



WILDLIFE PHOTOGRAPHY - PRACTICAL TIPS & FIELD NOTES

Photographing Birds in Flight

Technique, settings and anticipation

A practical guide for my photographic safari guests



Southern ground hornbill photographed along the banks of the Zambezi River in Mana Pools National Park, Zimbabwe.

SHUTTER SPEED	APERTURE	ISO	FOCAL LENGHTS
1/2000 s	f 10	1'000	600mm

Starting settings

These values are not rigid rules, but reliable starting points. The species, flight speed, distance, background and light always require small adjustments in the field.

PARAMETER	RECOMMENDED SETTING
Camera body	DSLR or mirrorless camera with fast continuous autofocus and a good burst rate
Lens	A 300 mm or longer telephoto; a zoom makes it easier to acquire the subject
Shutter speed	1/1600–1/2000 s as a baseline; 1/2500–1/3200 s for fast action; 1/4000 s or faster for small, quick birds
Aperture	f/5.6–f/8 when the light allows; wider if you need more light or separation
ISO	Auto with a sensible limit; often 800–3200, higher in low light
Autofocus	AF-C / continuous, with animal or eye detection when reliable
Area AF	Wider against the sky; more controlled against complex backgrounds
Burst mode	High speed, used in short sequences at the decisive moment
Support	Handheld for freedom; monopod or gimbal with heavy equipment

Settings prepare the camera. Observation prepares the photographer.

Photographing movement

Photographing a perched bird can already demand attention. Photographing one in flight changes the rules completely. The subject moves quickly, changes direction, approaches or recedes, and in seconds may pass from a uniform sky to a complex background of trees, grass or rocks.

Everything happens very quickly. That is why photographing birds in flight combines technique, familiarity with your equipment, the ability to follow the subject and, above all, anticipation. When everything comes together, the result can be extraordinary: we are not only photographing a bird; we are photographing movement.

The challenge is not only focusing

With modern mirrorless cameras, autofocus has become extremely effective, and subject and eye detection can help enormously. Yet the camera cannot decide everything for us. We must quickly find the bird in the viewfinder, keep it in the frame, follow its path, select a sufficiently fast shutter speed, watch the background, compensate the exposure and know when to press the shutter.

Above all, we must try to predict what the animal will do in the next second. This is where wildlife photography becomes far more interesting than technique alone.

Equipment and freedom of movement

The camera body

A camera with fast continuous autofocus and good subject tracking makes the task much easier. A fast burst rate is useful too, but that does not mean always using the maximum frames per second. I prefer to regard it as a tool for recording a short sequence at the right moment, not as a substitute for timing.

The lens

For birds, a long focal length is almost always useful. Three hundred millimetres may be enough for large, relatively close subjects; 400, 500 or 600 mm let us work from farther away without disturbing natural behaviour.

Modern zooms have an important advantage: they let us widen the frame quickly when the bird approaches. In flight, finding and keeping the subject in the viewfinder can matter more than a few extra millimetres.

Handheld or with support

For flight photography I very often work handheld. Freedom of movement lets me react when the subject changes direction. A monopod helps with heavy equipment or long sessions; a tripod with a gimbal head works well when the position is fixed and the birds' route is predictable. On safari, where the scene changes constantly, the ability to move quickly is often decisive.



Greater spotted eagle, photographed in Mkomazi National Park, Tanzania

SHUTTER SPEED	APERTURE	ISO	FOCAL LENGTHS
1/800 s	f 9	1'600	600mm

Camera settings

There is no universal setting. A slowly gliding eagle requires different parameters from a kingfisher crossing the frame. There are, however, good starting points to adapt to the light and the behaviour.

Continuous autofocus and AF area

For a moving subject I use continuous autofocus, so the camera corrects the focus distance as the bird approaches, moves away or changes direction. Animal-detection systems can be very effective, but I still watch what the camera is doing: autofocus is a tool, not a complete delegation of responsibility.

With an isolated bird against the sky, a relatively wide area often works well. In front of trees, bushes or rocks, autofocus may instead be drawn to the background. In that case, a more controlled area helps keep attention on the animal. A uniform sky gives the system more freedom; a complex background demands more control from the photographer.

Shutter speed, aperture and ISO

Shutter speed

Shutter speed is one of the most important parameters. 1/1000 s may work for a large bird gliding slowly. 1/1600–1/2000 s is an excellent general baseline; 1/2500–1/3200 s helps with faster movement. For small, fast birds, you may need 1/4000 s or faster.

It all depends on the available light. When I must choose between a little more noise and a blurred image, I almost always prefer to raise the ISO. Noise can be managed; unintended motion blur is much harder to fix.

Aperture

Always using the widest aperture is not necessarily the best choice. A wide aperture keeps ISO lower and separates the subject from the background, but it reduces depth of field. With a large bird or fully extended wings, a few extra centimetres can be valuable. That is why f/5.6, f/6.3 or f/8 are often effective when the light allows.

Auto ISO

For moving subjects, I like a setup that lets me control mainly shutter speed and aperture while the camera manages ISO within sensible limits. The light can change in seconds as a bird moves from bright sky to a dark background. Auto ISO then lets us concentrate on the subject and the moment.

Watch the exposure

A dark bird against a very bright sky is a classic situation: the meter reads a large expanse of sky and may underexpose the subject, turning it almost into a silhouette. Positive exposure compensation may be needed. With a white bird lit by the sun, the opposite applies: protect the highlights so detail in the plumage is not lost. Checking the histogram and knowing how your camera behaves remain essential.

Find the bird first, then photograph it

With a long telephoto lens, one of the most common mistakes is searching for the subject directly through the viewfinder. At 500 or 600 mm the field of view is narrow, and a fast animal becomes surprisingly hard to find. I first locate the bird with my naked eye, bring the camera towards it without interrupting the movement, and only then look through the viewfinder and begin tracking. With practice, the movement becomes almost automatic.

Follow the movement

Once I have found the bird, I move the camera with it, not against it. If it flies from left to right, I follow in the same direction with a smooth movement and constant speed. A common mistake is to press the shutter and stop the camera at the same time. Keep following the subject throughout the burst, as in panning.

Pre-focus, timing and patience

When I know a likely take-off point or flight path, I can pre-focus on that area to help the camera acquire the subject more quickly. Keeping both eyes open also lets me use peripheral vision to follow the path while the viewfinder controls the framing.

Timing often grows out of waiting. A dive, a turn or a moment of gliding with the wings fully extended lasts only an instant. Patience does not slow photography down: it prepares us for the moment that is truly worth capturing.

Leave space in front of the bird

Composition remains important even when everything happens quickly. If a bird is flying to the right, I generally leave more space in front than behind. That space gives it somewhere to fly and makes the image more dynamic. A subject close to the edge in the direction of travel instead appears visually blocked.

Wing position makes a great difference

During a burst we may obtain photographs that are almost identical in exposure, sharpness and background, yet the position of the wings completely changes the image's strength. Open or raised wings, a turn, a fanned tail or a glance towards the photographer often determine which frame we choose. Burst mode helps capture the best moment in the movement, not merely increase the chance of sharpness.

Behaviour comes before photography

The more time we spend observing a species, the easier it becomes to photograph. Birds often give small signals before taking off: they shift position, look in one direction, lower the body, defecate or open their wings. A raptor may ride rising air in predictable paths; a vulture may run before taking off; a kingfisher watches the water before diving. Knowing these behaviours means being ready before the action begins.

Observe the wind as well

Many birds prefer to take off and land into the wind. Understanding where it comes from therefore helps predict the departure direction, approach and landing point. If we can choose our position, we should combine wind and light: a bird flying towards us in front or side light can transform the scene.

Do not forget the background

A blue sky is simple, but not always the most interesting background. A mountain, vegetation, a rock face or a distant out-of-focus area can add a stronger sense of place. The challenge increases because autofocus must remain on the animal, but the result can be richer. The rule of wildlife photography also applies in flight: do not look only at the animal; look at the whole image.

Light can transform flight

A bird constantly changes its angle to the light. Side light reveals the feathers; backlighting can make the flight feathers translucent; low morning or evening light changes the tone of the plumage. Even a silhouette can work when the sky and composition are interesting. The question is not only whether the bird is in focus, but what the light is doing as it flies.



African skimmer photographed at Mana Pools early in the morning. Extremely fast and genuinely difficult to capture (Tamron 150-600mm)

SHUTTER SPEED 1/4000 s	APERTURE f 6.3	ISO 1'250	FOCAL LENGHTS 240mm
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Do not start shooting too early

When an interesting bird approaches, the temptation is to begin a long burst immediately. I often prefer to follow it, read its path and wait until it reaches the best position in relation to the light and background. Photographing when the scene becomes truly interesting also reduces the hundreds of nearly identical images to select later.

A simple field routine

When I see a bird that might offer a good opportunity, I quickly assess a few elements. With experience, this sequence takes only a few seconds.

Behaviour. Is it about to take off, arrive, hunt or land?

Direction. Where is it coming from, and where might it go?

Light. Which direction is it coming from, and how will it fall on the animal?

Wind. Could it affect take-off or landing?

Background. Sky, vegetation or mountain? Are there distracting elements?

Settings. Is the shutter speed fast enough? Is autofocus correct? Is there room in the frame?

Then I wait. The aim is to be ready before the moment, without consuming attention and memory while the scene has not yet reached its best point.

The real secret is not reacting faster. It is understanding sooner what is about to happen.

The real secret is anticipation

Modern cameras recognise animals, track their eyes and produce dozens of frames per second. Lenses perform better than ever. Yet one thing remains that the camera cannot do for us: understand what is about to happen.

This is where observation and photography meet. The more we understand an animal's behaviour, the better we can anticipate its movement. When we are ready before the bird opens its wings, the likelihood of creating a truly interesting photograph increases enormously.

Photograph the flight, not only the bird

A successful photograph of a bird in flight is not necessarily one in which every feather is perfectly frozen. It may be the position of the wings, a turn, a glance, the relationship with the background, light passing through the feathers, or simply the instant when the movement seems to tell a story.

Settings and technique are important, but they are only the starting point. Ultimately, we are not simply trying to photograph a bird in the sky. We are trying to photograph flight.

Observation and research

Spend time observing and understanding the species you want to photograph. Recognising patterns and behaviours suggests when a bird may take off, turn or perform an interesting manoeuvre. Local birdwatching groups and specialist communities can point you towards lesser-known places, seasons and favourable times of day. Every species has its own way of flying: the more you observe and photograph, the more naturally you will read its movements.

Learning in the field

During my photographic safaris in Tanzania, we continually work on these situations too. Raptors, vultures, eagles, kingfishers and many other species provide exceptional opportunities to practise autofocus, fast shutter speeds, tracking, composition and anticipation of behaviour.

Not as a theoretical lesson separate from the safari, but by observing the animals and working directly with the situations we encounter. One of the best ways to improve wildlife photography is simple: observe, photograph, review the images and try again.

Observe, photograph, review the images and try again

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Two African fish eagles fighting in Serengeti National Park – Grumeti, Tanzania

SHUTTER SPEED 1/1000 s	APERTURE f 10	ISO 400	FOCAL LENGHTS 600mm
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