

Enhanced Depth of Field in CS4

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Although it happens most often in close up and macro photography, there are times even in landscape when in order to get the extended depth of field you need you are forced to stop the aperture down to the point where the image is beginning to degrade. In film there was no help for it. But using digital photography and PhotoShop CS4™ you can still shoot at your lens's "sweet spot" for sharpness and add the depth of field in post processing. To accomplish this you need to pre-plan the shot and work on it in two phases.

The first phase is when you are shooting the image.

Step	Action	Result/Notes
1	Put your camera on a tripod and compose the shot. Then lock down all of the movements so they will not slip during shooting ¹	For all close up work you ought to be shooting on a tripod anyway for maximum sharpness.
2	Set your aperture to the lens's "sweet spot" i.e. the aperture that gives you the maximum sharpness.	This will vary from lens to lens but is generally found 2-3 f-stops closed down from wide open. ²
3	Take a series of shots with the focus moving from the very front edge of the subject to the back edge. Make sure the depth of field you can see through the viewfinder overlaps in each shot.	When looking through the viewfinder you are looking through the lens at its widest aperture and minimal depth of field. This is a safety buffer because if the depth of field overlaps with the lens wide open it will definitely overlap when stopped down.
4	Take however many shots it requires to get the entire subject covered.	

¹ If you have a zoom lens be extra careful NOT to accidentally zoom in or out instead of simply refocusing.

² For example, if you lens opens to $f2.8$, your "sweet spot will usually be around $f5.6$ to $f8$

The second phase starts when you download and convert the files and/or start to process them in Photoshop.

5	If you have shot in RAW then convert the files to TIFF or PSD. Whatever image corrections are needed, you must make them identically to all shots in the series.	If you have shot originally in JPEG then you can simply proceed to stop 6.
6	Open Adobe Bridge. In Photoshop this is simply File→Browse in Bridge	This procedure only works in CS4. If you have an earlier version of Photoshop you must download and use "Helicon Focus" to accomplish the same extended Depth of Field.
7	Select all of the shots in the series	
8	Select Tools→Photoshop→Load Files into Photoshop Layers	This will open Photoshop and load all of the selected files into its own layer.
9	In Photoshop, select all of the layers so that all of them are active	
10	Select Edit→Auto Align Layers	This will align the layers based on content and solve any scale images created by the changing point of focus,
11	With all of the layers still selected, do Edit→Auto Blend Layers	This will open up the "Auto Blend Layers" dialogue box.
12	Click on the Radio Button for " Stack Images " then click " OK. "	This will blend the layers together using only the sharp sections of each layer. The result is a file that is now sharp front to back as if the depth of field covered the entire image.

And that is all there is to it!