summer (W); Barnegat Inlet, NJ in winter (W); Denver Zoo, CO (C)

## Ducks of North America - The Photographers Guide

### King Eider *Somateria spectabilis*

King Eider is one of the most highly coveted ducks for North American bird photographers. This species prefers tundra along the Arctic and sub-Arctic shores of Canada and Alaska. There are occasional wintertime sightings along the Pacific and Atlantic shores of Canada and the USA. These will be reported in rare bird reports in coastal areas. They are also along found along the Arctic shores of Europe and Asia.

In breeding plumage, the male is spectacular. The head has a gray crown and mane with green lores and a red, yellow and black bulbous bill. The large body is black and white. The hen



is brown with a mottled body and black bill. In fall, male resembles female with a yellow bill (see page 41).

Approaching King Eider is very difficult and must be done with great care and patience, usually in a crawling or slithering mode. Eiders are heavily hunted making them extremely skittish. It is best to wait at least two weeks after hunting season ends before trying to approach them. Being in water is the best method for a close approach as their main predator, man, usually comes from land. Exposure of the female is simple due to her mid-tone. The male must be shot with an "expose to the right" methodology, otherwise the body will be underexposed. If an exposure compromise is necessary, sacrifice detail in the black areas and do not overexpose the whites.

Reliable Spots:

Barrow, AK in summer (W), Rankin Inlet, Nunavut (W)

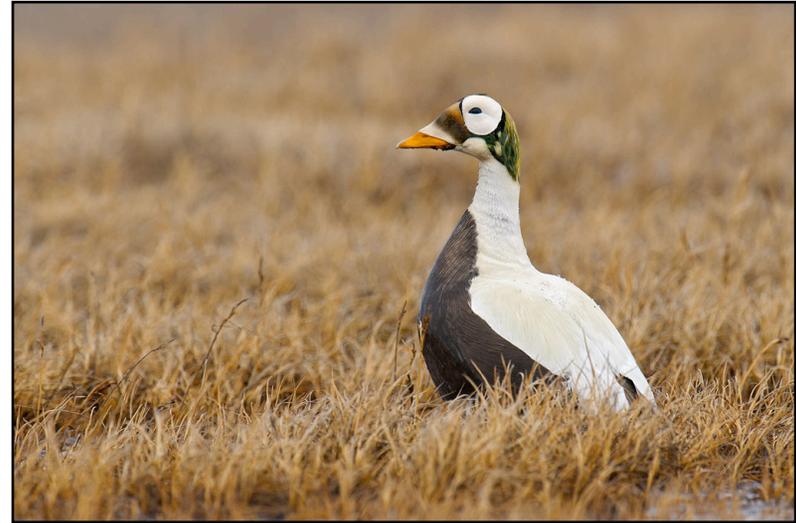
## Ducks of North America - The Photographers Guide



Spectacled Eider  
*Somateria fischeri*

Spectacled Eider inhabits the most northerly land and water on Earth. It occurs farther north than any other duck species. In summer it can be found along the high Arctic shores of Canada, Alaska and Siberia on tundra. It spends its winters at sea in the northern Bering Sea and Arctic Ocean.

Slightly smaller than King Eider and Common Eider, Spectacled Eider is still a large duck. Both male and female have a large round ring (spectacle) around the eye which extends from the cheeks all the way up to the crown. In breeding plumage, the male's head borders on the bizarre with a green nape and black lined white spectacle and an orange bill. The upper part of the body is white while the lower parts and tail are black. The female is a medium brown with finely spaced dark bars and a dark gray bill. In fall, male resembles



female with a yellow bill but is a bit darker and not as boldly barred.

Approaching Spectacled Eider is very difficult and must be done with great care and patience, usually in a crawling or slithering mode. Eiders are heavily hunted making them extremely skittish. It is best to wait two weeks after the hunting season ends before trying to approach them. Being in water is the best method for a close approach as their predator, man, usually comes from land. Exposure of the female is simple due to her mid-tone. The male must be shot with an "expose to the right" methodology, otherwise the body will be underexposed. If an exposure compromise is necessary, sacrifice detail in the black areas and do not overexpose the whites.

Reliable Spots:

Barrow, AK in summer (W)

## Ducks of North America - The Photographers Guide

### Steller's Eider *Polysticta stelleri*

Steller's Eider is significantly smaller than the other Eider species. It is a different genus, which explains its vastly different look. It spends its summers on tundra along the shores of the Bering Sea and Arctic Ocean in Alaska and Siberia. In winter, Steller's Eider occur in the Aleutians and the northern shores of Norway and Finland. The best place to photograph this species is in Finland where they can be found in large flocks in the winter.

Steller's Eider male in breeding plumage has a mostly white head with a black eye ring and green patches on the back of his crown and between the eye and bill. His chin and neck are black. The body is yellow to orange with black wing uppers and a black tail. There is an odd and characteristic black spot on the posterior part of his sides. In late summer, male is dark brown all over and is almost indistinguishable from female.



Approaching Steller's Eider is very difficult although somewhat easier than King and Spectacled Eiders. It must be done with great care and patience, usually in a crawling or slithering mode. Eiders are heavily hunted making them extremely skittish. It is best to wait two weeks after the hunting season ends before trying to approach them. Being in water is the best method for a close approach as their predator, man, usually comes from land. Female is about one stop darker than a mid-tone so the meter can be fooled into overexposing bright surrounding areas. The male must be shot with an "expose to the right" methodology, otherwise the dark areas will be underexposed. If an exposure compromise is necessary, sacrifice detail in the black areas and do not overexpose the whites.

Reliable Spots:

Barrow, AK in summer (W)

## Ducks of North America - The Photographers Guide

### Harlequin Duck *Histrionicus histrionicus*

Harlequin duck is primarily found in the northern half of North America, above 45 degrees latitude with some exceptions. Their winter range extends as far south as New Jersey in the east and the central California coast in the west with sporadic sightings as far south as San Diego and Florida. Harlequin ducks are also found in eastern Asia and Iceland. In North America, they breed primarily from the continental divide westward in Canada and Alaska; also in extreme northeast Canada. They can often be spotted in summer on lakes in the Canadian Rockies but are nearly impossible to approach and photograph there.

The male, in breeding plumage, is a beautiful array of blue-gray, white, and red. The female is a much more subdued brown with white areas on the belly, cheeks and chin and a white patch below and behind the eye. Male in non-breeding



months is similar to female, but with white primary wingtips and a prominent white patch behind the bill.

Harlequin Duck is a short billed diving duck that prefers turbulent water making these a challenge to photograph. A minimum shutter speed of 1/800 second is recommended to freeze subject and wave motion. Repositioning while they are under water is the key to getting close. The male is challenging from an exposure standpoint due to his bright white and dark gray regions. Exposing so that the whites are just shy of over exposure is the only way to get detail in both. The female also has white areas so a similar exposure value can be used on both genders if they are in the same light.

#### Reliable Spots:

Barneget Inlet, NJ in winter (W); Whigbey Island, WA (W); Glacier National Park in summer (W); Semiahmoo Park, Blaine, WA (W); Birch Bay, WA (W); Monterey Bay, CA (W); San Diego Zoo (C)



## Ducks of North America - The Photographers Guide

### Long-tailed Duck (Oldsquaw) *Clangula hyemalis*

Formerly named Oldsquaw, the Long-tailed Duck is an Arctic and sub-Arctic diving duck that breeds on tundra throughout the northern portions of the entire Northern Hemisphere. In North America, they spend their winters primarily at sea in Atlantic, Pacific and Great Lakes coastal waters. They are usually found north of 40 degrees latitude but can extend as far south as the central California shore in the west and North Carolina in the east.

Unlike other ducks, male and female are in a continuous state of molt. Male changes from mostly white with gray-tan cheeks in winter to mostly black in summer. The underside remains white throughout the year. The short bill is two toned in male with an olive to brown frontal color and black at the base. Male has the namesake long tail. Summer male plumage is shown below and winter plumage can be seen on page 58. The female changes from mostly brown with white under-tail



coverts to white sides and a mostly white head with dark cheeks. Female does not have the long tail.

As is the case with any black and white subject, recording the entire dynamic range is a challenge and utilizing the “expose to the right” method is imperative. Long-tailed Duck is not particularly difficult to approach but, moving while they are diving will allow a much closer approach. Compositionally, it is easy to cut-off the long tail of the male or place the bill too close to the opposite side of the photo due to the long tail. In general a shorter focal length or more shooting distance will be needed to prevent this compared to other ducks photographed from a similar distance.

#### Reliable Spots:

Barrow, AK (W); Nome, AK (W); Churchill, Manitoba (W); Cape May, NJ (W), Barnegat Inlet, NJ (W)

## Ducks of North America - The Photographers Guide

### Surf Scoter

*Melanitta perspicillata*

The male Surf Scoter resembles a circus clown with his wedge shaped multi-colored bill and square white patch on the back of his black head accented with white eyes. His body is black all over. The female is medium-dark brown with a white patch behind and below the eye and a white patch just behind the bill.

Surf Scoters are diving ducks that prefer coastal waters in winter and are found along the entire Pacific coast of North America and north of Florida along the Atlantic coast. They breed in Arctic and sub-Arctic Alaska and parts of Northern Ontario. Surf Scoters form flocks in winter and are best photographed during this time. They are rarely found outside of North America.

The approach to photographing male and female is similar. It is best to reposition and get closer while they are diving. Care needs to be taken to prevent overexposure of the white parts. The meter will be fooled more by the male due to his darker color. A careful eye must be kept on the histogram and typically a negative exposure compensation is needed to prevent overexposure of the bill on the drake and the white patches on the hen.

Reliable Spots:

Bolsa Chica Ecological Preserve, CA (W); Stanley Park, Vancouver, BC (W); Semiahmoo Park, Blaine, WA (W); Barnegat Inlet, NJ (W)



## Ducks of North America - The Photographers Guide



Black Scoter (Common Scoter)  
*Melanitta nigra*

Black Scoter, referred to as Common Scoter in many parts of the world, is native to the northern half of the Northern Hemisphere. In winter it is primarily a coastal bird on the entire Pacific and Atlantic coasts of Canada and the USA, often preferring to stay just offshore. They breed in western Alaska and parts of northern Ontario and Labrador. They are most easily photographed in winter along the coasts where they are often found in Surf Scoter flocks.

The male is unmistakable with an all black body and a bright yellow bill featuring a bill-knob. The female is mostly brown but with dirty pale cheeks and a much thinner bill. Black Scoter is smaller than other Scoter species.

The male Black Scoter will fool the meter of most cameras into overexposing the surroundings since the bird is very dark and the meter wants to raise the exposure of the scene to a mid-tone. A negative exposure compensation will be necessary in most situations to prevent overexposure of the bill. The female is much more forgiving from an exposure perspective and can usually be photographed at the meter reading exposure. Approaching these ducks is extremely difficult as they are very skittish. Being in the water, camouflaged or in a blind (hide) and staying still may be necessary. Make only small incremental moves while the duck is underwater. This species likes turbulent water so shutter speeds of 1/800 or faster are recommended to freeze any motion.

Reliable Spots:

Barneget Inlet, NJ (W); Semiahmoo Park, Blaine, WA (W)



## Ducks of North America - The Photographers Guide

### White-winged Scoter (Velvet Scoter) *Melanitta fusca*

White-winged Scoter is also known as Velvet Scoter in many parts of the world. This northern diving duck species is found in winter along the coasts of Canada and the USA, often just offshore. In summer, the White-winged Scoter breeds in much of Western Canada and is generally not found south of the Canada/USA border. They are most easily photographed in winter where they can sometimes be found in mixed flocks with other Scoter species.

The White-winged Scoter is most easily identified by the male's swoosh or sideways comma shaped white eye patch on a black body. At rest, the species' namesake white wing can often be seen in the speculum area. Only the secondaries are white, not the entire wing. The female is very similar in appearance to the Surf Scoter female but the lighter facial patches, especially the one just behind the bill, is not as bright.

Getting close to White-winged Scoters may be difficult. An approach by water or camouflaged in a blind on shore may be necessary. Move only in short bursts while the duck is underwater. The male White-winged Scoter will fool the meter of most cameras into overexposing the surroundings. Since the bird is very dark, the metered exposure will overexpose lighter surroundings and the bill. The female is slightly more forgiving from an exposure perspective due to her lighter color. This species prefers turbulent water so shutter speeds of 1/800 or faster are recommended to freeze motion.

Reliable Spots:

Barnegat Inlet, NJ (W); Semiahmoo Park, Blaine, WA (W)



## Ducks of North America - The Photographers Guide

### Common Goldeneye *Bucephala clangula*

Common Goldeneye and Barrow's Goldeneye are very similar species in appearance. The male is differentiated by an oval white spot between bill and eye on Common Goldeneye compared to a crescent shape patch on Barrow's Goldeneye. Female differentiation is more subtle; only the forward third of the bill is orange on Common Goldeneye and about 2/3 of the bill is orange on Barrow's Goldeneye. There is also a subtle difference in head shape but this is difficult to see in the field. In breeding plumage, the male's head takes on a greenish sheen. The body is bright white except for the wings and tail region. Male and female have a bright yellow eye with the male's eye more golden in color. In non-breeding months, the white parts of the male become gray and the patch is reduced in size.

Common Goldeneye is found throughout the entire USA in winter but is most common in the Pacific Northwest of the



USA and the west coast of Canada. It ranges as far south as central Baja and Chihuahua, Mexico. In summer it is found throughout sub-Arctic Canada and Alaska.

Goldeneyes are diving ducks; therefore, approaching them, is best done while they are under water. Exposure of the male, especially in sunlight, can be difficult due to the extreme dynamic range of the species. In order to record the green sheen, the whites must be pushed to the edge of overexposure but not into overexposure by exposing to the right! Female is mostly a mid-tone and is relatively easy to expose. No exposure compensation is needed unless the background requires it.

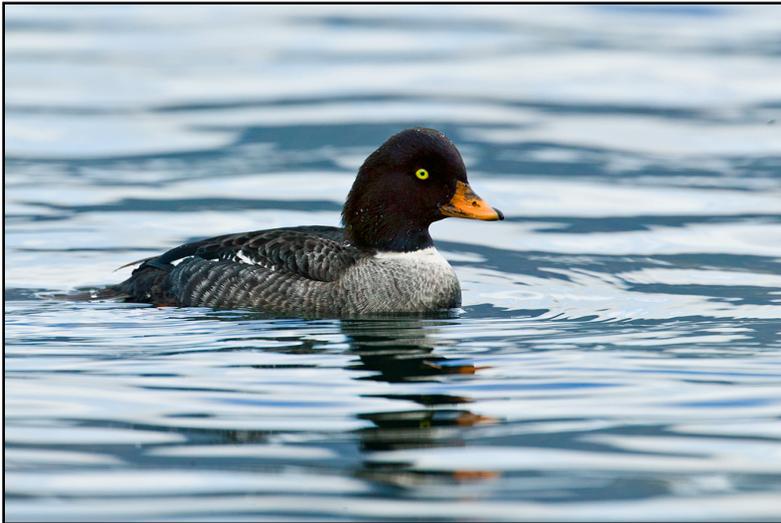
#### Reliable Spots:

Brackendale, BC (W); Stanley Park, Vancouver, BC (W);  
Semiahmoo Park, Blaine, WA; San Diego Zoo (C)

## Ducks of North America - The Photographers Guide

### Barrows Goldeneye *Bucephala islandica*

Barrow's Goldeneye and Common Goldeneye are very similar species in appearance. The male is differentiated by a crescent shape patch between bill and eye on Barrow's Goldeneye compared to an oval white spot on Common Goldeneye. Female differentiation is more subtle; only the forward third of the bill or less is orange on Common Goldeneye and about 2/3 of the bill is orange on Barrow's Goldeneye. There is also a subtle difference in head shape but this is difficult to see in the field. In breeding plumage, the male's head takes on a greenish sheen. The body is bright white except for the wings and tail region. Both have a bright yellow eye. In non-breeding months, the white parts of the male become gray and the patch is reduced in size, which can make it even more difficult to differentiate from Common Goldeneye.



Barrow's Goldeneye is found in the interior regions of the Canadian West in British Columbia and Yukon Territories in summer. In winter its range covers most of the Canadian and US Pacific Coast as far south as central California. There is also a small northeastern Canada population.

Goldeneyes are diving ducks; therefore, approaching them, is best done while they are under water. Exposure of the male, especially in sunlight, can be difficult due to the extreme dynamic range of the species. In order to record the green sheen, the whites must be pushed to the edge of overexposure but not into overexposure by exposing to the right! Female is mostly a mid-tone and is relatively easy to expose. No exposure compensation is needed unless the background requires it.

Reliable Spots:

Brackendale, BC (W); Stanley Park, Vancouver, BC (W);  
Semiahmoo Park, Blaine, WA (W)



## Ducks of North America - The Photographers Guide

### Bufflehead *Bucephala albeola*

The Bufflehead is one of the smallest ducks in the world. It winters along the entire North American Pacific Coast and inland throughout all of Mexico and the USA. On the Atlantic coast, it winters from northern Florida through the Canadian Maritime Provinces. Breeding occurs primarily in sub-tundra Canada and nesting occurs in tree cavities. Bufflehead is not found outside of North America.

Breeding plumage males have a white body and scapulars. The remainder of his wing is black. The front of the head flows smoothly from indigo on the crown to green around the eyes and purple at the base of the neck. The back of the head is white. The female is much more understated with a gray body and brown head that has an oval white patch beneath the eye in the cheek area. In the non-breeding summer months, the male resembles the female with a larger white patch.



Buffleheads can be very difficult to approach, however, their diving behavior is more predictable than other diving ducks giving the photographer an opportunity for close approach. Dives typically last 30 seconds with little variation and they usually swim in the direction of the dive. Observing their behavior will give the photographer a good prediction of where a Bufflehead will surface. One can then move quickly while the subject is underwater and be set-up to shoot when they surface. Avoid overexposing the male, particularly with dark backgrounds and in sunlight, as this will cause loss of detail in the whites. In order to record the iridescent head colors, the whites must be pushed to the edge of overexposure but not into overexposure.

#### Reliable Spots:

Bolsa Chica Ecological Preserve, CA (W); Stanley Park, Vancouver, BC (W); Brackendale, BC (W); Semiahmoo Park, WA (W)

## Ducks of North America - The Photographers Guide

### Hooded Merganser *Lophodytes cucullatus*

The Hooded Merganser is a highly sought after photographic subject. Few ducks are more stunning than the Hooded Merganser drake with his large white hood extended. With the hood down, the male's crest forms a white stripe extending from the eye to the back of his head. The yellow eye and brown sides adds color. His breast is brilliant white with a pair of vertical black stripes. The more subtle female has a brown head and grayish brown body. The female rarely displays her crest. In late summer, male resembles female.

Hooded Mergansers are diving ducks and their underwater swimming pattern is unpredictable making the "reposition while the duck is diving" method less reliable than many other species. "Hoodies" tend to be shy but there are some areas where they have become somewhat habituated to people. They winter in the eastern half of the USA south of the Great



Lakes to the southern tip of Texas and Florida. In the west they can be found in winter generally within 100 miles of the Pacific Coast and sporadically in the interior west. Breeding occurs in the upper Midwest of the USA and much of southern Canada.

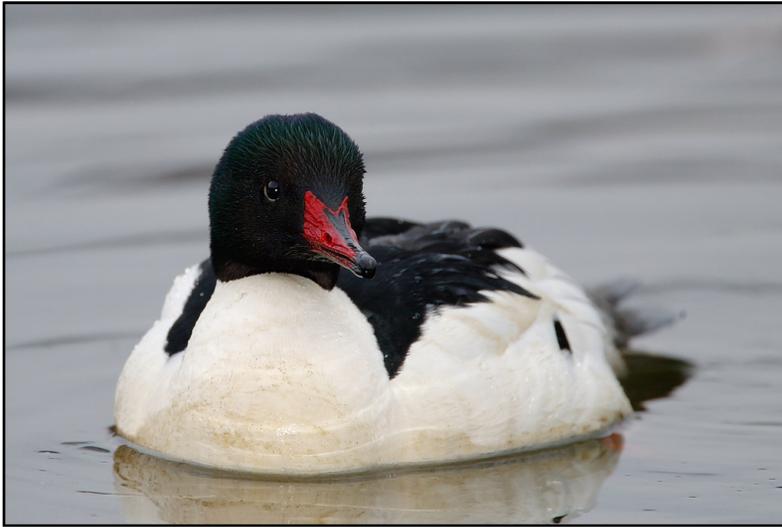
The extreme dynamic range of the male requires pushing the whites as far to the right on the histogram as possible to successfully record adequate detail in the white and dark areas. When possible, use overcast or shady conditions to reduce contrast. The female can be photographed in more varied light conditions using the meter suggested exposure due to her average mid-tone color.

#### Reliable Spots:

Viera Wetlands, FL (W); Albuquerque Zoo, NM (H); Wildlife World Zoo, Litchfield Park, AZ (C); Huntley Meadows Park, Alexandria, VA (W)



## Ducks of North America - The Photographers Guide



Common Merganser (Goosander)  
*Mergus merganser*

The Common Merganser is called the Goosander in Europe and Asia. It is the largest Merganser species. Common Merganser is found year round in the Pacific Northwest and Rocky Mountain region of the USA. In summer, it breeds in sub-Arctic Canada and Alaska. It's winter range includes all of the USA except the southeast.

These ducks have red bills with "sawteeth" that are visible in side views or when the bill is open. The male has a dark black head and white body with black wings and a dark gray tail. Female has an orange-brown head with wispy crest, a white chin and a mostly gray body. The female is easily misidentified as Red-breasted Merganser. The most definitive difference is the distinct white chin and thicker bill on Common Merganser hens. The crest is not as large on average but this is rarely definitive.



Approaching this species can be difficult and patience is needed. Photographing from a blind or approaching in the water can be very beneficial. Common Mergansers are diving ducks and their underwater swimming pattern is unpredictable making the "reposition while the duck is diving" method less reliable than many other species of diving ducks.

Exposure is critical on the black and white male. Pushing the whites as far to the right on the histogram without overexposing is key to recording both black and white detail. The male is best photographed when the sun is close to the horizon or in overcast or shady conditions to control contrast. The female is slightly brighter than mid-tone and is easy to expose in most situations.

Reliable Spots:

Brooks River, AK (W); Reifel Sanctuary, Delta, BC (W)

## Ducks of North America - The Photographers Guide

### Red-breasted Merganser *Mergus serrator*

The Red-breasted Merganser resembles the larger Common Merganser. Their breeding range is in Arctic and sub-Arctic Canada and Alaska. Their winter range includes the coastal waters of the Pacific, Atlantic, Gulf of Mexico and Sea of Cortez. It is found at similar latitudes in Asia and Europe.

Red-breasted Merganser female is sometimes difficult to differentiate from female Common Merganser but the bill is thinner, the chin is darker and she has a light area between bill and eye. The crest is longer but this is not definitive. The male is more easily identified due to his double crest and gray body which are not present on Common Merganser. The breast is reddish brown in breeding plumage.

Like all Mergansers, this species dives to feed. Its path during a dive is not predictable making the "reposition while



underwater" approach method less effective than with other species of diving ducks. Of the North American Merganser species, Red-breasted Merganser seems to be the most tolerant of people..

Exposure is critical on the black and white male. Pushing the whites as far to the right on the histogram without overexposing is key to recording both black and white detail. The male is best photographed when the sun is close to the horizon or in overcast or shady conditions to control contrast. The female is slightly brighter than mid-tone and is easy to expose in most situations.

Reliable Spots:

Fort DeSoto Park, FL (W); Bolsa Chica Preserve, CA (W);  
Luther Marsh, Ontario (W); Barnegat Inlet, NJ (W)

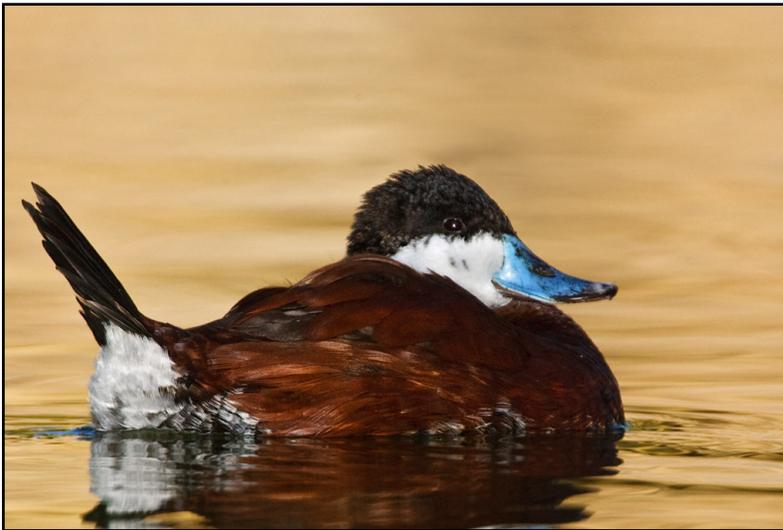
## Ducks of North America - The Photographers Guide

### Ruddy Duck *Oxyura jamaicensis*

Ruddy Duck is a small stiff tailed diving duck that prefers the center of open bays, ponds or lakes. Their North American range extends throughout the southern tier states and Pacific Northwest in winter. They breed in the interior western USA and Canada. They are found year round throughout much of Mexico.

Between February and the end of March, the male goes from a drab grayish appearance with a dark cap, white cheeks and gray bill, to a rich chestnut colored duck with a bright sky blue bill. The female has a gray-brown body with a dark brown cap and a horizontal face stripe below the eye.

During most of winter, Ruddy Ducks prefer the middle on an open body of water. As migration time draws near, they vigorously feed and will often come close to shore. This is the



best time photograph them and it is also when they sport their best plumage. This duck tends to dive for 10-15 seconds so one must be quick to reposition while they are underwater. The dark body of the male will usually fool the meter into overexposing the white cheeks. Significant negative compensation, up to  $-1 \frac{2}{3}$  stops, is usually needed for the male in sunlight. The female's plumage does not present as big of a challenge since she averages out to a mid-tone but care should be taken to prevent overexposure of the light cheeks.

#### Reliable Spots:

Bolsa Chica Ecological Preserve, CA (W); San Joaquin Sanctuary, Irvine, CA (W); Phoenix Zoo, AZ (W-H); Bosque del Apache National Wildlife Refuge, NM (W); Albuquerque Zoo, NM (H)

## Ducks of North America - The Photographers Guide



Masked Duck  
*Nomonyx dominica*

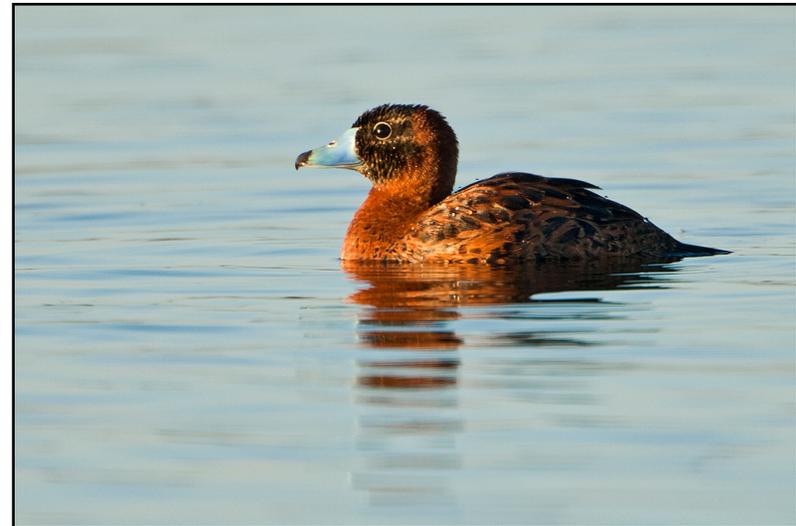
Masked Duck is a very small duck that is native to the Caribbean Islands, Central America and equatorial South America. Its range extends into coastal parts of Mexico. Occasionally they are found along the US Gulf Coast and in wetlands along the Florida Atlantic Coast. Masked Ducks are very shy, preferring areas with heavy vegetation for protective cover. The Masked Duck, like Ruddy Duck is considered a stiff tailed duck due to its long and often raised tail. The female has a striped head alternating between a very dark brown and white. Her body is medium brown and is barred and mottled. The head and neck is a lighter brown than the body and her bill is silver. The male, in breeding plumage, has a rufous body color with black mottles and dark wings. The central and frontal part of the head is black and the bill is blue with a black nail. During non-breeding months, male is similar

in appearance to female. Both sexes have a white wing patch that is not visible when at rest.

The most difficult part of photographing Masked Duck is finding them due to their secretive nature and their rarity in most parts of North America. Follow coastal Texas and Florida rare bird reports to find them. The Viera Wetlands in Melbourne, Florida has had Masked Duck about three out of 10 years. Neither male nor female present any unusual exposure challenges beyond making sure the female's white head stripes and male's blue bill is not overexposed. A close eye on the histogram and the blinking highlights display, as always, is a must.

Reliable Spots:

None - best spots are in Brazil.



Masked Duck images courtesy of James Urbach, MD

Visitors and Captive Ducks

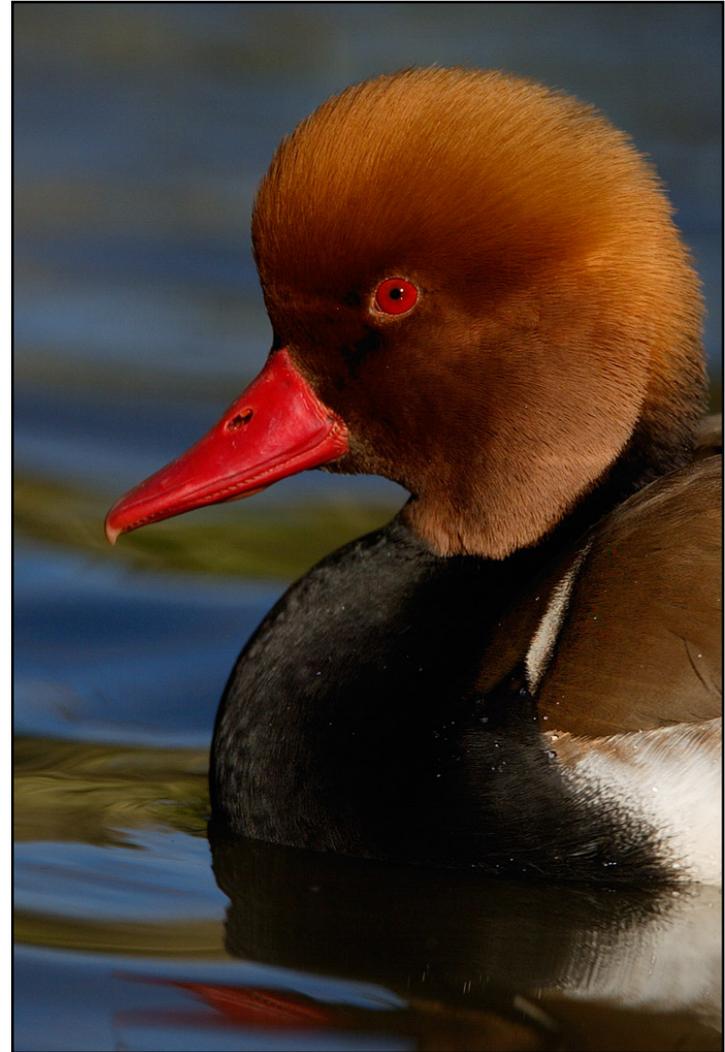


## Visitors and Captive Ducks

Many ducks not normally found in North America can be successfully photographed here. Wild ducks native to other continents may mistakenly arrive here due to errors in migration. Additionally, ducks from other countries often are found in zoo or private collections. Some non-native species in captivity reproduce, thereby establishing local wild populations. This chapter details non-native species that can be photographed in North America in an abbreviated format.

Searching zoo's species lists and checking the online birding sites for rare visitors are the best methods of finding them. Turn-over of species in zoo and private collections can be very high. The online species lists are sometimes inaccurate. A telephone call to the establishment might be necessary to get the latest information on whether a particular species is on exhibit. All of the zoos mentioned in this chapter have the indicated species on exhibit at the time of this writing; however, as noted, this can change significantly over time.

Zoos with the highest concentration of non-native waterfowl include the Palm Beach Zoo, FL, Miami Zoo, FL, Wildlife World Zoo, AZ, San Diego Zoo, CA, San Diego Wild Animal Park, CA, and the San Antonio Zoo, TX.



## Ducks of North America - The Photographers Guide

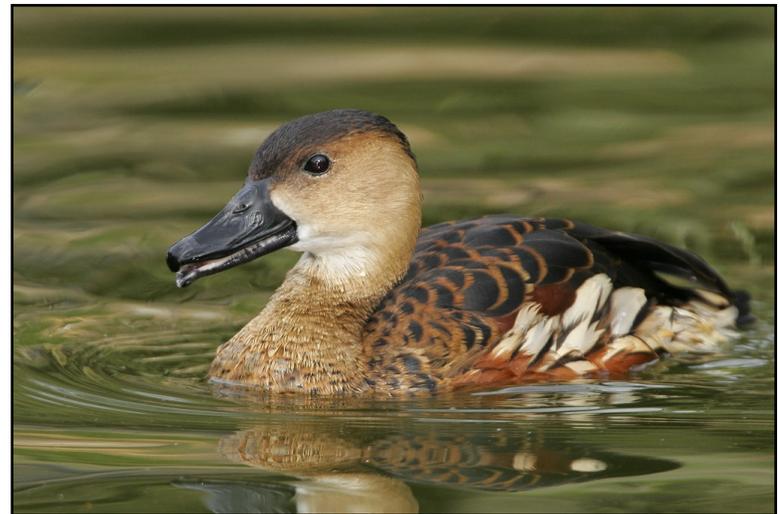
### Plumed Whistling Duck (Eyton's Whistling Duck) *Dendrocygna eytoni*

The Plumed Whistling Duck also goes by the name Eyton's Whistling Duck. It is a native of Australia. Characteristic features include a pink bill with irregular black splotches, a bright yellow eye ring, and large white plumes on its sides. Care must be taken not to overexpose its namesake plumes and bright neck. Plumed Whistling Ducks can be found in zoos and captive collections that are in warmer climates in the USA including the Wildlife World Zoo, Litchfield Park, AZ, Miami Zoo, Miami, FL, Crandon Park, Key Biscayne, FL and others.



### Wandering Whistling Duck *Dendrocygna arcuata*

The Wandering Whistling Duck is a native of the East Indies including Indonesia, the Philippines and northern Australia. It shares some similarities with other Whistling Ducks especially Plumed and Fulvous. It is defined by its prominent black bill and large rounded white feathers on its side. Warm climate zoos including the San Diego Wild Animal Park in Escondido, CA often have this species in their collection.



## Ducks of North America - The Photographers Guide

### Black-billed Whistling Duck (West Indies Whistling Duck) *Dendrocygna arborea*

The Black-billed Whistling Duck, sometimes called the West Indies Whistling Duck is the largest of the Whistling Ducks. It is native to the islands of the Caribbean and is found in captivity in warmer climates of the USA especially in the southeast including most zoos in Florida. The Melbourne, Palm Beach and Miami Zoo exhibit Black-billed Whistling Ducks. It has many similarities to other Whistling Duck species such as Fulvous and Spotted but its unique feature is a very light colored neck and chin with dark streaks at the base of the neck. Male and female are indistinguishable. The plumes on the flanks are easy to overexpose especially in sunlight and with a darker background.



### Lesser Whistling Duck (Java Whistling Duck) *Dendrocygna javanica*

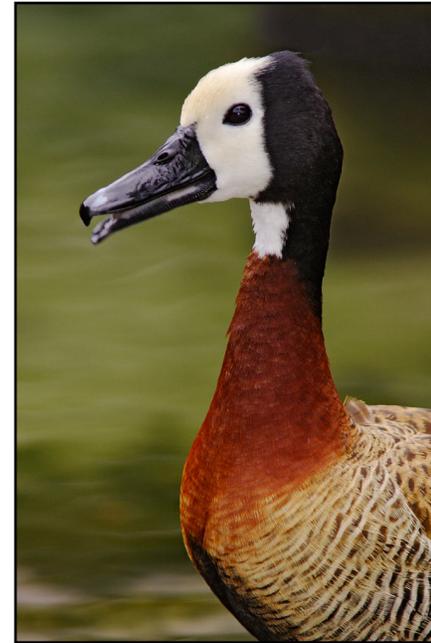
Formerly called the Java Whistling Duck due to its Indonesia and southern Asia home, the Lesser Whistling Duck is the smallest of the genus. It is the only Whistling Duck with a yellow eye ring making it easy to identify. They do not occur in nature in North America but are in a small number of zoo collections including the Miami Zoo, FL and San Antonio Zoo, TX. Since Lesser Whistling Ducks are mostly a mid-tone this species is easy to expose. When the whitish femoral tract is visible, care should be taken not to overexpose it.



## Ducks of North America - The Photographers Guide

### White-faced Whistling Duck *Dendrocygna viduata*

The White-faced Whistling Duck is a southern hemisphere bird that ranges throughout tropical South America and sub-Saharan Africa. It is widespread on rivers and lakes and tends to be sociable and approachable. There is no camera that can adequately record the dynamic range of the white face and black posterior part of the head in sunlight. In shade or overcast it is possible by pushing the histogram all the way to the right without overexposing the whites. Male and female are indistinguishable. White-faced Whistling Ducks are common in many zoos and collections throughout the warmer regions of North America. Rarely, escapees can be seen among native waterfowl.



### Ruddy Shelduck *Tadorna ferruginea*

The Ruddy Shelduck is primarily found in southeastern Europe, and the southern half of Asia. It is not found in the wild in North America but is a commonly exhibited duck in many zoos and collections. The male and female are primarily orange with a black bill, black tail and black primaries. The male has a black neckband. The head is whitish around the eye and crown. The white areas are not bright white and therefore don't overexpose as easily as some white birds. It is important to record detail in the white head and black bill so overcast or shade is helpful and watching the red channel histogram is also helpful. Check species lists at zoos, they are relatively common at the major zoos in the southern US including Crandon Park, Key Biscayne, FL, the Wildlife World Zoo, Litchfield Park, AZ, and the San Diego Wild Animal Park, Escondido, CA



## Ducks of North America - The Photographers Guide

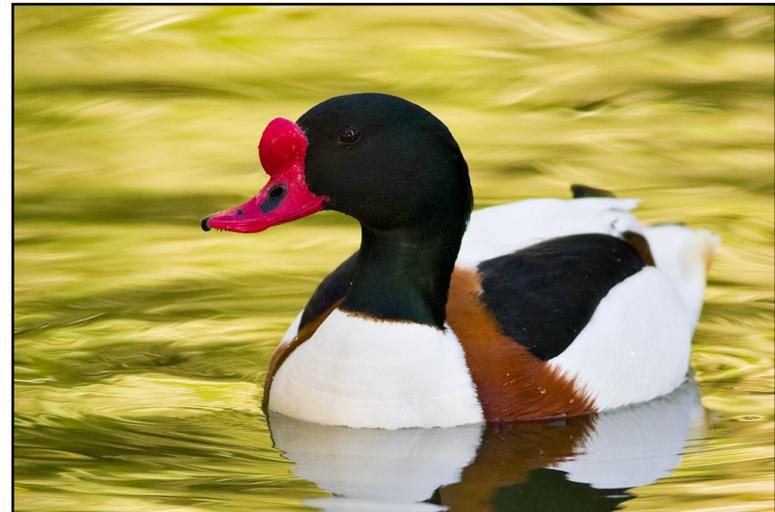
### Cape Shelduck *Tadorna cana*

The southern tip of Africa in the countries of South Africa and Namibia is the native home to the Cape Shelduck. Both male and female have a bright orange body with black tail. Female has a white face with dark gray/brown neck, nape, and crown. The male's head is all gray. Usually male ducks require exposure adjustments because of their coloration but with this species care must be taken to avoid overexposure of the white face of the female. Cape Shelducks are common in many warm climate zoos including San Diego Wild Animal Park, Escondido, CA, Palm Beach Zoo, FL, Wildlife World, Litchfield Park, AZ and many more - check species lists



### Common Shelduck *Tadorna tadorna*

Common Shelduck is native to the UK, coastal Europe and central Asia. Sightings in the wild in North America are escapees from zoos and private collections. Male and female are both snow white with black heads and brown breast stripes. Both have a red bill on which the male develops a large red bulb during breeding months. Female has a whitish area just behind the bill. This is an extremely difficult duck to photograph. In sunlight, it is virtually impossible to record adequate detail in white and black simultaneously due to the dynamic range limitations of sensors and film. Photographing them in shade or overcast with a small amount of fill flash and pushing the whites to the right of the histogram as far as possible without overexposure is key. Many zoos throughout North America have these in their collections. Check species lists. An easy place to photograph them is the Wildlife World Zoo in Arizona.



## Ducks of North America - The Photographers Guide

### Australian Shelduck *Tadorna tadornoides*

The Australian Shelduck is found only in Australia and ranges throughout the southwest and southeast of that country and Tasmania. It prefers open lakes and rivers. It does not occur naturally in North America. Male and female are similar in appearance but the female has a white eye patch and white neck ring (female in photo on right). The female is the more difficult to photograph due to the large dynamic range from her black and white areas. Pushing the histogram to the right without overexposure is imperative to recording as much detail as possible. The male, being largely dark can fool the metering system into overexposing the surrounding environment. These are rarely found in captivity in North America but are photographable in the Palm Beach Zoo, FL and the San Antonio Zoo, TX



### Paradise Shelduck *Tadorna variagata*

The Paradise Shelduck is found in the wild only in New Zealand where they are abundant on the South Island and common on the southern half of the North Island. In North America, the Lake Superior Zoo in Duluth, MN and Brevard Zoo, FL are among the few places that exhibit this species at the time of this writing. The male Paradise Shelduck's combination of a white head and a dark body presents a dynamic range challenge. Great care must be taken to not overexpose the head and maintain body detail by exposing to the right of the histogram. The female is mostly dark except for a white and green speculum and requires about 2/3 stop more exposure than the drake to render good detail in her very dark head.



## Ducks of North America - The Photographers Guide

### Radjah Shelduck *Tadorna radjah*

Radjah Shelduck is a native of New Guinea and Northern Australia. Only the rare escapee is found outside of captivity in North America. It has an all black and white body with a pale pink bill and a large white eye. It can commonly be found in warm climate zoo collections. Since it is a black and white bird, it can be difficult to get definition in both the white and black plumage. Photographing them in shade or overcast to cut-down the dynamic range can be helpful. Using the “expose to the right” technique is a must. Common places to photograph them include Crandon Park on Key Biscayne in Florida, Palm Beach Zoo, FL, the Wildlife World Zoo in Litchfield Park, AZ, and the Calgary Zoo, Alberta.



### Comb Duck *Sarkidiornis melanotos*

The Comb Duck is one of the more unique ducks on the planet. The male has a large “comb” on top of his bill that is largest during breeding. The female is similar in appearance but does not develop the comb. This is one of the largest ducks and is native to the southern hemisphere. It prefers open water lakes, swamps and marshes. The combination of dark and white regions will require exposure far to the right on the histogram to capture detail in the dark areas. Photographing them in overcast can bring down the contrast range. Comb Duck does not occur naturally in North America however a small number of the warm climate zoos do have these in their collection. This includes the San Diego Wildlife Park in Escondido, CA, the San Diego Zoo, CA and Disney’s Animal Kingdom in Walt Disney World, FL.



## Ducks of North America - The Photographers Guide

### White-winged Wood Duck *Cairina scutulata*

White-winged Wood Duck is a highly endangered native of Bangladesh, Myanmar and parts of Indonesia. It never occurs in the wild in North America. It has a speckled white head. Its body ranges from black at the top to deep brown at the bottom. It is easily confused with female Comb Duck but does not have an all white breast. The combination of black and white plumage creates an exposure challenge to render detail in both white and black areas. This is best accomplished in overcast or shady conditions. These are not often found in captivity. Places to photograph them include the Miami Zoo and the San Antonio Zoo, TX.



### Mandarin Duck *Aix galericulata*

Mandarin Duck is very popular among photographers due to its wild color scheme that includes every color in the spectrum. The colors and the male's "whiskers" and "sails" make this a unique looking species. Female resembles American Wood Duck but has a thinner and more elongated eye ring. Mandarin Duck is one of the most popular captive zoo species. They can rarely be found in the wild in the southwestern USA, usually among Wood Ducks, in ponds that have trees to nest in. Presumably these are escapees or offspring from captives. Wild or semi-wild Mandarins can be found in Santee Lakes, CA, and occasionally in the ponds around Phoenix, AZ as well as other southwestern lakes. Checking various birding resources will turn up a few every year. Care must be taken not to overexpose the whites while simultaneously recording the dark greens and blues. Keep a careful eye on the histograms and utilize the "expose to the right" methodology.



## Ducks of North America - The Photographers Guide

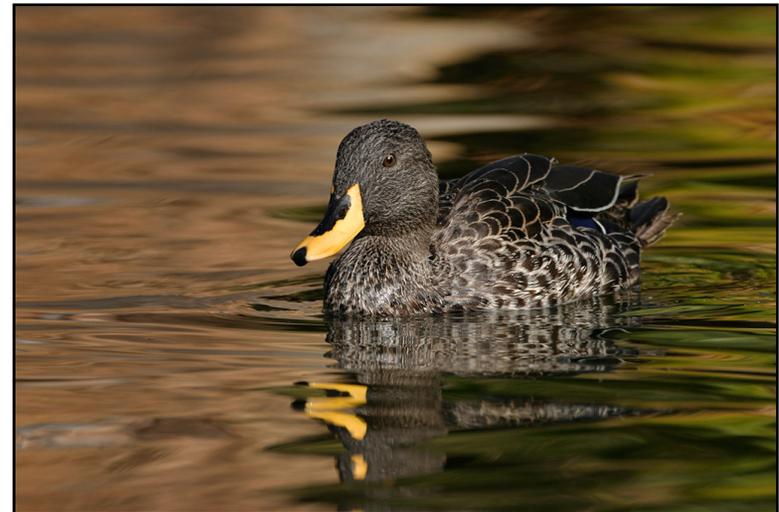
### Maned Duck (Australian Wood Duck) *Chenonetta jubata*

Maned Duck is commonly referred to as Wood Duck in its native Australia. Males have a medium brown head and mottled grayish body with green speculum and black underside. Females are slightly paler with white stripes from bill to behind the eye. The hen is mottled all over her breast and underside. Because of the mid-tone coloration, Maned Ducks are very relatively easy to photograph. Care should be taken on females not to blow out the white facial stripes. These are found only in captivity in North America. Checking species lists is the best way to find them. The Wildlife World Zoo in Litchfield Park, AZ and the Palm Beach Zoo, FL have many on exhibit.



### Yellow-billed Duck *Anas undulata*

Yellow-billed Duck is a southern and east African Mallard-form. They are a very dark bird with a characteristic bright yellow bill that has a black central splotch and nail. Male and female are indistinguishable. Exposing these birds can be tricky as the body is very dark which tends to make the metering system increase the exposure. This leads to overexposed yellow bills. Using the histogram to push the bill to the right but not into overexposure will result in good detail in the dark plumage and a properly rendered bill. These ducks can be found in a number of zoos around warmer parts of North America including the San Diego Zoo. They do not occur in the wild in North America.



## Ducks of North America - The Photographers Guide

### Crested Duck (Patagonian Crested Duck) *Lophonetta secularioides*

The Crested Duck is found along coastal Argentina and Chile, the mountains of Bolivia and Peru, and the Falkland Islands. Captives can easily be misidentified as Marbled Teal but the red eye and more extensive dark crest identifies the Crested Duck. Male and female look identical. Photographically, these are among the easier ducks to capture as they tend to be relatively tame and are dominated by mid-tones allowing an exposure at the meter reading in most situations. This species is not commonly kept in captivity in North America but they are on exhibit at the Palm Beach Zoo, FL.



### Spectacled Duck (Bronze-winged Duck) *Anas specularis*

Spectacled Duck is sometimes called Bronze-winged Duck and is found only in the Patagonia region of Argentina and Chile. In North America it can be found in select zoos including the San Diego Wild Animal Park, CA. Male and female are similar and unmistakable with their chocolate brown head adorned with a white patch extending between their eye and bill and white neck strip. Their speculum can appear either green or bronze depending on the angle of the light. The head is an obvious photographic challenge due to the dark brown and bright white regions. The photographer must be careful not to overexpose the white and underexpose the brown. Photographing them in shade or overcast and utilizing the “expose to the right” method will result in success.



## Ducks of North America - The Photographers Guide

### *Brazilian Duck (Brazilian Teal)* *Amazonetta brasiliensis*

Brazilian Duck is not found in the wild in North America and is rarely found in private collections or zoos - they are a warm climate bird. The male's characteristics include a mostly brown body with a tricolored head that is brown on the front and black along the nape with dirty white cheeks. The male's bill is bright red. When the drake's wings are extended an amazing array of blue and green feathers are displayed. Females have a black bill and a white patch in front of the eye. Both genders have bright red legs. Turnover of these birds in collections is very high so checking species lists in warmer parts of the US and Mexico is the way to find them without traveling to Brazil. Wildlife World Zoo in Litchfield Park, AZ and the Palm Beach Zoo, FL are two locations that exhibit them.



### *Eurasian Wigeon* *Anas penelope*

The Eurasian Wigeon is one of the most common non-native species found in the wild in North America. Every year, several are seen along the east and west Coasts of the USA. Southern California and south-central Arizona have accidental migrants every year. They are also found in collections such as those as the Wild Animal Park in Escondido, CA and the Palm Beach Zoo, FL. Eurasian Wigeons have a beautiful rufous head that looks especially good in very early or late light. Care must be taken to not overexpose the white flanks and whitish femoral tract. Females look similar to American Wigeon but are darker on average. There is some cross breeding between the American and Eurasian species.



## Ducks of North America - The Photographers Guide

### Chiloe Wigeon *Anas sibilatrix*

The Chiloe Wigeon (pronounced Chill-oh-eh) hails from South America and is most common in Chile. Its head is a deep blue-green with a white frontal area. This species is often found in zoo collections and private collections but are almost never found in the wild in North America. Checking the species lists of these establishments is a good way to find them. Zoos that exhibit Chiloe Wigeon include the Rio Grande Zoo in Albuquerque, NM, the Sand Diego Wild Animal Park in Escondido, CA, the Wildlife World Zoo in, Litchfield Park, AZ, and Crandon Park in Key Biscayne, FL.



### Falcated Duck *Anas falcata*

One of the most interesting duck species is the Falcated Duck. The definition of the word falcated is “curved like a sickle”. The side view of the male Falcated Duck clearly shows its namesake. In addition to the interesting wing plumage, the iridescent brown and green head, black neck stripe, and its finely patterned body make this a unique duck. Monitor the histogram and expose to the right to record maximum color detail in the head without overexposing the white regions. The female is dark brown all over and can trick the meter into overexposing lighter surroundings. The Falcated Duck is native to Eastern Asia and rarely if ever occurs in the wild in North America. These can be found in a few zoos including the San Diego Zoo and the Wild Animal Park in Escondido, CA, Reid Park Zoo, Tucson, AZ and the Palm Beach Zoo, FL.



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### Baikal Teal *Anas formosa*

Baikal Teal is a beautifully plumed bird. The drake is striking, featuring a tan frontal area that is bisected by a black stripe with a brown crown and green nape. He has long ornate plumes and multiple shades of brown on a gray body. Females are mostly brown with a scalloped or mottled feather pattern, similar to many other Teal species hens. Since the highlights of the Baikal Teal drake are cream colored, the dynamic range of this species is not as challenging as many ducks and only minimal exposure compensation is usually necessary. Baikal Teal occasionally occur in the wild along the west coast of the US and Canada due to migration error. Inland appearances occur very rarely. There are also some in captivity including the Lincoln Park Zoo in Chicago, the Great Plains Zoo in Sioux Falls, SD, and the Tampa, FL Zoo.



### Spot-billed Duck (Spotbill) *Anas poecilorhyncha*

Also known as Spotbill, the Spot-billed Duck is a native of eastern and southern Asia. It is a large Mallard-form and, true to this type, adapt to many types of environments from Marshes to city parks. There are regular records of this species in Alaska and the Aleutians, not too distant from their native lands. This species is extremely rare in the lower 48 states and Canadian provinces. Male and female Spot-billed Ducks resemble each other but the female has a small red spot at the base of the bill. Monitor the histogram to ensure that the yellow and red portions of the bill are not overexposed. This species can be photographed at the Palm Beach Zoo, FL



## Ducks of North America - The Photographers Guide

### Philippine Duck

*Anas luzonica*

The Philippine Duck is a Mallard-form endemic to the Philippines and is rarely seen outside of this region. It is the most uniquely plumed Mallard with a bright cinnamon head and black crown and nape. Unlike other Mallard-forms, its body plumage is not mottled. Male and female are identical. This is a very easy bird to expose since its plumage consists primarily of mid-tones with no white areas. Typical of Mallards, getting separation between male and female or isolating an individual may be the biggest challenge in photographing Philippine Duck since they stay in close proximity to each other. This bird is uncommon in captivity in North America but the Palm Beach Zoo in Florida has a pair on exhibit at the time of this writing.



### Gray Teal (Grey Teal)

*Anas gibberifrons*

The Gray Teal is found throughout sub-equatorial western Pacific Islands including Indonesia, New Zealand, and most of Australia. They are never found in the wild in North America. Teal species in general are shy and difficult to approach. They are often best photographed from a blind or vehicle. Male and female are similar in appearance with a mid to dark grayish-brown mottled appearance and a red eye. Due to Gray Teal being largely mid-tone, a proper exposure can usually be made at the meter reading unless the background dictates exposure compensation. The Palm Beach Zoo, FL has a pair of Gray Teal in their collection.



## Ducks of North America - The Photographers Guide

### Chestnut Teal *Anas castanea*

Chestnut Teal is a stunningly beautiful duck. The male has a dark green head accentuated by a bright red eye. His body is a richly colored chestnut with large black mottling and deep brown wings. The male has bright white under-tail coverts that must not be overexposed. Exposing as far to the right on the histogram is advisable in order to capture the beauty of the head without underexposing it. This species responds especially well to a touch of fill flash (around -2 compensation) to bring out the green iridescence. The female is similar to many Teal hens and is mottled brown with a pale brown head. They are never found in the wild in North America but are in a few zoos that exhibit them including the San Antonio Zoo, TX, Palm Beach Zoo, FL, Louisville Zoo, KY



### Garganey *Anas querquedula*

Garganey is an Eastern Hemisphere Teal found in summer throughout the central latitudes of Europe and Asia. It migrates to the northern tropical latitudes of Africa and southern Asia in winter. Occasional accidental migrants are found in the wild in North America, primarily in the USA along the east and west coasts. There are no reliable spots for them so a careful eye must be kept on birding reports and rare bird alerts. The female is similar to other Teal species and is light brown with a mottled body. Her head has light and dark horizontal stripes emanating from bill to cheek and from forehead to nape. Male is more distinct having a brown head with a broad white stripe that starts above the eye and runs down the back of the neck. Preventing overexposure of the



Garganey image courtesy of KK Hui

male's head stripe by keeping a watchful eye on the histogram is necessary when photographing Garganey.

## Ducks of North America - The Photographers Guide

### Common Teal (Eurasian Green-winged Teal) *Anas crecca*

The Common Teal variant of *Anas crecca* is native to the northern half of the Eastern Hemisphere. It is differentiated from the North American Green-winged Teal by the lack of a white stripe behind the breast and a more distinct light outline pattern on its head. Common Teal are not “common” in North America but an individual can sometimes be found among a flock of Green-winged Teal in winter. Photographically, the biggest challenge is approaching them. A careful prolonged approach may be necessary. No special exposure challenges are presented by this species.



### Speckled Teal *Anas flavirostris*

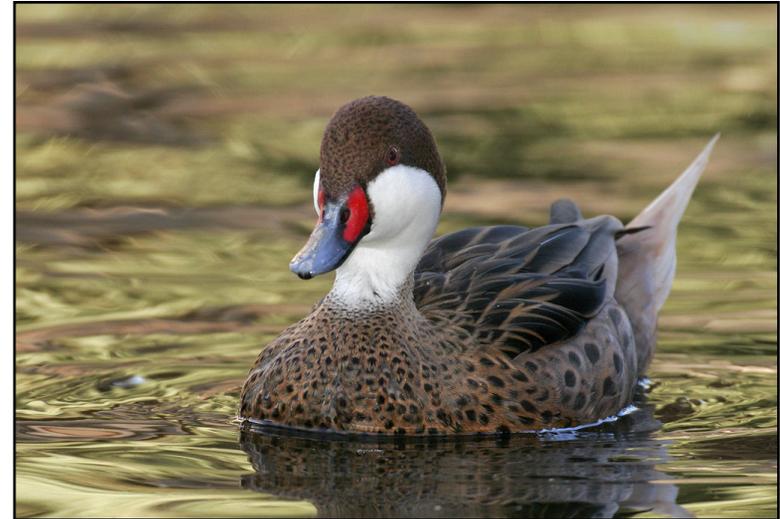
The Speckled Teal is an elegant duck from the southern regions of South America. It is a small duck similar in size to Common/Green-winged Teal. Male, female and juveniles have a brown body with green secondaries and a bright yellow bill that is black down its center. The head is darker than the body and is finely speckled. The breast is lighter with fewer and larger speckles and the mantle is mid brown with large spots. Care should be taken to not overexpose the yellow bill by keeping an eye on the histogram. This Teal is not found in the wild in the US but is featured in some collections. The Wildlife World Zoo in Litchfield Park, AZ is perhaps the best place to photograph them in the USA.



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### White-cheeked Pintail (Bahama Pintail) *Anas bahamensis*

The White-cheeked Pintail was formerly named the Bahama Pintail but was renamed since it is also abundant in northern and central South America. The White-cheeked Pintail male and female are similar although female is a bit duller in color and lacks the namesake pin-tail. The combination of rich dark brown and extreme white on the head makes this species a photographic challenge. Utilizing the “expose to the right” technique to get as much dark detail in the dark areas without overexposing the white cheeks is imperative. Photographing White-cheeked Pintail in overcast or shade can be helpful in cutting down contrast. This species can be found in many warm climate zoos and sporadically in the wild in south Florida. The Wildlife World Zoo in Arizona has free flying White-cheeked Pintail.



### Red-billed Pintail (Red-billed Teal) *Anas erythrorhyncha*

The Red-billed Pintail is a very close genetic cousin to White-cheeked Pintail but is native to southern Africa. They are sometimes referred to as Red-billed Teal but this is a misnomer. Its cheeks are tan and its bill has much more red than White-cheeked Pintail. Male and female are identical in plumage. Contrasting white feathers are not a feature of this bird so the meter can usually be relied on unless the background dictates some exposure compensation. As a precaution, making sure the red histogram is not overexposed is advisable. They do not occur in the wild in North America. Red-billed Pintail are found in a small number of zoos in the USA including the San Diego Zoo and the Omaha, NB Zoo.



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### Yellow-billed Pintail (Brown Pintail) *Anas georgica*

The Yellow-billed Pintail is sometimes known as the Brown Pintail. It is common throughout the non-Amazonian parts of sub-equatorial South America and extends as far south as the Falklands and South Georgia. It is the world's most southerly occurring duck species. The two sexes are similar except the male has a long pin-like tail. Both genders have its namesake bright yellow bill with a silver front and black tip.

Photographically, one need only worry about overexposing the bright yellow bill. They do not occur in the wild in North America but can be found in a small number of zoos including the Palm Beach Zoo, FL.



### Cape Teal *Anas capensis*

The Cape Teal is a common species in zoos and private collections in the southern half of North America. Its wild range extends throughout the entire eastern part of Africa from the cape in South Africa to the Red Sea. It is one of the largest Teals at 18 inches long and is characterized by a bright red bill and red eye with a lightly colored body accented with brown speckles. Males and females are similar in appearance. Keeping a watch on the red channel when photographing these is recommended to prevent over-exposure and detail loss in the bill. Cape Teal do not occur in the wild in North America. They are common in zoos throughout the USA including the Miami Zoo, FL, Jacksonville Zoo, FL, Tampa Zoo, FL, El Paso Zoo, TX, San Diego Wildlife Park, CA., and many more.



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### Silver Teal (Versicolor Teal, Puna Teal) *Anas versicolor*

Silver Teal is native to South America below the Tropic of Capricorn and the Falkland Islands. It is sometimes referred to as Versicolor Teal. Puna Teal is a large Andean sub-species under review for separating into it's own species. Both Silver Teal sexes are overall brown with scaled sides and flanks. Males have more yellow color on the bill compared to female. As is the case with all Teal and all genus *Anas*, they are dabblers. Due to their brown and tan all over appearance, exposure is straight forward and any compensation will be dictated by the background. They do not occur naturally in North America but can be photographed at the Palm Beach Zoo, FL and the Milwaukee County Zoo, WI



### Hottentot Teal *Anas hottentota*

The Hottentot Teal is the smallest duck on Earth at only 12-13 inches. It is a reclusive Teal living in well vegetated marshes in East Africa and Madagascar. This beautiful duck features a very dark brown cap and a blue bill with black central stripe. Males have a slight yellowing at the base of the bill. Precautions should be taken to avoid overexposure of the bill and underexposure of the dark cap. This can be accomplished by exposing to the right on the histogram. This species has never been found in the wild in North America. Zoo aviaries are the most only places in the USA to photograph this outside of Africa and Madagascar. At the time of this writing, the San Diego Zoo and the North Carolina Zoo in Asheville have Hottentot Teal on exhibit



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### Ringed teal *Callonetta leucophrys*

Ringed Teal is a tiny Teal species native to forest lakes and ponds in central South America. They are abundant in captivity in North America and produce offspring that sometimes escapes. The male has a cream colored head with black stripe across the crown and down his nape. The drake's breast is a pinkish color with black spots. His back is brown with a green speculum and gray sides that are finely patterned. The cream colored head plumage on the male is not clearly defined and can often be interpreted as out of focus when it is not. If the eye detail is sharp, the cheeks are in focus. Female is brown with a lighter colored head that features brown patches. Many zoos in warm climates exhibit Ringed Teal including the San Diego Zoo, Wildlife World Zoo in Litchfield Park, AZ, and Miami Zoo, FL.



### Marbled Teal (Marbled Duck) *Marmaronetta angustirostris*

Marbled Teal is also referred to as Marbled Duck. It is native to southwestern Asia including Iran, Iraq, and Turkmenistan. It does not occur in the wild in North America. Marbled Teal has brown and tan mottled feathers and a very dark brown eye patch. It resembles South America's Crested Duck but that species has a red eye and the dark crown feathers. These are rare in captivity in North America. The San Diego Wildlife Park has a pair at the time of this writing and the Palm Beach Zoo, FL has a large collection.



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### Red-crested Pochard *Netta rufina*

The Red-crested Pochard is the most common non-native captive Duck in North America. Most zoos that feature waterfowl have them in their collections. They are native to southern and central Europe and Asia. Escaped Red-crested Pochard sometimes establishes feral populations that last for a few years. The male has a large rufous head with red eye and red bill. His white mantle stripe, white flanks and black breast can be a challenge to expose and some detail loss in the black areas may be necessary. Photographing in low angle light or overcast will utilize the “expose to the right” philosophy will yield the best results. Females have a brown cap, white cheeks and a brown body with dark bill and can usually be photographed at the meter reading unless the background dictates otherwise.



### Rosybill (Rosy-billed Pochard) *Netta peposaca*

The Rosybill or Rosy-billed Pochard is a South American duck that is native to areas south of the Tropic of Capricorn. The drake's head has a distinctive purple sheen with bright red eyes. He has a large red bill that develops a bulb at its base during courtship. The dark frontal area can fool the camera's meter into overexposing the white under-tail coverts. Watch the histogram closely and place the whites close to the right without overexposure. The female is mostly medium brown with a lighter colored chin and black bill. No exposure adjustment is typically needed. Rosybills can be photographed in warm climate zoos and private collections including the Wildlife World Zoo in Litchfield Park, AZ, Sacramento Zoo, CA, San Antonio Zoo, TX, and many more.



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### Ferruginous Duck (Ferruginous Pochard, Common White-eye) *Aythya nyroca*

The Ferruginous Duck, also called Ferruginous Pochard and Common White-eye in other parts of the world, is a beautiful rich chocolate brown color with dark scapulars and white under-tail coverts. The male has a white eye. Female has a dark eye and her brown plumage is a bit drabber. The dark gray bill has a black nail similar to Lesser Scaup. Since this duck is darker than mid-tone, the white under-tail coverts are easily overexposed. Negative exposure compensation and careful attention to the histogram is needed, especially in sunlight. Ferruginous Duck is found in southern Europe, northern Africa and southwestern Asia. In North America this is a common species in zoos including the Miami Zoo, Palm Beach Zoo, FL and Reid Park Zoo in Tucson, AZ.



### White-eyed Duck (Hardhead) *Aythya australis*

Commonly referred to as Hardhead, the White-eyed Duck is native to Australia and is Australia's only indigenous diving duck. Male and female are dark brown with somewhat paler and more mottled plumage on the female. In breeding plumage the tip of the males bill is white; this fades to a pale stripe other times of the year. White-eyed duck shares some similarities with Ferruginous Duck but is easily differentiated by the white on its bill. The histogram should be monitored to avoid overexposing the white under-tail coverts and any bright surroundings since the dark color of the bird may fool the meter into overexposure. They currently are only known to be present at the Palm Beach Zoo, FL in North America.



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### New Zealand Scaup *Aythya novaeseelandiae*

The New Zealand Scaup is a diving duck that is indigenous to New Zealand. It can be found in the western half of the South Island and southeastern portions of the North Island. New Zealand Scaup is dark all over with a silver bill and large broad nail similar to Greater Scaup. Male is darker overall and female has a white patch between the base of her bill and her eye. The overall dark tonality can make it easy to overexpose the white patch on the hen and bright surroundings. The male's bright yellow eye is also easily overexposed. In North America it is photographable at select zoos including the Palm beach Zoo, FL.



### Tufted Duck *Aythya fuligula*

Tufted Duck is native to northern Europe and Asia. It resembles North America's Ring-necked Duck but does not have a bright white bill stripe. Furthermore, Tufted Duck features a long tuft of feathers that originates from the crest and extends down the neck. Female has a smaller tuft and is dark brown with medium brown sides and white under-tail coverts. Since they are very dark on the majority of their body, overexposure of the white sides on the drake and white under-tail coverts on the hen can be a problem. Exposing so that any visible white areas are as far to the right on the histogram as possible without overexposing is the key to a successful photo. Tufted Duck is prone to migration error and is seen every year along the Atlantic coast provinces of Canada and New England. They are not commonly found in captivity but can be photographed at the Palm Beach Zoo, FL..



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### Smew

#### *Mergellus albellus*

Smew is a very small sub-Arctic Eurasian diving Merganser species whose winter range includes southern areas of Japan, Korea, eastern China and coastal Western Europe. Males are largely white with intricate black details. Females have a lightly scaled gray body with a brown head and white chin. Recording detail in both black and white is difficult due to the extreme dynamic range presented by Smews. Photographing them in overcast or shade with fill flash and exposing to the right of the histogram will produce a well exposed photo. Some black detail may be lost with most cameras. Wild Smew are occasionally found in the Aleutians and the Atlantic provinces of Canada. In captivity they can be found at the San Diego Zoo, CA, Sioux Falls Zoo, SD, Denver Zoo, CO, Palm Beach Zoo, FL and Miami Zoo, FL.



### White-backed Duck

#### *Thalassornis leuconotus*

The White-backed Duck is a stiff tailed diving duck from the sub-Saharan western, southern and southeastern parts of Africa. Male and female are similar in appearance. They are overall relatively dark with a distinctive brown scaly pattern on their body and a white patch behind a yellow and black speckled bill. The "white-back" can only be seen in flight. This duck averages darker than a mid-tone bird and negative exposure compensation may be necessary to avoid overexposure of the white facial patch and the lighter background areas. These are very rare in captivity. Places to photograph them include the San Diego Wildlife Park in Escondido, CA and the North Carolina Zoo in Asheboro.

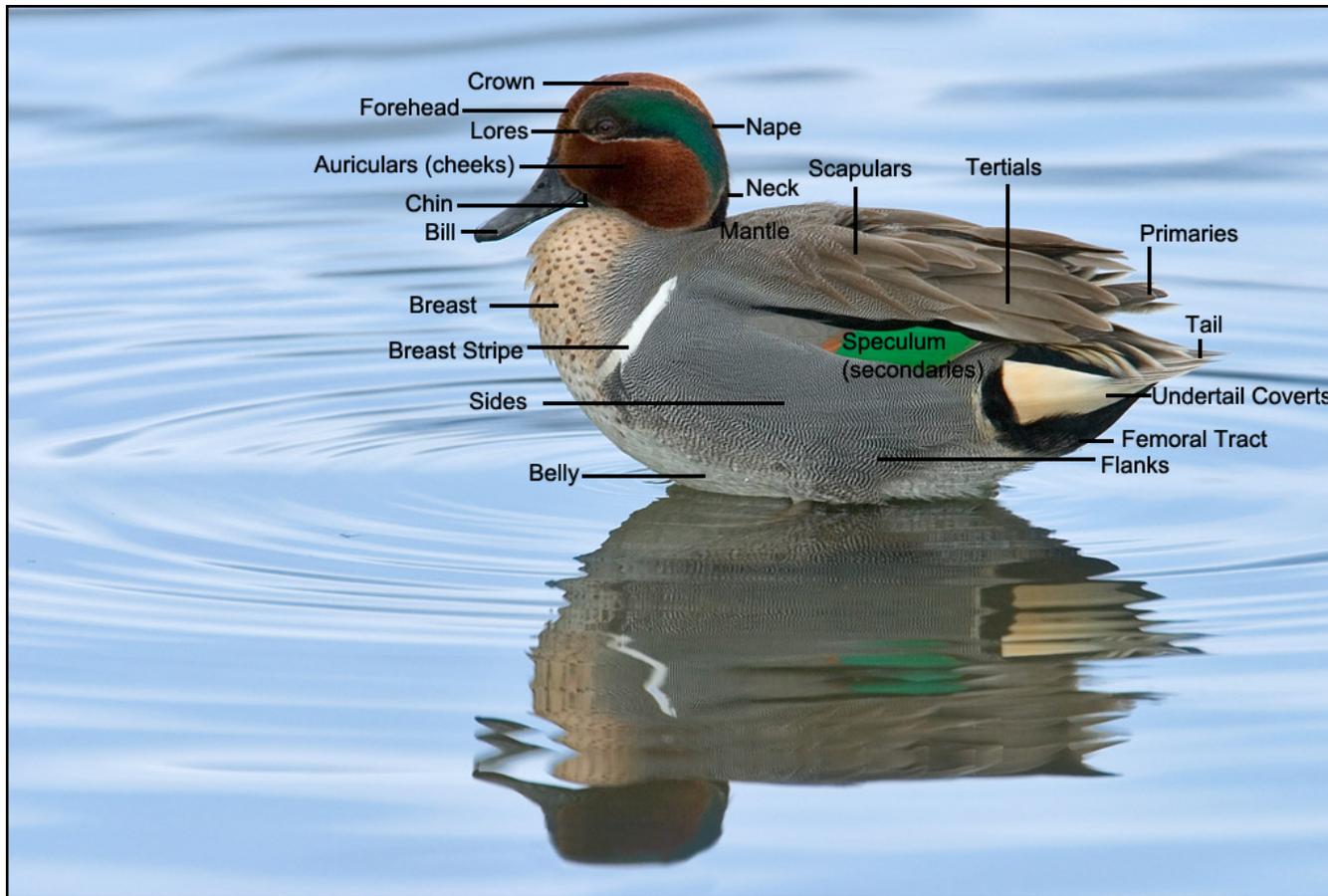




Appendix

## Appendix I - Duck Topography

The major parts of a duck are identified in the picture below.



## Ducks of North America - The Photographers Guide

### Appendix II - World Waterfowl Species

WILD WATERFOWL SPECIES	RANGE
<b>WHISTLING-DUCKS</b>	
Black-bellied [Red-billed] Whistling-Duck (Dendrocygna autumnalis)	C. America, N. America, S. America
Black-billed [West Indian] Whistling-Duck (Dendrocygna arborea)	West Indies
Fulvous Whistling-Duck (Dendrocygna bicolor)	C. America, N. America, S. America, Africa, India
Lesser [Javan] Whistling-Duck (Dendrocygna javanica)	Asia, East Indies
Plumed [Eyton's] Whistling-Duck (Dendrocygna eytoni)	Australia
Spotted Whistling-Duck (Dendrocygna guttata)	East Indies
Wandering Whistling-Duck (Dendrocygna arcuata)	Australia, East Indies
White-faced Whistling Duck (Dendrocygna viduata)	S. America, Africa
<b>NORTHERN GEESE</b>	
Bar-headed Goose (Anser indicus)	Asia
Barnacle Goose (Branta leucopsis)	Europe, Greenland, Iceland
Brent (Brant) Goose (Branta bernicla)	Europe, Asia
Canada Goose (Branta canadensis)	N. America
Emperor Goose (Anser canagicus)	N. America, Asia
Greater White-fronted Goose (Anser albifrons)	Europe, Asia, N. America
Graylag Goose (Anser anser)	Europe, Asia, N. America
Hawaiian Goose [Nene] (Branta sandvicensis)	Hawaii
Lesser White-fronted Goose (Anser erythropus)	Europe, Asia
Magpie Goose (Anseranas semipalmata)	Australia
Pink-footed Goose (Anser brachyrhynchus)	Europe, Greenland, Iceland

Red-breasted Goose (Branta ruficollis)	Europe, Asia
Ross' Goose (Anser rossii)	N. America
Snow Goose (Anser caerulescens)	N. America
Swan Goose (Anser cygnoides)	Asia
Taiga Bean Goose (Anser fabalis)	Asia, Europe
Tundra Bean Goose (Anser serrirostris)	Asia, Europe
<b>SWANS</b>	
Bewick's Swan (Cygnus bewickii)	Asia, Europe
Black Swan (Cygnus atratus)	Australia, New Zealand
Black-necked Swan (Cygnus melanocoryphus)	S. America
Cape Barren Goose (Cereopsis novaehollandiae)	Australia
Coscoroba Swan (Coscoroba coscoroba)	S. America
Mute Swan (Cygnus olor)	Europe, N. America
Trumpeter Swan (Cygnus buccinator)	N. America
Tundra (Whistling) Swan (Cygnus serrirostris)	N. America
Whooper Swan (Cygnus cygnus )	Asia, Europe
<b>WATERFOWL ODDITIES</b>	
Comb Duck (Sarkidiornis melanotos)	S. America, Africa, India
Pink-eared Duck (Malacorhynchus membranaceus)	Australia
Spur-winged Goose (Plectropterus gambensis)	Africa
<b>SHELDGEESE AND SHELDUCKS</b>	
Abyssinian Blue-Winged Goose (Cyanochen cyanopterus)	Africa
Andean Goose (Chloephaga melanoptera)	S. America
Ashy-headed Goose (Chloephaga poliocephala)	S. America
Australian Shelduck (Tadorna tadornoides)	Australia

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Cape Shelduck ( <i>Tadorna cana</i> )	Africa
Common Shelduck ( <i>Tadorna tadorna</i> )	Europe, Asia, Africa
Egyptian Goose ( <i>Chloephaga aegyptiacus</i> )	Africa
Kelp Goose ( <i>Chloephaga hybrida</i> )	S. America
Orinoco Goose ( <i>Neochen jubatus</i> )	S. America
Paradise Shelduck ( <i>Tadorna variegata</i> )	New Zealand
Radjah Shelduck ( <i>Tadorna radjah</i> )	India, East Indies
Ruddy Shelduck ( <i>Tadorna ferruginea</i> )	Asia, Africa
Ruddy-headed Goose ( <i>Chloephaga rubidiceps</i> )	S. America
Upland [Magellanic] Goose ( <i>Chloephaga picta</i> )	S. America
STEAMERDUCKS	
Falkland Steamerduck ( <i>Tachyeres brachypterus</i> )	S. America
Flying Steamerduck ( <i>Tachyeres patachonicus</i> )	S. America
Magellanic Steamerduck ( <i>Tachyeres pteneres</i> )	S. America
White-headed Steamerduck ( <i>Tachyeres leucocephalus</i> )	S. America
WHITE-WATER DUCKS	
[New Zealand] Blue Duck ( <i>Hymenolaimus malacorhynchos</i> )	New Zealand
Salvadori's Duck ( <i>Salvadorina waigiuenis</i> )	East Indies
Torrent Duck ( <i>Merganetta armata</i> )	S. America
PERCHING-DUCKS	
African Pygmy-goose ( <i>Nettapus auritus</i> )	Africa
Brazilian Duck ( <i>Amazonetta brasiliensis</i> )	S. America
Cotton Pygmy-goose ( <i>Nettapus coromandelianus</i> )	Asia, Australia, East Indies
Green Pygmy-goose ( <i>Nettapus pulchellus</i> )	Australia
Hartlaub's Duck ( <i>Pteronetta hartlaubi</i> )	Africa

Mandarin Duck ( <i>Aix galericulata</i> )	Asia
Maned Duck ( <i>Chenonetta jubata</i> )	Australia
Muscovy Duck ( <i>Cairina moschata</i> )	C. America, S. America
White-winged Wood Duck ( <i>Cairina scutulata</i> )	Asia
Wood Duck ( <i>Aix sponsa</i> )	N. America
DABBLING DUCKS	
African Black Duck ( <i>Anas sparsa</i> )	Africa
American Black Duck ( <i>Anas rubripes</i> )	N. America
American Wigeon [Baldpate] ( <i>A. americana</i> )	C. America, N. America
Andaman Teal ( <i>Anas albogularis</i> )	Andaman Islands
Brown [Auckland Islands] Flightless Teal ( <i>A. aucklandica</i> )	Auckland Islands
Australasian Shoveler ( <i>A. rhynchotis</i> )	Australia, New Zealand
Grey Teal ( <i>A. gibberifrons</i> )	Australia, East Indies, New Zealand
Baikal Teal ( <i>A. formosa</i> )	Asia
Blue-winged Teal ( <i>A. discors</i> )	C. America, N. America, S. America
Campbell Island Flightless Teal ( <i>A. nesiotis</i> )	Campbell Islands
Cape Shoveler ( <i>A. smithii</i> )	Africa
Cape Teal ( <i>A. capensis</i> )	Africa
Chestnut Teal ( <i>A. castanea</i> )	Australia
Chiloe Wigeon ( <i>A. sibilatrix</i> )	S. America
Cinnamon Teal ( <i>A. cyanoptera</i> )	C. America, N. America, S. America
Common (Eurasian Green-winged) Teal ( <i>A. crecca</i> )	Europe, Asia, Africa
Crested Duck ( <i>Lophonetta specularioides</i> )	S. America
Eurasian Wigeon ( <i>A. penelope</i> )	Europe, Asia, Africa
Falcated Duck ( <i>A. falcata</i> )	Asia
Gadwall ( <i>A. strepera</i> )	Europe, Asia, C. America, N. America, S. America, Africa

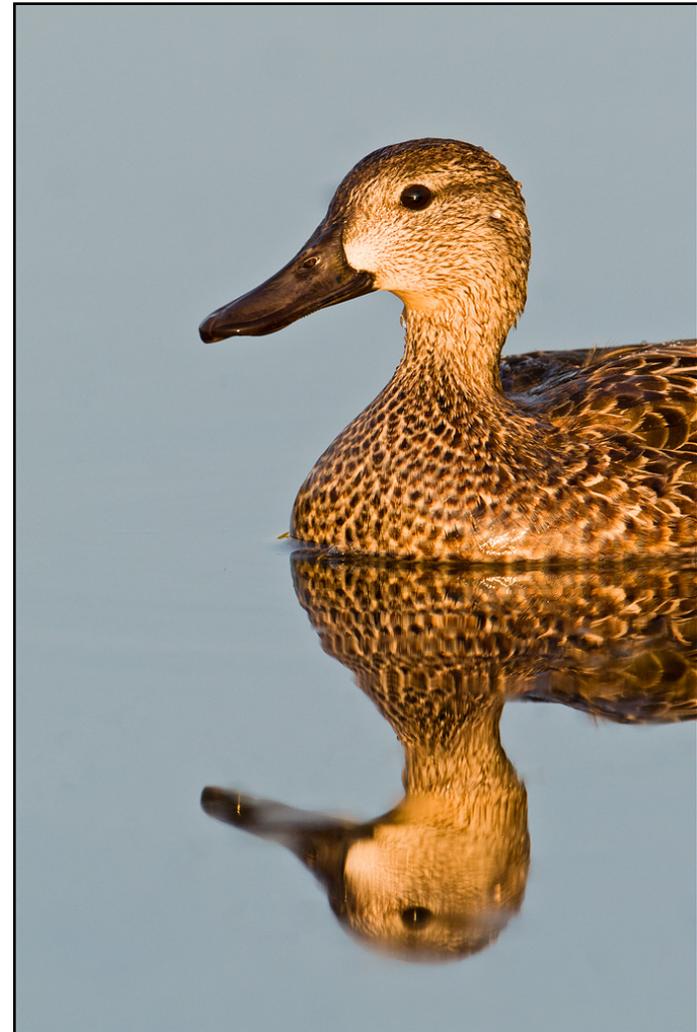
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Garganey ( <i>A. querquedula</i> )	Europe, Asia, Africa
Green-winged Teal ( <i>A. carolinensis</i> )	C. America, N. America
Hawaiian Duck [Koloa] ( <i>A. wyvilliana</i> )	Hawaii
Hottentot Teal ( <i>A. hottentota</i> )	Africa
Laysan Duck ( <i>A. laysanensis</i> )	Laysan Island
Madagascar [Bernier's] Teal ( <i>A. bernieri</i> )	Madagascar
Mallard ( <i>A. platyrhynchos</i> )	Europe, Asia, N. America
Mariana Mallard ( <i>A. p. oustaletti</i> )	Mariana Islands
Meller's Duck ( <i>A. melleri</i> )	Madagascar
Mexican Mallard ( <i>A. p. diazi</i> )	C. America, N. America
Mottled [Florida] Duck ( <i>A. fulvigula</i> )	N. America
New Zealand Brown Teal ( <i>A. chlorotis</i> )	New Zealand
Northern Pintail ( <i>A. acuta</i> )	Europe, Asia, C. America, N. America, Africa
Northern Shoveler ( <i>A. clypeata</i> )	Europe, Asia, C. America, N. America, Africa
Pacific Black [Grey] Duck ( <i>A. superciliosa</i> )	Australia, East Indies
Philippine Duck ( <i>A. luzonica</i> )	Philippines
Puna Teal ( <i>A. puna</i> )	S. America
Red Shoveler ( <i>A. platalea</i> )	S. America
Red-billed Pintail ( <i>A. erythrorhyncha</i> )	Africa
Ringed Teal ( <i>Calonetta leucophrys</i> )	S. America
Silver [Versicolored] Teal ( <i>A. versicolor</i> )	S. America
Speckled Teal ( <i>A. flavirostris</i> )	S. America
Spectacled [Bronze-winged] Duck ( <i>Speculanas specularis</i> )	S. America
Spot-billed Duck ( <i>A. poecilorhyncha</i> )	Asia
White-cheeked [Bahama] Pintail ( <i>A. bahamensis</i> )	S. America, West Indies
Yellow-billed Duck ( <i>A. undulata</i> )	Africa
Yellow-billed [Brown] Pintail ( <i>A. georgica</i> )	S. America
POCHARDS	

Australian White-eyed Duck [Hardhead] ( <i>Aythya australis</i> )	Australia
Baer's Pochard ( <i>Aythya baeri</i> )	Asia
Canvasback ( <i>Aythya valisineria</i> )	N. America
Common [Eurasian] Pochard ( <i>Aythya ferina</i> )	Europe, Asia, Africa
Ferruginous Pochard ( <i>Aythya nyroca</i> )	Europe, Asia, Africa
Greater Scaup ( <i>Aythya marila</i> )	Europe, Asia, N. America
Lesser Scaup ( <i>Aythya affinis</i> )	C. America, N. America, S. America
Madagascar Pochard ( <i>Aythya innotata</i> )	Madagascar
Marbled Teal ( <i>Marmaronetta angustirostris</i> )	Europe, Asia, Africa
New Zealand Scaup ( <i>Aythya novaeseelandiae</i> )	New Zealand
Red-crested Pochard ( <i>Netta rufina</i> )	Europe, Asia
Redhead ( <i>Aythya americana</i> )	N. America
Ring-necked Duck ( <i>Aythya collaris</i> )	C. America, N. America
Rosy-billed Pochard ( <i>Netta peposaca</i> )	S. America
Southern Pochard ( <i>Netta erythrophthalma</i> )	Africa, S. America
Tufted Duck ( <i>Aythya fuligula</i> )	Europe, Asia, Africa
EIDERS	
Common Eider ( <i>Somateria mollissima</i> )	Europe, Asia, N. America
King Eider ( <i>Somateria spectabilis</i> )	Europe, Asia, N. America
Spectacled Eider ( <i>Somateria fischeri</i> )	Asia, N. America
Steller's Eider ( <i>Polysticta stelleri</i> )	Europe, Asia, N. America
SEA-DUCKS	
Auckland Islands Merganser ( <i>Mergus australis</i> )	Auckland Islands
Barrow's Goldeneye ( <i>Bucephala islandica</i> )	N. America, Iceland
Black (Common) Scoter ( <i>Melanitta nigra</i> )	Europe, Asia, N. America
Brazilian Merganser ( <i>Mergellus octoetaceus</i> )	S. America

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Bufflehead ( <i>Bucephala albeola</i> )	N. America
Common Goldeneye ( <i>Bucephala clangula</i> )	Europe, Asia, N. America
Common Merganser [Goosander] ( <i>Mergellus merganser</i> )	Europe, Asia, N. America
Harlequin Duck ( <i>Histrionicus histrionicus</i> )	Asia, N. America
Hooded Merganser ( <i>Lophodytes cucullatus</i> )	N. America
Long-tailed Duck [Oldsquaw] ( <i>Clangula hyemalis</i> )	Europe, Asia, N. America
Red-breasted Merganser ( <i>Mergellus serrator</i> )	Europe, Asia, N. America
Scaly-sided [Chinese] Merganser ( <i>Mergellus squamatus</i> )	Asia
Smew ( <i>Mergellus albellus</i> )	Europe, Asia
Surf Scoter ( <i>Melanitta perspicillata</i> )	N. America
White-winged [Velvet] Scoter ( <i>Melanitta fusca</i> )	Europe, Asia, N. America
STIFF-TAILED DUCKS	
Australian Blue-billed Duck ( <i>Oxyura australis</i> )	Australia
Black-headed Duck ( <i>Heteronetta atricapilla</i> )	S. America
Freckled Duck ( <i>Stictonetta naevosa</i> )	Australia
Lake [Argentine Ruddy] Duck ( <i>Oxyura vittata</i> )	S. America
Maccoa Duck ( <i>Oxyura maccoa</i> )	Africa
Masked Duck ( <i>Nomonyx dominica</i> )	C. America, S. America
Musk Duck ( <i>Biziura lobata</i> )	Australia
Ruddy Duck ( <i>Oxyura jamaicensis</i> )	N. America, S. America, West Indies
White-headed Duck ( <i>Oxyura leucocephala</i> )	Europe, Asia



## Photo/Species Index

It may seem that female ducks are underrepresented in this book. In most cases, male ducks are the more colorful, more often photographed, and the species namesake. Females of many species look similar. Where there is a visible difference between the two sexes, a female is shown for every native North American species except Gadwall. Birds in breeding plumage are shown. Where male and female are sexually dimorphic, the bird's gender has been included in the list.

Cover - clockwise from upper left - King Eider male, Northern Pintail male, Ring-necked Duck male, Wood Duck male

- Page 3 - Canvasback male
- Page 5 - Redhead male
- Page 7 - Blue-winged Teal male/female
- Page 8 - Bufflehead male
- Page 9 - Harlequin Duck male
- Page 10 - Ring-necked Duck male
- Page 11 - Surf Scoter male
- Page 12 - Northern Pintail male
- Page 13 - Northern Shoveler male
- Page 14 - Ring-necked Duck male
- Page 15 - Barrow's Goldeneye male
- Page 16 - Mallard male
- Page 17 - Wood Duck male
- Page 18 - Common Goldeneye male
- Page 19 - Hooded Merganser female
- Page 20 - Mallard male
- Page 21 - Greater Scaup male
- Page 22 - Mallard male
- Page 23 - Steller's Eider male
- Page 24 - American wigeon male
- Page 26 - Wood Duck male
- Page 27 - Green-winged Teal male
- Page 28 - Steller's Eider male
- Page 29 - Common Goldeneye male
- Page 31 - Snowy Egret
- Page 32 - Green-winged Teal male
- Page 33 - Northern Pintail male
- Page 34 - Green-winged Teal male, Northern Pintail male
- Page 35 - Common Eider female
- Page 36 - Mallard male, Common Eider female
- Page 37 - Black-bellied Whistling Duck
- Page 38 - Radjah Shelduck, Canvasback female
- Page 39 - Canvasback male
- Page 40 - Ring-necked Duck male
- Page 41 - Mallard male/female, King Eider male (non-breeding)
- Page 42 - Green-winged Teal male
- Page 44 - Ruddy Duck male
- Page 45 - Cinnamon Teal male
- Page 47 - Speckled Teal
- Page 48 - Canvasback female
- Page 49 - Bald Eagle
- Page 50 - Green-winged Teal male
- Page 51 - Wood Duck male, American Wigeon male, Hooded Merganser male
- Page 52 - Redhead male
- Page 53 - Human male
- Page 54 - Bufflehead male
- Page 55 - Hooded Merganser male
- Page 56 - Spectacled Eider male
- Page 57 - Surf Scoter male
- Page 58 - Long-tailed Duck male
- Page 59 - Ruddy Duck male
- Page 60 - Lesser Scaup male
- Page 61 - Black-bellied Whistling Duck
- Page 62 - Fulvous Whistling Duck

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- Page 63 - Domestic Muscovy  
Page 64 - Wood Duck male/female  
Page 65 - Mallard male/female  
Page 66 - Mexican Mallard female/male  
Page 67 - Mottled Duck female/male  
Page 68 - American Black Duck female/male  
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Page 70 - Northern Pintail female/male  
Page 71 - American Wigeon female/male  
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Page 73 - Cinnamon Teal female/male  
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Page 77 - Redhead female/male  
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Page 79 - Greater Scaup female/male  
Page 80 - Lesser Scaup male/female  
Page 81 - Common Eider female (Atlantic Race)/male  
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Page 92 - Bufflehead male/female  
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Page 95 - Red-breasted Merganser female/male  
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Page 98 - Mandarin Duck male  
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Page 102 - White-faced Whistling Duck, Ruddy Shelduck male  
Page 103 - Cape Shelduck female, Common Shelduck male  
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Page 115 - White-cheeked Pintail male, Red-billed Pintail  
Page 116 - Yellow-billed Pintail, Cape Teal  
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Page 124 - Green-winged Teal male  
Page 128 - Blue-winged Teal female  
Page 131 - Human male  
Back Cover - clockwise from upper left Steller's Eider male, Long-tailed Duck male, Ruddy Duck male, Bufflehead male

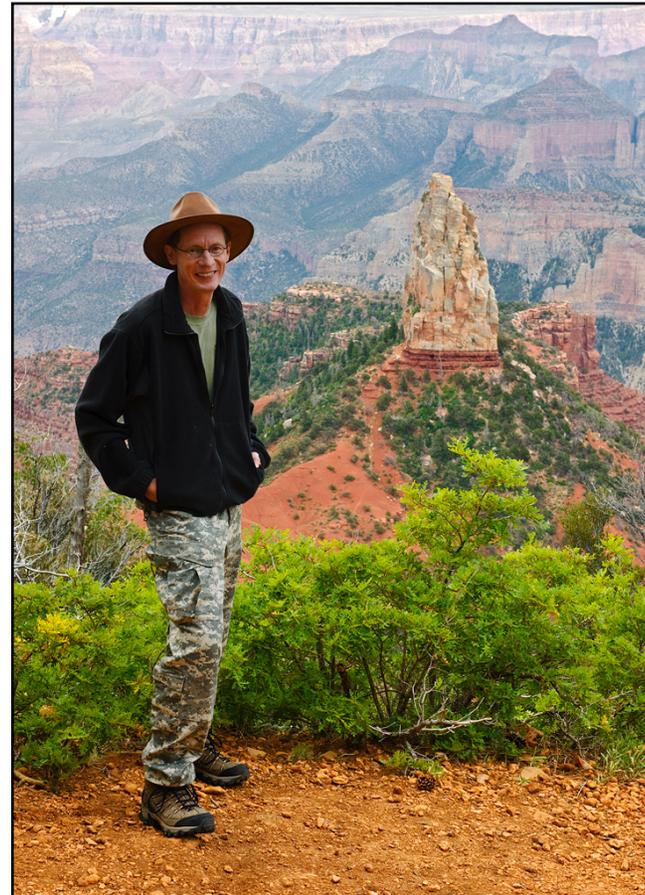
## About The Author

E.J. Peiker is a professional freelance Nature Photographer. He was born in 1960 in Augsburg, Germany and moved to Mansfield, Ohio, in 1969. He became a citizen of the United States of America in 1975. From 1979 to 1983, he attended Purdue University in West Lafayette, Indiana where E.J. earned a Bachelors Degree in Electrical Engineering specializing in Microelectronics and Semiconductor Physics. For nearly 27 years, he worked on Microprocessors and Chipsets for personal computers, workstations and servers for the Intel Corporation in California, New Mexico, Oregon, and Arizona. Since 1994, E.J has lived in the Sonoran Desert in the south-central Arizona city of Chandler.

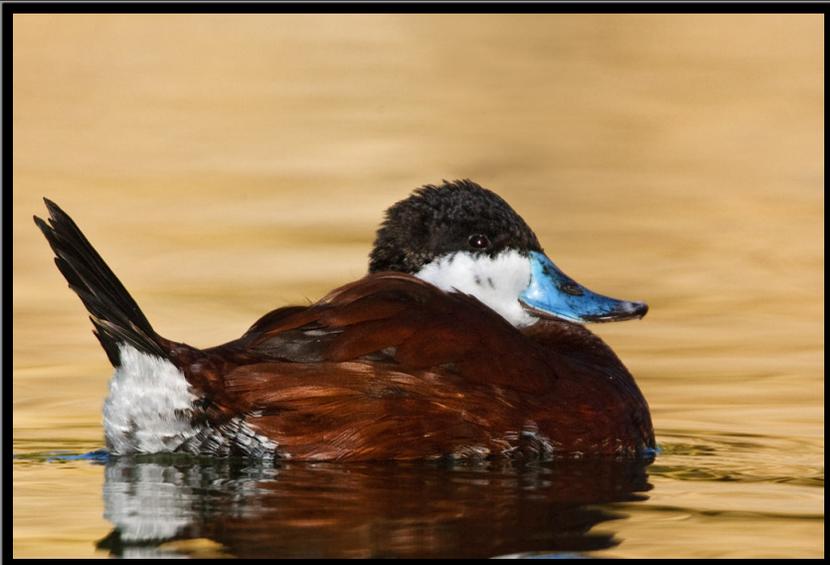
E.J. has formally studied photography at the University of New Mexico and taken classes offered by the Rocky Mountain School of Photography. His greatest photographic influences have been John Shaw, and Arthur Morris. Artistic images of ducks is a photographic specialty and he teaches others duck and bird photography through his DuckShop™ photographic workshop series. E.J. is also an accomplished landscape photographer. His photographs have been published in many nature, agriculture and photography publications including Outdoor Photographer, Popular Photography, Birding Magazine, Audubon Society publications, National Geographic, Barron's, the UK's Practical Photography and many others. The US National Park Service uses some of his images in their National Park Brochures as does the Fish and Wildlife Service. Several zoos from around the world use his photographs for their identification displays and brochures. He currently shoots with Nikon professional camera bodies and lenses and is a Nikon Professional Services member. He has

previously photographed with Canon, Olympus and Minolta equipment. E.J. is a cofounder and Senior technical Editor for the online Nature Photography forum Naturescapes.net.

E.J. is also a pilot with Commercial, Multi-engine and Instrument ratings. He has authored flight simulation articles for aviation publications in the past.







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