



INTRO TO RUNNING PHOTOGRAPHY

Mike O'Grady and Paul Encarnación
With the Support of Bill Susa



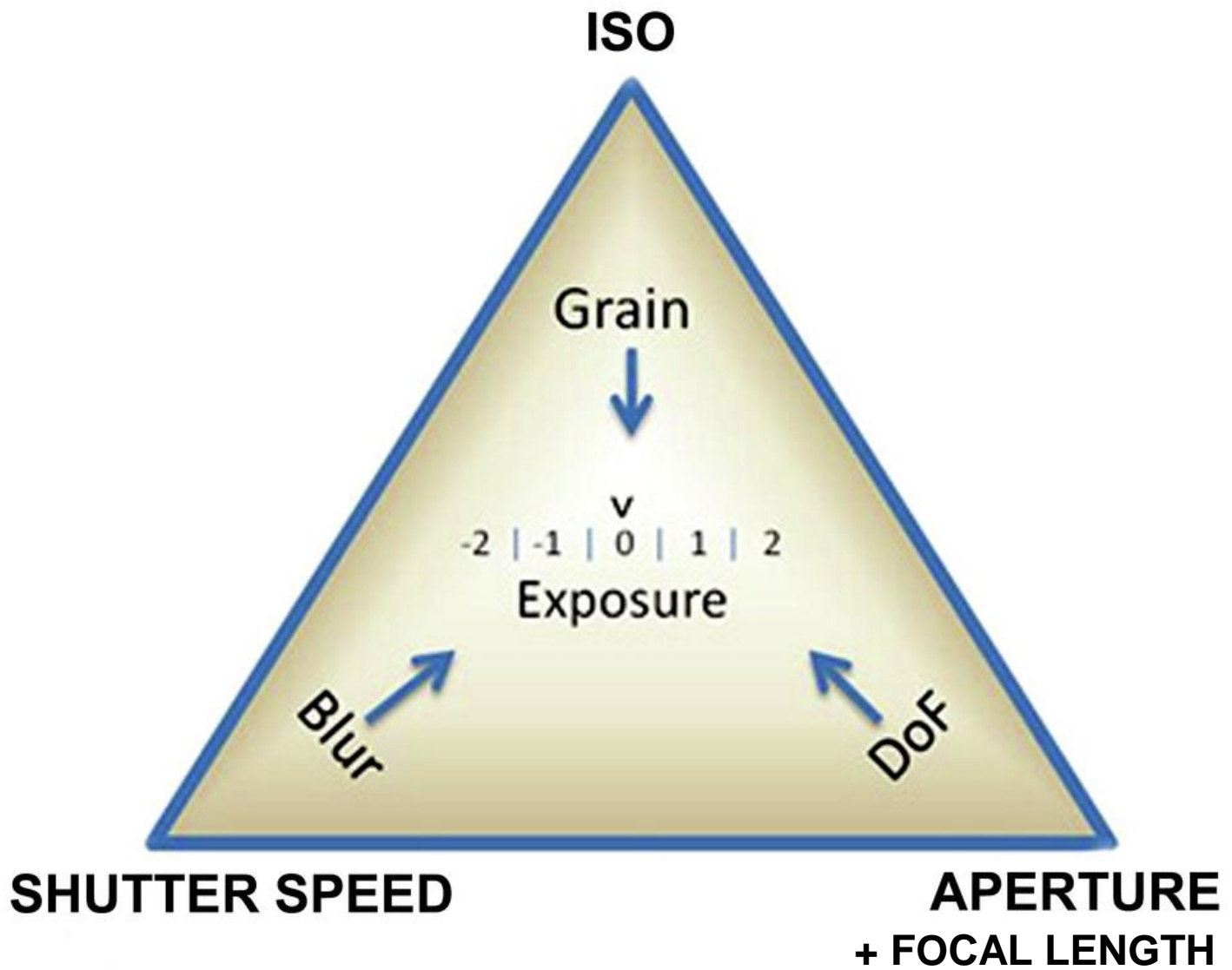
PART 1

UNDERSTANDING THE BASICS

It all starts from here

THE BASICS

- ISO (film speed or light sensitivity)
- Shutter Speed
- Aperture
- Stabilizing your camera



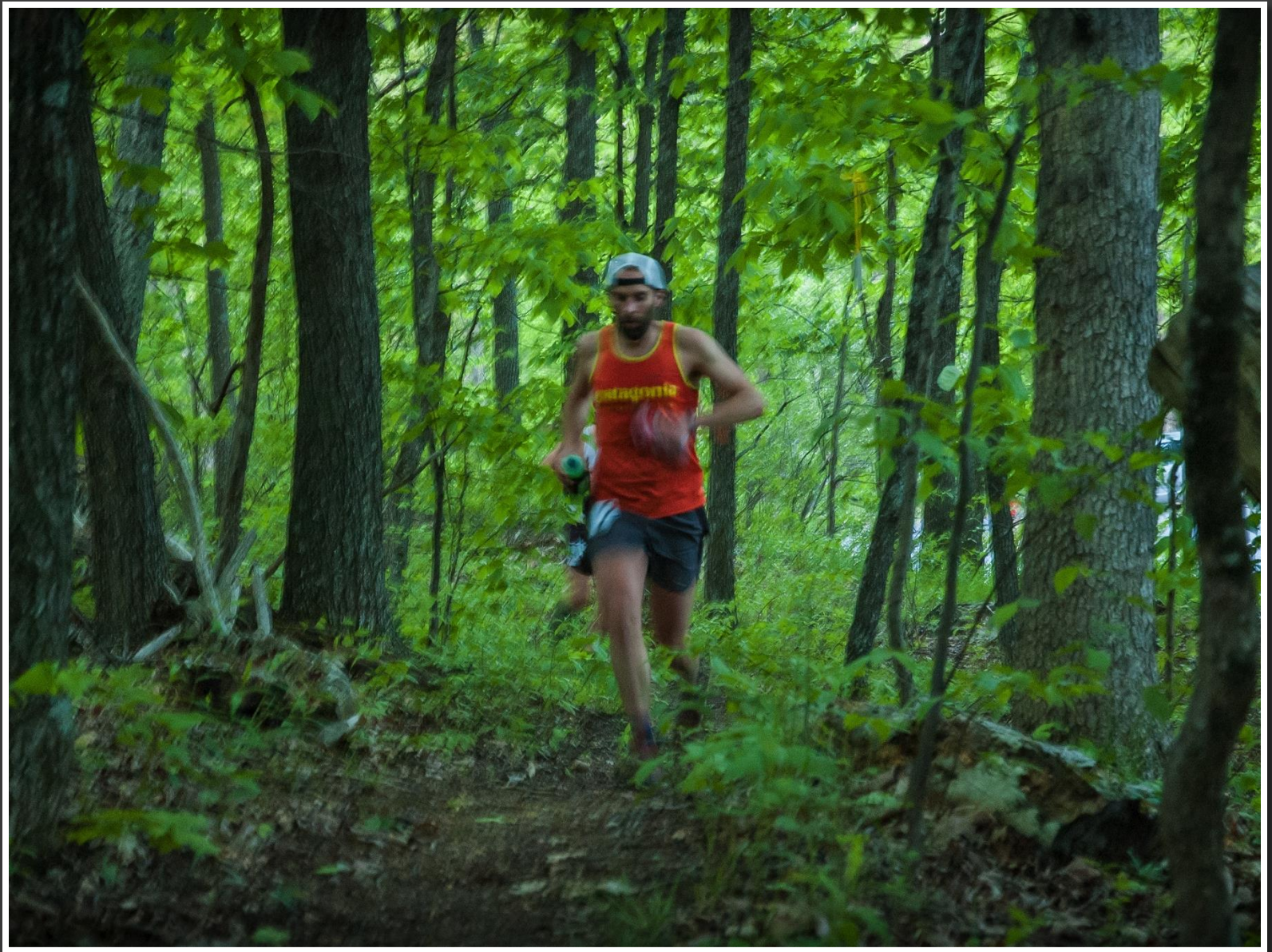
The 3 factors that contribute to your photo

ISO: GRAININESS / NOISE

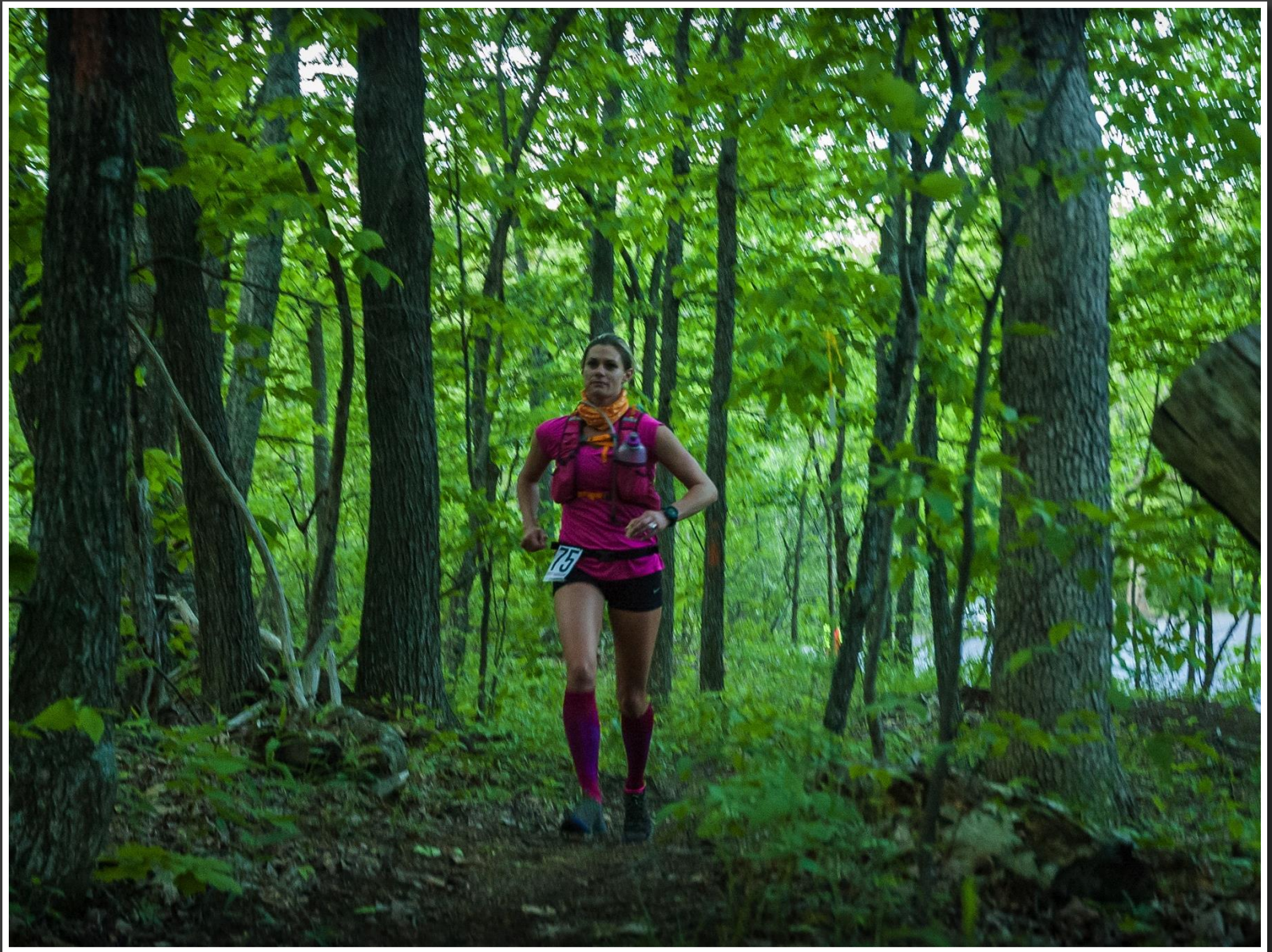
- ISO denotes the “film speed”
- Lower ISO, e.g, ISO 100
 - Needs more light for proper exposure
 - More detail captured
 - Less “noise”
- Higher ISO, e.g., ISO 12800
 - Needs less light for proper exposure
 - Less detail is captured
 - More graininess or “noise” will be seen in the photo

SHUTTER SPEED: BLUR

- Faster shutter speed to “stop” the action
- The required shutter speed to stop the motion depends on the speed of the subject
- Sometimes, incorporating blur into the photo can imply motion
- When using a flash, the shutter will only go so fast, e.g., 1/60 sec, but the flash will stop the motion



f/4.5 1/10 sec ISO 1600 50mm – too slow, but blur creates an “effect”
Brian Rusiecki – 2016 MMT100 winner



f/4.2 1/40 sec 1600 ISO 50mm – less blur, but still not “stopped”
Emily Harrison – 2017 MMT100 2nd place woman



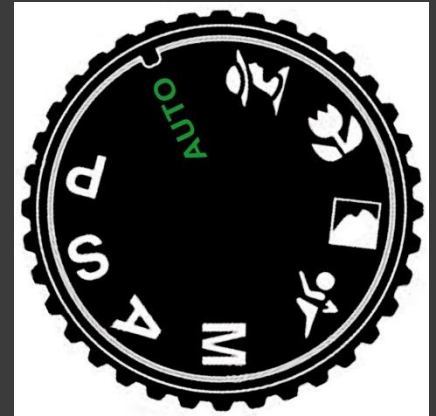
f/5.0 1/60 sec 1600 ISO 38mm – w/flash – motion stopped
But flash is too flat, and could use more “ambient” light



f/2.8 1/640 sec ISO 24mm – motion stopped (better light, faster lens)
2016 JFK 50 – Emily Harrison

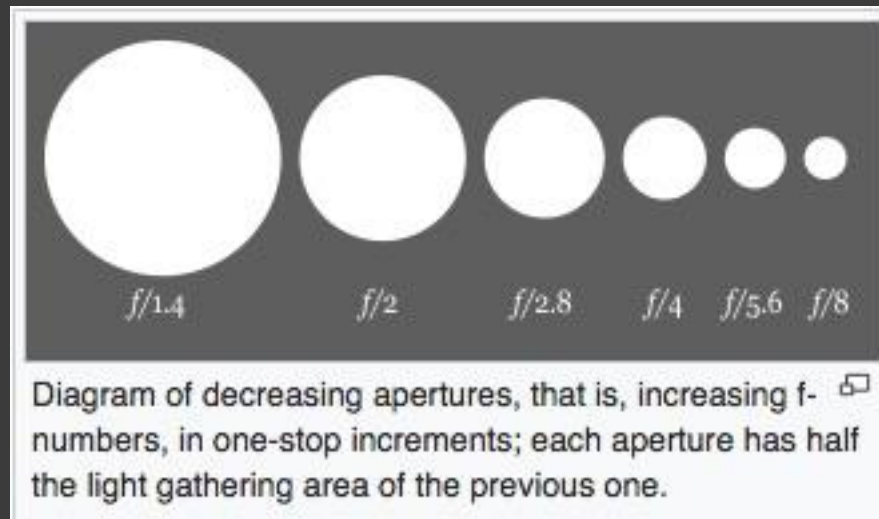
APERTURE: DEPTH OF FIELD

- Narrow depth of field
 - Larger aperture (e.g., $f/2.8$)
 - Small area in focus, with blur in foreground and background
 - Typically configured as “Portrait mode”
- Wide depth of field
 - Smaller aperture ($f/22$)
 - More in focus
 - Typically configured as “Landscape mode”



APERTURE – F NUMBER

f-number : In optics, the f-number (sometimes called focal ratio, f-ratio, f-stop, or relative aperture) of an optical system is the ratio of the lens's focal length to the diameter of the entrance pupil. It is a dimensionless number that is a quantitative measure of lens speed, and an important concept in photography. - Wikipedia



STABILIZE YOU AND YOUR CAMERA

The Following Series of Photographs demonstrate
the effect of stabilizing your camera as much as
possible.

All shots taken at F5.6 1/125 Sec ISO 100 except for
final photo

Wettkampfscheibe des Deutschen Schützenbundes
für Luftgewehr
Entfernung 10m

Treffer	Ringe
Sa.	

12345



300 MM LENS 1/125 Second Standing

Schützenbund Wesermarsch

Verein:
Art des Schießens:

Name des Schützen:
Ort und Datum:

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300 MM LENS 1/125 Second Kneeling

Schützenbund Wesermarsch

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300 MM LENS 1/125 Second Sitting

Schützenbund Wesermarsch

Verein:

Name des Schützen:

Art des Schießens:

Ort und Datum:

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300 MM LENS 1/125 Second Monopod Standing

Schützenbund Wesermarsch

Verein:
Art des Schießens:

Name des Schützen:
Ort und Datum:

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300 MM LENS 1/125 Second Monopod Sitting

Schützenbund Wesermarsch

Verein:

Art des Schießens:

Name des Schützen:

Ort und Datum:

1/1600 SEC STANDING ISO 500

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Schützenbund Wesermarsch

Verein: Name des Schützen:
Art des Schießens: Ort und Datum:

“TRICKS TO STABILIZE”

- Lean on Something
- Use VR (Vibration Reduction) if Available
- Kneel or Sit Down; Brace your arm with your knee
- Use a Monopod
- Use a Tripod (not too practical for running photography)
- Lay the Camera on Something using clothing or bean bag underneath



f/2.8 1/640 sec 18mm ISO 1000 – continuous focus mode

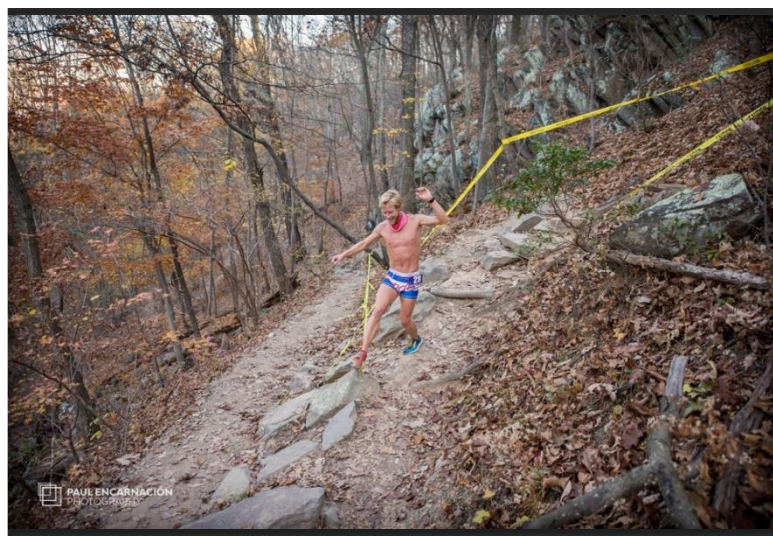


Getting the best shot: Shooting at several frames per second allows you to select the best shot as the “keeper”.

Shot 1 – dramatic action shot!



Shot 2 – past the high point



Shot 3 – awkward, unflattering



Shot 4 – lack of movement



Telephoto lens with narrow depth of field, continuous focus, fast shutter speed

Photo by Ulysses Chan



DAHIYA.US
PHOTOGRAPHY

Wide angle lens and wide depth of field – ideal for emphasizing the context in the landscape.

Photo by Keshav Dahiya



UNDERSTANDING YOUR CAMERA

Learn how to apply the basics with *your* gear

UNDERSTANDING YOUR CAMERA

- How to focus
- Diopter Adjustment
- Scene Modes
- Digital Media



PART 3

CHOOSING A LOCATION

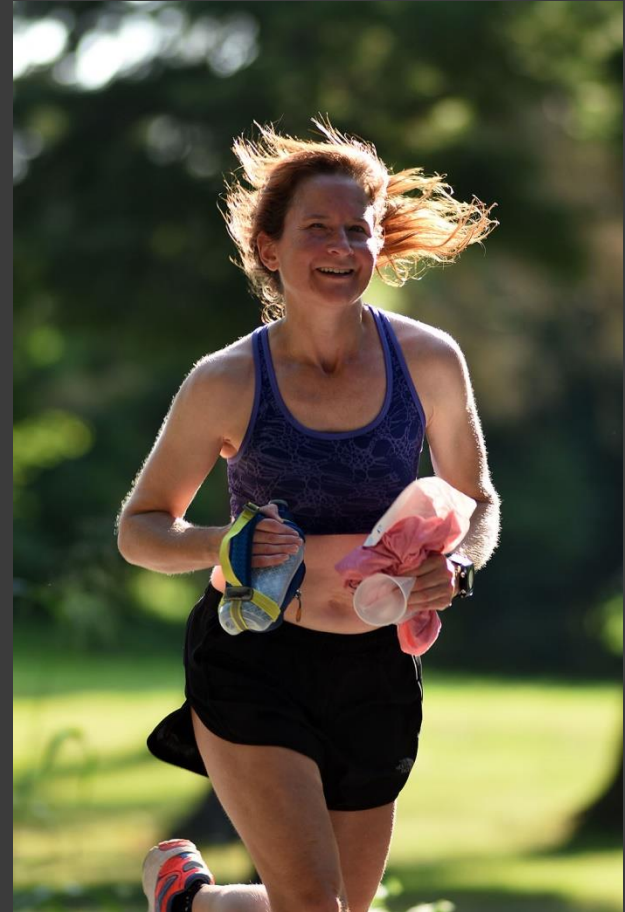
Consider the Backdrop

LOCATION

- What to look and look out for
- How to hold your camera
- Scouting locations
- What lens to use

BEFORE TAKING YOUR FIRST SHOT LOOK AT WHERE THE LIGHT IS COMING FROM.

- Whenever possible I like lighting to come from the side and somewhat in front of the runners.



Pie Run 180MM Lens F3.2 ISO 200

LIGHTING SOMEWHAT FRONT AND SIDE. REGINA'S NEW YEAR DAY RUN



F4.0 1/400 ISO 100



F 4.5 1/2500 ISO 500

TRY TO WAIT UNTIL THE RUNNER IS WHERE YOU WANT THEM



Runners were in the shadow (left) and then in the sun

Nikon 180 MM Lens F3.2 1/500 Sec ISO 200

INTERACT WITH RUNNERS !



Call out a name, ask for a smile
Or just ask, "How You Doing?"

GET “LOW” FOR A DIFFERENT LOOK



Left and Center, Camera only one to two feet above ground level.

Far Right, Camera just a couple inches above ground level

LOOK FOR FAMILY

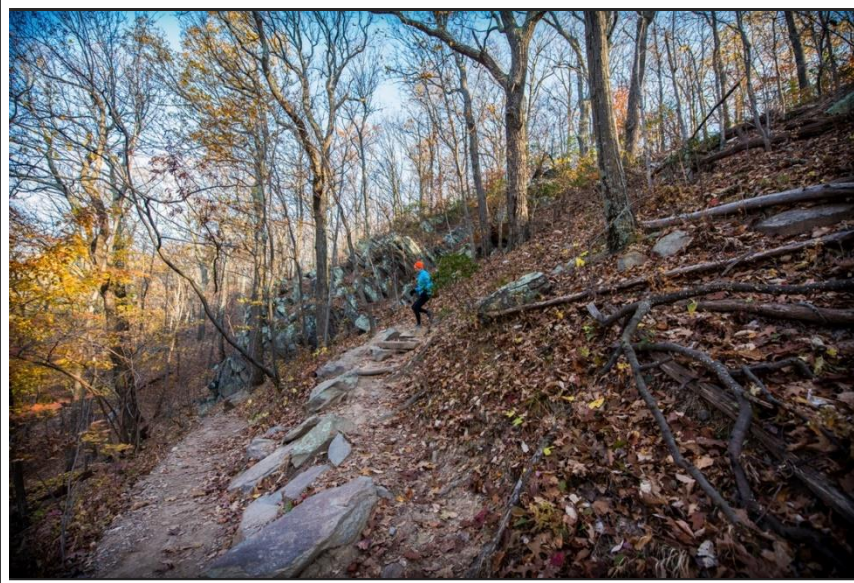


LOOK BACK



SCOUTING LOCATIONS

I selected this location to show the distinctive boulders of the cliff behind, and include the iconic switchbacks of Weverton Cliffs.

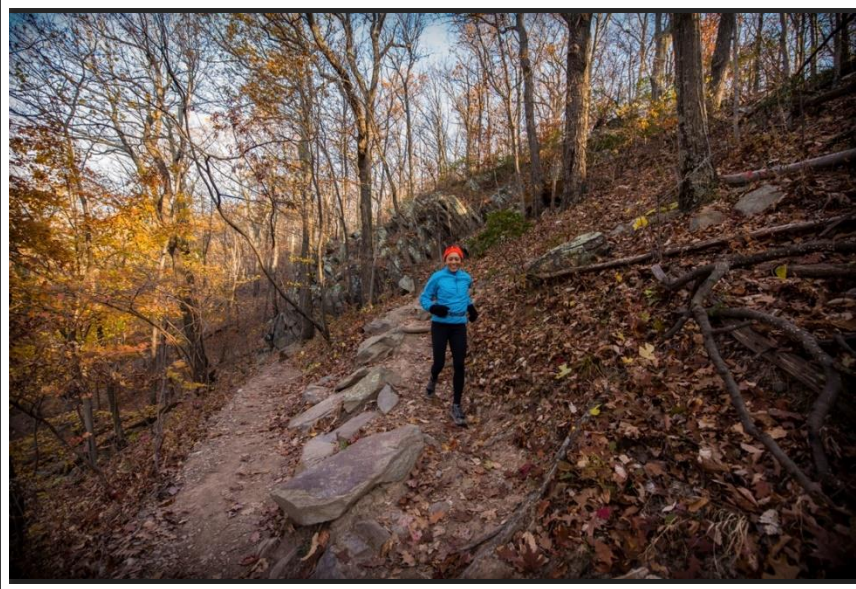


Scouting out the location with model to plan vantage points and camera settings.



Race day photo.

During the test shot session, I found that trying to use an off camera flash while doing rapid shots was not going to work. The flash slowed the firing rate of the shutter. I found that the light was sufficient at the location anyway and was able to do away with the flash.



Scouting test shot.



Race day photo.

SHOWCASE THE LOCATION



Trail running photographer, Howie Stern, is particularly adept at incorporating the landscape into his race photos.



Howie's mastery of lighting and the exposure settings of his equipment allow him to capture spectacular shots such as this, with Mount Rainier in the background.



Another great one from Howie Stern (photos used with permission)



PART 4 SHOOTING ON THE RUN

Using Portable Equipment

MOBILE OPTIONS

- Mobile Phone
- GoPro® HERO camera
- Compact Mirrorless Digital Camera



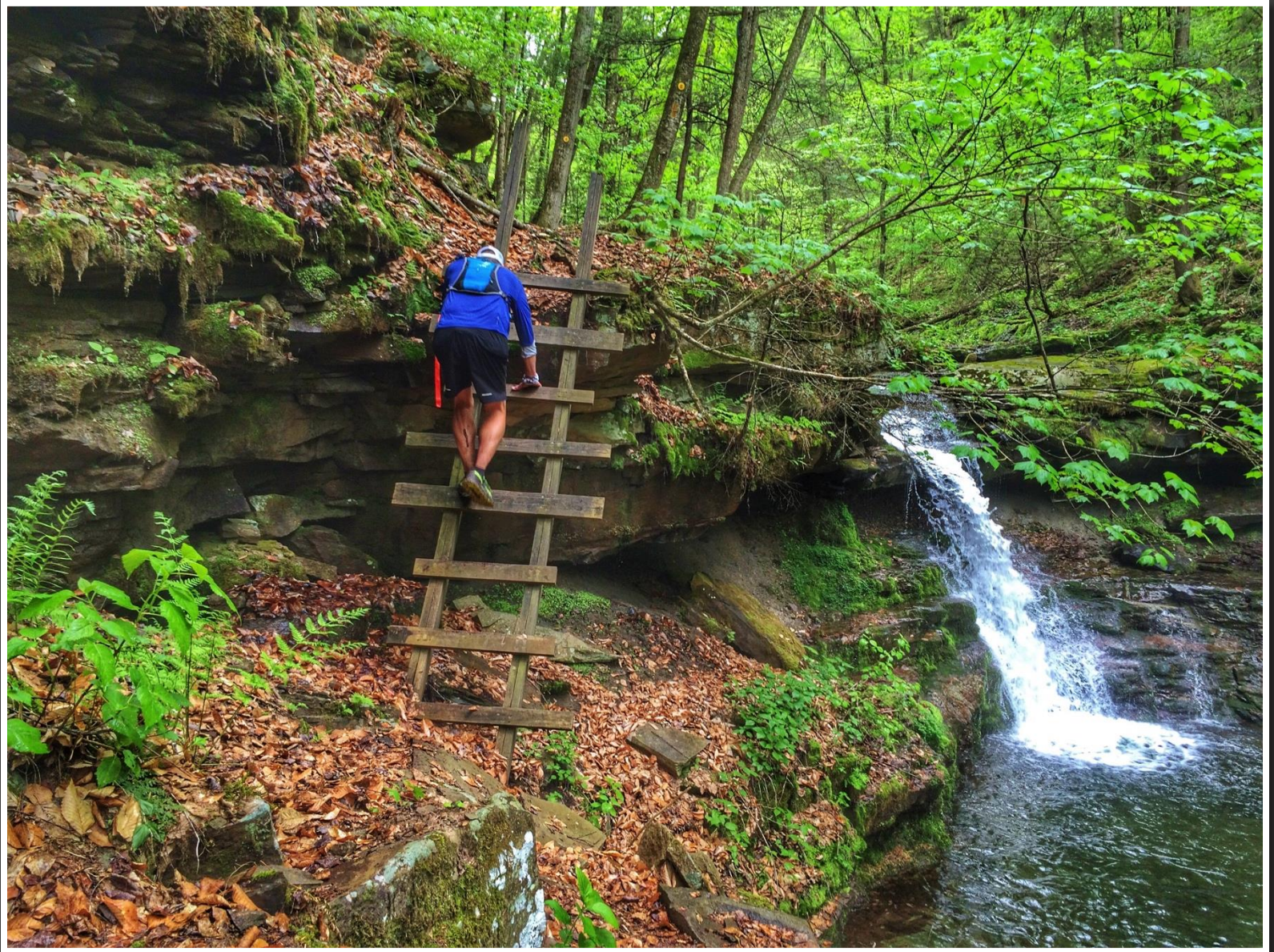
Mobile Phone

MOBILE PHONE

- Always run with a mobile phone
- May need it for emergency, if you get lost, injured, bitten by snake, etc.
- It gives you the opportunity to capture some moments that you may want to share.
- Place the phone in a ziplock bag in your pack, waist belt, or jacket.



Waterfall at World's End 100K.
You just have to stop and take
a photo.



Quickly whip out the iphone to capture the moment.
World's End 100K – Forksville, PA

IPHONE

- Set focus point
- Set lighting priority
- Avoid using “digital zoom” – you can crop it later
- Always clean the lens prior to taking a shot (use your high-tech microfiber garments)

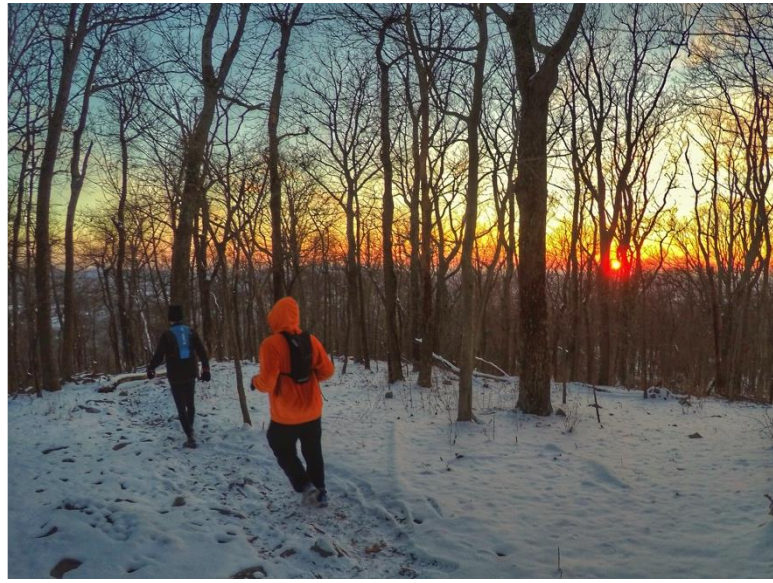
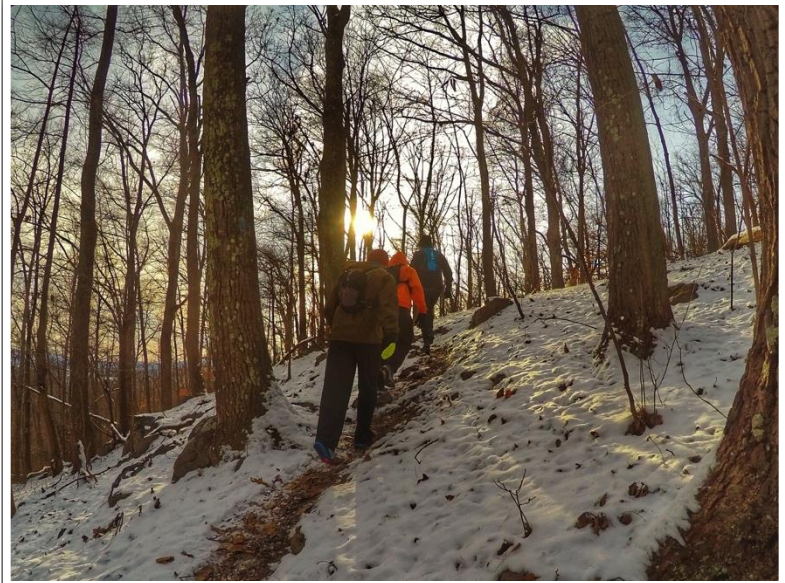


GoPro HERO - Compact high-definition (HD) wide angle lens designed for capturing fast action in all lighting conditions. Photo or video capability, along with time-lapse.

“Featured Runner” against landcape



Landcape featured; runners for dynamics



Sharing the beauty of the experience



Capturing the struggle

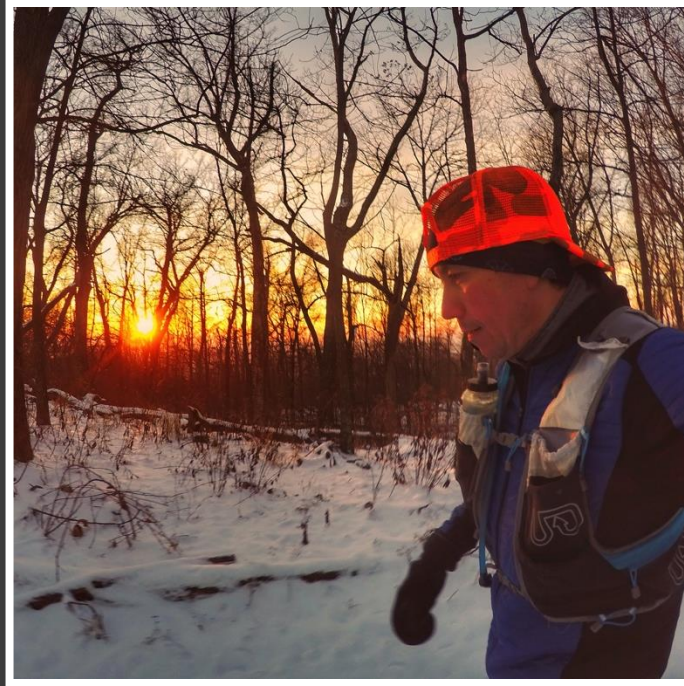
#candidselfie

Quick shots while running



Shooting back

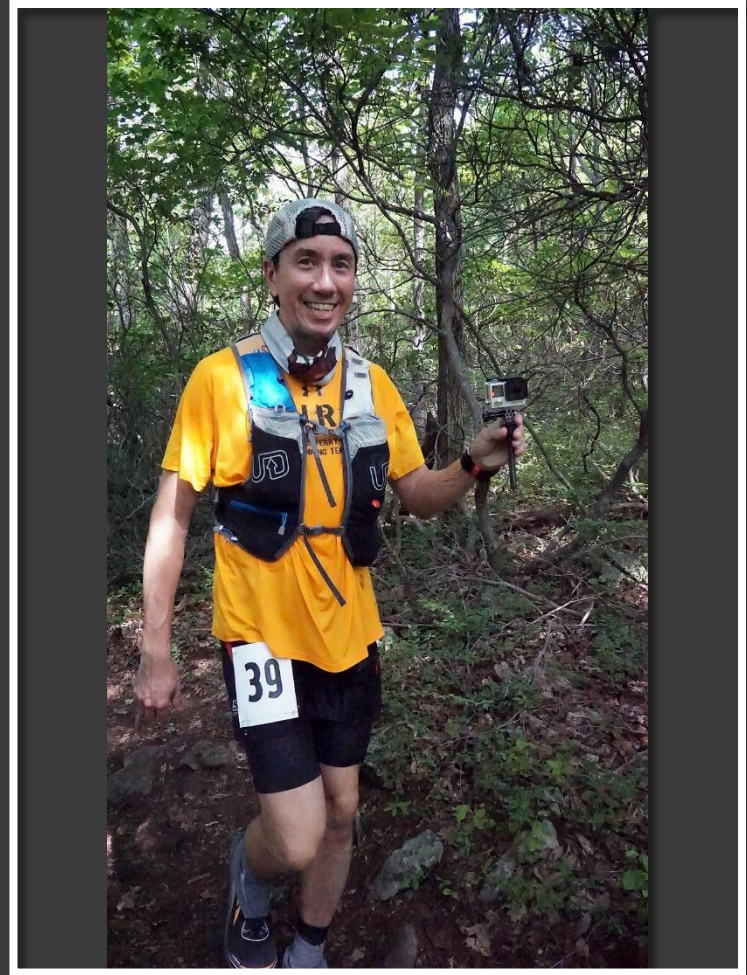
Group shots at scenic views



Another “candid selfie” 😊



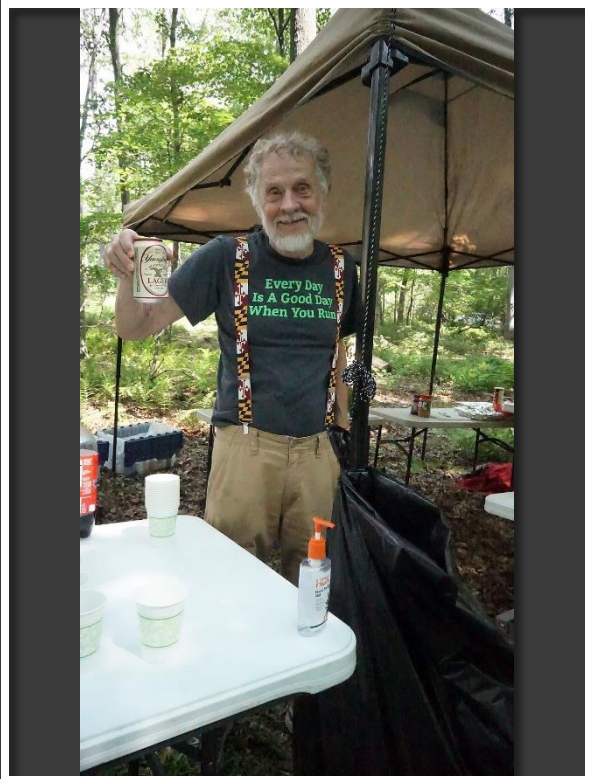
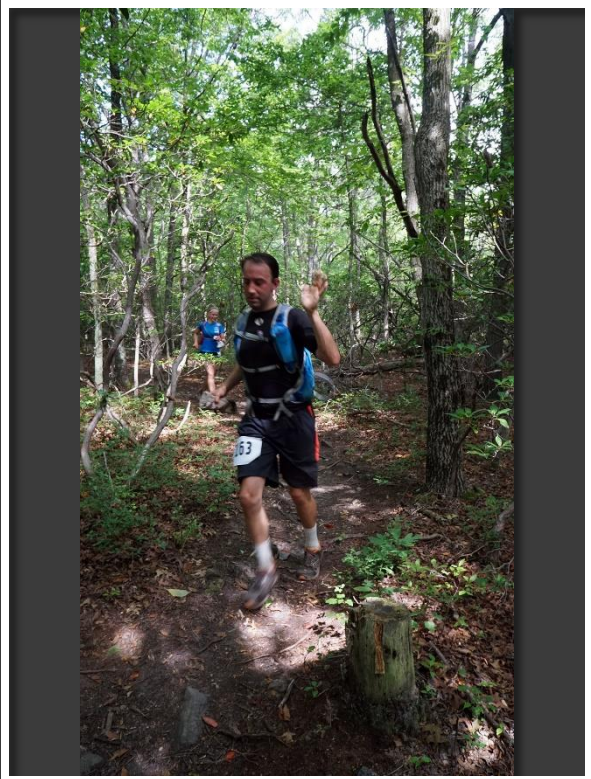
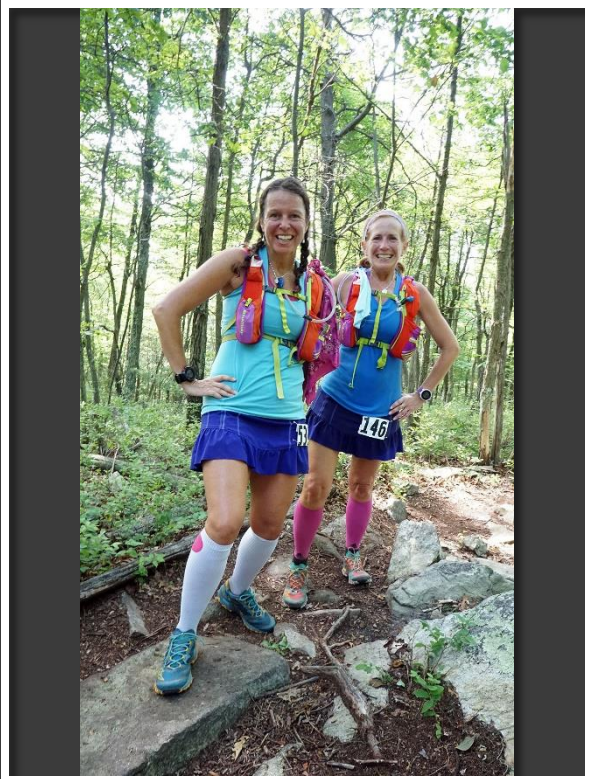
Mike shooting Paul

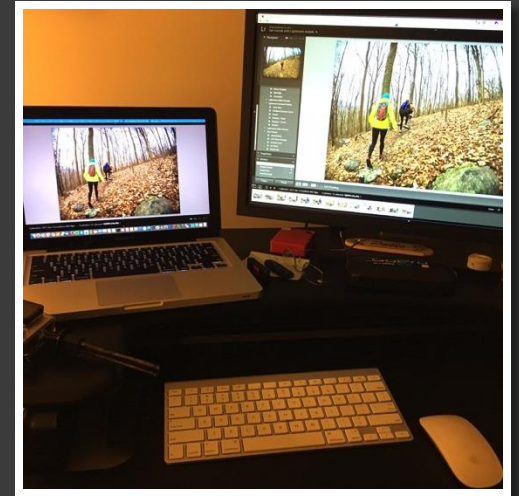


Paul shooting Mike



Sony 5100
Mirrorless Camera



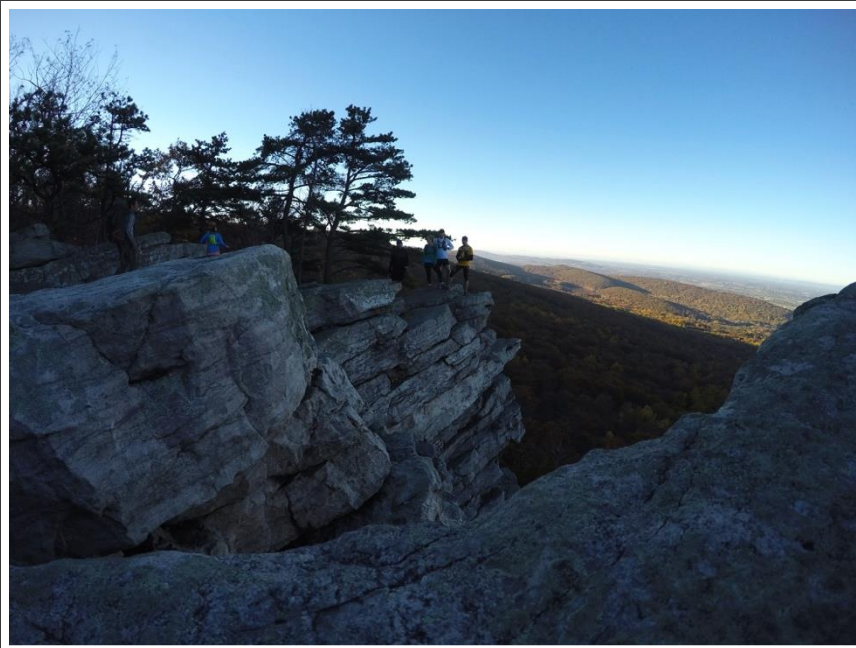


PART 5 WORKFLOW

Enhancing Photos Before Publishing

WORKFLOW

- Start with the best image you can capture
 - Discard Rejects
 - Use maximum resolution
 - Shoot in RAW if that's an option
- Leverage post-processing tools
 - Snapseed App (for iPhone)
 - Adobe Lightroom Creative Cloud
 - Photoshop Elements



Captured on a GoPro HERO4 using a the iPhone app to remotely trigger it on a mini 3” tripod. The photo is dark as the cliffs are still in the morning shade.



Using the Snapseed app on the iPhone, the “HDR Scape” filter and “Tune Image” adjustments to bring out detail in the shadows, and increase the color saturation, we can get a more dramatic image.