

Photographing Birds in Flight - Ian Boyd

This article is based on the presentation at our Digital Photography in the Bush event, at Hunter Wetlands Centre, Newcastle, 2015. It is not a structured tutorial on how to do it, or a set of expert recommendations; it is, in essence, a description of how I've approached this in the last few years, what I've learnt in that time, and some suggestions for you to try.

"Probably the most technical aspect of bird photography would be capturing crisp images of birds in flight."



© Ian Boyd. Canon 70D, 150-500mm lens @403mm. 1/5300s, f8, ISO 400.

The Challenge: To me, photographing birds in flight is difficult to do well but very satisfying when you get it right. I've learnt more about the art of photography from the process of learning how to do this, than from any other photography I've ever done. I've also had a lot of fun in the process.

From the beginning...

Research

Don't try to re-invent the wheel. Someone else has already done the research for you! The web, books and magazines have a wealth of information waiting for you. A Google search for 'bird flight photography' returned 9,190,000 results. You just have you to wade through it all to select what suits you.

Equipment - camera, lens, tripod, flash etc.

When it comes to equipment, we would all like to have the best available. That is not always achievable or practicable. Things to consider are cost, physical attributes, etc. To start with, we will generally work with the gear we already have in our camera bag.

Camera: I find a DSLR to be the best choice. Some people have success with a point-and-shoot. It's essential that the camera is capable of fast continuous shooting.

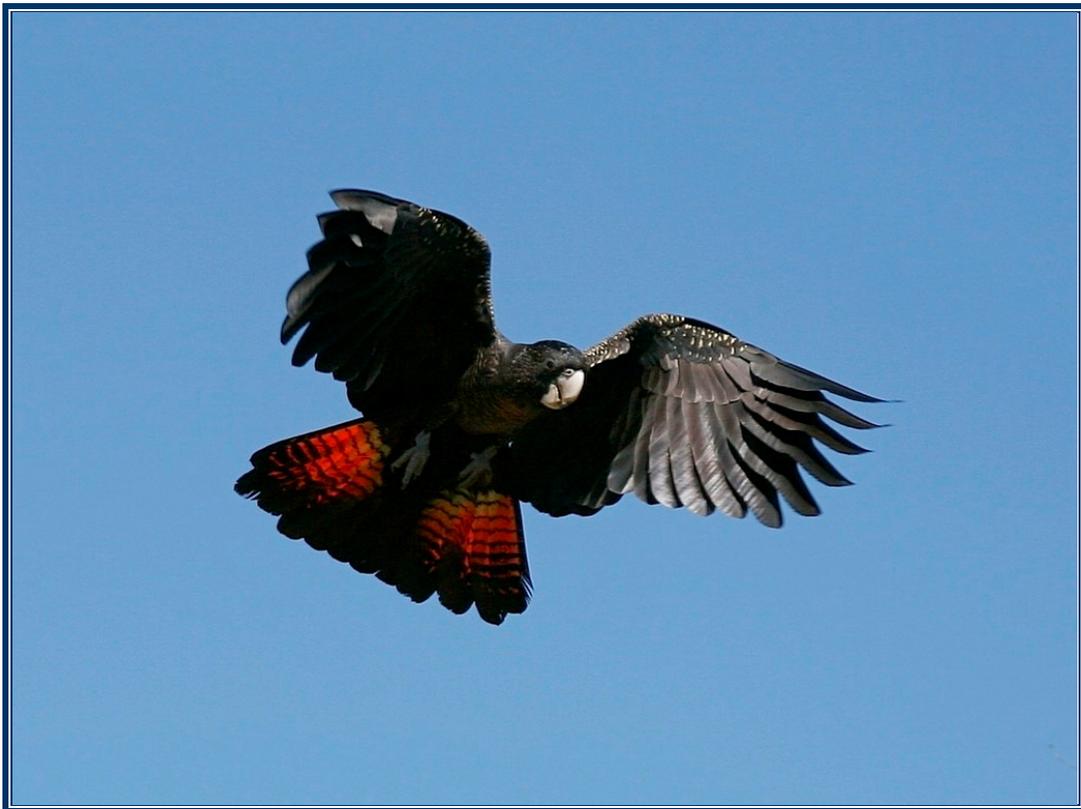
All cameras have different attributes. **Get to know yours.** Don't be afraid to read and understand the manual. It's surprising how many people don't! Practice, practice, practice until you don't have to look where to put your finger to make a quick adjustment to your settings as you're shooting.

Lens: Your lens will require some configuration as well, if you are to get the most out of its performance:

Make sure that your AF/MF switch is set to AF (auto focus).

Set the minimum focus distance on the lens to its furthest setting.

Using a zoom lens will let you zoom out wide and make it easier to locate the bird. With a prime lens you cannot always adjust for distance, particularly when a bird comes in close - you have to move.



© Ian Boyd. Canon 20D, 28-135mm lens @75mm. 1/800s, f5.0, ISO100.

In general, you will want to handhold the lens so that it is easier for you to keep the centre AF point on the subject and maintain focus. To make hand-holding the lens easier, remove the tripod collar, or at least rotate it so that the foot does not impede your hands.

Extra Equipment: A **tripod**, especially one with a gimbal-type head, can be a good asset for those who know how to use them properly. However, they can be cumbersome if moving through the bush or if you need to change your position in a hurry.

A **flash** is good around bird feeders, with captive birds or in low light at close range. There is no real benefit in normal daylight at longer distances.

Memory card: A high-speed memory card is very useful. This table shows the results of shooting with a Canon 70D set in high burst speed (around 8 frames a second); it shows the number of shots before the buffer filled and the burst speed became frustratingly slow, and the time to finish writing to the card so that further images could be shot at high speed again; results are given shooting in both RAW and JPG (high) modes.

Card	Write Speed	Raw Mode		JPG (High) Mode	
		Shots	Write Time (s)	Shots	Write Time (s)
	30 MB/s	15	40	27	9
	45 MB/s	19	8	88	7
	95 MB/s	20	5	297 (or more – test stopped)	5

Shooting raw or JPG is your choice; JPG gives better burst shots performance, but you lose the higher quality and improved post-processing options that raw images provide.

Camera Settings

Make sure your camera is correctly configured for taking action shots by setting your shooting mode to continuous; set the burst speed to the fastest possible.

Set the AF (auto focus) mode to AI Servo, and the Shooting Mode dial to Av (Canon’s terminology for aperture priority) to control depth of field.

Image Stabiliser: If your camera or lens has built in Image Stabilization (IS) or Vibration Reduction (VR) it is best to turn it off. IS/VR is a feature that assists in taking images in low light at slow shutter speeds. At shutter speeds above 1/500s IS/VR may slow down the camera’s auto focus speed. For shooting birds in flight, there are two schools of thought: some say leave it on; my preference - through practice - is to turn it off. Ultimately, the choice is yours.

Shutter Speed and Aperture: You will need a fairly fast shutter speed. The speed should be sufficient to freeze movement in the bird’s wings; for fast moving birds around 1/1000s to

1/2000s. For larger, gliding birds 1/500s or 1/750s is generally sufficient, but if you want to play it safe choose 1/1000s for them also. To get these shutter speeds you will need to shoot high ISO and/or low aperture.



© Ian Boyd. Canon 70D, 300mm lens. 1/4000s, f7.1, ISO 400

Set your aperture to f/8 to give a good balance between getting adequate depth of field and maintaining a fast enough shutter speed. The trick is to find the “sweet spot”! It’s important to maintain an adequate depth of field for the moving subject. Here’s some numbers for several lens focal lengths at two ranges and aperture settings:

Focal Length (mm)	Range (m)	Aperture	Depth of field (cm)
300	15	5.6	53
400	15	5.6	29
500	15	5.6	19
300	15	8	75
400	15	8	42
500	15	8	26
300	40	8	539
400	40	8	310
500	40	8	192

My Preferences: Metering mode: centre weighted; aperture priority; aperture setting: start at f/8 and adjust ISO until I get the shutter speed I need. If ISO goes to an unacceptable level (say 800) then I lower the aperture. If I was using an older camera I would be mindful of the ISO as higher settings tended to introduce noise.

Shooting against a bright sky may need an increase in exposure compensation.

Focusing: It is almost impossible to achieve accurate focussing with small fast-moving birds, particularly when you starting on birds in flight. This is where you need a good depth of field. Raptors, herons and larger species are good birds to practice on.

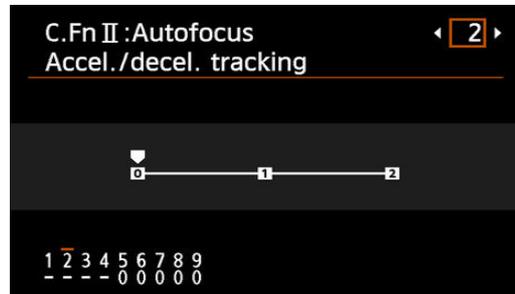
AI Servo is the ideal setting for the auto-focus mode.

Fix the AF point to one of the available AF points; preferably the centre as it is the most sensitive. An alternative is to use a block of AF points.

Tracking Sensitivity (available on high-end DSLRs, including my Canon 70D). This allows you to adjust how the camera will respond to interruptions when you're tracking a moving subject:

Responsive (2) tells the camera to quickly re-focus onto whatever new subject the active AF point suddenly sees.

Locked on (0) does the opposite: it tells the camera to resist changing to any new subject that may suddenly appear in the active AF point.



Technique

When hand-holding your lens, which I do, you'll need to hold your lens properly. At first it may seem difficult to find the approaching bird in the viewfinder. It takes practice to track a flying bird.



© Ian Boyd. Canon 30D, 150-500mm lens @229mm. 1/640s, f9, ISO 100.

When you first try this, the images may not come out well because there is a lot of movement going on, with the panning motion combined with steadying the camera and lens. **The goal is to be competent in tracking flying birds in your viewfinder.** When panning, continue to track the bird for a second or so after you release the shutter button. This should ensure your final frames will be sharp.

Panning Situations

Panning is probably the hardest part of the whole process, and the procedure that needs the most practice. There are two types of panning situations that you'll likely use:

1. **Panning to freeze action:**

This type of panning is taken at high shutter speeds so all within the frame is generally sharp. Camera shake should not be a problem. It is most often used when the subject is against a plain background, e.g. sky or sea.

2. **Panning to blur background:**

This type of panning gives a pleasing background when the subject is taken against a prominent background, e.g. trees, buildings, etc. Slower shutter speed is needed, which may cause camera shake to become a problem, but plenty of practice should overcome this.

Location and Field Craft

As with all bird photography, knowing your subject is paramount. A good grasp of the way the bird behaves is essential to getting good photographs of it. Birds take off differently, have different styles of flight, and have tell-tail signs which will enable you to better anticipate their actions.



© Ian Boyd. Canon 70D, 150-500mm lens @ 439mm. 1/2500s, f8, ISO 400, -0.3 EV

The best way to develop your bird photography skill is through observation. I've been a bird-watcher for longer than I've been a photographer, and the knowledge I've gained over the years by simply observing is vast and vitally useful. A good flight shot is usually based upon predictability; your ability to predict where and when the bird will fly could make the difference.

Prior planning is important: find a location where birds gather; look for larger birds like Egrets and Ibis. Observe the birds for a while as they fly to and from the roost. You will want a view of the flight path where your background will be mostly blue sky to keep the camera's auto focus system from locking onto elements in the background instead of your intended subject.

Finally

Finally, you now know what to do after you have set up your camera to suit the conditions:

- Sight the bird and bring the viewfinder to your eye.
- Make sure the centre AF point is on your subject.
- When subject comes into focus in the viewfinder depress the shutter button half-way and continue to track from within your viewfinder.
- When ready, press the shutter button fully and hold it there to engage the camera's burst mode.
- Continue tracking as the camera fires.

The result you are looking for is one where the subject takes up most of the frame, is in clear focus, does not have any of its wings (or tail, or head) clipped by the edge of the frame. Pleasing images should hopefully emerge from the large number you have taken. Don't be disappointed if they don't, it takes perseverance.

I found that photographing birds in flight is frustrating at first, but persevering certainly paid off for me. I still have a long way to go, but in about 4-5 months I have progressed from hundreds of dud photos to some pleasing ones that I'm proud of.



© Ian Boyd. Canon 70D, 300mm lens. 1/1300s, f8, ISO 200

Remember - practice, practice and more practice.