Winter Photography with Your DSLR Camera

I. Camera controls and shooting in the cold

II. Seeing, composition and creative techniques

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Why Photograph in Winter?

- after all its cold out
- it can be dangerous
- and the landscape is mostly white

but

- it offers a unique kind of beauty
- wildlife are often easier to spot
- winter enhances shapes and forms
- wide variety of lighting conditions
- fewer crowds or competition

Here are some more reasons


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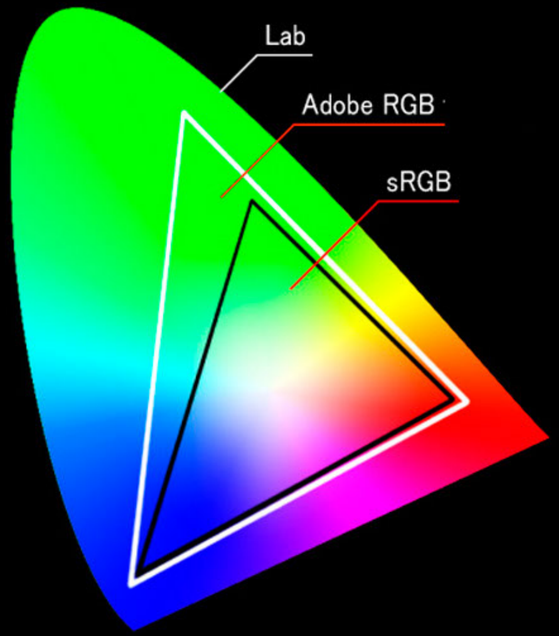
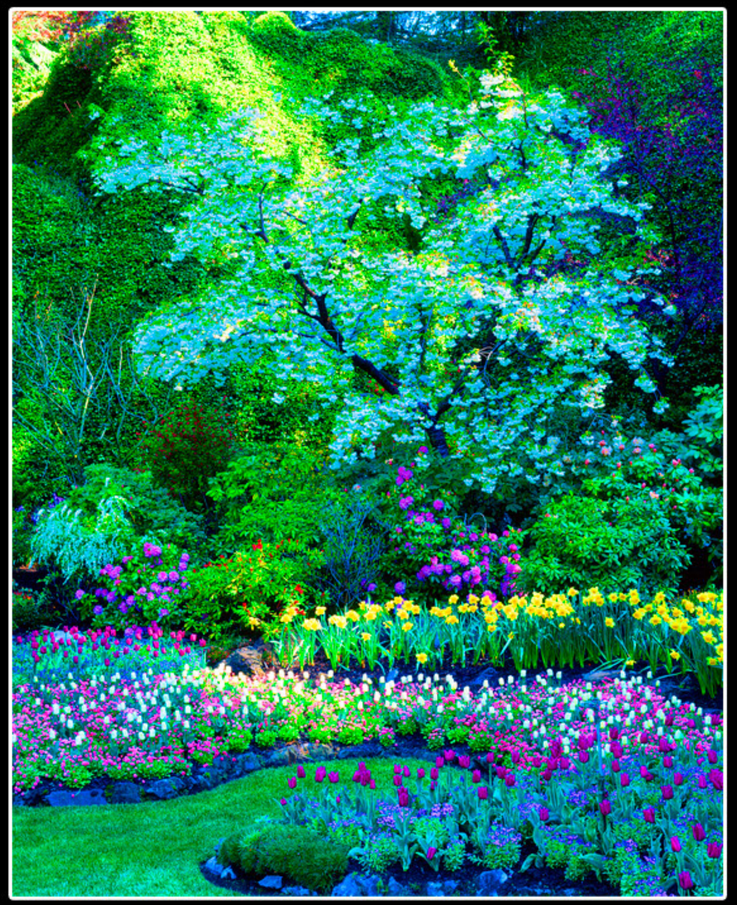
KNOW YOUR CAMERA


Back Camera Controls on Digital Cameras
Zoom
Live View
Zoom
SHOOTING MENU
Shooting menu bank A
Reset shooting menu
Active folder 100
File naming DSC
Image quality RAW
Image size
Image area
JPEG compression
Nikon
LOCK
MENU
INFO.
AF-ON
Auto power off 15 min.
Auto rotate Off
Format
File numbering Continuous
Select folder
Canon
ON OFF
View Screen & Menus

Color Space

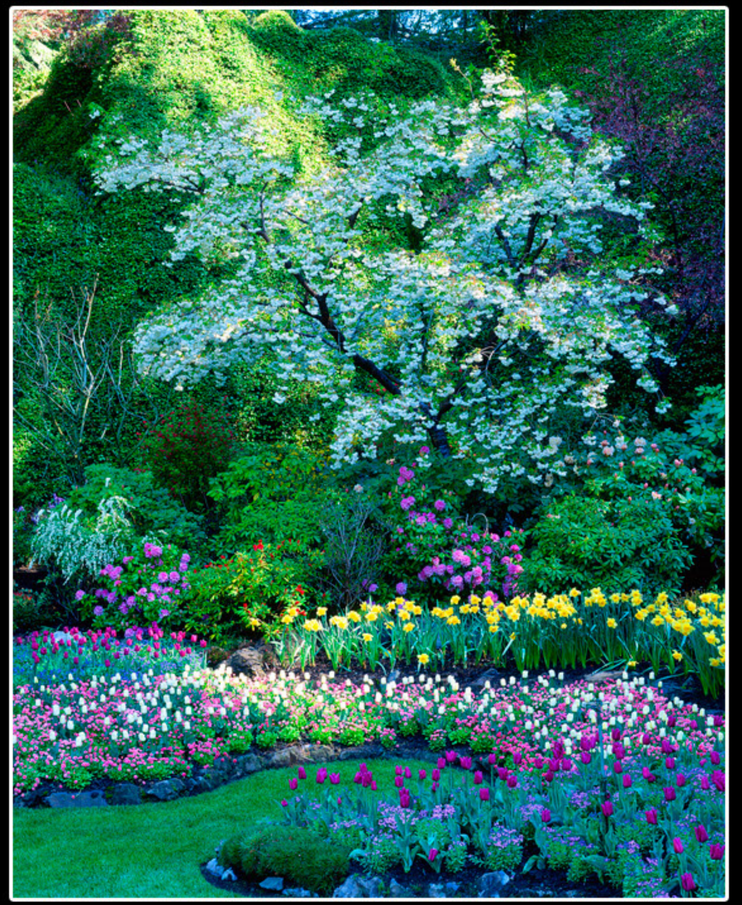


LAB - range of colors average person can see



sRGB

Best for Web, printing with no post processing



Adobe RGB

Best for shooting RAW Files Postprocessing images

White Balance

Sunlight Cloudy\Overcast Shade Fluorescent Tungsten Flash Custom

Cool 9000 K

Normal 6500 K

Warm 3500 K

Standard

Vivid

Black & White

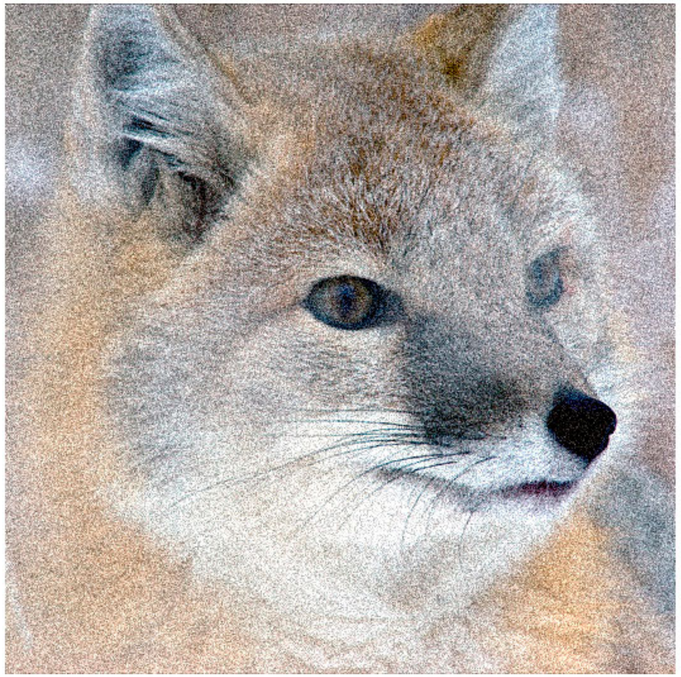
Sepia

Always shoot in Color and then convert to BW or Monotone image in Photoshop for maxium control

Digital Camera Simulated ISO Speed

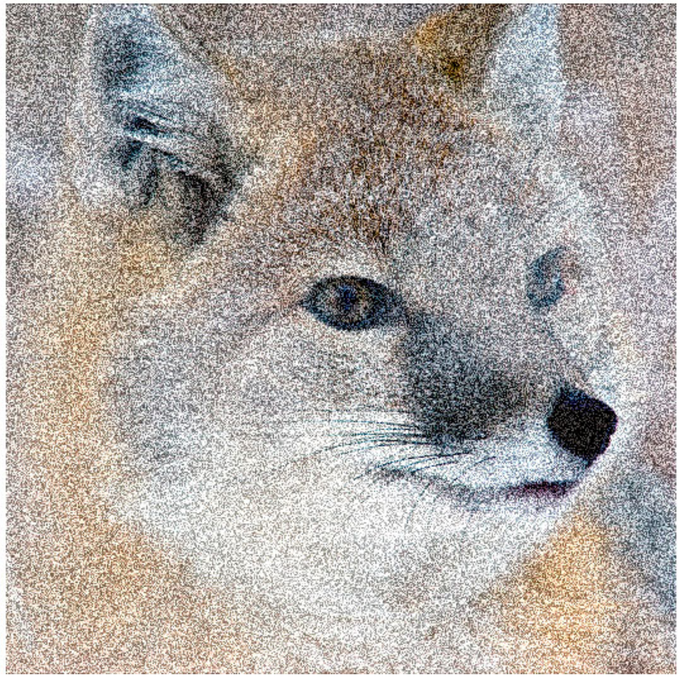
ISO 200

Daylight, sunny, light overcast



ISO 1600

Low Light - Morning, Dusk, Heavy Cloud, whenever you need faster shutter speed



ISO 25000

Very Low Light, before sunrise after sunset

Note: actual amount of Noise varies with digital camera chip size, camera model, and noise reduction settings, always try to use the lowest ISO speed possible as it is difficult to reduce noise in existing images.

Camera File Types

.jpg
.tif
RAW
RAW compressed

JPEG (.jpg)

Processed in camera

8 bit color or 256 shades of RGB

Smaller File Size (S, M, L) camera can shoot sequence of images faster (higher burst rate).

White balance must be set correctly

Enlargement limited to about 25%

Can embed files in email or web page

Can be opened in most software and viewed directly on computer

nonprietary file format

RAW

Requires post processing in software

12-14 bit color – 4096 to 16,384 shades of RGB - i.e. more and better colors

Some cameras offer different size RAW files, and or compressed RAW

White balance can be modified during post processing

Can recover “some” blown out highlights

Exposure can be altered during post Processing +\- 2-3 F-stops (no need to bracket exposures)

Can enlarge images 100% or more

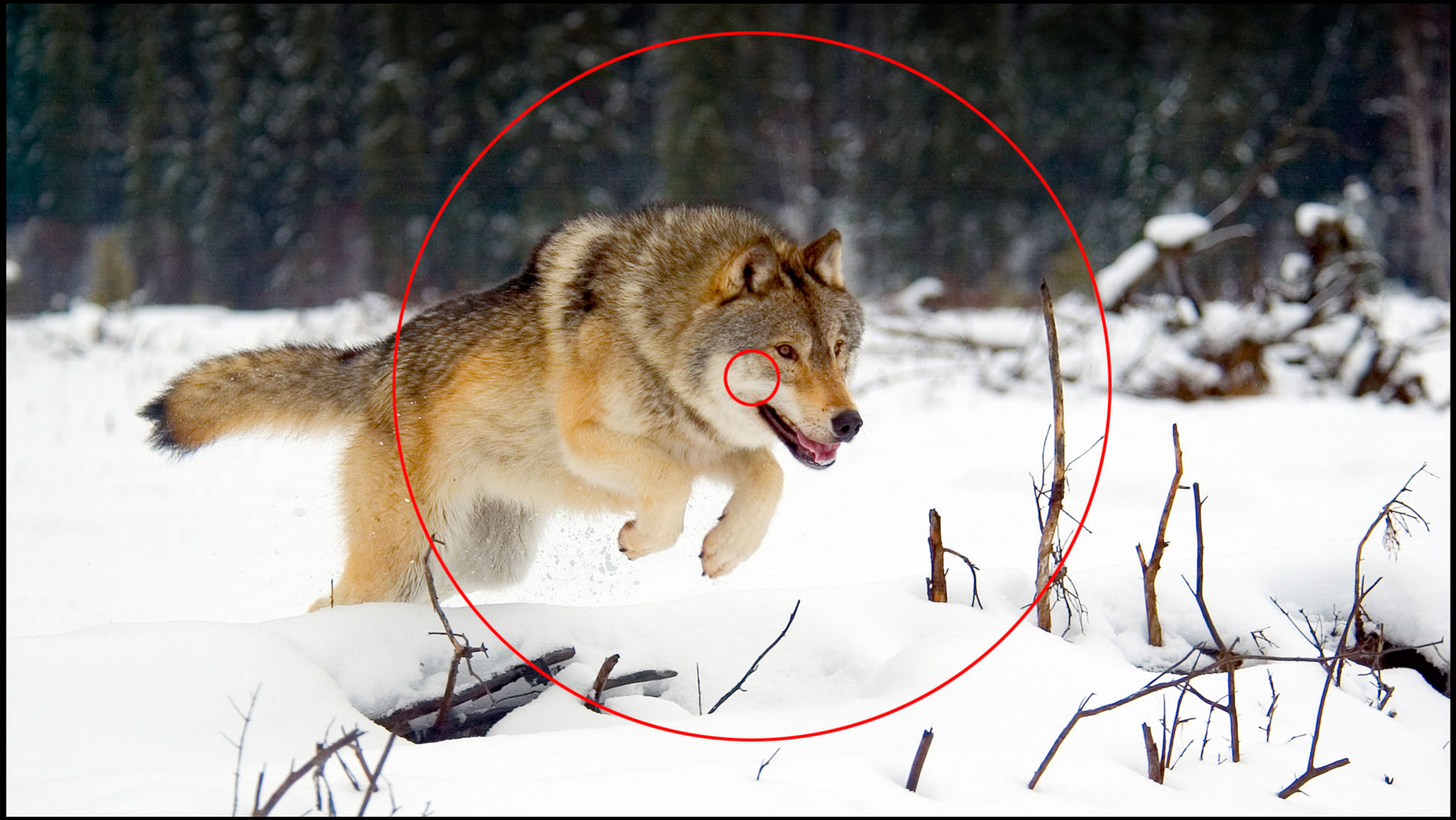
Wider dynamic range, approx 2 F-stops

File size is large and writes to storeage medium slower then .jpg– slower burst rate

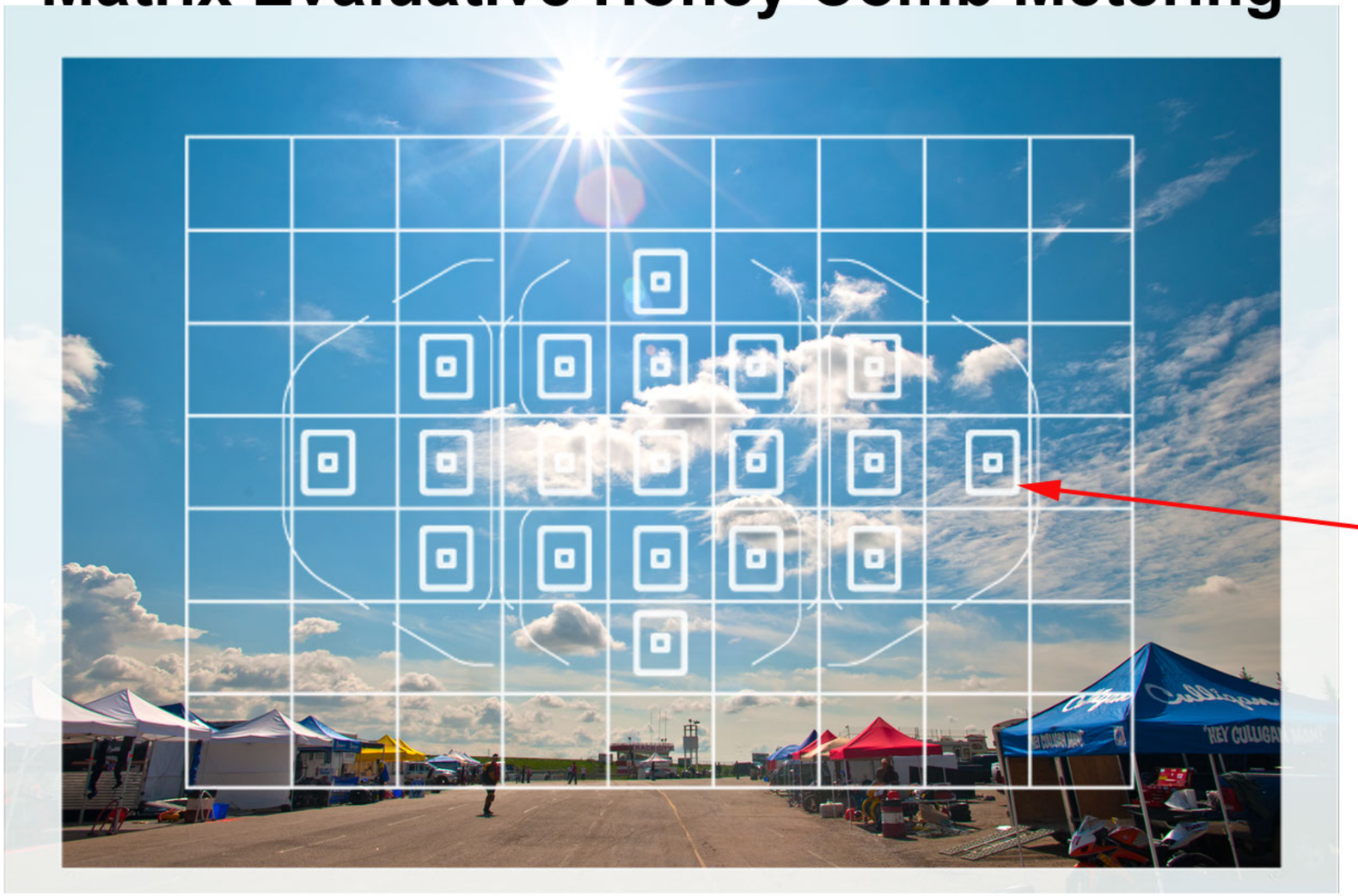
Many proprietary file types – often requires software updates or conversion to .DNG

***RAW is best for quality and flexibility though it requires post processing with computer and software - processed images best stored as .tif files (keep your RAW files).**


RAW Before Processing
RAW After Processing



Matrix Evaluative Honey Comb Metering

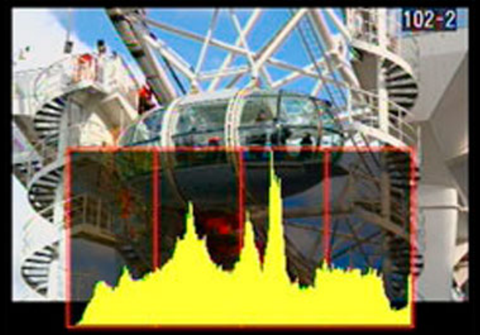


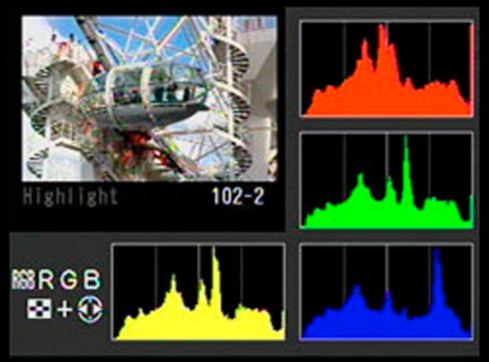
Canon 7D pattern

Focus Points

Metering Symbols

Use the Histogram Function to Determine Exposure with Digital Cameras





black gray white

No pixels

under exposed

correctly exposed

over exposed

Exposure Compensation

Permits overriding the camera meter and lighten (overexpose) or darken (underexpose) the picture.

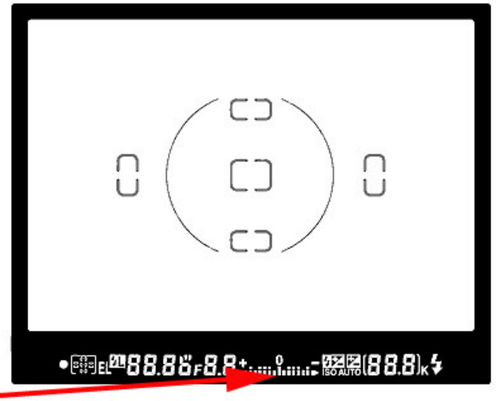
-2\3 Exposure

Normal Exposure

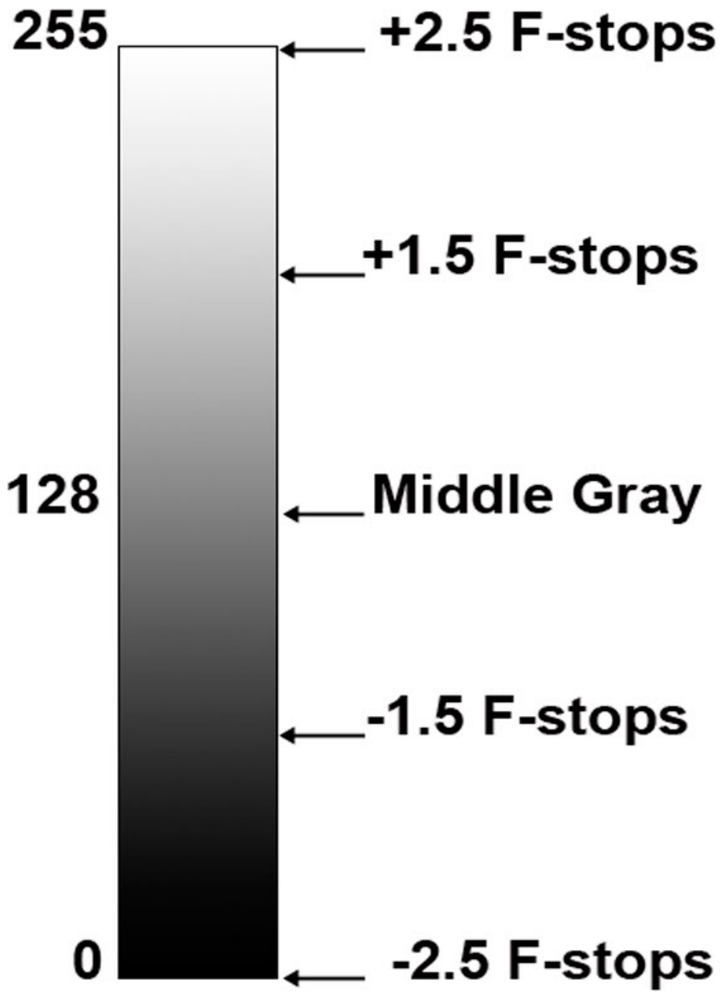
+2\3 Exposure

EV button

EV Value



Shooting JPG files in Winter usually requires positive exposure compensation in winter scenes



Correct exposure

Recommended exposure

Under exposure

RAW files permit exposure modification afterwards and therefore exposure is not as critical as with JPG

Lenses come in a variety of focal lengths:

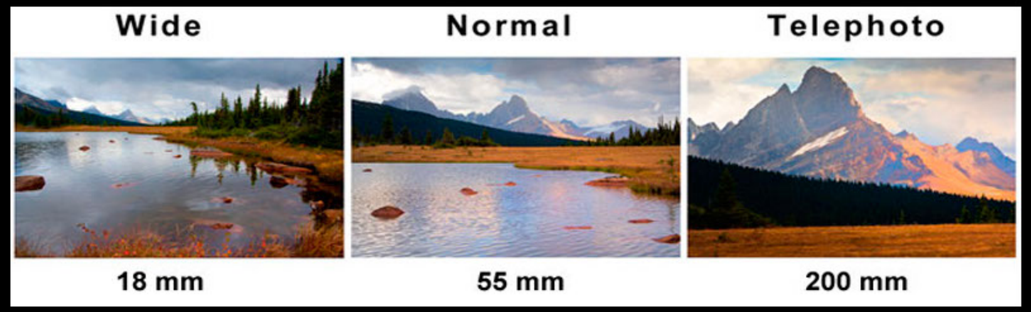
12-35 mm wide angle

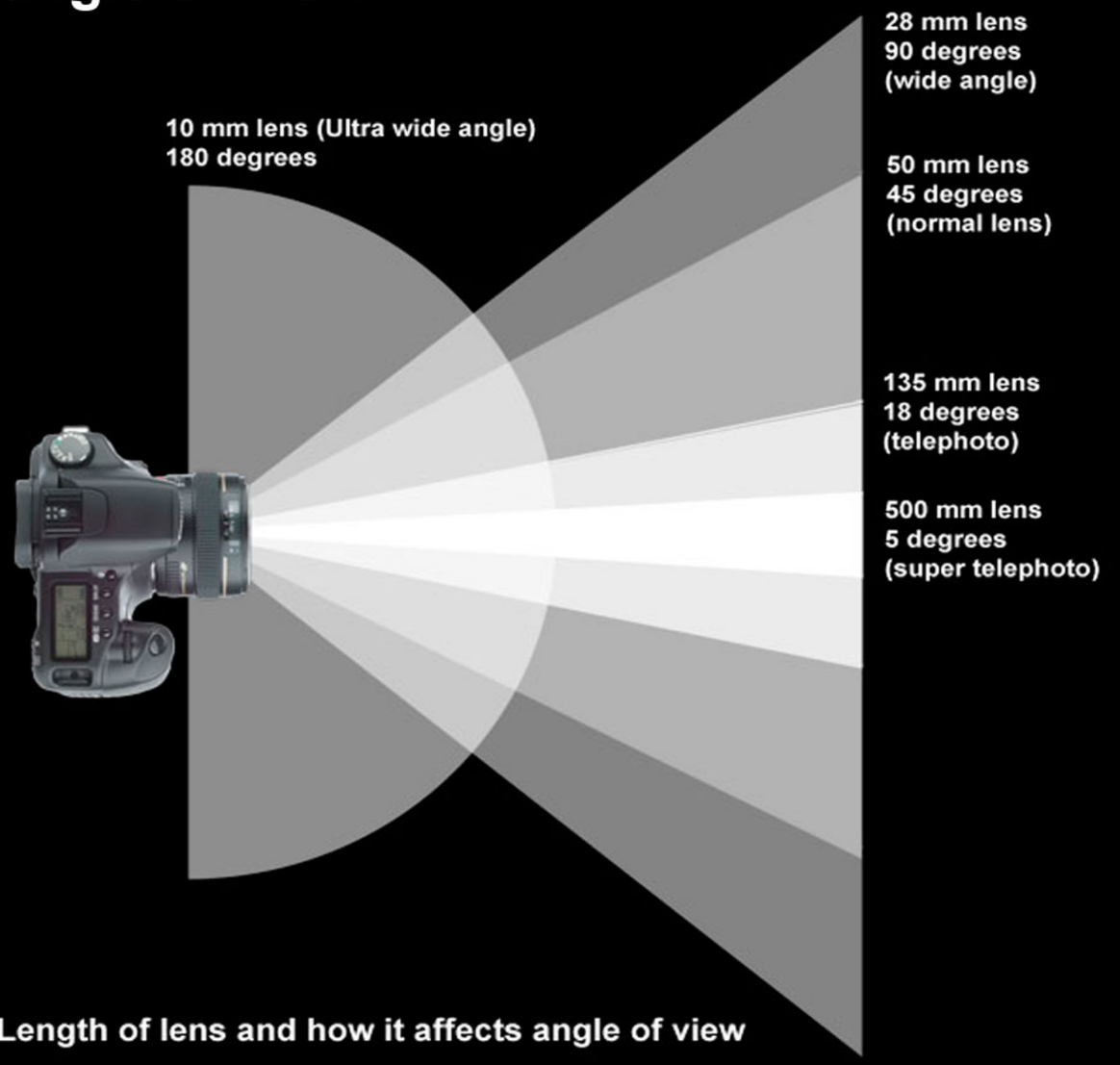
40-70 mm Normal perspective

70 - 1200 mm telephoto

Macro lenses designed for close-up photography

Focal Length affects magnification and angle of view





Focal Length of lens and how it affects angle of view


18 mm F22
40 mm F22
120 mm F22
350 mm F22
www.scienceandart.ca

IDEAL TRAVEL LENS

Wide

18 mm F13 1\30 sec

Normal

55 mm F13 1\30 sec

Telephoto

200 mm F13 1\30 sec

18-200mm VR Zoom Lens

F4 Lens
Constant
Aperture

18-200 mm Zoom Lens
F3.5-5.6 - widest apture
depends on focal length

WIDE ANGLE TO NORMAL LENSES

16-35 mm F2.8

50 mm F1.4

24-105 mm F2.8

Telephoto Lenses

Autofocus with vibration reduction or Image stablization

70-200mm F4 ~$1600	70-200 mm F2.8 ~$2000	300 mm F4 ~$1600	300 mm F2.8 ~$5500

Some Telephoto Lenses Have a Focus Limiter - by reducing the focus-range you can speed up the autofocus performance in sports and wildlife photography.

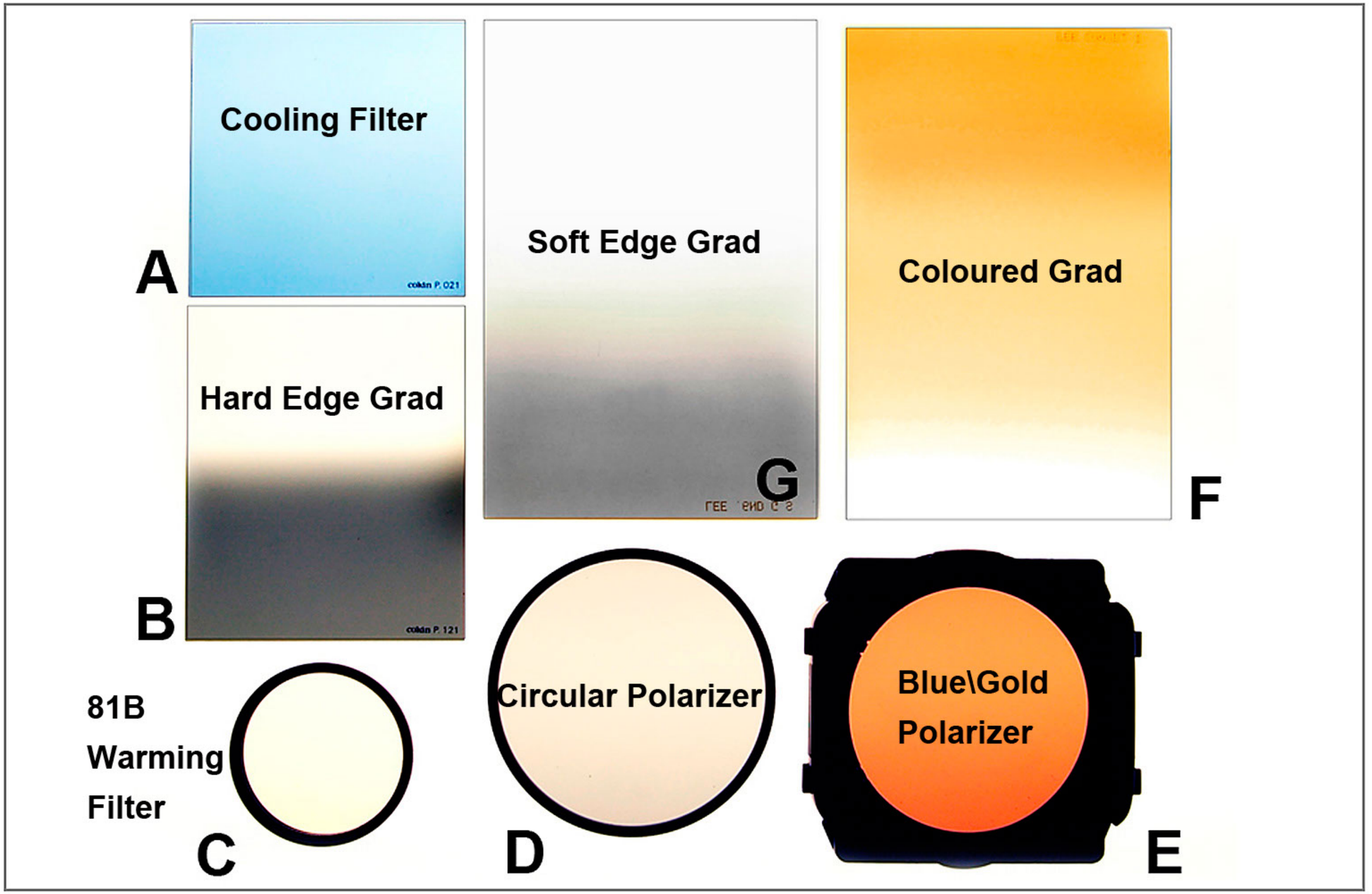
Teleconverters

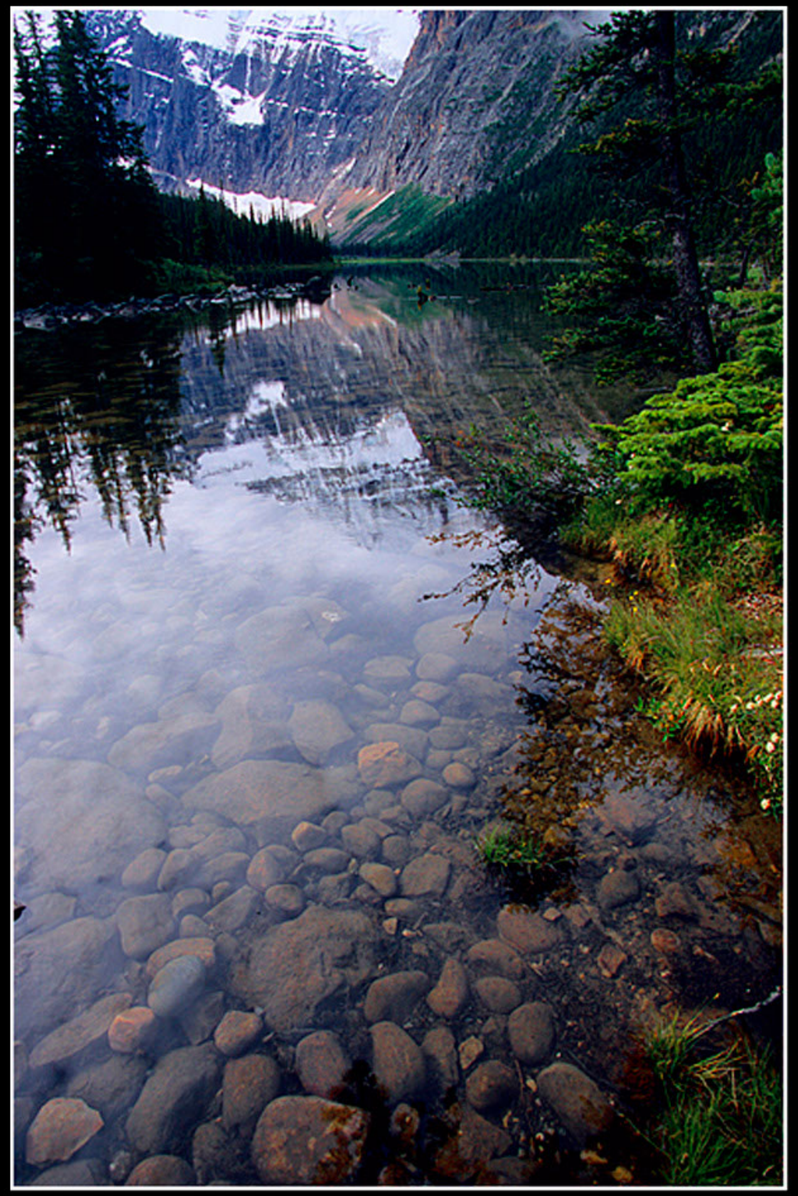
Nikon 2X
- 2 F-stops

Nikon 1.7X
-1.5 F-stop

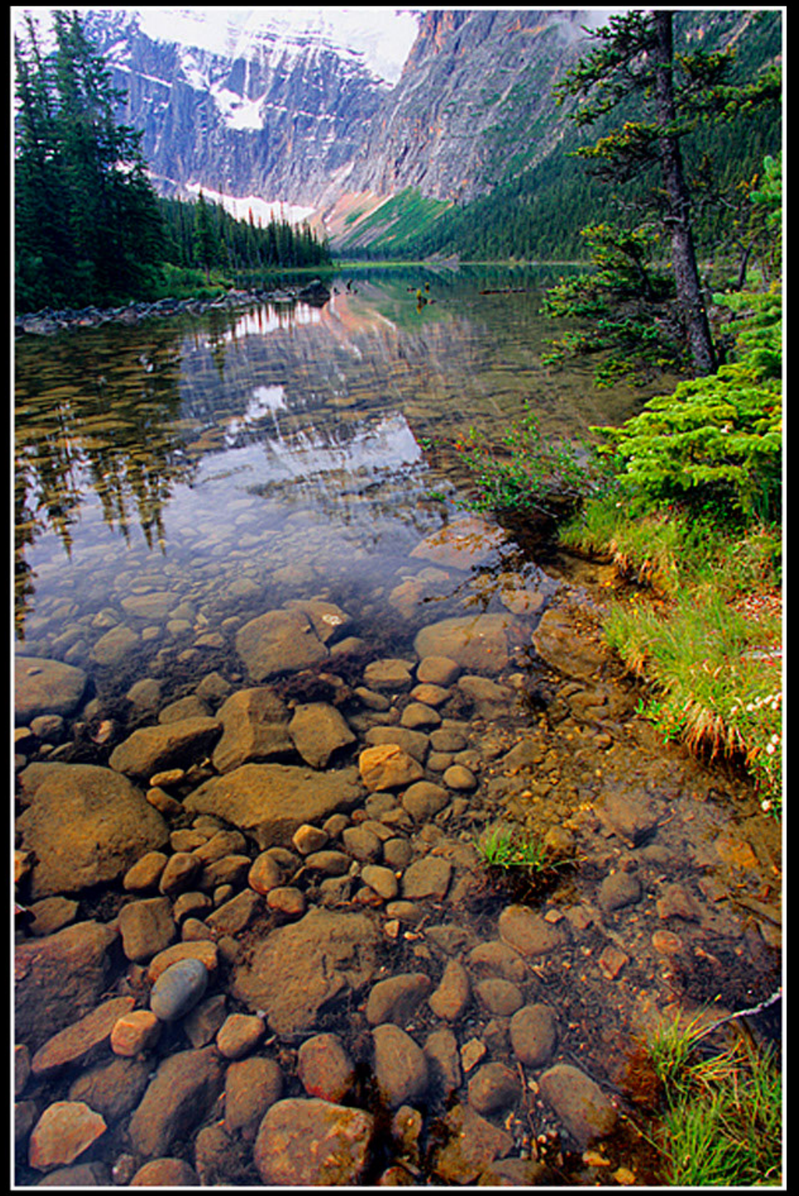
Canon 1.4X
-1 F-stop

Canon 2X
-2 F-stops





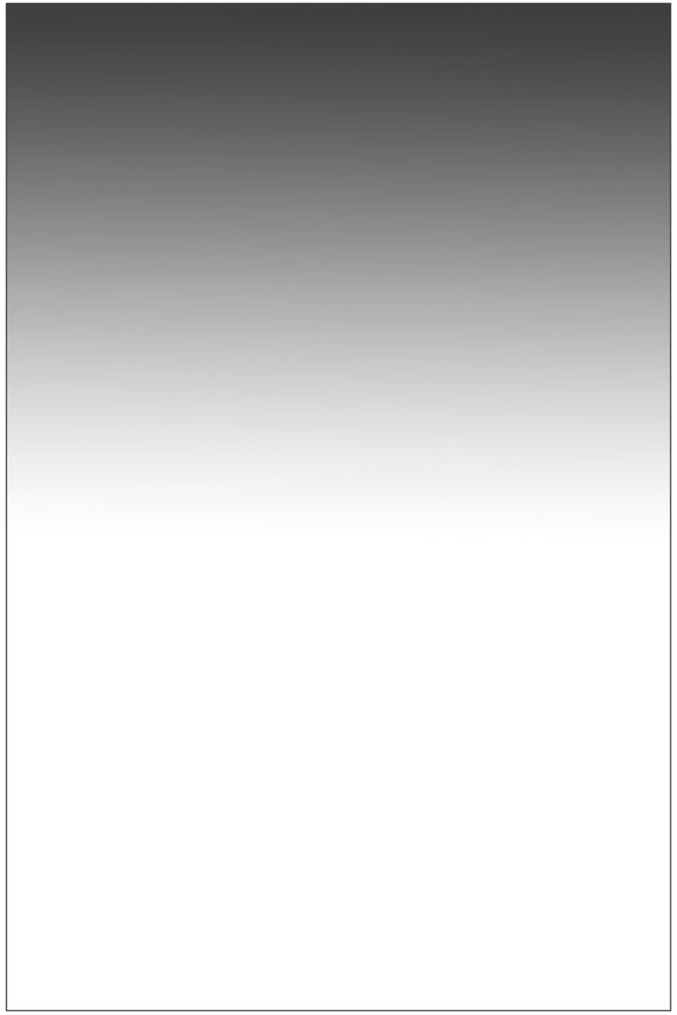
20 mm Lens Velvia No Filter



20 mm Lens Velvia Polarizer

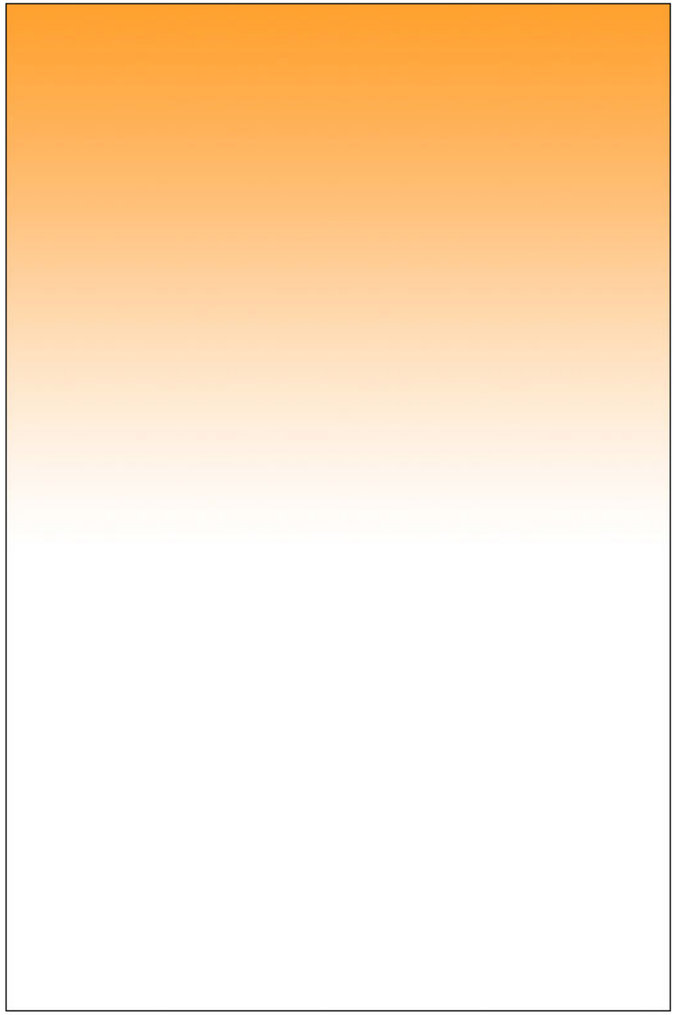

Blue\Gold Polarizer

Neutral Density Grad Filters



0.6 ND Soft Grad

0.6 ND Hard Grad



Sunset Soft Grad

GRADUATED NEUTRAL DENSITY FILTERS ARE OFTEN USED TO DARKEN SKIES AND REDUCE DYNAMIC RANGE BETWEEN FOREGROUND AND BACKGROUND

No Filter

2 F-stop Hard Edge Grad filter


Nikon LENS SERIES E
50mm 1:1.8
3292459

F2.8

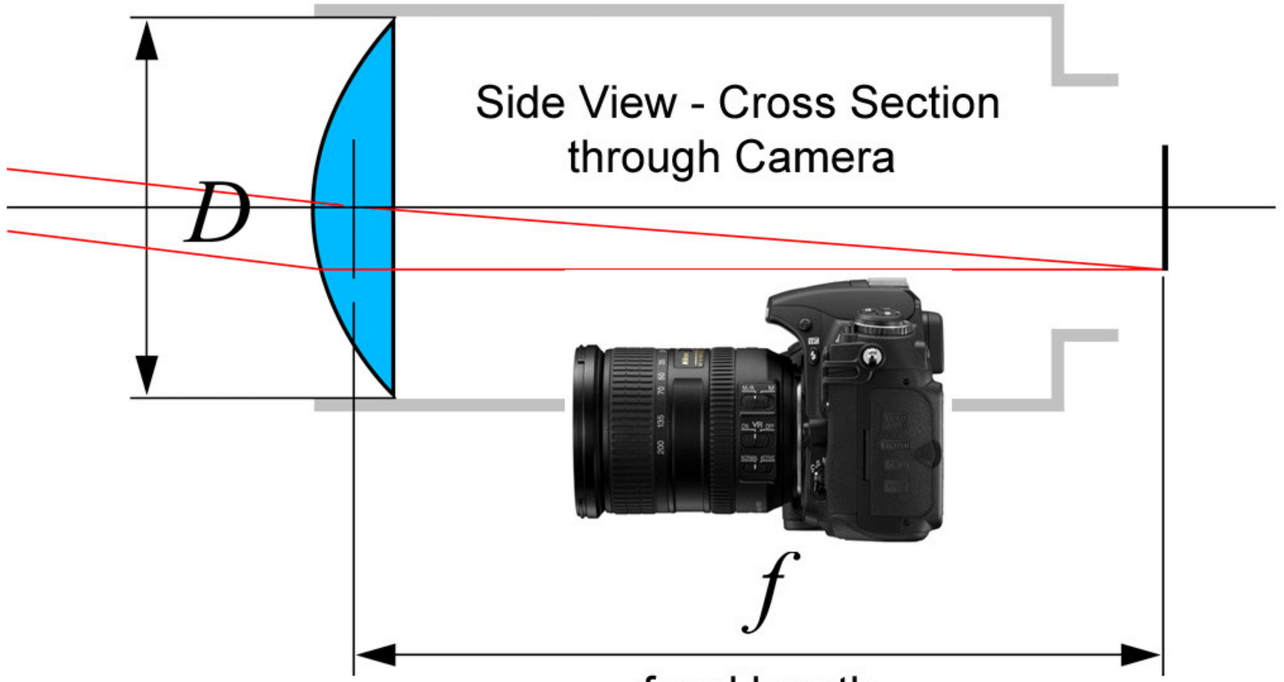

Nikon
NIKKOR
35mm
1:2 D
22 16 11 8 5.6 4 2.8 2


Nikon LENS SERIES E
50mm 1:1.8
3292459

F16

F - stops Control the Amount of Light and Depth of Field

D - lens opening or diameter controlled by Aperture



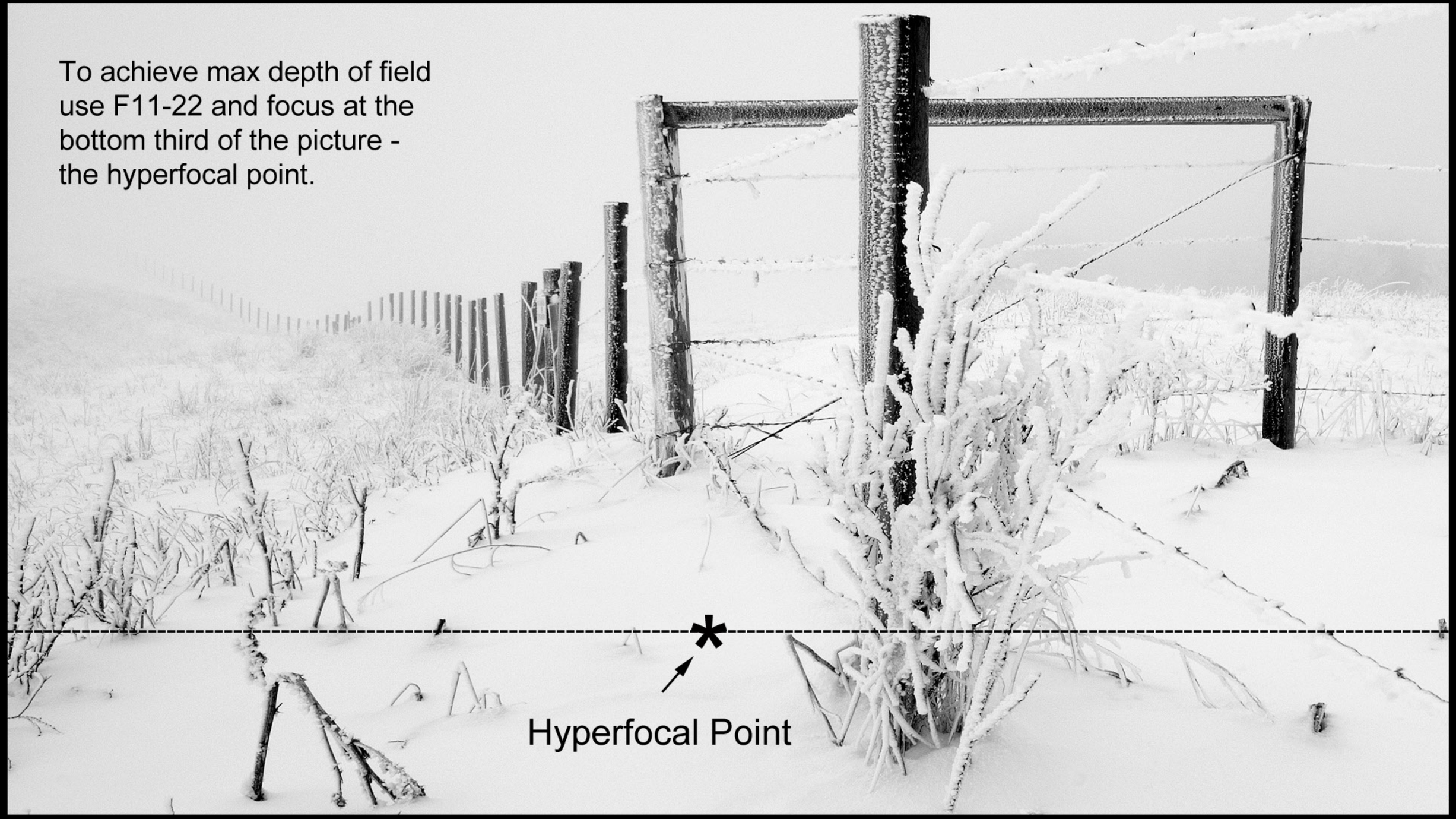
Typical one-third-stop f-number scale

f/#	1.0	1.1	1.2	1.4	1.6	1.8	2	2.2	2.5	2.8	3.2	3.5	4	4.5	5.0	5.6	6.3	7.1	8	9	10	11	13	14	16	18	20	22
	1\1000			1\500			1\250			1\125			1\60			1\30			1\15			1\8			1\4			1\2 s

Each F-stop is equivalent to a 50% difference in light or one shutter speed - change the F-stop you must change the shutter speed and vice versa

$$\text{F - stop (ratio)} = \frac{\text{Focal Length}}{\text{Lens Aperture (Diameter)}}$$

To achieve max depth of field use F11-22 and focus at the bottom third of the picture - the hyperfocal point.



Autofocus Settings & Drive Modes

S - single servo focuses when the shutter is pressed half way, camera wil not permit you to shoot unless subject is in focus.

C - continous servo focuses continously when shutter is pressed half way - release priority - means it will shoot even if subject is not in focus.

M - manual focus - use this method if camera can not focus on subject, e.g. if F-stop of lens exceeds F5.6 or subject low in contrast.

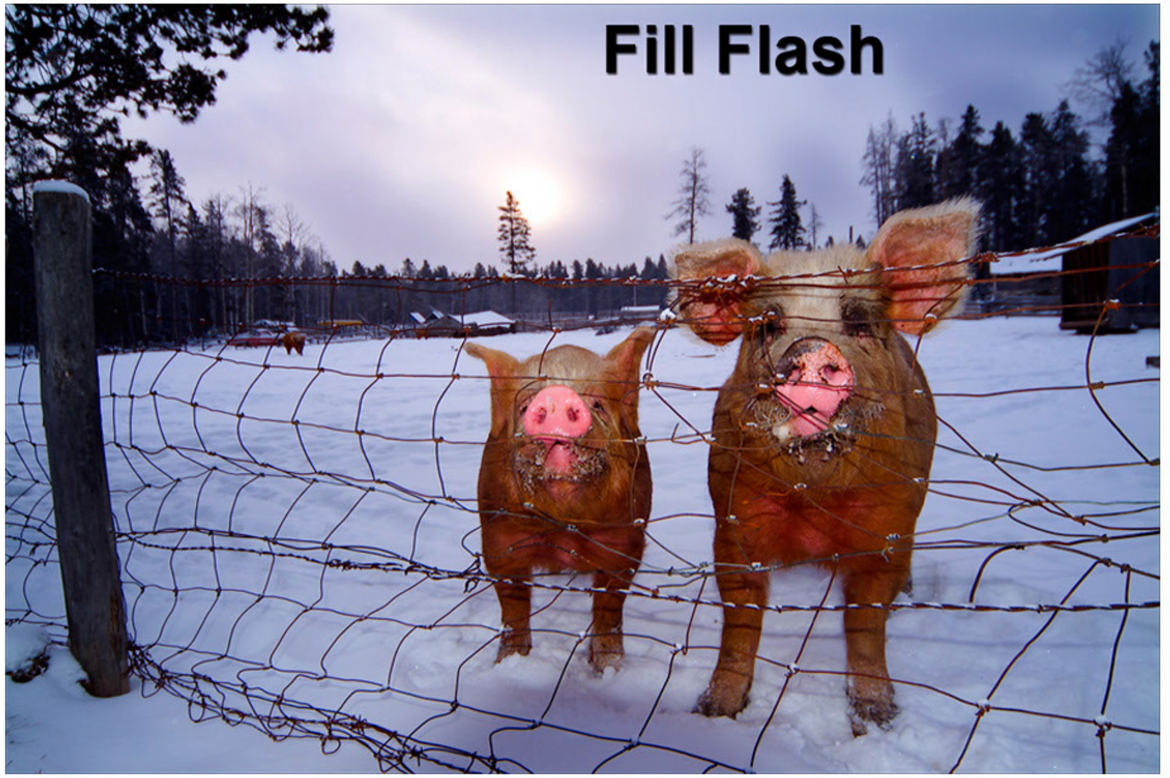
Self Timer - use to reduce shake or take self portraits

Moving Subjects

Nikon - use Dynamic Area autofocus to track moving subjects.

Canon - use AI Servo focuses continously while shutter button is held down.

Using your Camera Flash with Backlighting




Shooting into the Sun
and using a Fill Flash

Choosing a Tripod and Head

Carbon fiber construction
legs should go flat to the ground
legs should have rubber grips
No center post or remove existing one
Rubber tipped feet with metal points
Legs should not lock up when wet

3 - geared head good
for slow deliberate
compositions - landscapes

Really right stuff Ball Head
Quick release - arca swiss
plates

Wimberly for
Large Telephoto
Lenses

PHOTOGRAPHING IN WINTER

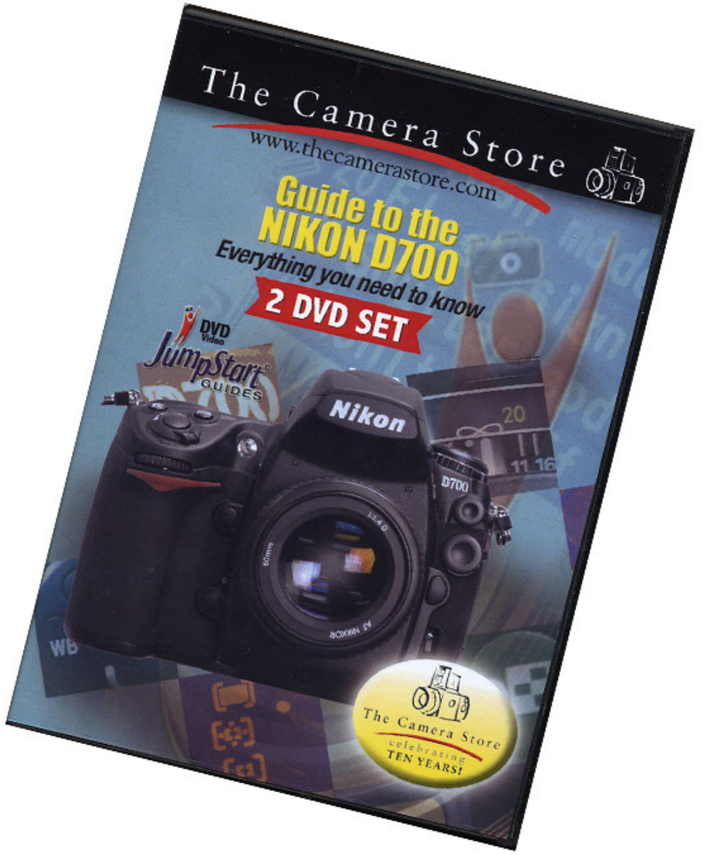
Carrying your Camera Gear

Camera Manuals

Magic Lantern Series Books

227 Pages

444 Pages



Instructional Videos from
www.jumpstartguides.com

BEFORE YOU GO OUT TO SHOOT WITH YOUR DIGITAL CAMERA

1. Bring fully charged battery, a spare battery and spare memory card.

2. Set camera to A or Aperture priority mode.

3. Select file type: .JPG or RAW or select both JPG & RAW.

4. Set White Balance to Auto - can adjust white balance in the field if shooting JPG files.

5. Set meter mode to Matrix (Evaluative) and check exposure compensation is set to 0.

6. Set ISO speed at 400 to start.

7. Test your camera is working properly before you go out to shoot.

(If you are going on a remote trip -bring a spare camera body or small compact camera just in case your main camera should fail or get stolen and don't forget your battery charger and camera manual)

Summary - Photography Recommendations

1. Select Aperture priority mode and matrix metering most of the time.
2. Set ISO speed to lowest setting the available light permits with a shutter speed of 1\60 of sec or faster - use vibration reduction\image stabilization if your have it.
3. For highest quality and flexibility use RAW, Adobe RGB color space & Auto WB.
4. For moving subjects and wildlife use Continous shooting mode and your widest aperture with the fast shutter speed available.
5. For landscapes select F11-22, focus on hyperfocal distance and use a tripod.
6. Most useful filters to own are circular polarizer and neutral density grads.
7. Know your camera - read your manuals & use your gear frequently.