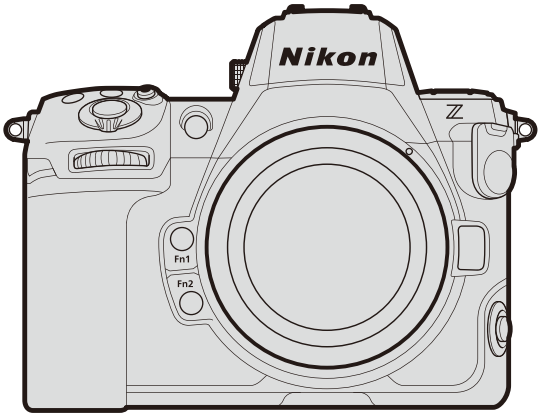
Nikon

Z 9/Z 8 Professional

Setting Guide

—Wildlife Edition—



© 2024 Nikon Corporation

En

Table of Contents

Getting Ready. 4
Things to Bring. 4
Recommended Lenses for Wildlife Photography. 6
Before You Begin. 15
Decide What You're Taking Pictures For. 15
Research the Location and Ecology of the Animals. 15
Adjust Camera Settings. 15
Camera Setup. 16
Basic Camera Settings. 16
AF-Area Mode: "**3D-Tracking**". 16
ISO Sensitivity: **ISO AUTO**. 17
Set Picture Control: "**Standard**". 18
White Balance: "**Auto**". 18
Image Quality: "**RAW + JPEG Normal**" (Z 9), "**RAW + JPEG/HEIF Normal**" (Z 8). 18
Shooting Settings. 19
Use Subject Detection. 19
Assign "**Playback**" to a **Fn** Button in Custom Setting f2 "**Custom Controls (Shooting)**". 19
Use Auto Capture. 20
Taking Photographs and Recording Videos. 21
Precautions for Wildlife Photography. 21
Keep a Certain Distance from Wildlife. 21
Respect Wildlife and Their Habitats. 21
Tips for Wildlife Photography. 22
If a Stationary Subject Suddenly Starts to Move. 22
To Photograph Only within a Certain Area. 22
To Catch Moving Subjects at the Perfect Moment. 22
To Record without Dropping Image Quality. 22
To Capture a Subject Moving at High Speed. 22
To Take Clearer Images Outdoors. 23
To Create More Impressive Pictures. 23

To Quickly Switch Settings to Suit Different Scenes. 23
To Capture Lively and Dynamic Movements in Videos. 23
Recommended Settings by Subject. 24
Small Animals Moving in and out of a Fixed Position. 24
Medium-Sized Animals Visiting a Particular Location. 26
Birds in Flight. 28
Large Slow-Moving Animals with the Landscape. 30

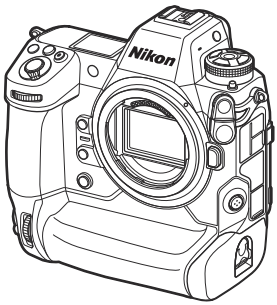
Getting Ready

Things to Bring

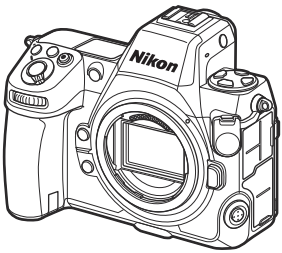
The main items of equipment you'll need for wildlife photography are:

- A camera

Z 9

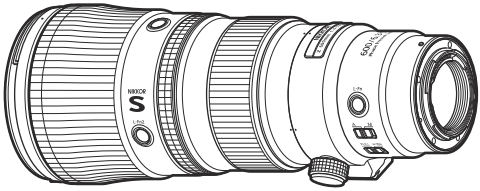


Z 8



Tip: Illustrations
The camera mainly used for illustrations is a Z 8.

- Lenses



Choose the lens according to the type of wildlife you will be photographing. The following lenses are recommended for wildlife photography.

- NIKKOR Z 400mm f/2.8 TC VR S (📖 6)
- NIKKOR Z 400mm f/4.5 VR S (📖 7)
- NIKKOR Z 600mm f/4 TC VR S (📖 8)
- NIKKOR Z 600mm f/6.3 VR S (📖 9)
- NIKKOR Z 800mm f/6.3 VR S (📖 10)
- NIKKOR Z 70-200mm f/2.8 VR S (📖 11)
- NIKKOR Z 100-400mm f/4.5-5.6 VR S (📖 12)

- NIKKOR Z 180-600mm f/5.6-6.3 VR (📖 13)
- NIKKOR Z MC 105mm f/2.8 VR S (📖 14)

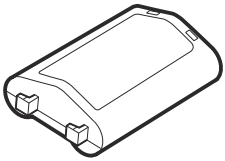
Tip: Hand-Held Shots

We recommend using small, lightweight lenses featuring Phase Fresnel (PF) elements when taking hand-held shots. Among the lenses introduced above, the following lenses have PF elements.

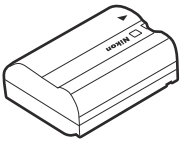
- NIKKOR Z 600mm f/6.3 VR S
- NIKKOR Z 800mm f/6.3 VR S

- A battery

EN-EL18d (for Z 9)



EN-EL15c (for Z 8)



- A power bank (tested and approved for use: Anker PowerCore III Elite 25600 87W)
- Memory cards
- A Tripod
- A rain cover

Tip: Bring Spare Batteries, Memory Cards, and Battery Chargers

Most wildlife photography involves extended periods of time. It is recommended to bring extra fully-charged batteries, empty memory cards, and a battery charger.

Recommended Lenses for Wildlife Photography

Lenses recommended for wildlife photography and their characteristics are as follows.

NIKKOR Z 400mm f/2.8 TC VR S

A 400 mm lens with a built-in 1.4× teleconverter allows you to quickly change focal lengths to suit the scene and capture vivid images of even a small wild bird in motion.

© Roie Galitz

Shooting conditions:

- Shutter speed: $^{1}/_{1600}$ s
- Aperture: f/4
- Focal length: 560 mm
- ISO sensitivity: ISO 400

NIKKOR Z 400mm f/4.5 VR S

A compact 400mm lens allows you to chase a wild bird handheld in vast landscapes and capture precious moments when you can even see their breath.

© Michelle Valberg

Shooting conditions:

- Shutter speed: $^{1}/_{1000}$ s
- Aperture: f/4.5
- Focal length: 400 mm
- ISO sensitivity: ISO 1000

NIKKOR Z 600mm f/4 TC VR S

A 600 mm lens with a built-in 1.4× teleconverter allows you to quickly change focal lengths and capture the skin texture of wildlife with incredible realism.

Shooting conditions:

- Shutter speed: $^{1}/_{500}$ s
- Aperture: f/4
- Focal length: 600 mm
- ISO sensitivity: ISO 1600

NIKKOR Z 600mm f/6.3 VR S

A 600 mm lens, which has been significantly reduced in size and weight by adopting a Phase Fresnel (PF) element, allows you to easily track a wild bird in flight handheld.

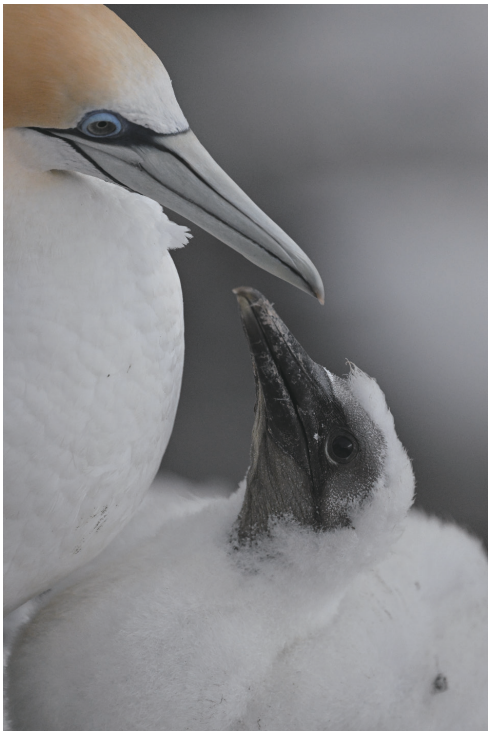
© Ramesh Karmakar

Shooting conditions:

- Shutter speed: $^{1}/_{3200}$ s
- Aperture: f/6.3
- Focal length: 600 mm (equivalent to 900 mm in 35 mm format with DX crop)
- ISO sensitivity: ISO 2000

NIKKOR Z 800mm f/6.3 VR S

An 800 mm lens, which has been reduced in size and weight by adopting a Phase Fresnel (PF) element, allows you to capture the tender moments of wild creatures as they are from a distance.



© Edin Whitehead

Shooting conditions:

- Shutter speed: $^{1}/_{3200}$ s
- Aperture: f/6.3
- Focal length: 800 mm

NIKKOR Z 70-200mm f/2.8 VR S

A 70–200 mm zoom lens, which combines the overwhelming imaging performance of an aperture of f/2.8 with a wide focal length range, is one of the basic equipment for wildlife photography.

© Mohan Thomas

Shooting conditions:

- Shutter speed: $^{1}/_{640}$ s
- Aperture: f/5.6
- Exposure compensation: +1.3 EV
- Focal length: 115 mm

NIKKOR Z 100-400mm f/4.5-5.6 VR S

A 100–400 mm zoom lens, which is small and lightweight yet has high optical performance, allows you to clearly capture even moving ferocious animals from a distance by combining smooth zooming over a wide range with animal-detection AF on the Z 9 and Z 8.

© Jogi Francis

Shooting conditions:

- Shutter speed: $^{1}/_{400}$ s
- Aperture: f/6.3
- Focal length: 230 mm

NIKKOR Z 180-600mm f/5.6-6.3 VR

A 180–600 mm zoom lens with an optimized weight balance and zoom mechanism allows you to capture precious moments without getting close to delicate small animals.

© Natsumi Handa

Shooting conditions:

- Shutter speed: $^{1}/_{500}$ s
- Aperture: f/5.6
- Focal length: 180 mm
- ISO sensitivity: ISO 1250

NIKKOR Z MC 105mm f/2.8 VR S

A 105 mm micro lens, with a focus on beautiful *bokeh* and resolution, allows you to capture small insects and other creatures in vivid detail.

© Katarina Jencova

(This image is an NEF (RAW) image taken and converted to TIFF using Capture NX-D, and then finished using third-party software as a photographer's artwork.)

Before You Begin

Check the following before starting wildlife photography.

Decide What You're Taking Pictures For

The presentation and the number of cuts required will vary depending on the purpose of your photography, such as albums, photo books, or commemorative photos. Be sure to clarify the purpose of photography.

Research the Location and Ecology of the Animals

Consider what kind of photos you want to capture in advance. Wild animals often exhibit certain patterns of activity and behavior, so by researching the animals you plan to photograph, including their active hours and behavior patterns such as hunting or drinking water, can lead to better equipment preparation and more opportunities for photography.

Adjust Camera Settings

Setting up the camera in advance for the scene you want to shoot will make shooting go smoothly and require less retouching afterwards. For details, refer to "Basic Camera Settings" (📖 16).

Camera Setup

Basic Camera Settings

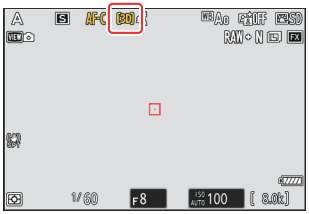
The core settings for wildlife photography are:

AF-area mode	[**3D-tracking**]
ISO sensitivity	**ISO AUTO** (auto ISO sensitivity control enabled)
Set Picture Control	[**Standard**]
White balance	[**Auto**]
Image quality	[**RAW + JPEG normal**] (Z 9), [**RAW + JPEG/HEIF normal**] (Z 8)

Tip: Recommended Settings by Subject
For the recommended camera settings for different types of animals, see “Recommended Settings by Subject” (📖 24, 📖 26, 📖 28, 📖 30).

AF-Area Mode: "3D-Tracking"

Select [**3D-tracking**] for AF-area mode to automatically track focus on fast-moving animals.



Caution: 3D-Tracking

The camera may be unable to track subjects that:

- are similar in color, brightness, or pattern to the background,
- change visibly in size, color, or brightness,
- are too large or too small,
- too bright or too dark,
- move quickly, or
- are obscured by other objects or leave the frame.

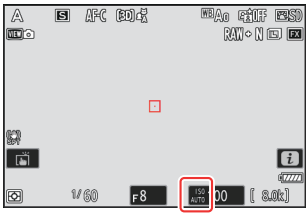
Tip: Photographing Multiple Subjects

We recommend setting AF-area mode to [**Auto-area AF**]. If [**Auto-area AF**] is selected, you can position the focus point over a different face or eye using the multi selector when more than one face or eye is detected.

ISO Sensitivity: ISO AUTO

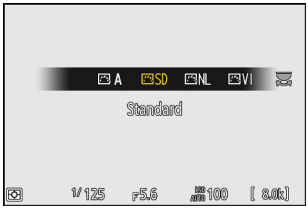
Auto ISO sensitivity control automatically adjusts ISO sensitivity if optimal exposure cannot be achieved at the value selected by the user.

- To prevent ISO sensitivity from rising too high, it is recommended to set ISO sensitivity to [**2000**] for [**ISO sensitivity settings**] > [**Maximum sensitivity**] in the photo shooting menu.



Set Picture Control: "Standard"

Selecting [**Standard**] Picture Control creates pictures with well-balanced contrast and hues, allowing you to photograph without worrying about the shooting conditions. It also makes it easier to retouch after shooting.



Tip: Managing Picture Control

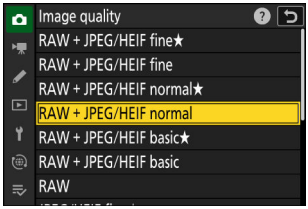
Picture Controls that have been adjusted to your preference can be saved in [**Manage Picture Control**] in the photo shooting menu. When adjusting Picture Controls, we recommend using [**Standard**] as the source Picture Control for a vivid, well-balanced, standard results.

White Balance: "Auto"

Selecting [**Auto**] white balance allows the camera to automatically adjust white balance for optimal results with the given light sources, allowing you to capture colors that are close to what you see with your eyes.

Image Quality: "RAW + JPEG Normal" (Z 9), "RAW + JPEG/HEIF Normal" (Z 8)

Shooting with [**RAW + JPEG normal**] (Z 9) or [**RAW + JPEG/HEIF normal**] (Z 8) image quality allows you to use NEF (RAW) images for extensive editing and processing and JPEG images for immediate viewing on a computer.



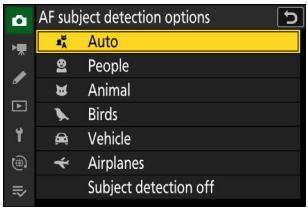
Shooting Settings

The following functions are useful when set along with the basic settings.

Use Subject Detection

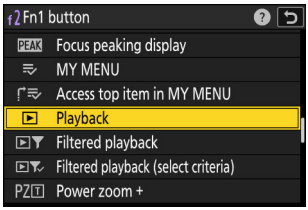
When selecting [**Auto**], [**Animal**], or [**Birds**] for [**AF subject detection options**] in the photo shooting menu, the camera gives priority to the faces of animals or birds during auto focus and displays focus point on the detected subject.

- The [**Birds**] option is available in “C” firmware version 4.10 or later for Z 9 and 2.00 or later for Z 8.

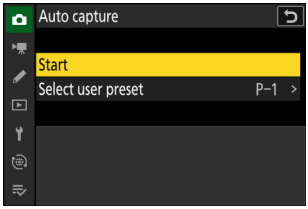


Assign "Playback" to a Fn Button in Custom Setting f2 "Custom Controls (Shooting)"

Press the assigned button to playback pictures. Using this function in viewfinder photography allows you to immediately view the shots in the viewfinder by pressing the button with the right hand while holding the lens with the left hand.



Use Auto Capture



The [**Auto capture**] feature allows the camera to take photos automatically upon detecting a subject. By selecting the trigger criteria for auto capture, photographers create what is effectively an unmanned camera that can take photos automatically. This allows the photographer to capture the natural expressions of wildlife without having to be present at the shooting location. You can also leave one camera at a fixed location for auto capture while operating another camera by yourself to enjoy shooting the subjects while framing them in different angles and compositions.

- Selecting [**Auto capture**] > [**Start**] in the photo shooting menu displays auto capture settings where you can select auto capture trigger criteria.
- [**Auto capture**] is available in "C" firmware version 4.00 or later for Z 9 and 2.00 or later for Z 8.
- For detailed settings for [**Auto capture**], see "*Z 9 Professional Setting Guide Auto Capture Edition*." https://downloadcenter.nikonimglib.com/en/products/589/Z_9.html

© Jogi Francis

Taking Photographs and Recording Videos

Precautions for Wildlife Photography

Wildlife photography requires shooting methods tailored to each animal's behaviors. Pay attention to the following points while shooting.

Keep a Certain Distance from Wildlife

Avoid approaching wild animals. Wait for the animals to come into the camera frame. Getting too close to wild animals can be dangerous. Keep a certain distance while shooting.

Respect Wildlife and Their Habitats

Remember that you are in wildlife territory. Check the rules and regulations of the shooting location in advance and obtain permission to shoot if necessary.

Tips for Wildlife Photography

The following settings are recommended, depending on the scene you are shooting.

If a Stationary Subject Suddenly Starts to Move

We recommend assigning [**AF-area mode**] > [**3D-tracking**] to a **Fn** button using Custom Setting f2 [**Custom controls (shooting)**]. While the button is pressed, the camera activates [**3D-tracking**] and immediately tracks the subject as it moves unpredictably.

To Photograph Only within a Certain Area

We recommend using the memory recall function to quickly recall the saved focus position.

- To use the memory recall function, assign [**Save focus position**] and [**Recall focus position**] to the desired controls using Custom Setting f2 [**Custom controls (Shooting)**].

To Catch Moving Subjects at the Perfect Moment

We recommend setting the release mode to [**Continuous H**] or one of the high-speed frame capture + options ([**C30**], [**C60**], [**C120**]). High-speed burst photography allows you to capture fleeting moments, such as wild birds hunting.

- When shooting with high-speed frame capture +, use Custom Setting d4 [**Pre-Release Capture options**] (d3, for Z 8) to start the burst right before the shutter-release button is pressed all the way down.

To Record without Dropping Image Quality

You can select an upper ISO sensitivity limit for [**Maximum sensitivity**] in the photo shooting menu. This prevents the ISO sensitivity from being raised too high and reduces noise when the auto ISO sensitivity control is used.

To Capture a Subject Moving at High Speed

We recommend selecting [**Auto**] for [**ISO sensitivity settings**] > [**Minimum shutter speed**] in the photo shooting menu. When [**Auto**] is selected, the camera will choose the minimum shutter speed based on lens focal length and prevent motion blur and camera shake by maintaining fast shutter speeds while using a long lens.

To Take Clearer Images Outdoors

It is recommended to attach a lens hood. Attaching a lens hood prevents strong light from entering the camera and causing flare and ghosting, so that you can take pictures with high contrast.

To Create More Impressive Pictures

Changing the values on the A (amber)–B (blue) and G (green)–M (magenta) axis in [**White balance**] > [**Choose color temperature**], you can vary the hues on the pictures according to the scenes.

To Quickly Switch Settings to Suit Different Scenes

You can quickly switch shooting settings for different scenes if those settings are saved in each shooting menu bank ([**A**], [**B**], [**C**], or [**D**]) with the [**Shooting menu bank**] item. For example, you can quickly switch from one shooting menu bank to another when a tiger moves from a sunny meadow to a shaded area.

To Capture Lively and Dynamic Movements in Videos

You can use the slow-motion video feature of Z 9 and Z 8 to record the movements of wildlife in great detail. If [**H.264 8-bit (MP4)]** is selected for [**Video file type**] in the video recording menu you can record slow-motion videos. Select [**1920×1080; 30p ×4 (slow-motion)**] for [**Frame size/frame rate**] and set the shutter speed to $^{1}/_{240}$ to $^{1}/_{250}$ s, approximately twice the recording frame rate, to capture the lively and dynamic movements of the subject.

- Slow-motion videos are available in “C” firmware version 4.00 and later for Z 9 and 2.00 and later for Z 8.

Recommended Settings by Subject

Small Animals Moving in and out of a Fixed Position

© Jogi Francis

Equipment used:

- Z 9
- NIKKOR Z 400mm f/2.8 TC VR S

Shooting conditions:

- Shutter speed: $^{1}/_{1000}$ s
- Aperture: f/2.8
- Exposure compensation: –0.3 EV
- Focal length: 400 mm

The following settings are recommended for photographing small animals that move quickly in a particular position, such as a feeding site or a burrow.

Shooting mode	**A**
Release mode	Continuous high-speed: 20 fps
Aperture	The maximum aperture value of the lens or $^{1}/_{2}$ EV stop down from the maximum aperture value
Image quality	[**RAW**] or [**RAW + JPEG normal**] (Z 9), [**RAW + JPEG/HEIF normal**] (Z 8)
AF-area mode	[**3D-tracking**]
AF subject detection options	[**Animal**]
ISO sensitivity	**ISO AUTO** ([**ISO sensitivity settings**] > [**Maximum sensitivity**] set to [**2000**])
Set Picture Control	[**Standard**]
White balance	[**Auto**]

- Recommended with the following subjects:
  - Small birds
  - Insects
  - Field mice, etc.
- Avoid getting too close to a small animal's feeding site or burrow and take pictures from a location that does not disturb their ecosystem. Once you have researched the areas where animals regularly visit, set up a camera with a super-telephoto lens attached to a tripod in a stable location and wait for the right moment to photograph.

Tip: Auto Capture
You can photograph a small animal approaching its feeding site or a small bird coming to a perch using auto capture with a camera while holding another camera to take pictures of the same animal or bird from a different angle or capture other subjects.

Medium-Sized Animals Visiting a Particular Location

© Ratish Nair

Equipment used:

- Z 9
- NIKKOR Z 70-200mm f/2.8 VR S

Shooting conditions:

- Shutter speed: $^{1}/_{500}$ s
- Aperture: f/2.8
- Exposure compensation: +0.3 EV
- Focal length: 185 mm

The following settings are recommended for photographing medium-sized animals that visit a particular location, such as a resting area or a watering hole.

Shooting mode	**A**
Release mode	Continuous low-speed: 1 to 5 fps
Aperture	The maximum aperture value of the lens or $^{1}/_{2}$ EV stop down from the maximum aperture value
Image quality	[**RAW**] or [**RAW + JPEG normal**] (Z 9), [**RAW + JPEG/HEIF normal**] (Z 8)
AF-area mode	[**Dynamic-area AF (S)**]
AF subject detection options	[**Animal**]
ISO sensitivity	**ISO AUTO** ([**ISO sensitivity settings**] > [**Maximum sensitivity**] set to [**2000**])
Set Picture Control	[**Standard**]
White balance	[**Auto**]

- Recommended with the following subjects:
  - Tigers, leopards, and other carnivores that hunt
  - Deer, bison, and other herbivores that live on the move
  - Iguanas, crocodiles, and other animals that live near water
- When you photograph active medium-sized animals, keep your distance to ensure your safety. If you find a place where animals gather, such as a resting area or a watering hole, keep your distance and secure a shooting location. Keep spare batteries for the long shooting hours waiting for the animals to appear.

Birds in Flight

© Jogi Francis

Equipment used:

- Z 9
- NIKKOR Z 600mm f/6.3 VR S

Shooting conditions:

- Shutter speed: $^{1}/_{3200}$ s
- Aperture: f/6.3
- Focal length: 600 mm

The following settings are recommended for photographing medium-sized and large birds in flight.

Shooting mode	**A**
Release mode	Continuous high-speed: 20 fps
Aperture	The maximum aperture value of the lens or $^{1}/_{2}$ EV stop down from the maximum aperture value
Image quality	[**RAW**] or [**RAW + JPEG normal**] (Z 9), [**RAW + JPEG/HEIF normal**] (Z 8)
AF-area mode	[**Auto-area AF**] or [**3D-tracking**]
AF subject detection options	[**Birds**]
ISO sensitivity	**ISO AUTO** ([**ISO sensitivity settings**] > [**Maximum sensitivity**] set to [**2000**])
Set Picture Control	[**Standard**]
White balance	[**Auto**]

- Recommended with the following subjects:
  - Hawks, falcons, and other medium-sized birds
  - Eagles, swans, and other large-sized birds
- Photographing large birds flying dynamically in the sky is one of the scenes that requires the most photographic skill. Once you have secured a shooting location with a good view and stable foothold, photograph the wild birds while following them using a super-telephoto lens and camera that is easy to hand hold. We also recommend using a dot sight when it is difficult to capture the subject in the viewfinder.

Large Slow-Moving Animals with the Landscape

© Mohan Thomas

Equipment used:

- Z 8
- NIKKOR Z 70-200mm f/2.8 VR S

Shooting conditions:

- Shutter speed: $^{1}/_{400}$ s
- Aperture: f/5.6
- Focal length: 200 mm

With large animals moving slowly in an impressive landscape, take pictures without worrying too much about detailed settings or techniques, and let the scene take care of itself.

Nikon