What To Bring

We consider the following items important. You can learn more about them at the workshop, but we made this checklist as a reminder to bring them if you already own them. **Items essential to this workshop are in bold**. You might also consider renting lenses, cameras or other gear from [Lens Pro To Go](https://www.lensprotogo.com) or other rental companies.

Contact Mark Bowie at [mbowiephoto@gmail.com](mailto:mailto:mbowiephoto@gmail.com), 413-442-9125 with questions.

**Photo Equipment**

**Camera – and extra camera body if you have one, just in case.** – DSLR or mirrorless, full frame or cropped sensor. Also, bring the **camera manual** should you need to consult it.

**Lenses** – There will likely be photo opportunities for your full range of lenses, from extreme wide angle to telephoto and macro. We use lenses from 10-400mm. When buying lenses, we recommend getting the best quality you can afford, with maximum apertures of f/2.8 or wider for landscape work (especially useful for night photography).

**Tripod** – Sunrise, sunset, twilight and nighttime light levels are too low to photograph properly without a *sturdy* tripod. We recommend buying a lightweight carbon fiber tripod (we like Induro and Gitzo brands) with a ball head. Expect to pay $300-$400 for the set. Watch [Hunt’s Photo](http://www.huntsphotoandvideo.com) for sales. A quality set should last many years.

**Lots of Memory Card Storage** – I use fast 64-128GB cards, good for stills & video.

**Camera Battery Charger and Extra Batteries.**

**Non-abrasive Lens Cleaning Cloth and Wipes.**

**Sensor Cleaning Tools** — To remove dust and debris from the sensor. I use Eclipse solution and Sensor Swabs Ultra from [Photographic Solutions](http://photosol.com/products/).

**Polarizing Filter.**

Neutral Density Filters, Graduated Neutral Density Filters – I use [Tiffen](https://tiffen.com/tiffen-filters/) 3- and 6-stop IR-ND neutral density filters, and the [Singh-Ray](http://www.singh-ray.com) 8-stop Vari-ND filter. I also recommend ND filters from Kase or Breakthrough Filters. They have minimal color casting. I also use [Singh-Ray](http://www.singh-ray.com) 2-stop soft- and 3-stop hard-edge graduated filters.

**Shutter Release** ­­– You can use a wired cable release, a wireless remote, or the camera’s self-timer (except in BULB). Shutter releases are available for specific camera models, from simple units that only trip the shutter, to more advanced units with intervalometers that allow the photographer to program exposure time, count down the exposure, shoot multiple exposures and timed intervals. I use the [Vello Shutterboss](https://www.bhphotovideo.com/c/search?Ntt=Vello%20Shutterboss%20&N=0&InitialSearch=yes&sts=ma&Top+Nav-Search=) III ($99) wireless intervalometer for shooting time-lapses. I also use my Nikon Z6’s internal intervalometer to shoot time-lapses.

**Flashlight &/or Headlamp** – For Navigation and light painting. Bring larger lights for light painting if you’d like. LED flashlights are particularly powerful & small. I use the [Coast](https://coastportland.com/) HP7R. [Fenix](https://www.fenixlighting.com/) also makes quality LED flashlights.

Continuous Lights – for light painting. I use the [F&V Lighting Z96 UltraColor LED Video Light](https://www.fvlighting.com/z96-ultracolor-led-video-light-95-cri.html) and the smaller [Aputure AL-M9 Amaran LED Light](https://products.aputure.com/al-m9-mobile/).

ThermaCare or similar brand heat wraps/hand or foot warmers – to prevent condensation on lenses at night, especially during long time-lapses. I use those with a Velcro strap to easily wrap around the lens barrel. Available at Walmart and drug stores. A box of 3 costs about $6. Hand or foot warmers can be secured to the lens with rubber bands.

**Rain Cover** – For camera and lens protection. An inexpensive plastic shower cap works well in many instances. I use [Op-Tech plastic rain sleeves](https://optechusa.com/rainsleeve.html) that have a drawstring at one end and that slide over camera & lenses. A set of 2 costs about $6.

**Battery-powered Alarm Clock/Watch**

**Cell Phone**

**Computer Equipment**

**Laptop Computer** – I highly recommend bringing your own laptop computer for downloading, processing and viewing your images. If you borrow a laptop, make sure that you are familiar with its use.

**Processing Software** – Good choices include [Adobe](https://www.adobe.com) Lightroom, Photoshop, or Elements. We use [Adobe’s Creative Cloud Photography Plan](https://www.adobe.com/creativecloud/plans.html?promoid=6NCS7DGT&mv=other), which includes Lightroom & Photoshop, for about $10/month. Free 30-day trials of these programs are available.

Noise Reduction & Sharpening Software – I can recommend [DXO’s](https://www.dxo.com/) PhotoLab and PureRAW, and [Topaz Labs’](https://www.topazlabs.com/) Photo AI, DeNoise AI and Sharpen AI.

To create time-lapse movies you may also want the following software:

1. Lightroom. A free trial version is available at <http://www.adobe.com/downloads.html>

2. LRTimelapse: The free download will allow you to load up to 400 images: <https://lrtimelapse.com/download/>. This software is particularly good at reducing flicker in daytime time-lapses.

or 3. iMovie or VLC Media Player for the Mac, or Windows Movie Maker to output the movie.

**Power Strip** – Please bring if convenient. For easy access to power.

Back-up device – Such as an external hard drive.

Flash Drive – For sharing images.

**Clothing & Outdoor Gear**

Historical average temperatures for Tupper Lake, NY in September vary from a low of 44 to a high of 66 degrees. It’s preferable to dress in several warm layers as temperatures can change significantly and quickly.

**Warm Coat and Pants**

Fleece Under Layer

**Rain Jacket & Rain Pants** – For rain and wind protection.

**Hat, gloves**

**Hiking Boots** – preferably waterproof

Wading boots or sandals– For photographing in the waters.

Dress for the indoor sessions will be casual.

Water bottle.

Energy bars or other snacks.