The *f* – Stop

Newsletter of the Camera Club of Brevard (www.ccbrevard.com) March 2006

Next Meeting: 7:00 PM, Thursday, March 16, 2006, at the Henegar Center for the Arts, 625 E. New Haven Avenue, Melbourne.

March Monthly Program: Phil of Southern Photo presents Basic Camera Operations.

Field Trip: A trip to the Brevard Zoo is planned.

Bank Hangings

***Fifth Ave*: Connie Hayes -** Ibis, The Last Thing a Blade of Grass Sees; **Genie Jones -** Early Morning Flight, Early Fall Spot; **Hermann Schiefner -** Base Harbor, Ireland, **John Alives -** Poppy, Foggy Morning; **John Wilmer -** Sugar Town, Go Fly a Kite.

***Ready for pickup*: John Alives –** Mrs. Mango's; **Anne Du Bois -** Beach Reflection, St Francis, The Red Door, Lotus, Labyrinth Headstone, North Florida Trail; **Kathy Pihlaja Lacina –** Relax Here; **Lucy Rugg -** The bloom is on the rose, One Perfect Rose, Rose on tree; **Patty Corapi -** Just Beginning, Sun Daze, The Passion; **Wallace Weeks -** Tulip V, Old and older, Water on Coleus.

Member Accomplishments

Connie Hayes has been juried into Celebration Art Festival (Apr 1-2) and Melbourne Art Festival (Apr 22-23).

Programs, Field Trips & Quarterly Contests for 06

The following is a list of the programs and tentative field trips that are planned for this year.

Month	Program Theme	Tentative Field Trip
Mar	Basic camera operations	Brevard Zoo
Apr	Sports	Soccer game
May	Wildlife	Viera Wetlands
June	Night & low light photo	Front Street Park
July	Composition	St. Augustine
Aug	Evaluating Photos	FIT Botanical Gardens
Sept	Portraits	Cocoa Village
Oct	Landscapes	Enchanted Forest
Nov	Still Life Photography	To Be Decided
Dec	Party	
Jan	Macro	McKee Gardens
Feb	Weddings	To Be Decided

Month	Quarterly Contest Themes
May	Action Shots
Aug	Open (photographers choice)
Nov	Portraits
Feb	Up Close & personal (macro)

New Officers for 2006

The election of new officers has taken place. The results are as follows:

President, **Larry Davis**, 752-6197; V.P. (Programs), **Al Fox** , 757-8565; V.P. (Field Trips), **Genie Jones**, 723-1926; Secretary, **Elaine Christian**, 259-4759; Treasurer, **Jim Ragan**, 255-1773; Display Coordinator, **Carlos & Linda Davis**, 259-2470; F-Stop Editor, **Carlos Davis**, 259-2470; Membership, **John Wilmer**, 956-9718; Webmaster, **Arnold Dubin**, 723-7787.

While these are the new officers, the club can only function if everyone will volunteer to help when needed. Please support your new slate of officers and help to take the Camera Club of Brevard to new heights.

Membership Information

Single	$25 per year
Family	$30 per year
Student	$10 per year

For more information, call any officer listed in our club directory. Friends and guests are always welcome at our meetings!

NEW Club Directory

President	Larry Davis (752-6197)	**Photo Display Coordinator**	Carlos & Linda Davis (259-2470)
VP. (Programs)	Al Fox 757-8565	**F-Stop Editor**	Carlos Davis (259-2470)
VP. (Field Trips)	Genie Jones (723-1926)	**Membership**	John Wilmer (956-9718)
Secretary	Elaine Christian (259-4759)	**Webmaster**	Arnold Dubin (723-7787)
Treasurer	Jim Ragan (255-1773)		

Quarterly Contest Winners

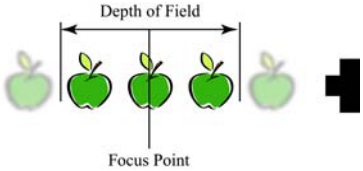
Contest winners (L-R) **Richard Thompson, John Wilmer, Bill Beach.** Photo by **Carlos Davis**

The Quarterly Contest's theme was Mountains of Brevard. There were several outstanding photographs. The attending members chose the following.

1st place: **Richard Thompson,** 2nd place: **John Wilmer,** 3rd Place: **Bill Beach.**

Helpful Hints: Depth of Field

(All photos & graphics by Carlos)



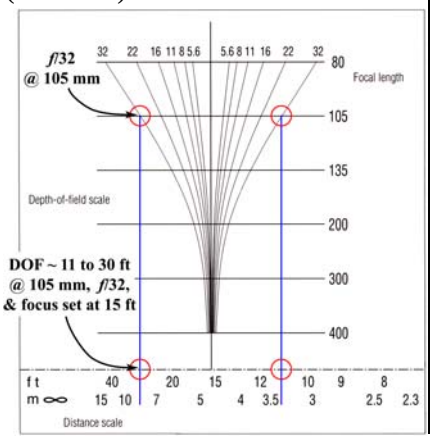
Depth of field (DOF) is the distance between the nearest and the farthest objects that will **appear** to be in sharp focus in your final print. Keep in mind that the sharpness of an image is

subjective (appearing sharp to one person but not to another).

DOF varies according to the focal length and *f*-number of the lens, the distance of the subject, and the acceptable degree of sharpness defined by the circle of confusion (an image point on the film plane may lie anywhere within the circular area defined by the circle of confusion). For precise work, the circle of confusion should not exceed the resolving power of the eye (approximately 0° 2' in angular measure). For a print to be viewed at the normal distance for correct perspective, this is equivalent to 1/1720 of the focal length of the lens. Remember that only **one** distance from the lens is the location of the image plane that is in focus. Everything else (closer or farther away objects) is out of focus. The idea is to keep those objects sharp enough for the final print or transparency.

The more you enlarge a negative, the more any lack of sharpness will be magnified. An object that looks sharp in a 4x5 print may appear quite fuzzy when blown up to a 16x20 print. The distance that the print is viewed is also a factor. The closer the viewer is the more noticeable any slight degree of "unsharpness" will be. The depth-of-field tables are designed for use with a normal degree of enlargement and normal viewing distance. To make sure that you get the depth-of-field desired you might use the one stop less than the one indicated by the table. That means that to make sure to get the DOF indicated for *f*/8, you would set your lens opening at *f*/11.

Several methods are used to determine the DOF. One is the lens itself. Some lenses have an indicator on the barrel of the lens. The following diagram indicates such a scheme. The *f*-stops are colored and the lines, in the red circle, have corresponding colors. If you set your *f*-stop at *f*/5.6 then look at the two lines on either side of the focus point (black dot) that have the same color. Together they indicate the near and far point of the lens's DOF. Another approach is taken by zoom lenses. Since the DOF varies as the focal length, you must look at both the *f*-stop and the focal length. In the diagram, the focal length is 105 mm and the *f*-stop is set at *f*/32. When the lens is focused at 15 ft the diagram indicates a DOF that extends from 11 to 30 ft approximately.



Assuming that all negatives will be enlarged exactly the same and viewed from a normal distance by persons with normal eyesight and the same standard of sharpness, then the DOF depends on two basic factors: 1.) Image magnification (how big the image of an object is on the negative and 2.) the *f*-stop used. The smaller the image or the smaller the *f*-stop, results in a greater DOF. However, the distribution of the field (how far in front of the subject it extends in comparison with how far behind) changes with the focusing distance. For example, if your camera lens is focused on a relatively distant subject, DOF may extend several feet in front of the subject but run all the way to infinity behind it. As you move closer, this proportion changes. At medium distances, the distribution is about 1/3 in front of and 2/3 behind the point of sharpest focus. Keep this in mind if you're focusing on a crowd and you want as many faces in sharp focus as possible. It might mean that you should focus only about 1/3 of the way back in the crowd. As you focus on objects that are closer, the distribution evens out.

The hyperfocal distance is the distance at which a camera must be focused in order that the far end of the DOF range will just extend to infinity. The hyperfocal distance (**H**) is given by **(1720)(lens size/f-stop setting)**. For a 4 in. (101 mm) lens set at *f*/8 this gives (1720)(4/8) = 860 in = 72 ft. This will give you the maximum DOF. The near point is given by $\mathbf{D_2 = (H)/2}$ = 72/2 = 36 ft. Everything from 36 ft to infinity will be in focus.

Times Gone By Photo by **Carlos Davis**

For critical close up focusing the DOF becomes very small and it becomes important to determine it during the setup process. In this case the equations are different. If the focused object distance is $\boldsymbol{u}$, the focal length of the lens is $\boldsymbol{F}$, the diameter of the lens aperture is $\boldsymbol{A}$, and the circle of confusion $\boldsymbol{c'}$, then the near DOF is given by: $\mathbf{D_1 = (c'u^2)/(AF + uc')}$ and the far DOF is given by: $\mathbf{D_2 = (c'u^2)/(AF - uc')}$. The near distance is given by: $\mathbf{L_1 = u - D_1}$ and the far distance is given by: $\mathbf{L_2 = u + D_2}$. The equations agree with the table provided by Nikon for its 105mm macro lens if the circle of confusion is set to a value of 0.001 in. With a focus distance of 3.2 ft. and an *f*-stop of *f*/11 L_1 = 3.12 and L_2 = 3.29 ft a difference of 2 in. This is just deep enough to keep the watch in focus in the above photograph "**Times Gone By**".

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