SHEDDING A LITTLE LIGHT ON BIRD PHOTOGRAPHY
Topics

- Kinds of Images
- Review Exposure
- Focal Length and Crop Factor
- Composition
- Focus
- “Support”
- “The Rules”
- Post Processing
- My Settings
Kinds of Images

- ID Use
- Specimen or Example
- Habitat
- Artistic
- Impressionistic
Impressionistic
Habitat 1
Habitat 2
Specimen
Ladder-backed Woodpecker
Ladder-backed Woodpecker
Exposure
EXPLAINED THE EXPOSURE TRIANGLE

Knowing the effect you want to achieve will determine which exposure setting you need to choose first.

In addition to their role in exposure, the choice of aperture, shutter speed and ISO have a significant impact on the look and feel of your pictures. Aperture, for instance, affects the depth of field, or how much of an image appears sharp. Shutter speed also affects image sharpness, with slower shutter speeds leading to blurred images – whether that’s caused by the subject moving or the camera not being held still.

The choice of ISO enables you to use the optimum combination of aperture and shutter speed when the amount of light would normally prevent you from doing so. However, increasing the ISO also reduces the quality of your images.

Use the exposure triangle (right) to decide how to adjust the exposure: the key is that when you increase the exposure for one element (a yellow arrow), you need to reduce it for one or both of the other elements (the grey arrows) in order to maintain the same exposure. The camera can do this for you in Program, Aperture Priority or Shutter Priority, but it’s something you’ll need to consider when shooting in Manual mode.

Get the hang of this relationship, and you’ll gain much more control over the look and feel of every image you capture.

APERTURE

Less exposure
Large DoF

More exposure
Shallow DoF

As you adjust the aperture, the depth of field changes, affecting how much of the shot is in focus.

SHUTTER SPEED

Less exposure
Frozen motion

More exposure
Blurred motion

Adjusting the shutter speed changes how moving subjects are recorded and affects how camera-shake is recorded.

ISO

Less exposure
Clean image

More exposure
Noisy image

Adjusting the ISO or light sensitivity affects how much light the sensor needs, but can introduce visual noise.
Birds are fast and smaller birds are incredibly fast.
Depth of Field Choice

lower f-stop

higher f-stop
Focal Length

18mm
24mm
35mm
55mm
70mm
85mm
100mm
135mm
200mm
- 400mm = 8x binocular
- 500mm = 10x
- 600mm = 12x
- A scope set at 20-60x would have equivalent camera lens focal lengths of 1,000m to 3,000mm.
## Crop Factor

<table>
<thead>
<tr>
<th>Sensor Name</th>
<th>Medium Format</th>
<th>Full Frame</th>
<th>APS-H</th>
<th>APS-C</th>
<th>4/3</th>
<th>1&quot;</th>
<th>1/1.63&quot;</th>
<th>1/2.3&quot;</th>
<th>1/3.2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor Size</td>
<td>53.7 x 40.2mm</td>
<td>36 x 23.9mm</td>
<td>27.9 x 18.6mm</td>
<td>23.6 x 15.8mm</td>
<td>17.3 x 13mm</td>
<td>13.2 x 8.8mm</td>
<td>8.38 x 5.59mm</td>
<td>6.16 x 4.62mm</td>
<td>4.54 x 3.42mm</td>
</tr>
<tr>
<td>Sensor Area</td>
<td>21.59 cm²</td>
<td>8.6 cm²</td>
<td>5.19 cm²</td>
<td>3.73 cm²</td>
<td>2.25 cm²</td>
<td>1.16 cm²</td>
<td>0.47 cm²</td>
<td>0.28 cm²</td>
<td>0.15 cm²</td>
</tr>
<tr>
<td>Crop Factor</td>
<td>0.64</td>
<td>1.0</td>
<td>1.29</td>
<td>1.52</td>
<td>2.0</td>
<td>2.7</td>
<td>4.3</td>
<td>5.62</td>
<td>7.61</td>
</tr>
<tr>
<td>Image</td>
<td><img src="image.png" alt="Medium Format" /></td>
<td><img src="image.png" alt="Full Frame" /></td>
<td><img src="image.png" alt="APS-H" /></td>
<td><img src="image.png" alt="APS-C" /></td>
<td><img src="image.png" alt="4/3" /></td>
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<td><img src="image.png" alt="1/2.3&quot;" /></td>
<td><img src="image.png" alt="1/3.2&quot;" /></td>
</tr>
<tr>
<td>Example</td>
<td><img src="image.png" alt="Camera Example" /></td>
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</table>
Crop Factor Changes the View Angle **NOT** the Focal Length
Composition

- Background
- Consider Point of View
Focus Topics

- Focus "Target" = usually the eyes
- Spot vs Dynamic
- Dealing with Branches & Vegetation
- Fore Focus
- Panning for Flight
Shutter Release

- Single
- Continuous – Slow / Fast
Because we are often using longer focal lengths it is easy to introduce camera/lens motion into an image. (longer focal length = larger angle)

- Hand Holding
- Image Stabilization
- Mechanical Support vs Hand Holding
- Support Options
Advantages & Disadvantages of Hand Holding

- **Advantages**
  - No tripod to carry
  - Very maneuverable
  - Inexpensive

- **Disadvantages**
  - Camera shake or motion
  - Arm effort over time
  - Difficult to hold for longer periods while waiting
Hand Holding – use IS, OS, or ...
Monopod

- Steadier than HH
- Limited ROM
- Light
- Some folks like them
Kinds of Tripod Heads

- Scope
- Ball Head
- Gimbal Head
Ball Head

- Steadier than HH or Monopod
- Lighter than Gimbal
- Some limiting of range
- Will “flop” if loose
Gimbal Head

- Rotates in 2 dimensions
- Uses lens collar for 3rd dimension
- Counter-intuitive Use
Car Window Support

- Clamp
- “Bean Bag”
- Jacket/Sweater
- Foam Tube
The “Three Rules”

1. Clean
2. Ready
3. Accessible
Lens is clean
View Finder is clean
Battery is charged and you have a spare
Memory card has available space and you have another card
Aperture is set
Shutter speed is set
ISO is chosen or on Auto-ISO
Other camera settings are as assumed
Lens cap is off and hood is on
Camera is ON
“Accessible”

- Camera is not in pack when you want it.
- Camera is not out of reach in car.
- Camera strap/sling is not bound up in binocular strap or …
Post-Processing

- Image Deletion
- Cropping
- Lighting Adjustments
- Color Adjustments
- Sharpening
- Noise Reduction
- Artistic Adjustments
- Printing, etc.
My Typical Settings

- Manual mode
- Back button focus / continuous focus
- Auto ISO
- Shutter speed 1/1000 second
- Aperture = f-8 or f-11
- Shutter release = continuous high speed 5 fps
- Matrix metering
- JPG not RAW
Questions?