

Camera Recommendations for Wildlife Photography

Steve Hamlin – Worthington Arts Festival, 7/9/2011

Over the roughly 10 years since I bought my first digital camera, my wife Linda and I have become immersed in digital photography. In 2004, we got our first taste of wildlife photography on a trip to visit my brother and his family in Houston, Texas. Linda and I took a day trip to Galveston Island and stumbled on a tidal wetland with a rich population of birds. We spent a giddy afternoon there and we've been hooked ever since.

Now our travels revolve around photographing wildlife. We travel as often as possible, and when we're not traveling, we're planning or preparing for a trip. We also try to go on photographic forays while we're at home to take advantage of the rich opportunities in our own backyard, but the demands of home life, work, and volunteer commitments often interfere.

My kit

My photography kit is designed to give me varying degrees of portability, while allowing me a high likelihood of success at capturing subject matter that presents itself. On the minimalist end of the portability scale, I have a Canon SD800 miniature point-and-shoot camera that I can slip into my pocket and use for discrete shots while traveling. My SD800 is useless for wildlife, but very good for landscapes. It has a limited zoom with a very wide-angle to moderate telephoto range. I also have a compact camera, the Panasonic FZ100 that I discuss in detail below. Like the SD800, it has a zoom lens which is very useful for landscapes at the wide-angle end. But, unlike the SD800, the telephoto end of the zoom is quite well suited for wildlife photos.

My single lens reflex (SLR) kit includes 3 digital bodies that I've accumulated as advances made upgrading sensible. For the most part, I've kept my older bodies. I currently own and use a Canon 20D (8 megapixels), a Canon 40D (10 megapixels), and my newly purchased Canon 7D (18 megapixels).

It also includes a range of lenses:

- A Sigma 17-35mm, f/2.8-4 DG HSM wide angle zoom
- A Sigma 24-135mm, f/2.8-4.5 – the first lens I purchased and still my favorite landscape/portrait lens
- A Canon EF 100-300mm, f/4.5-5.6 Ultrasonic (non-IS) – the second lens I purchased and, for a couple of years, my main wildlife lens
- A Canon EF 300mm f/4 L-series
- A Canon EF 300mm f/2.8 IS L-series
- A Canon EF 600mm f/4 L-series
- 2 – 1.4X Canon L-series teleconverters
- A 2x Canon L-series teleconverter

And other necessary accessories:

- 2 Manfrotto tripods – an 055ProB aluminum and an 055CXPro4 carbon fiber
- A Manfrotto monopod with a Manfrotto 484R2 ball head
- A Manfrotto 3030 pan/tilt head
- A Manfrotto Proball 468RC fitted with an Arca-Swiss-style clamp

- An Acratech Long Lens tripod head
- Various filters, spare batteries, battery chargers, memory cards, etc.
- Bags (mostly Lowepro) to carry it all.

What makes a good wildlife camera?

- A quality lens with a focal length of at least 300mm and preferably 400mm or more
- A relatively fast lens – f/5.6 or faster at 600mm, and no slower (higher f-number) than f/5.6 if shorter
- A body with enough resolution to allow cropping without sacrificing image quality to the point of uselessness
- A reliable auto-focus system
- A viewfinder/preview function that provides enough detail to accurately judge the focus and composition of your subject

Other valuable features include:

- Image stabilization (also called optical stabilization) – not absolutely necessary, but recommended
- Focus tracking (useful for keeping a bird in flight in focus)

Other photographers might include additional features in this list, such as the ability to capture images in RAW. Ready access to image assessment tools, like histograms, might deserve to be included too. They can be a great help in avoiding the disappointment of discovering that all the photos you took of that once-in-a-lifetime rare bird in your backyard are overexposed.

Compact Cameras

So-called compact cameras are “SLR-like”, in that they look very much like single-lens reflex cameras, but there are some notable differences. Probably most significant is the fact that they don’t have interchangeable lenses – whatever the focal length range of the attached lens is (usually given as “35mm equivalent”), defines the limits of the camera’s ability to capture near or far images. It’s true there are extenders available for many compact cameras, which extend the length of the attached lens, but they are usually pretty unsatisfactory. On the plus side, the lack of interchangeability means your kit is going to be much smaller and less expensive.

Another significant difference between compact cameras and SLRs is the viewfinder. One of the defining characteristics of an SLR is the viewfinder that allows the photographer to see what the camera sees, using a mirror and prism to reflect the scene captured by the lens to the photographer’s eye. This “through the lens” viewfinder becomes very important when a wide range of focal lengths is available, like with a zoom lens. A rangefinder – a camera style that lacks a through the lens viewfinder – may do an adequate job of approximating what the camera sees, but it’s still an approximation. The “live view” common on digital cameras has made through-the-lens viewfinders a less important distinction, but live view isn’t always satisfactory for composing and focusing, especially when photographing wildlife. Compact cameras have a hybridized viewfinder that acts like the through-the-lens viewfinder of an SLR, but, like live view, uses circuitry and a tiny LCD screen to project the view that the camera’s capture

device – the sensor – is seeing to the eye. Because of its small size, the LCD screen in the viewfinder is usually quite pixelated, obscuring fine detail.

Yet another difference between compact cameras and SLRs is weight and size. True to their name, compact cameras are about 80% of the size of an SLR with a normal range (24-135mm, for example) lens mounted. When compared to an SLR with a lens mounted that is a good length for wildlife photography (300-600mm), the difference in size is much more marked. Compact cameras also weigh less than their SLR cousins – a lot less when the SLR has a long lens mounted.

For a photographer on a budget, a compact camera can be a very good choice. With the recent trend of greater and greater zoom range (currently up to 35x), and the incorporation of image stabilization, a single compact camera can handle everything from landscapes, portraits, and macro-photography (close-ups of flowers and insects, etc.), to wildlife and action photography. To do an equivalent job with an SLR with such a wide range of potential subjects would require a number of lens changes. Cost-wise, a compact camera will cost about \$400, while an SLR kit that will do an adequate job with wildlife will cost at least double that (\$809.01 for the Pentax [K-r Digital SLR Camera with 18-55mm F3.5-5.6 DA-L and 55-300mm DA-L Zoom Lenses](#) at B&H Photo). The Pentax SLR (and other similarly priced SLR kits) has a maximum nominal focal length of 300mm, while a \$400 compact camera might have 600mm or more. The 300mm of the SLR will give an effective focal length of about 420mm, due to “cropping factor” – a result of the size of the sensor, compared to a 35mm film frame.

So you may be wondering, why spend the money on an SLR? My answer is: choice, quality, and extendibility. There is a broad spectrum of SLR choices, both in bodies and lenses – much broader than in compact cameras. Because of the interchangeability of lenses, a photographer would be smart to choose the brand of camera he or she will use based on the lenses available for it. An investment in a good lens will continue to pay off as fast-changing technology makes bodies obsolete. An attractively priced camera kit will lose its economy if it must be replaced in its entirety in order to get the lens length or features you find you need. Such is also the case with compact cameras – if one aspect of it proves unsatisfactory, the whole camera must be replaced.

The quality of SLR lenses, especially among the leading brands, draws on a long history of development for, and use by, film photographers. There is a mind-boggling array of lenses, ranging from inexpensive and consumer-targeted to those built for professionals that cost as much as a decent used car. With a few exceptions, any of them will work with any SLR body, as long as the mount matches. That means a photographer can upgrade lenses as goals change and budget allows. The quality of both bodies and lenses is generally superior to compact cameras, even in the lowest priced kits, but especially in the mid-priced to pro classes.

Finally, as I alluded to already, an SLR gives the photographer many options for extending its usefulness. Chief among the options is the range of lenses available, but it doesn't stop there. There is a bewildering array of filters, flashes, and sundry gizmos that are made for the popular SLR brands and models. Many of these will also work on compact cameras, but often less effectively than on the SLR they were designed for. Of course, the main class of extendibility options – lenses – is useless to compact camera photographers.

Lastly, a word about focal length: more is not always better. With the zoom capability of compact cameras making greater and greater focal length available, it would be easy to fall prey to its allure. But, greater focal length comes at the cost of amplified camera shake and diminished light collecting ability.

These tandem penalties conspire to make ultra-long focal lengths ineffective. Image stabilization helps to mitigate the camera movement problem, but it can only go so far. The diminished light collection results in a slower lens, requiring longer exposure times for equivalent conditions. Since wildlife has the annoying habit of seeking out dark hiding places, the long exposure times required can make hand-held shots virtually impossible. The conventional wisdom known as the “hand-held rule” recommends that the shutter speed of a shot should be equal to one over the focal length. This translates into 1/600 for a 600mm lens, and so on. Image stabilization makes slower shutter speeds possible, but the “one over” figure is still a good goal.

The best way to overcome the dual penalties of camera movement and diminished light collection is to look for the lens that has the largest aperture at the longest focal length (along with image stabilization). A typical lens is rated by two sets of numbers: focal length (range in the case of a zoom lens), and aperture (again, range for zooms). My top pick (and the one I own) among the compact cameras listed below has an effective focal length range of 25-600mm, and an aperture range of f/2.8-5.2. That means that at 25mm, the lens is a fast f/2.8 (the lower the number, the larger the aperture and faster the lens). At the 600mm end of the zoom, it’s a respectable f/5.2. By comparison, the Fujifilm Finepix S3200 has slower lens speed throughout its range (f/3.1-5.9) and a shorter focal length range of 24-576mm. The lower the f-number, the more effective the lens is at collecting light. Lens speed is also frequently expressed as a ratio (such as 1:2.8), as the f-number is a comparison of aperture diameter to focal length. The effect of a lower f-number at a given focal length is a faster shutter speed for given conditions. Summing up, under the same conditions, the Fujifilm will require slower shutter speeds than the Panasonic, even though the focal length (and resulting magnification) of the Fuji is slightly less than the Panasonic.

My top picks

What follows is a list of compact cameras that, in my opinion, would be good choices for wildlife photography. It shouldn’t be considered to be all-inclusive, but rather a starting point for your own investigation. I judged these cameras as a potential buyer might (and as I did when I shopped for my own camera last fall) – basing my picks on available information, including specifications. I have not tested any cameras in the list other than the Panasonic FZ100 that I own. I did research my choices fairly extensively last fall, reading numerous reviews, but time marches on, and new models and refinements have been introduced in the interim.

All information included below (except my brief narratives) was collected from the B&H Photo website (www.bhphotovideo.com). Bullet points are quoted from that source, so any qualifiers (“stunning”, “advanced”, “easy”, etc.) are theirs, not mine. Many terms used are proprietary labels. I make no attempt to explain them – determining their meaning and relative value should be part of your investigation.

B&H is only one of a number of reputable sources for camera equipment, and you should not view this as a recommendation. As with camera selection, you should choose your own camera retailer, based on your own criteria. B&H usually has a very competitive price and their selection is as complete as any retailer. Therefore, I feel comfortable that their selection and pricing represents the overall market very well.

My #1 pick:

Panasonic [Lumix DMC-FZ100 Digital Camera](#) - \$399.95 (B&H Photo)

- 14.1 Megapixels MOS Sensor
- Leica 25mm Wide Angle 24x Optical Zoom
- 3" Rotating LCD & Electronic Viewfinder
- Venus Engine FHD Image Processor
- Optical Image Stabilizer Stills & Movies
- Intelligent Auto Mode Stills & Movies
- AVCHD Full-HD Movies: 1920 x 1080
- 11 fps Burst Mode at Full Resolution
- High ISO Sensitivity (1600 - 6400)
- Manual Control for Stills & Movies

This is the camera I chose last fall. My chief deciding factors were the lens (Leica brand, very good focal lengths at both ends of the range, good aperture across the zoom range), and the MOS sensor which enables the 11 frames per second burst rate. Another attractive feature that I was unsure of the usefulness of, but which seemed worth trying was the articulating LCD screen. I have found it useful for shots where neither the viewfinder nor a fixed LCD would be available. I used it for an overhead shot with my camera mounted on a tripod where I couldn't get above the camera to look into the viewfinder and where a fixed LCD would have been equally inaccessible.

I didn't care about the 14.1 megapixel resolution – I would have preferred something in the range of 10-12 megapixels (the sensors in these cameras are tiny, and I'm not convinced that anything is gained by cramming more and more pixels onto them). I also didn't care about the video capability, but it may come in handy at some point. Virtually all current compact cameras have video capture. If it's important to you, this camera still stacks up well against the other cameras in its class.

I've been impressed with the menu and the access to it in use. It is a very sophisticated camera in a small, lightweight package. I bought it for those occasions when my SLR kit is too much baggage, in the hope that it would allow me to capture photo opportunities that require a long, fairly fast lens. It has served very well in that function. I can carry it with me easily and, with a few minor quibbles, it takes very good pictures under a wide range of conditions and of a broad spectrum of subject matter.

Panasonic [Lumix DMC-FZ40 Digital Camera](#) - \$315.83 (B&H Photo)

- 14.1 Megapixels
- 24x 25-600mm (35mm Equiv.) Optical Zoom
- 3.0" LCD & Electronic Viewfinder
- Venus Engine HD II Image Processor
- Optical Image Stabilizer Stills & Movies
- Intelligent Auto Mode Stills & Movies
- AVCHD Lite Video w/ Stereo Sound
- My Color Mode
- High ISO Sensitivity (1600 - 6400)
- Manual Control for Stills & Movies

This was a very close second. The main differences that swung me to the FZ100 are the CCD sensor that limits the burst rate to 1.8 frames per second at full resolution, and the fixed LCD. If burst rate isn't important to you and you think the fixed LCD will serve you fine, this should be an excellent camera at a very good price.

Other frontrunners:

Fujifilm [Finepix HS20EXR Digital Camera \(Black\)](#) - \$424.95 (B&H Photo)

- 16MP Back Side Illuminated CMOS Sensor
- 3" 460K Resolution LCD
- 30x Optical Zoom (24-720mm Equiv.) Lens
- Stunning 1080p HD Movies
- Motion Panorama Mode
- Tracking Auto Focus
- Smile/Blink Detection Mode
- Face Detection/Red-Eye Removal
- EXR Auto Recognizes 27 Scenes
- Quick & Simple Uploads to Facebook, Etc.

This camera had not been introduced when I made my selection. I don't think it would have altered my choice.

Fujifilm [Finepix S3200 14MP Digital Camera \(Black\)](#) - \$199.95 (B&H Photo)

- 14 Megapixel Resolution
- 24x Zoom W/Wide-Angle 24-576mm Lens
- Large 3" LCD, at 230K Resolution
- Stunning Panoramic Shots
- 720p HD Movie Capture
- Smile and Blink Detection
- Dual Image Stabilization
- Easy Upload Facebook and YouTube Feature
- Tracking Auto Focus (AF)
- Full Manual Controls

Fujifilm [Finepix S4000 14MP Digital Camera \(Black\)](#) - \$232.95 (B&H Photo)

- 14 Megapixel Resolution
- 30x Zoom W/Wide-Angle 24-720mm Lens
- Large 3" LCD, at 230K Resolution
- Stunning Panoramic Shots
- 720p HD Movie Capture
- Smile and Blink Detection
- Dual Image Stabilization
- Easy Upload Facebook and YouTube Feature
- Tracking Auto Focus (AF)
- Full Manual Controls

This camera was a contender. I ended up choosing the FZ100 because, like the FZ40, this camera has a CCD sensor that limits the burst rate. From available reviews, it appeared that the advertised burst rate was overstated and the camera couldn't live up to it under real world conditions. As I stated earlier, I also chose the FZ100 based on its Leica lens with its combination of relatively large aperture and comfortable focal length range.

Canon [PowerShot SX30 IS Digital Camera](#) - \$399.99 (B&H Photo)

- 35x Zoom Lens (24-840mm Equivalent)
- Zoom Framing Assist for Telephoto Photos
- 14.1MP High Resolution
- 2.7" Wide Vari-angle LCD Display
- 720p HD Video With Stereo Sound
- Use Stabilization & Zoom for Video
- Advanced Smart AUTO for 23 Situations
- Optical Image Stabilizer for Sharp Pix
- Powerful DIGIC 4 Image Processor
- Lithium-ion Rechargeable Batteries

The Canon that was available when I was making my selection had a 24x lens. It was on my short list, but I chose the Panasonic. As I recall, the burst rate was the main criteria.

Nikon [Coolpix P500 Digital Camera \(Black\)](#) - \$399.95 (B&H Photo)

- 12.1MP CMOS Sensor
- 36x Wide-Angle 22.5-810mm Lens
- Full 1920x1080 HD Video W/Stereo Sound
- 5fps at Full 12.1MP Resolution
- 3" Vari-Angle Hi Res 921K-Dot Display
- 19 Scene Modes
- Sensitivity Up to 3200 ISO
- 5-Way VR Image Stabilization
- Smart Portrait System
- Dual Processing--Improved Quality, Speed

An earlier Nikon with a 24x lens was the camera that got me thinking about a compact camera. I saw one in use by a fellow painter at an art show opening reception that I attended last summer (2010). Among other differences, the burst rate swung me towards the Panasonic.

Other useful review sites

<http://reviews.cnet.com/digital-cameras/>

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

<http://www.safari-guide.co.uk/>

<http://www.digitalcamera-hq.com/>