Agenda for the morning

- Welcome and introductions
- Overview of general problems in photography
- Avoiding image blahs
  - Focus / sharpness
  - Exposure
  - Composition
- Making images **pop**
  - Contrast and luminosity
  - Vibrance and clarity
  - Local adjustments, dodging, and burning
- Wrap-up by 12:30 PM

Today's Issues:
- Camera technique
  - Exposure
  - Sharpness / focus
- Composition
- Processing technique
- Hands-on processing

What ruins a photo?

- Poor composition
  - Lack of clear/obvious subject, foreground, background
  - Clutter and distractions, edges & corners
- Improper exposure
  - Over-exposure & distracting highlights
  - Under-exposure (sometimes fixable in PP)
- Unintentionally blurred image
  - Out of focus / improper depth of field
  - Subject moves too fast for set shutter speed
  - Camera shake

Learning Objectives

- At the end of this session, you will be able to:
  - Identify the possible causes of blah images
  - Select best images for post-processing/editing
  - List means to enhance white balance, hue, and saturation
  - List means to optimize contrast, vibrance, and clarity
  - Understand techniques to sharpen an image
  - Use local adjustments to make images **pop**
  - Identify useful post-processing filters & plug-ins
  - Obtain more pleasing and dynamic images

How do you define Pop?

- Clearly identified subject with foreground and background
  - Good composition leading viewer through image
- Tack sharp
  - Focused, good depth of field, no diffraction or blur issues
- Proper exposure (luminosity, tonality, brightness)
- Good contrast (whites, blacks, good dynamic range)
- Sharp corners and edges (no cut-offs)
- Appropriate color saturation & 'vibrance'
- Highlights and lowlights; depth to image
- Other?

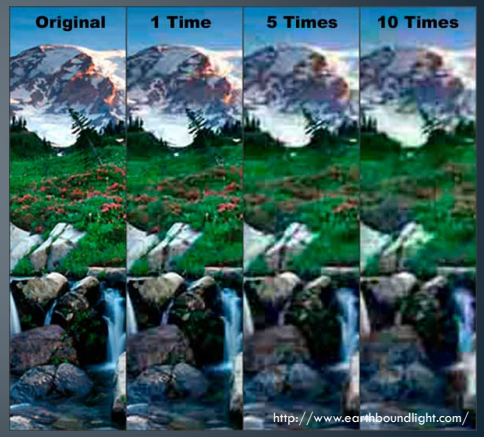
File Type and image POP

- **RAW** files (.CR2, .NEF)
  - Large file size
  - Non-viewable image data
  - EXIF and other metadata and JPEG thumbnail (.XMP)
- DNG (Adobe, .DNG)
  - Smaller file size, non-proprietary
  - Non-viewable, slightly compressed image data
  - No .XMP side-car file needed
- **JPEG** images (.JPG, .JPEG)
  - Highly compressed, much smaller image file
  - Edited by camera/software
  - Each save loses data (lossy compression)

Luminance levels (brightness) per RGB channel

JPEG Compression

- JPEG compression is "lossy"
- Each save causes data to be lost
- Frequent saves degrades image
- Not affected by opening and closing only



Exposure Control Triangle

- Three elements control exposure
- ISO sets sensor sensitivity
- Aperture controls amount of light
- Shutter speed controls duration of exposure
- But don't forget "Exposure Compensation" is often essential

Any change in one factor requires an equal and opposite sum change in the other two factors

One "stop" or EV (exposure value) implies a doubling or halving of exposure.

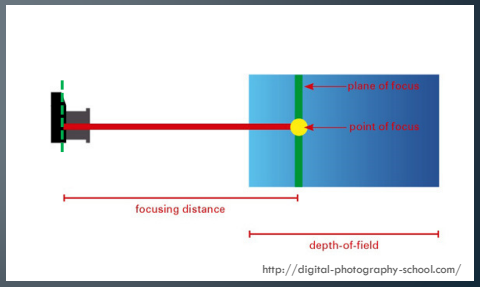
Aperture (*f*-stop) Pro and Con

High *f*-stop	Low *f*-stop
• Small aperture	• Large aperture
• Wide depth of field ⟷	• Narrow depth of field
• Slow shutter speed	• Fast shutter speed
• Star-effect in bright light	• Freeze action
• Motion effects	• Minimize camera shake
• Diffraction softening	• Corner softening

Depth of Field – what is acceptable focus?

- Lens focuses on a single plane – parallel to the sensor
- A range of "acceptable" focus occurs on each side of the plane
- Rule of thumb – 1/3 in front and 2/3 behind plane of focus

Only a rule of thumb!
Actual acceptable focus varies with the lens, its focal length, and the focusing distance

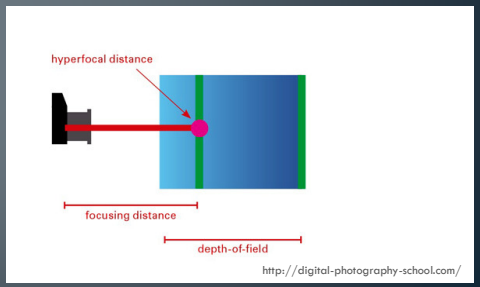


Determinants of Depth of Field

- Image "magnification"
  - How the camera "sees" the subject
    - Sensor size – smaller = less DoF
    - Effective focal length – longer = less DoF
    - Distance – closer = less DoF
- **Aperture**
  - Set *f*-stop
  - Larger opening (lower *f* number) = less DoF

Hyperfocal Distance

- Focusing distance where the depth of field will allow acceptable focus to infinity

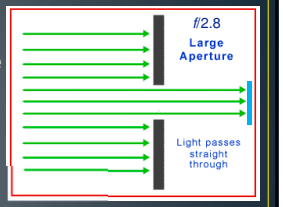


Diffraction

- Assume high quality lens
- Full-frame camera diffraction-limited at smaller than *f*/22
- APS-C sensor diffraction-limited at smaller than *f*/16

Diffraction

- Minimal with large aperture
- Potential problem with small aperture
- Depends upon sensor size
  - Full frame above *f*/22
  - APS-C above *f*/16
- Result is lower resolution
- Softer image
- Maybe compounded by slow shutter speed



Post-processing Sharpening

- Not really sharpening
- Local contrast adjustments of "edges"
- Noise reduction / sharpening paradox
- Lightroom or CameRaw clarity slider
- Lightroom or CameRaw sharpening
- Photoshop sharpening tools
- Other software sharpening tools

Keys to sharper images

- Camera stabilization
- Appropriate lens
- Appropriate shutter speed
- Choose best focusing mode
- Always consider best motion blur for moving subjects
- Apply noise reduction and sharpening in post-production

Post-processing / Editing

- Exposure / luminosity – intensity of light
- Contrast / tonality – range of luminosities
- Saturation (intensity of color)
- White balance
- Level and crop
- Sensor dust
- Distractions
- Digital noise reduction
- Sharpen

Compositional Elements

Direct the viewer

- Focus – emphasize the primary subject and add context
- Lines – natural, artificial, and implied
- Shape – repetition, regularity, irregularity
- Frames – real and implied
- Tonality – exposure and contrast
- Color – bright directs

} Editing?

Composition

- Right lens for subject and distance
- Fill the frame
- Clearly defined subject
  - Simplify the image
  - Eliminate clutter
  - Check your edges and corners
- Foreground, subject, background relationship
- Rule of thirds – avoid "bulls-eyes"
- Leading lines
- Patterns (exception to the pattern)
- Natural frames

Ask yourself, in one word, what is the picture?

Composition Goals

- Create impact
- Stimulate imagination
- Emotion is key

Composition Technique

- Look, see, create – vision of what you are creating
- Isolate and simplify
  - Lens selection
  - Depth of field
  - Field of view
- Subject, background and foreground
- Clean edges and corners
- Point of view – height and angle
- Good to great = impact

Composition

- Avoid a centered subject – no bull's eyes
- Rule of thirds
- Leading lines
- Natural frames
- Create tension with negative space
- Understand light
  - Depth and dimension are created by angle of light
  - Shadows are as important as highlights
- Visual pathway into image

Composition is about balance

- Aspect ratio
- Format
- Shapes
- Edges and corners
- Arrangement
- Lines
- Focus
- Shadows & reflections
- Foreground/background
- Viewer's path
- Point of view
- Texture and detail
- Gradations
- Negative/positive space
- Contrast
- Color

Post –production and editing impact

LightRoom vs PhotoShop

LightRoom

- Synchronized editing
- Image storage system
- Database / search engine
- Adobe Camera Raw
- Image-level editing
- Non-destructive edits
- Limited local edits

PhotoShop

- Single image editing
- Bridge is viewer
- Adobe Camera Raw
- Pixel-level editing
- Destructive edits
  - Smart objects
- Layers & overlays
- Masks
- Content-aware fill

The programs are different but complementary.

LightRoom Modules

- Library – organize your images
  - Import, export, publish images
- Develop – process your images
  - Basic panel
  - Selective adjustment tools
  - Special panels
- Map – geo-tag your images
- Book – create a photo book
- Slide show – create a slideshows
- Print – print your images
- Web – create a web objects

Pop

Workflow…

Post-processing (Editing) Goals

- Optimize white balance and tint
- Optimize overall exposure and contrast
- Correct saturation problems
- Enhance local exposure and contrast
  - Dodge & burn; clarity
- Crop for final use (straighten, fix corners and edges)
- Eliminate distractions: clone, heal, blur, etc.
- Create vignette
- Merge images: HDR, panorama, focus-stacking
- Other local adjustments, filters, etc.

Develop Module

- White and black points; highlights, shadows
  - Exposure, contrast – dynamic range
- Color temperature, white balance, and tint
- Presence (***pop***) - clarity, vibrance, saturation
- Crop, level, clean-up, filters
- Local adjustments
  - Gradient & radial filters, brush, spot removal
  - Dodge and burn
- Tone curve, HSL, split-tone
- Lens corrections and perspective control
- Sharpness; luminance & color noise reduction
- Special effects – post-crop vignette, grain

Workflow…

Develop Module Panels

- Local adjustment tools – gradient, radial, brush, clone
- Basic – exposure & color correction
- Tone curve – contrast and dynamic range
- HSL – Hue, Saturation, Luminance, (B&W)
- Split Toning*
- Detail – noise and sharpening
- Lens Corrections – aspect error, chromatic aberration
- Effects – vignette and grain
- Camera Calibration*

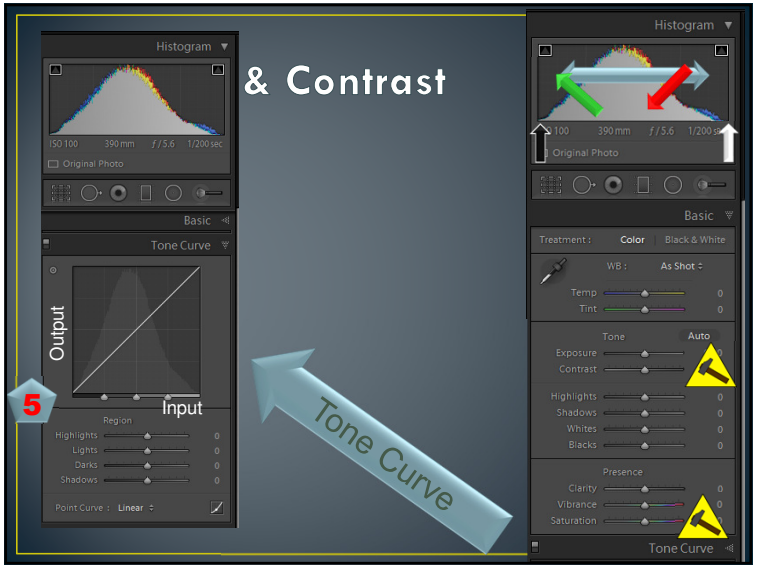
* = very low use

Exposure & Contrast

- **Use histogram!**
- Gross exposure to shift curve right or left
- Set white and black points
- Open shadows and highlights
- Fine tune each luminance segment
- Add clarity for mid-tone details
- Consider vibrance - if exposure is increased
  - Preserves skin tones; acts only on unsaturated hues
- Consider saturation - if exposure is increased
  - Use with extreme care
- Add contrast (if needed); check tone curve for fine detail contrast adjustments

Output

& Contrast



Application of processing

- Eliminate distractions
- Focus attention on subject
- Add 'depth' to image
  - Color / saturation / vibrance
  - Contrast / sharpness / clarity
  - Dodging and burning
- Keys to creating Pop

ABCs of Post-processing Pop 1

- Adjust overall exposure as needed (histogram)
- Set white point (histogram)
- Set black point (histogram)
- Open the shadows (up) / highlights (down)
- Re-touch exposure, white and black points, if needed
- Add clarity
- Add vibrance (watch saturation)
- Check white balance and tint
- Consider tone curve adjustment (for contrast)

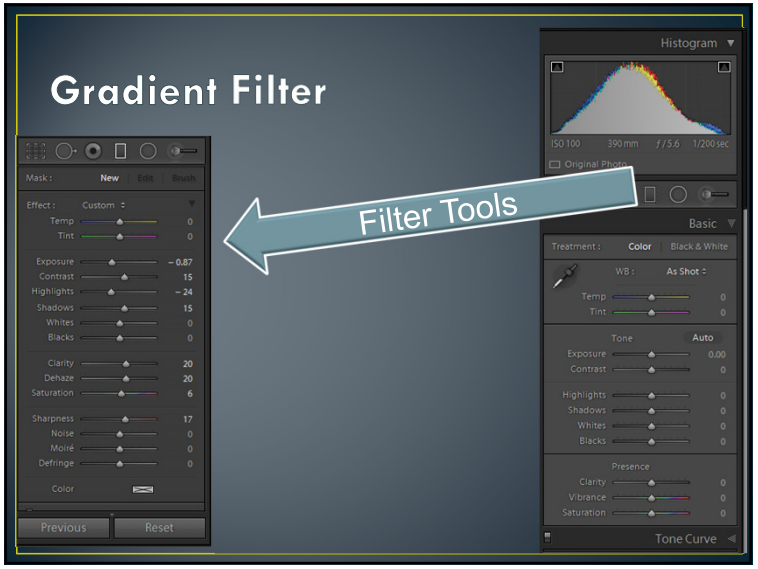
Luminance
Dynamic range

Color
(Saturation)

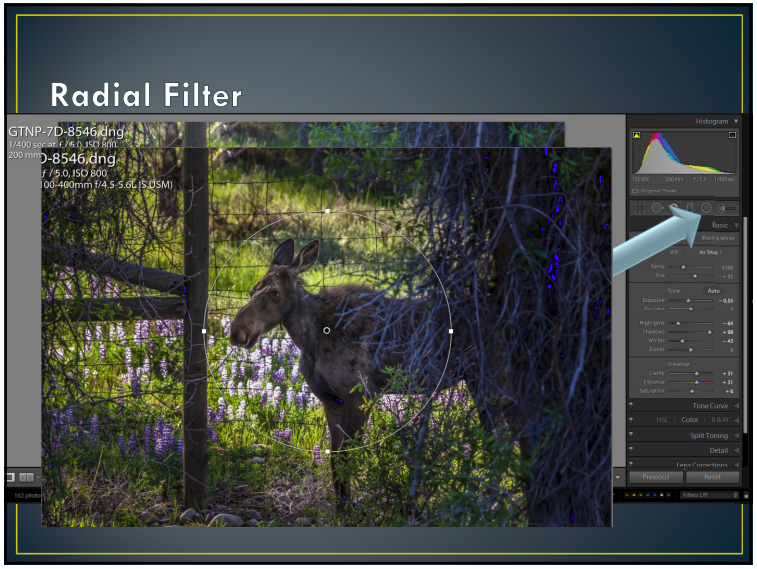
ABCs of Post-processing Pop 2

- Consider local adjustments
  - Gradient filter to tone down / saturate sky
  - Radial filter for accents (light or dark)
  - Dodge and burn with brush tool
  - Post-crop vignette?
- Time for Photoshop?
  - Selective removal of object(s) ("content aware")
  - Local masking / adjustment layers
- Other presets and filters?

Gradient Filter



Radial Filter



Detail Panel

- View image at 100% at high contrast interface
- Look for color noise – correct
- Look for luminance noise – correct
- Sharpen but "mask" when needed to avoid over-sharpening in uniform contrast areas (sky)
- Detail rule:
  - Luminance noise reduction + sharpening = 100
  - Luminance noise reduction + sharpening = 80
- Don't forget noise reduction and sharpening in import presets
  - Noise reduction: 15-25% (low ISO)
  - Sharpening: 20-40% (very sharp)

ABCs of Post-processing Pop

- Adjust overall exposure as needed (histogram)
- Set white point (histogram)
- Set black point (histogram)
- Open the shadows (up) / highlights (down)
- Re-touch exposure, white and black points, if needed
- Add clarity

Review

- Add vibrance (watch saturation)
- Check white balance and tint
- Consider tone curve adjustment (for contrast)
- Consider local adjustments, pre-sets, and filters

Good to Great Photographs

- Good photographs
  - Proper exposure
  - Sharp focus
  - Nice composition
  - Good subject
- Great photographs
  - Emotional impact / visual tension
  - Creativity and style
  - Feeling and emphasis
  - Seeing and understanding
  - Unique perspective / lighting

Summary

- The Teton Photography Group and Art Association of Jackson Hole thank you for joining us today and invite you to future presentations
- Enjoy your photographic opportunities
- Understand your photography gear
- Critically review and share your images
- Experiment with new techniques and perspectives
- Learn composition techniques
- Practice, practice, practice but most of all **enjoy** making photographs

Thank you for joining us!