

Lens Review...

Sigma APO 100-300/4 EX IF HSM

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The decision of what lens to buy for wildlife photography always seems mired in compromise. Along with the budget limitations most of us face in buying equipment, the debate over prime lenses versus zooms, and "original equipment manufacturer" versus "third party manufacturer" cloud the decision making process as well.

While just about every manufacturer offers at least one model in the 75mm (or 100mm) to 300mm range, just about all of these lenses are variable aperture lenses, typically f/4.5 to f/5.6. Along with the slower shutter speeds associated with the use of these models, the addition of a teleconverter will usually result in the loss of autofocus operation and substantial degradation of optical performance. However, for the nature photographer there's no denying the utility of a telephoto lens in this zoom range.

Sigma's latest telephoto zoom lens, the [APO 100-300/4 EX IF HSM](#) finally provides a very viable alternative for the serious nature photographer looking for a telephoto lens in this range of focal lengths. Along with the handy range of focal lengths, it provides a constant f/4 maximum aperture, internal HSM focusing and internal zooming. In other words, regardless of zoom or focus setting, the lens does not change in physical length and the maximum aperture of f/4 is available at all focal lengths. Additionally, the lens can be used with Sigma's EX series of teleconverters. I recently had the opportunity to spend some time with this lens (and Sigma's matching 1.4X teleconverter) in a Canon mount.

Like Sigma's other EX super-telephoto lenses, the lens is *far* more solidly built than the typical "consumer" version of the 100-300 zoom. It features a wide, very smooth turning focus ring and a separate zoom ring, which is large and smooth in operation as well. The Sigma, Canon and Nikon mount versions of this lens include Sigma's HyperSonic Motor (HSM) focusing motor, which also allows for full-time manual focus override. The lens also includes a removable tripod mount collar, a very handy feature for the nature photographer. The lens features Sigma's attractive black-speckled EX finish and is supplied with a large matching lens hood. Overall, the build quality of this lens is very impressive.

Other [specifications](#) include -

- 16 elements in 14 groups optical construction, including two Special Low Dispersion (SLD) elements
- 9-blade aperture (f/32 minimum aperture)
- 180cm/70.9 inches minimum focusing distance (1:5 magnification ratio)
- 92.4mm (3.6 inches) maximum width by 224mm (8.8 inches) in length
- 1480 grams (52.2 ounces) in weight



- 82mm filter thread diameter
- accessories included: bayonet hood (reversible for storage) and a durable, padded nylon lens case
- street price; approximately \$850

In the Field

As with Canon's USM lenses, focusing performance is fast and silent with both the EOS 1n and Elan 7E. While no side-by-side comparisons with my Canon EF 300/4L were made in terms of autofocus performance, I can say without hesitation that I did not notice any major difference between the two in this regard.



Optically, the Sigma performed extremely well. While there was noticeable barrel distortion at 300mm (far less at 100mm), the lens delivered razor sharp images with accurate color rendition and excellent contrast. Since barrel distortion is only noticeable on straight lines that appear near the edge of the frame, it's essentially a non-issue with most nature and wildlife subjects. With the addition of Sigma's APO 1.4 EX teleconverter, the lens has an effective focal length range of 140mm to 420mm and a constant f/5.6 aperture. With the teleconverter attached, there was a very slight degradation of autofocus performance, as well as a very slight loss of sharpness and contrast, which is expected whenever a teleconverter is used. However, even with the teleconverter attached, image quality remained excellent. The most noticeable effect of the teleconverter (in terms of image quality) was light fall-off in the corners of the frame with the lens wide open at f/5.6, which was substantially reduced by f/8. No light fall-off was apparent when the lens was used alone.

Final Thoughts

The Sigma APO 100-300/4 EX IF HSM is a unique lens...no other manufacturer makes a model like this (Tokina makes a 100-300/4, but without HSM/AF-S/USM focusing). Price wise, the Sigma falls approximately midway between the "consumer" level 100-300 zooms (around \$300) and lenses like Canon's 100-400/4.5-5.6 L IS and Nikon's 80-400/4.5-5.6 VR (\$1500 plus). From an image quality standpoint, it performs much more like the Canon 100-400 and Nikon 80-400 (the Nikon does *not* offer internal focusing, internal zooming or AF-S). Interestingly, it matches or outperforms *all* of these lenses in terms of lens speed (maximum available aperture).

For those nature photographers looking for a high-quality zoom telephoto in this price range with all of the performance and features offered by the Sigma APO 100-300/4 EX IF HSM, there's simply no other game in town...no compromise required.

About the Images

1. Sigma's APO 100-300/4 EX IF HSM telephoto zoom lens.
2. Cottontail Rabbit (*Sylvilagus floridanus*) - Sigma APO 100-300/4 EX IF HSM, APO teleconverter 1.4x EX, Canon EOS 1n, Bogen 3221 tripod, f/5.6 in AV mode (shutter speed unrecorded), Fuji Provia 100F. Wide open at 5.6, the lens/teleconverter exhibited excellent sharpness and contrast, though light fall-off in the corners was evident.
3. Mullein (*Verbascum thapsus*) - Sigma APO 100-300/4 EX IF HSM, APO teleconverter 1.4x EX, Canon EOS 1n, Bogen 3221 tripod set up at lens/teleconverter MFD, f/16 (shutter speed unrecorded), Fuji Provia 100F. At f/16, sharpness and contrast remained superb. No light fall-off anywhere in the frame was visible.

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