

# **Bryan Hansel Photography Workshop Participant Package**





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## General Overview

Thank you for signing up for one of my workshops.

This participant package will help you prepare for the workshop and let you know what to expect. The package is divided into several sections:

- [General information that applies to all workshops](#)
- [An overview of each workshop](#)
- [A suggested equipment list](#)
- [Workshop specific reading](#) – You should review this.
- [Discount codes for Singh-Ray Filters and other items](#)
- [Recommended books and links](#)
- [I highly recommend you read the linked article on filters](#)

If you have any questions, please, call. My cell number is 218-370-8351. Generally, I'm around the cell Monday through Friday from 9 to 6pm and sometimes later. I may also be available on the weekends, so it never hurts to try. If I'm traveling, I might be in a location without cell service. I'll return your phone call as soon as I can. You can also email, but if it's a complicated question that requires more than three sentence answer, it's much better to call.

If you're new to photography, this package may seem overwhelming. Don't worry about that. Also, the equipment list may seem long, but you don't have to mortgage your house to do photography. If it seems like too much, then bring what you have. You'll still learn tons.

Thanks,

Bryan

## Contact Information

Bryan Hansel Photography

218-370-8351 | [www.bryanhansel.com](http://www.bryanhansel.com) | [bryan@bryanhansel.com](mailto:bryan@bryanhansel.com)



## Final Payment

If you paid the non-refundable deposit only, the final amount is due 60 days before the workshop. I'll send out a reminder when the final payment is due. Some workshops require three payments: a non-refundable commitment fee paid in the calendar year before the workshop, a non-refundable deposit and a final payment.

## Where to Pay Your Final Payment

- <http://www.bryanhansel.com/shop/photography-workshop-full-payment/>

## Final Payment Due Dates 2017 Workshops

Lake Superior Winter Workshop - One	6-Jan
Lake Superior Winter Workshop - Two	6-Jan
Spring in the Great Smoky Mountains	6-Feb
Neal Smith Wildlife Refuge	22-Feb
Spring Waterfall	28-Feb
Spring in Theodore Roosevelt	19-Mar
Wildflower	17-Apr
Milky Way	23-Apr
Bluff Country of NE Iowa	14-May
Night Skies of the Gunflint Trail	20-May
Northern Night Skies	17-Jun
Grand Teton National Park	8-Jul
North Shore of Lake Superior Fall	29-Jul
Fall in the Great Smoky Mountains	20-Aug
Gales of November	4-Sep
Achieve Your Vision	12-Sep
Badlands National Park	2-Oct

## Cancellations

It isn't fun to talk about workshop cancellations, because everyone expects to make it to the workshop. To be clear, these are my policies on when or if I'll cancel a workshop.

- Several workshops require a minimum number of students to run. If that minimum isn't met, the workshop is canceled.
- Workshops go out in all weather conditions such as but not limited to rain, snow, sleet, cold temperatures, hot temperatures or fog. Bad weather is not a reason for cancellation.
- I reserve the right to cancel any workshop. If I cancel the workshop, I'll do everything I can to reschedule, but if I'm unable to accommodate you, you are eligible for a full refund. Refunds may take up to 4 to 6 weeks to process. I'm not responsible for reimbursement of airline tickets or other travel expenses in the event of a workshop cancellation.

Find the full cancellation policy here: [Cancellation Policy](#)

## Travel Insurance and Travel Expenses

I highly recommend purchasing travel insurance both for all your travel plans and for the workshop fee. You can purchase trip cancellation insurance for as little as \$40. Use a site like [insuremytrip.com](http://insuremytrip.com) to compare plans. Because most travel insurance plans have time sensitive benefits, it's important to book your travel insurance when you book the workshop.

Bryan Hansel Photography is not responsible for reimbursement of any travel or other expenses, such as but not limited to nonrefundable or refundable airline tickets, hotel rooms, workshop fees or other travel expenses or expenses, related to a workshop cancellation or other events. Bryan Hansel Photography is also not responsible for events that prevent you from arriving at the workshop, such as but not limited to weather events, canceled flights, government shutdowns or other

foreseen or unforeseen events and circumstances. Bryan Hansel Photography reserves to right to cancel any workshop.

## Types of Workshops

I offer several types of workshops and the structure is slightly different for each style.

- **North House Folk School:** Takes place at the North House Folk School in Grand Marais, Minnesota. These workshops have different registration and cancellation policies than my workshops. Each workshop is 1.5 days long with a slideshow, field time and an image review.
- **Standard Workshops:** This is the style of workshops that I offer most often. It's a mix of classroom slideshows, field time and image reviews.
- **Field Only Workshops:** While a field workshop may have an initial classroom presentation most of the workshop time is spent in the field. Image review is via the Facebook group.



## **Time Zone**

We operate on the destination's time zone.

## **Transportation**

We will drive to the field locations. The furthest location could be an hour away depending on conditions and the workshop. To get to the locations, you'll use your personal cars. In some locations, we'll be parking either on the shoulder of a highway or a small and busy parking lot. I highly recommend finding a way to carpool together, but I'll leave that up to you. Carpooling is essential in national parks.

Before we leave each location, I'll let you know where we are going next. If you are a driver, make sure to get directions to the next location before we leave. Consider picking up a highway map from a local gas station or a park map from a park visitor center. For workshops in Cook County, Minnesota buy a Cook County Highway map at one of the Grand Marais gas stations.

If you are carpooling with someone, please, help cover their fuel costs and park entrance fees.

## **Park Stickers and Entrance Fees**

Many of the parks that we visit require an entrance fee. You can pay the fee and pick up a permit at the park's entrance gate. It's always a good idea to pay the fee the day before the workshop so that you'll have the sticker or entrance permit for the first sunrise of the workshop.

## **If You Get Lost**

While it doesn't happen often, it is possible to get lost. If you get lost, my cell number is 218-370-8351. Keep in mind that cell service is limited in many of the workshop locations.

## **Food**

All meals and drinks are the responsibility of participants. On the workshops that have field time, we will likely eat lunch in the field. On some of the field workshops, we will eat both breakfast and lunch in the field. You should also bring two to three water bottles and snack food, like energy bars or GORP. If you're not used to eating in the field, peanut butter and jelly sandwiches, an apple and chips work well. Both peanut butter and jelly survive fine without refrigeration for the time we'll be in the field. During shoulder seasons, winter or night workshops, a thermos of hot chocolate is a welcome treat.

For workshops in Grand Marais, Grand Marais offers wide-ranging breakfast and dinner menus at various restaurants. We will eat lunch in the field on Saturday. You can order box lunches from Java Moose in town or pack your own. I highly recommend the Java Moose lunches.

For workshops at national parks, we'll likely eat dinner together each night. Gatlinburg, TN is a fun town with many great restaurants and a great grocery store. Wall, SD has limited restaurants with a good grocery store. Medora, ND has limited restaurants and a convenience store for groceries. It's better to buy groceries in Dickinson, which is about 30 miles east of Medora. Jackson, WY has excellent food Colter Bay has several dinners.

## **Fitness and Medical and Hiking**

To reach some of the field locations, we may have to hike several miles. The hikes are considered easy to moderate. To participate at that field location, you must be able to hike one- to four-mile round trip on moderate terrain. If you have concerns about your physical fitness, call me to discuss. You can also sit out a field location. There are plenty of subjects to photograph near the parking lots.

You are responsible for determining your fitness for any trip. If you have any medical conditions that require regular treatment or that is affected

by activity, weather, foods, natural conditions, you must notify me in advance of the trip. Medical disclosure forms are available upon request. Please, understand that Bryan Hansel Photography assumes no liability for medical care. Bryan Hansel Photography makes the ultimate determination of your fitness to embark upon or to continue a trip. Medical conditions are not considered exceptions to the cancellation policy.

### **Image Review**

On Standard Workshops, you should sort images you've made during the workshop and find five to share with the class on the last day. Convert all images to jpeg and put on a USB memory stick. Several workshops have multiple image reviews.

### **North Shore Workshop Facebook Group**

After the workshop, you'll receive an invite to a secret photography group. You're welcome to share photos there, comment on other photos, keep in touch with other photographers on the workshop or ask

questions. It's a fun and supportive group of photographers made up of former workshop students.

### **Schedule**

You'll receive a schedule on the first night of the class. All schedules are subject to change and will likely change.

### **Bugs**

During the spring and summer months, especially in June, you can expect bugs. I highly recommend bringing bug spray, and for workshops in June and July a head net or bug jacket.

### **Spouses**

Generally, anyone that comes along on the workshop must pay full price. This is especially true in areas, such as national parks, that have strict limits on the number of participants allowed on a photography workshop. Exceptions to this rule are made on an individual basis. One exception might be for health reasons.



## Workshop Descriptions

The following section includes descriptions for all my current workshops and several that I'm not offering this year. The workshops that I'm not offering this year may be offered in the future. If you have any questions about any of the workshops, please, give me a call. I'm more than happy to talk.

### 2017 Photography Workshops

- February 3 to 5 — Lake Superior Winter Photo Workshop
- February 17 to 19 — Lake Superior Winter Photo Workshop
- April 6 to 9 — Spring in the Great Smoky Mountains Photo Workshop — NEW
- April 22-23 — Neal Smith Wildlife Refuge Photography Workshop
- April 28-30 — Spring Waterfall Photography Workshop
- TBD — Spring in Theodore Roosevelt National Park Photography Workshop
- June 16 to 18 — North Shore Wildflower Photography Workshop
- June 22 to 25 — Milky Way Photography Workshop - NEW
- July 13 to 16 — Bluff Country of Northeastern Iowa Photography Workshop — NEW
- July 19 to 23 — Night Skies of the Gunflint Trail — NEW 5-day format
- August 16 to 20th — Northern Night Skies: Night Photography Workshop
- September 6 to 10 — Grand Teton National Park Photography Workshop
- September 27 to October 1 — North Shore of Lake Superior Fall Photography Workshop
- October 19 to 22 — Great Smoky Mountains National Park Fall Photography Workshop

- November 3 to 5 — Gales of November Photography Workshop
- November 11-12 — Achieve Your Vision: Processing Photos in the Digital Darkroom
- December 1 to 3 — Badlands National Park Photography Workshop

### 2017 North House Folk School Classes – 1.5 day classes

- May 12-13: Focus! The Basics of Photography (Note: register via the North House)
- June 2-3: Northern Landscapes Photography (Note: register via the North House)
- October 7-8: October Skies: Night Photography Workshop (Note: register via the North House)

### One-on-One, Small Group and Photography Club Workshops and Presentations

- By arrangement



## Lake Superior Winter Photography Workshop

In the winter, the combination of all-day, golden-hour light, sea fog, ice and open water make Lake Superior's shoreline and tributaries the premier winter photo destination in the Midwest. The best month to photograph the area is February, because the sun sets and rises over Lake Superior and the rivers are solid ice which allows for exploration. During the workshop, we hike up the frozen river valleys during the day and spend time on the shore at sunrise and sunset. You also learn how to keep your camera running in the cold. This one always fills up quickly, so we often add a second session.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a discounted block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Friday at 1pm in the Lobby for an optional field session. Friday at 6pm in the Conference Room.
- Add-ons: Friday at 9am is the Just the Basics Add-on class. A night class may be available on Sunday night.
- Weather: The average temps are 10°F for lows and 28°F for highs. The records are -34°F and 58°F. Count on snow on the ground and ice.





## Spring in the Great Smoky Mountains Photo Workshop

Spring wildflowers covering the forest floor, rushing mountain streams surrounded by glowing green moss, cabins flanked by flowering dogwood, freak spring storms covering the mountain tops with snow are just a few of the photographic possibilities in the Great Smoky Mountains in the spring. This four-day workshop will focus on areas where the spring is showing off and will compliment my fall workshop by visiting different areas of the park.

- Type of Workshop: Field Workshop
- Lodging: While there is no specific lodging partner for this workshop, I'm booked at Econo Lodge Inn & Suites on the River in Gatlinburg ((865) 436-5836) and recommend that you stay there to make carpooling easy. Any hotel in Gatlinburg will work for the workshop and there is camping nearby as well. There are also many options in Pigeon Forge.
- How to Get There: Gatlinburg is a small resort town serving the northern side of the park. The closest big city is Knoxville, TN. The closest airport is TYS-McGhee Tyson. TYS is about an hour drive from Gatlinburg. You take US-411 to Pigeon Forge and then US-321 into Gatlinburg. Atlanta is approximately 4 hours away on US-23 to US-441.
- First meeting time: Wednesday at 7pm at the Econo Lodge Inn & Suites on the River

Weather: Spring weather in the Smoky Mountains varies based on the elevation. In Gatlinburg, the highs may get into the 70s and the lows down into the 40s. In the higher elevations in the park, the temps reach 50s for highs and 30s for low. It can snow in April anywhere in the Smokies, but is more likely in the higher elevations.





## Des Moines Photography Workshop at Neal Smith

Join me this spring in Des Moines, Iowa for a weekend long photography workshop at the Neal Smith National Wildlife Refuge. The refuge has great classrooms, a bison herd, elk, tallgrass prairie, oak savannas and sedge meadows. I'm staging this workshop at a perfect time to kick off your spring and summer photography. You'll learn tons.

- Type of Workshop: Standard Workshop with many classroom sessions. John Gregor joins me as an instructor on this workshop.
- Lodging: The closest hotels to the workshop are the Microtel Inn & Suites by Wyndham Colfax/Newton (515-674-0600) and the Colfax Inn & Suites (515-674-4455). There is no lodging partner for this workshop. I recommend that you make your reservation when you register for the workshop.
- How to Get There: The refuge is located 18 miles east of Des Moines, Iowa, on State Highway 163. Follow the refuge direction signs just south of Prairie City at exit 18. Travelers on Interstate I-80 should use exit number 155 at Colfax and follow direction signs approximately 7 miles south on Highway 117 to the refuge.
- First meeting time: 9am at the Neal Smith Wildlife Refuge classroom
- Weather: The average temps in Des Moines, IA are 40°F for lows and 61°F for highs. The records are 9°F and 93°F.



## Spring Waterfall Photo Workshop

In April when winter's snowpack melts, it rushes down Lake Superior's tributaries and over the numerous waterfalls. The waterfalls thunder, the narrow canyons fill and the ground shakes from the excess water. No other time of year allows for the dynamic photography of waterfalls along Lake Superior.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of discounted rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Friday at 1pm in the Lobby for an optional field session. Friday at 6pm for the start of the workshop in the Conference Room.
- Add-ons: Friday at 9am is the Just the Basics Add-on class. A night class may be available on Sunday night.
- Weather: The average temps are 30°F for lows and 46°F for highs. The records are -8°F and 83°F. Generally, the later part of the month is warmer. Plan for snow, because about 40% of the workshops have seen snow.





## Spring in the Badlands Photo Workshop

May in the Badlands is a time when the life is returning to the park, the grass starts to green and some wild flowers start to appear. On this Badlands Photography Workshop, we'll spend three days photographing the park from sunrise to sunset. If the weather looks favorable, we'll photograph the Milky Way one night.

**Dates:** Not running this in 2016. Join me for a 5-day Badlands/Black Hills workshop instead. Or come to Theodore Roosevelt National Park.

- Type of Workshop: Standard Workshop
- Lodging: You'll need to make a room reservation at the Days Inn Wall at 605-279-2000. When making the reservation, tell them it's for a Bryan Hansel Photography Workshop.
- How to Get There: The Badlands National Park and Wall, South Dakota is located about 55 miles east of Rapid City, South Dakota on Interstate 90. From Minneapolis, it's a 7.5-hour drive via US-169S to MN-60 W and I90 (check Google Maps for the exact route). Rapid City is the closest airport.
- First meeting time: Thursday at 6pm for dinner.
- Weather: The average temps in Wall, SD are 44°F for lows and 71°F for highs. The records are 15°F and 102°F.





## Spring in Theodore Roosevelt National Park Photography Workshop

May in Theodore Roosevelt National Park is when the park comes back alive from a long winter. The golden grasses contrast with the spring green cottonwood trees. The bison and wild horse have calves and the landscape is bathed in fog and golden light. Come experience the park that made President Roosevelt the man he was.

- Type of Workshop: Field Workshop
- Lodging: There is no lodging partner for the Theodore Roosevelt National Park Photography Workshop. You can stay at whatever hotel that you like, but book in Medora, North Dakota.
  - AmericInn Lodge & Suites Medora, 800-634-3444: About \$100 a night in May. It's nice, but away from downtown.
  - Badlands Motel, 701-623-4444: Seems okay and it's right downtown. About \$100 per night in May.
  - Rough Rider Hotel, 800-633-6721: About \$130 per night in May. It's downtown, fancy and has a history old west feel.
  - There is a campground in Theodore Roosevelt National Park. inside the park and about a 30-minute drive from Medora.
  - Medora Campground, 800-633-6721: Ranges from \$20 to \$40 per night. Near downtown.
- How to Get There: The Theodore Roosevelt National Park and Medora, North Dakota is located about 36 miles west of Dickinson, North Dakota on Interstate 90. From Minneapolis, it's an 8-hour drive via Interstate 94 (check Google Maps for the exact route). Dickinson has the closest airport, but Bismarck is the closest major airport.
- First meeting time: Thursday at 6pm.
- Weather: The average temps are 42°F for lows and 70°F for highs. The records are 8°F and 101°F. Rain is not unusual in May. It could also snow.



## Badlands and Black Hills Photography Workshop

The Badlands and Black Hills Photography Workshop starts in Badlands National Park. We'll photograph the Badlands for two days before heading to Custer. Once in Custer we'll spend the next three days photographing the Black Hills. Destinations include Custer State Park, the Needles, Sylvan Lake, Spearfish Canyon and depending on conditions Bear Butte.

- Type of Workshop: Combo Standard and Field Workshop
- Lodging: The Days Inn in Wall, South Dakota is hosting the Badlands portion of the workshop. We will also meet there each morning before heading out for the sunrise. Room rate is not included in the workshop fee. When you make your reservation tell them it's a "Bryan Hansel" room. Days Inn phone number: 605-279-2000. There is no lodging partner in Custer. You can stay at whatever hotel you like. We'll meet at the sunrise location each day. Tuesday and Wednesday and Thursday is in Wall. Friday through Saturday is in Custer.
- How to Get There: The Badlands National Park and Wall, South Dakota is located about 55 miles east of Rapid City, South Dakota on Interstate 90. From Minneapolis, it's a 7.5-hour drive via US-169S to MN-60 W and I90 (check Google Maps for the exact route). Rapid City is the closest airport.
- First meeting time: Tuesday, 7pm at the Days Inn lobby for a sunset session.
- Weather: The average temps in Wall, SD are 54°F for lows and 81°F for highs. The records are 32°F and 111°F. The average temps in Custer, SD are 46°F for lows and 73°F for highs. The records are 19°F and 97°F. June also brings thunderstorms.





## Peninsula School of Art: Introduction to Macro Photography

Capture the spring blooms of Door County's wildflowers, cherry blossoms, and daffodils as you explore the process of macro photography. This technique allows you to document the fine details of the world around you, yielding rewarding and unique results. Learn how to select lenses for depth of view, utilize extension tubes to increase magnification ratios, and achieve proper exposure.

- Type of Workshop: Standard Workshop/Peninsula School of Art
- Lodging: There is no lodging partner for this workshop.
- How to Get There: The Peninsula School of Art
  - FROM CHICAGO: Take I-94 to Milwaukee, then I-43 north to Green Bay. Take Hwy 57 north to Sturgeon Bay, then Highway 42 north from Sturgeon Bay. The School is located 25 miles north of Sturgeon Bay at the north end of Fish Creek, 500 feet east of Highway 42 on County Hwy F.
  - FROM MINNESOTA AND TWIN CITIES: Take I-94 to Hwy 29 (just beyond Menomonie, WI). Hwy 29 will take you to Green Bay. Take Hwy 41 north briefly and then I-43 south briefly to Hwy 57 exit going east into Door County (follow Sturgeon Bay signs). The School is located 25 miles north of Sturgeon Bay on Highway 42 at the north end of Fish Creek, 500 feet east of Highway 42 on County Hwy F.
  - BY AIR: The closest commercial airport to Peninsula School of Art is Austin Straubel Airport in Green Bay, approximately 90 miles from Fish Creek.
- First meeting time: Thursday, 9am
- Weather: The average low is 53°F, and the average high is 74°F. The records are 29°F and 100°F. June can be rainy, so plan accordingly.





## North Shore Wildflower Photography Workshop

In the middle of June, the wildflowers along the north shore of Lake Superior peak. The lupine start to appear and the lady slippers bloom. In past years, I offered this as a one day workshop and in one day, we often photographed as many as 30 to 40 unique wild flowers in bloom. The common request was to make the workshop longer. It's now a full weekend of wild flower photography.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. It's 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Friday at 1pm in the Lobby for an optional field session. Friday at 6pm for the start of the workshop in the Conference Room.
- Weather: The average low is 44°F, and the average high is 63°F. The records are 25°F and 93°F. June can be rainy, so plan accordingly.



## Northern Night Skies: Night Photography Workshop

Cook County, Minnesota on the north shore of Lake Superior is 92% public and undeveloped land. With a summer population of about 10,000 people mainly living near the shore of Lake Superior, there isn't much in the way of night pollution. When it's dark out, the stars fill the sky, the Milky Way is bright and because of our proximity to the magnetic north pole, we get northern lights more often than other areas at the same latitude. August generally has clear nights or nights with lightning and thunderstorms, and this night photography workshop takes advantage of those clear summer nights. For five days, we'll work on capturing night images and learning how to process them.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Wednesday, 7pm at Aspen Lodge's meeting room.
- Weather The average high is 71°F, and the average low is 52°F. The records are 90° and 37°F.





## Night Skies of the Gunflint Trail

Join me for a 3-day field workshop and learn how to photograph the Milky Way over the inland lakes and streams of the Gunflint Trail. This Minnesota photography workshop takes place in one of the darkest places in Minnesota and one of the darkest places in the world.

- Type of Workshop: Field Workshop w/ one classroom session
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. It's 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Thursday, 6pm
- Weather: The average high in September is 63°F. The average low is 47°F. That can and does vary. The records are 23°F and 89°F.



## Milky Way over Lake Superior Photography Workshop

Join me for a 3-day field workshop and learn how to photograph the Milky Way above Lake Superior and the inland lakes and streams of Cook County. This Minnesota photography workshop takes place in one of the darkest places in Minnesota and one of the darkest places in the world.

Not running in 2016

- Type of Workshop: Field Workshop w/ one classroom session
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. It's 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Thursday at 6pm in the Aspen Lodge meeting room.
- Weather: Depends on the time of year. The lows during the summer season range from 44°F and 54°F.





## Grand Tetons National Park Photography Workshop

The second weekend in September in the Grand Tetons National Park isn't yet fall, but it isn't summer either. The grasses have gone brown and a tree here and there might just show signs of color. It can be stormy (rain or snow), and it can be clear. It's the transition time between seasons that I love to photograph. It's also a relatively slow time in the park. I wouldn't be surprised if we have some of the sunrise locations to ourselves. That makes these weekends perfect for a Grand Teton Photography Workshop.

- Type of Workshop: Field Workshop – Advanced Beginner and above
- Lodging: While there is no lodging partner, there are plenty of places to stay. The town of Jackson offers many hotels. I suggest finding one in your price range and booking it today. They fill up quickly. The park also offers lodging. The Jackson Lake Lodge offers high-end lodging and dining. I'm camping at Colter Bay. You won't need reservations if you plan on camping, but if you're staying in a hotel, you'll need to book ASAP. Colter Bay offers reasonably priced lodging in cabins and two diners. Colter Bay is the ideal location to stay because while not central, it provides easy access to the sunrise and sunset locations.
- How to Get There: You can fly to JAC (Jackson, WY). From MSP, it's about \$500 round trip. If you drive, it took us 2 days last year from Grand Marais, Minnesota. We will carpool in the park, so you will need to either have a car rental or coordinate with other folks. I can help facilitate this if people are interested in saving cash.
- First meeting time: Thursday at 6pm in the Aspen Lodge meeting room.
- Weather: Temps are awesome with averages ranging from 32 to 70°F.



## Minnesota's North Shore of Lake Superior Fall Workshop

During late September, the hills and shoreline surrounding Lake Superior turn a mix of fiery red and yellow. The combination of the dramatic shoreline and moody fall weather makes the north shore the best photography destination in Minnesota. During the workshop, we'll visit the best locations to capture fall colors, visit a maple syrup factory and drive roads that will literally take your breath away. During the workshop, you'll learn compositional techniques, how to use several filters and how to control your camera to capture stunning fall photos.

I found an amazing new location that we'll visit in 2016.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: 6am at Coast Guard Building in Grand Marais (optional), 1pm in the conference room at Aspen Lodge (official start).
- Weather: The average high in September is 63°F. The average low is 47°F. That can and does vary. The records are 23°F and 89°F. September is one of the rainiest months, but, generally, the rainstorms are brief.





## Fall in the Great Smoky Mountains Photography Workshop

The Great Smoky Mountains National Park is one of America's greatest and most majestic national parks. During the fall, weathered ridges covered with fall colors literally stretch as far as the eye can see. Streams run down all the valleys and traverse a diversity of biomes. The northern forest intermixes with the southern forest in one of the biologically richest places on the planet. We'll spend three days immersed from dawn to dusk photographing the fall colors on the peaks and in the streams.

- Type of Workshop: Field Workshop
- Lodging: While there is no specific lodging partner for this workshop, I'm booked at Econo Lodge Inn & Suites on the River in Gatlinburg ((865) 436-5836) and recommend that you stay there to make carpooling easy. Any hotel in Gatlinburg will work for the workshop and there is camping nearby as well. There are also many options in Pigeon Forge.
- How to Get There: Gatlinburg is a small resort town serving the northern side of the park. The closest big city is Knoxville, TN. The closest airport is TYS-McGhee Tyson. TYS is about an hour drive from Gatlinburg. You take US-411 to Pigeon Forge and then US-321 into Gatlinburg. Atlanta is approximately 4 hours away on US-23 to US-441.
- First meeting time: Thursday at 7pm at the Econo Lodge Inn & Suites on the River
- Weather: Fall weather in the Smoky Mountains varies based on the elevation. In Gatlinburg, the highs may get into the 70s and the lows down into the 40s. It rains about six days in the month of October. In the higher elevations in the park, the temps reach 50s for highs and 30s for low. It can snow in October anywhere in the Smokies, but is more likely in the higher elevations.



## Gales of November Photography Workshop

November is the stormiest month on Lake Superior. It's the month with the best chance of capturing this inland ocean showing off its explosive nature. I lead you on a learning experience to some of the most beautiful out-of-the-way locations for making great storm and lake images. Workshop time is divided between the classroom – learning about metering, manual camera controls, lighting, composition – and the field. Evenings are spent peer reviewing the day's images. Although there will be some classroom time, expect to spend most of this workshop in the field.

- Type of Workshop: Standard Workshop
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Friday at 1pm in the Lobby for an optional field session. Friday at 6pm for the start of the workshop in the Conference Room.
- Weather: The average high temp is 38°F and the average low is 25°F. The record high is 67°F and the record low is -14°F. The beginning of the month is generally warmer. November is also the stormiest month of the year.





## Achieve Your Vision: Processing Photos in the Digital Darkroom

The process of making a digital photograph starts at visualization, continues through the craft of taking the picture, and then journeys into the digital darkroom. In the digital darkroom, just like the chemical darkroom, photographers will fine tune their image, recognize the image's flow, and work to emphasize that flow using Adobe Lightroom.

Bring a laptop with a copy of Lightroom installed. Adobe offers a free 30-day trial and a \$10/month subscription.

- Type of Workshop: Classroom
- Lodging: The lodging partner for this workshop is Aspen Lodge (218-387-2500). They have a block of rooms set aside under my name that releases to the public 30 days before the workshop. You must register for your room at Aspen Lodge before the release date. They will make the reservation under your name and collect a credit card number.
- How to Get There: Grand Marais, Minnesota is 110 miles north of Duluth, Minnesota on Highway 61. Duluth boasts a small international airport. Grand Marais is 260 miles north of Minneapolis, Minnesota, which has an international airport that also acts as a regional hub. Grand Marais is 128 kilometers south of Thunder Bay, Ontario on Highway 61. Thunder Bay has a small airport. Car rentals are available at the airports.
- First meeting time: Saturday at 9am in the Conference Room.
- Weather: The average high temp is 38°F and the average low is 25°F. The record high is 67°F and the record low is -14°F. The beginning of the month is generally warmer. November is also the stormiest month of the year.

Note: We'll work together on student images submitted before the workshop. I'll have you submit five full-sized RAW files before the class. I'll select one for the class to work on.

### PREREQUISITE

- Working knowledge of your computer's filing and operating systems. A general knowledge of the menu system of Adobe Lightroom. If you don't know Lightroom, take the time to learn the menu system and how to navigate the program.



## Early Winter in the Badlands National Park Photography Workshop

The landscape in South Dakota's Badlands National Park feels like something out of a futuristic movie. Rugged Badlands formations seem to rise abruptly out of the grassy plains and rise into a crisp sky. When standing at overlooks, the terrain unfolds before your eyes. Your eyes follow the lines carved by water for 10s of 1000s of years. December in the Badlands is a time of transition and the perfect time for photography. On this Badlands Photography Workshop, we'll spend three days photographing the park from sunrise to sunset.

- Type of Workshop: Standard Workshop
- Lodging: You'll need to make a room reservation at the Days Inn Wall at 605-279-2000. When making the reservation, tell them it's for a Bryan Hansel Photography Workshop.
- How to Get There: The Badlands National Park and Wall, South Dakota is located about 55 miles east of Rapid City, South Dakota on Interstate 90. From Minneapolis, it's a 7.5-hour drive via US-169S to MN-60 W and I90 (check Google Maps for the exact route). Rapid City is the closest airport.
- First meeting time: Thursday at 6pm in the Days Inn lobby.
- Weather: December in the Badlands is one of the coldest months there. Average temperatures range from 38°F to 16°F. Records range from 72°F to -31°F. Like the rest of the park, the temperatures can seem unreal with large fluctuations. I've left Grand Marais in winter to vacation in the Badlands and had 70°F temps and 0°F on the same trip. Because of this bring a wide range of clothing, especially warm winter gear. We'll be in the field regardless of the weather.





## One-on-One and Small Group Workshops

I offer personal Minnesota photography workshops and Lake Superior photography workshops targeting your learning needs. The workshops are hands-on in the field. We'll visit a location and spend time on subjects that you need help with. I'll teach you my approach to photography and by the end of the workshop; you'll have learned skills that will improve your photography. Select a half-day or a full-day workshop.

Time:

- Half-day: A four to five-hour private photo workshop starting before sunrise or leading up to sunset. Midday lessons are also available.
- Full-day: We meet before the sunrise and shoot for around eight and nine hours or shoot eight hours leading up to sunset. In the winter, that might mean that we shoot both the sunrise and sunset. Total lesson time runs between eight and nine hours.
- Weekend: Contact me for special full weekend workshops for six or more people.



Required down-payment: Full payment. 50% of the total is nonrefundable but may be transferred.

## Photography Club Workshops and Presentations

I've been told that I'm a dynamic speaker able to keep a room full of 100s engaged in my presentations. I try to give between three and five presentations a year to photography clubs and at kayaking and canoeing events. I like to speak to all sizes of photography clubs and offer many different presentations and slideshows. With photography clubs, I like to do a presentation and then offer a workshop. This works well, because it allows us to get into the field after my presentation to practice the techniques that I spoke about. It's a better learning experience that way.

If you belong to a photography club, let your club board or leadership know that I do presentations. I'd love to talk to your club.

- **Rates:** Rates vary depending on the scope of the event. Generally, I cover my traveling expenses and receive a speaker fee. If we schedule a workshop in addition to the presentation, the workshop fee is paid by the participants.

## Add-on Classes Descriptions

These workshop sessions are available during select three-day workshops.

**Just the Basics** (\$50): This extra session is a three-hour classroom session on Friday morning from 9am to noon. Although I cover aperture, shutter speed and ISO in my main slideshow, this extra session covers the topics more in depth. I'll also cover white balance, file formats, exposure, manual camera settings, understand and thinking in "stops" of light and more. This is designed for someone who hasn't had a lot of experience shooting in manual mode, someone who just got a new digital camera, someone just getting into photography or for someone that wants a refresher on the topics. This session is completely in the classroom at Aspen Lodge, but you'll use your camera during several exercises. Three hours are scheduled but it could be shorter depending on the number of questions.

### Back to the Basics Topics

- Image Quality
- Exposure Systems
- Focus Systems
- Aperture
- Shutter Speed
- ISO
- Stops of Light
- White Balance
- Diopter Adjustment
- VR, IS, OS
- Focal Length Choice
- Sensor Dust and Cleaning

**Night Photography Add-on** (\$100): This extra session includes two parts. The first is a one-hour long slideshow on night photography. The second part is a three-hour long night photography outing. If the stars are out, we'll concentrate on shooting stars, but if it is cloudy or stormy, we'll concentrate on light painting or burning steel wool. Depending on the moon phase, we may spend time shooting the Milky Way or spend time shooting the moonlit landscape.





## Equipment List

This equipment list includes my suggestions. Even if you think you have perfect clothing and camera kits, I suggest you look it over. There might be a few pieces of kit that you might not have thought about. The key is to bring extra clothing. In almost all the locations I offer workshops, the weather can be extreme, and I often hear participants say they wish they would have brought more clothing.

### Clothing – General

Bring what you'd normally wear for the time of year and supplement it with the follow. I also suggest using synthetic clothing when possible. Synthetic clothing generally keeps you drier and works better in outdoor environments.

- T-shirt
- Fleece jacket, Softshell jacket
- Long sleeve t-shirt
- Shorts
- Long pants
- Synthetic socks
- Hiking boots
- Rain jacket and rain pants
- Extra change of clothing
- Hat
- Sunglasses

### Other

- Headlamp or flashlight
- Sunscreen
- Bug netting hood or hat (for bug session May through September)
- Umbrella for rain
- Chemical hand and toe warmers (warmth and to keep you lens from fogging on night classes)

### Clothing – Shoulder Seasons (Fall, Winter, Spring and Night Classes)

It can be brutal in winter if you don't have the right gear. Remember the Minnesotan proverb, "There is no bad weather, only the worn clothing." It's always better to have more than not enough.

- Synthetic or Wool Base Layers – Long underwear top and bottom. Layer multiple base layers adds a ton of warmth.
- Synthetic or Wool Insulation – Fleece or down – top and pants – Bring several layers
- Outerwear – Coat with hood and pants – like a Gore-Tex rain jacket and pants or ski gear
- Synthetic or Wool Socks – No cotton socks – Bring several to layer
- Synthetic or Wool hat
- Balaclava for winter or Gales
- Thin Base Layer Gloves – Thin enough to operate all buttons and dials on your camera
- Synthetic or Wool Insulation Gloves – Wear over your base layer gloves – I use insulated leather work gloves
- Shell Gloves or Mittens – Wear over your other gloves
- Extra change of clothing
- Insulated boots or mukluks – must be good for walking
- Ice traction devices or ice cleats or crampons (see Reading below. For winter or Gales and sometimes spring waterfalls)
- Snowshoes (for winter months)

## Backpack

While you can buy a camera specific backpack or use one you already own, I suggest considering buying a padded camera case, such as F-stop Gear's Internal Camera Units and combining it with a backpack that you buy at REI. Going this route usually gets you a more versatile pack. The style of pack I'd suggest is something like an Osprey Kamber (Amazon.com link: <http://amzn.to/2ocCuEp>) and a medium or large slope ICU.

- Backpack big enough for extra layers of clothing, your camera gear, snack, water, tripod.

## Computer

The computer is used to process images. On standard workshops, you'll share five images with the class on Sunday. On standard workshops, I do an image processing demo using Adobe Lightroom, but you can use whatever program you like. Something to think about is that Adobe has switched to a month subscription plan and you can find deals for \$10 per month for Adobe Lightroom and Photoshop. You can buy Lightroom for about \$149 and lower if you keep your eyes peeled for deals.

- Laptop computer (for downloading images to share on the final day)
- Card reader
- Image manipulation program
- USB thumb drive
- Power cord

## Food and Water

We often eat in the field. It's a good idea to bring snacks, water and lunch. In the winter, one way to stay warm depends on having enough calories to burn and staying hydrated. Bring lots of easy to eat snacks and water. In the shoulder seasons and summer, it's easy to forget to drink enough water which results in dehydration.

- Two 1-liter water bottles
- Water bottle insulation
- Thermos with hot drink (optional but wonderful to have)
- Snacks or energy bars – 2 to 3 per day
- Lunch when required

## Other Optional Items

- Trekking poles
- Waders (for workshops in the Smokies) – for small streams only and this is completely optional and not required. If you own a pair and have space, it's not a bad thing to bring. Otherwise, don't buy them or bring them if you don't have space.



## Camera Gear

Any camera with interchangeable lenses is acceptable. See notes in the Reading Section for winter, macro and night sky workshops. For filters see the link in the Reading Section.

- Camera body
  - Backup Camera body
- Lenses ranging from 18 mm to 200 mm
  - Wide Angle lens for landscapes
  - Mid-range zoom for walk around
  - Telephoto to compress the scene
  - Macro for flowers and details
  - Fast wide lens for night photography. Max aperture of f/1.4, f/1.8 or f/2.8 is highly recommended.
  - Super telephoto to 500mm for national park workshops where wildlife is around
- Memory for 400 photos a day
  - Label your memory cards with your name
  - Recommend a max of 16 or 32GB cards
- Four or more camera batteries (especially in winter and for night workshop. If you shoot a mirrorless camera that has an electronic LCD make sure to bring extra batteries)
- Battery charger
  - Car charger can be handy
- Tripod w/ quick release ball head – a sturdy tripod is a must. Consider something high quality if you need suggestions see the

reading section below. Note: I've seen many plastic inexpensive tripods break during workshops.

- Shutter release cord
  - Intervalometer
- Waterproof camera cover
- Monopod (optional)
- Camera neck strap (optional)
- Lenspen or way to clean your lens
- Filters (see reading below)
  - Filter holder
  - Adapter ring
  - ND Grads: 3-stop and 2-stop soft and reverse
  - ND Filters: 3-stop, 5-stop, 10-stop
  - Polarizer
- Hot-shoe bubble level (optional)
- Pipe insulation to cover the upper parts of your tripod's legs or an insulation pad that covers the upper parts of your tripod's legs (winter) or leg covers
- Duct tape to tape pipe insulation to tripod's legs (winter)
- Trash bags (to protect your camera gear when going from the cold outside to the warm moist inside during shoulder seasons and winter months)
- Cotton cloth or bandana (for wiping rain, snow or spray off your lens)

## Filters – HIGHLY RECOMMENDED READING

I highly recommend picking up several filters for this workshop. You will get more out of the workshop and go home with better pictures if you do. Singh-Ray offers a 10% discount from my students. Buy direct and use code “hansel10”.

Selecting filters for outdoor photography has always been complicated, especially for photographers just learning how to use filters. In recent years, more companies have gotten into the market and the selection has grown even larger. In addition to that, lenses have changed. Almost everyone that buys a lens beyond a kit lens ends up getting a lens with filter rings that are 72mm or bigger. This means that lots of advice written in the past needs updating. And it also means that my advice for students and others has changed as well over the last few years. This is my current advice.

I recommend three essential filter types:

- Polarizing filters
- Split Neutral Density Graduated Filters (ND Grads)
- Full Neutral Density Filters (ND Filters)

**Polarizing filters:** Polarizing filters remove reflections from the water or wet or reflective surfaces. These filters also can make the sky bluer. In outdoor photography, some of the times you’ll use them are when taking waterfall pictures, macro shots, fall color photos, when you want a bluer sky (although with wide lenses they cause uneven coloration across the sky) or when you want to intensify colors or remove reflections.

**Split Neutral Density Graduated Filters (ND Grads):** If you have ever taken a sunset photo where the sky is beautiful, but the ground is

completely black or where the ground has detail, but the sky is blown out (white with no detail), then you’ve experienced the limitation of your camera’s sensor. ND Grads help overcome this limitation.

The filter is rectangular with the top half a gray color and the bottom half clear. You put the gray part over the sky and clear over the ground and the gray part darkens the sky and helps your sensor capture the entire scene. ND Grads are sold in several configurations:

- Hard
- Reverse
- Soft

The configuration tells you what kind of transition there is between the clear side and the gray side. A hard and reverse share the same kind of transition. It’s abrupt. Hard and reverse do much the same thing, so you only need to buy one style. Soft has a gradual transition between clear and gray. You use hard or reverse transitions when the horizon is a solid line, such as over the ocean or a lake. You use the soft when the horizon is jagged. I prefer reverse transitions over hard transitions, because on a reverse the filter goes abruptly from clear to gray but the further away from the transition it goes, the lighter the gray becomes. This helps keep the sky from turning too dark at the top of the photo.

ND Grads are also sold in different intensities. The most common are 1-stop, 2-stops or 3-stops. This just tells you how dark the gray part is. The more stops the filter has, the darker it is.

**Full Neutral Density Filters (ND Filters):** ND Filters as opposed to ND Grads are completely gray and usually square. They darken a scene so



that you can get a longer shutter (or have a wider aperture). They are sold in different stops, which tell you how dark they are. The most popular ones are 5-stop (or 6-stop depending on brand) and the 10-stop. As an example, a 10-stop filter will take a 1/125th of a second exposure to 8 seconds. That can add great blur to the image. My personal favorite is a 5-stop. I use it at sunrise and sunset to get 30 second exposures. The 10-stop filters are fun though. At sunrise and sunset, you can get long exposures. I'll often get around 8 minute exposures during that time using a 10-stop ND filter. You can also buy these in 1- to 4-stops, and 15-stops and 20-stops.

**Confusion Alert:** ND Filters and ND Grads are often confused. Just remember that the ND Grad is split with a dark and clear side and the ND Filter is solid. You use the former to darken the sky (or other bright areas) without affecting the ground (or other parts of the photo). You use the later to slow your shutter speed and cause more blur.

**Confusion Alert Two:** Some manufacturers use a different type of nomenclature to designate how dark their filters are. I think the ideal way is to tell you how many stops. For example, if you want a 3-stop filter, the manufacturer should say that it's a 3-stop filter, but some don't. They'll say that it's a 0.3, 0.6 or 0.9 density. That means 1-stop, 2-stops or 3-stops, respectively. If you look at a scale made from this style of nomenclature it goes like this from 1-stop to 10-stops: 0.3, 0.6, 0.9, 1.2, 1.5, 1.8, 2.1, 2.4, 2.7, 3.0. You can also run into the ND nomenclature that goes from 1-stop to 10-stops on this scale: ND2, ND4,

ND8, ND16, ND32, ND64, ND128, ND256, ND512, ND1000. I'm including a handy chart.



My most used filters. Starting left and going clockwise: [Kinesis Photo Gear Filter Pouch](#) [Amazon link], [Formatt Hitech holder](#) [Amazon link], 77mm wide angle adapter ring, Singh-Ray polarizer, Singh-Ray 5-stop Mor-Slo ND filter, Singh-Ray 3-stop reverse ND grad, Sigh-Ray 3-stop soft ND grad.

ND to Stops Conversion Chart

Bryan Hansel | Photography Workshops - [www.bryanhansel.com](http://www.bryanhansel.com)

Number of Stops	1	2	3	4	5	6	7	8	9	10
ND.number	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
NDnumber	ND2	ND4	ND8	ND16	ND32	ND64	ND128	ND256	ND512	ND1000

To the right: Starting from the top left and going clockwise: 2-stop reverse ND grad, 3-stop reverse ND grad, 5-stop Mor-Slo ND filter, 10-stop Mor-slo ND filter, Sensei Filter holder, L/B Neutral polarizer, adapter ring, 3-stop soft ND grad, 2-stop soft ND grad.

This picture shows my personal filter kit.

The picture to the right shows the sizes of the filters. The top row shows 4-inch by 6-inch filters and a filter holder. The bottom row shows 85mm filters and an 85mm filter holder.





## Filter Size and Filter Holders

It can get confusing when you must decide what size to get and which filter holder to buy. So, here's the simple rules of thumb to stick to. If you use:

- **Full frame** then buy 4-inch by 6-inch filters. These are also known as 100mm by 150mm or Cokin Z-size.
- **APS-C DSLRs** (1.5x or 1.6x cropped cameras) then buy 4-inch by 6-inch filters. Same as full frame users.
- **Mirrorless** cameras (except for full frame) usually use 75mm by 120mm. You might be able to get away with 75mm by 90mm, but if you have a wide-angle lens, the 120mm option gives you more placement options when shooting vertical. This is often called Cokin P or Lee Seven5 size. Keep in mind that both Cokin P filters and Lee Seven5 filters are only 90mm long. This size will not work well on some lenses.

The filter holder choice is almost as confusing. The key is to pick the brand you like and then buy the size to fit the filter size that you need. Each filter holder has two components and you need both to make it work. It has an adapter ring that attaches to your lens and a filter holder that attaches to the adapter ring. The adapter rings have a couple of options depending on the brand:

- **Wide angle adapters** are used for wide angle lenses. They get the filters as close as possible to your lens so you avoid vignetting (darkening of the sides and corners).
- **Size.** You need to buy the right size for your lens. Find the filter ring size and buy that one. Common sizes are 40.5mm, 48mm, 52mm, 56mm, 62mm, 68mm, 72mm, 77mm and 82mm. If you have different sized filter rings on different lenses, you will need a different adapter ring for each lens.

There are basically 5 options:

- **Sensei Pro:** This is a modular, all-metal holder that rotates on an adapter ring. It has an 86mm ring for a polarizer. To use ND filters, you'll need to build a light block dam with gaffer's tape or with foam. This is my preferred filter holder. You can read my full review here: [Sensei Pro Filter Holder Review](#)
- **Formatt Hitech:** This is a modular, all-metal holder with a simple thumbscrew that holds the holder to the adapter. If you crank the thumb tight, it probably won't come off. To use a polarizer with this system, you buy a polarizer adapter. It mounts on the outside of the holder and allows you to screw a polarizer on the outside. This is my second favorite system.
- **Lee:** This is modular system as well. Instead of a thumbscrew that tightens on the adapter ring, the holder clips onto the ring and freely spins. Force coming from the camera to the back of the holder can cause it to pop off. This is a great holder despite that quirk. To use a polarizer with this system, you buy a polarizer adapter. It mounts on the outside of the holder.
- **Cokin:** An okay filter holder that is a little fussy to use. I've seen expensive filters fall out of this system easily. They make a special polarizer that drops into a slot on the holder.
- **Vü Filters:** An interesting holder. The polarizer is built into the base of the filter holder. You need to use a special polarizer that is thin enough to work with the holder otherwise you lose the ability to use the first filter slot, which is the one you want to use for you ND Filters. The tolerances are tight on this filter. So, tight, that I've seen people have difficulty with getting other brands of

filters into the holder until they work on the spacers. The attachment to the adapter ring uses two screws that are on the backside of the holder. Seemed more futzy than the Lee or Formatt Hitech holders.

- **Off brands:** There are many off-brands on the market. They tend to come and go as the companies go out of business. One that I like right now is called Sioti. It makes an inexpensive metal filter holder that with a little modification makes an excellent holder for the price. A good budget option.

Amazon Links to the holders:

- Sensei Pro: <http://amzn.to/2ocntCw>
- Formatt Hitech
- Lee: <http://amzn.to/2mQPX4O>
- Cokin: <http://amzn.to/2nBnTkx>
- Vü Filters: <http://amzn.to/2nBtqaU>
- Sioti: <http://amzn.to/2nNbScp>

The pictures to the right show different filter holder systems. In the top photo the Sensei Pro (left) and the Format Hitech (right) holders are shown. The bottom photo shows the Format Hitech with a polarizer ring attached. The polarizer sits on the outside of the filter stack.



## Buying Filters and What Filters to Buy

You don't want to skimp on filters. There are a lot of brands out there and the prices range from a few bucks for a filter to over \$300. The problem with most inexpensive filters is that you will see a color shift. For example, Cokin ND grads and ND filters make your image look purple. Some other cheap filters shift the images color to cyan. Almost all the 10-stop ND filter shift one way or the other, but the best brands show minimal shift that is easily correctable.

**Brands:** I use and recommend Singh-Ray, and because I love their filters I partnered with them to offer workshop students a 10% discount on their filters. Order direct from Singh-Ray and use the code "hansel10" to get a 10% discount off your filter purchases. Another good brand is Lee. Formatt Hitech's ND Grads are less expensive than Lee or Singh-Ray and are okay. Make sure to get the 4x6 and not 4x5 size if you buy Formatt Hitech, because they sell both sizes.

**Buying Recommendations:** My recommendations are based on where you plan to do most your photography. I'm going to break my recommendations down into two categories: General Landscape, Seascape. If you live on the flat plains, the seascape kit may work well for you. Both will get you the same filters eventually, but the order in which you buy changes. I'm going to number the filters with number 1 meaning the first that you should buy. You should also get a polarizer regardless.

### GENERAL LANDSCAPE FILTER KIT

1. 3-stop reverse ND grad: This is best for seascapes and lakes or places with flat horizons.
2. 2-stop soft ND grad: This works well for areas with jagged edges and is easier to learn how to use vs. the 3-stop soft version.
3. 5-stop or 10-stop ND filter: To achieve long exposures that blurs water or clouds. This is a hard choice. If you're a seascape

photographer shooting mainly at sunrise and sunset, then I'd go with the 5-stop. If you want to blur clouds during midday, I'd go with the 10-stop.

4. 2-stop reverse ND grad: Great when the air holds high humidity or the colors and sky are muted.
5. 3-stop soft ND grad: Helpful to have when you face extreme contrast and jagged peaks.
6. 5-stop or 10-stop ND filter: Buy whichever one you didn't get last time.

### SEASCAPE FILTER KIT

1. 3-stop reverse ND grad: This is best for seascapes and lakes or places with flat horizons.
2. 2-stop reverse ND grad: Great when the air holds high humidity or the colors and sky are muted.
3. 5-stop or 10-stop ND filter: To achieve long exposures that blurs water or clouds. This is a hard choice. If you're a seascape photographer shooting mainly at sunrise and sunset, then I'd go with the 5-stop. If you want to blur clouds during midday, I'd go with the 10-stop.
4. 2-stop soft ND grad: This works well for areas with jagged edges and is easier to learn how to use vs. the 3-stop version
5. 3-stop soft ND grad: Helpful to have when you face extreme contrast and jagged peaks.
6. 5-stop or 10-stop ND filter: Buy whichever one you didn't get last time.



## Reading List

The items on the reading list include articles that I've written on my website. The articles are designed to get you prepared for the workshop and help you make the right gear choices before you come. If you have questions, please, call me.

### Winter Cleats and Traction Devices – MUST READ FOR WINTER

On the winter workshops and the Gales of November workshop, we may encounter icy shorelines. For the winter workshop, cleats are a must. For Gales, consider bringing them. You may not need them, but it's better to have them than not.

- <http://www.bryanhansel.com/2015/winter-traction-device-winter-photography-dont-fall-ice/>

### Ethics

To preserve the areas that we visit for other visitors, for other photographers and for future visits, we will practice a set of ethics.

A bullet point summary of the ethics we will abide by in the field is this:

- Only take an action when your action's impact and anyone else doing the same won't inhibit the ability of the land to heal itself.
- Consider the interests of others above your selfish needs.
- Only act in a way that benefits the group. The group defined as everyone in a location. Further, the group defined as future visitors to that location.

Please, read about my take on outdoor photography ethics and outdoor photography etiquette here:

- <http://www.bryanhansel.com/2015/outdoor-photography-ethics-101/>

### Tripod

A sturdy tripod is a must for great landscape photos. While a plastic tripod with a pan/tilt head bought from a big-box store may seem like it will work. It likely won't. Cheap tripods are just that. They're cheap. They break. And worst of all, they are NOT steady. While you don't need to spend \$1000 to get the latest carbon fiber tripod from Gitzo or RRS, I do suggest that you consider buying a good tripod if you don't already own one. If you don't want to spend a lot of money, read this article. You won't regret buying an expensive tripod. I love my carbon fiber Gitzo with a Kirk BH-1 ball head.

- <http://www.bryanhansel.com/2015/march-newsletter-the-best-inexpensive-tripod-for-the-money/>

### Picking a camera system

If you're still working on building a photography system, learn more in this article:

- <http://www.bryanhansel.com/2015/february-newsletter-lens-choices-and-building-a-photography-system/>

## Extra Reading – Macro Photography Workshops

The following advice will help you prepare for your macro photography workshop. You don't need to buy any of the discussed equipment, but I highly recommend bringing either a macro lens, close-up filters for your telephoto lens or extension tubes.

### Macro Lens

I recommend using a 105mm or longer macro lens for this workshop. If you don't own one and don't want to buy one, then consider buying macro diopters or extension tubes.



### Close-up Filters (Macro Diopters)

If you don't have a macro lens or don't want to buy one just yet, then you can use close-up filters, also known as macro diopters. Here's a link to an Amazon search for these filters: <http://amzn.to/1EEhYZA> Close-up filters screw onto the end of a lens and help the lens focus closer. Combining

close-up filters and a 55-200mm or a 70-300mm lens can create a serviceable macro lens. When ordering a close-up filter make sure the thread size matches the threads on your lens. If you plan on doing lots of macro photography, you'll be happier with a 105mm or 200mm macro lens.



### Extension Tubes

You could also select extension tubes. Extension tubes change the minimum focusing distance of your lens, which allows the lens to get closer to your subject. This can turn a 55-200mm, 70-200 or 70-300mm lens into a serviceable macro lens. Not all extension tubes are created equal. Make sure the brand you buy allows autofocus and electronic communication between the camera and your lens.

Here's a link to an Amazon search for these filters:

<http://amzn.to/1G7r2NP>

### Should I Buy Close-up Filters or Extension Tubes?

Either approach will work, but the close-up filter approach is easier to learn. If you buy a high-end close-up filter, the results are typically good. Extension tubes are harder to learn, but often provide a better result than a close-up filter.

## Camera

Before you come to the workshop, check your manual to see if your camera can do double exposures. If it can, please, take the time to figure out how to do it. One technique that I'll teach uses double exposures. If your camera doesn't do double exposures, there is a way to recreate the technique using the photoshop.



### Light Diffusion: Umbrella, Scrim or Plastic

Making macro images on a bright sunny day is difficult. A white photography umbrella, like you'd use for portraits, helps block the sun and lets just enough diffused light into the photo to give a nice soft glow. I carry a Wescott 32-inch umbrella with me for macro. Here's a link to it at Amazon: <http://amzn.to/1EEiJw>

Instead of an umbrella, you can use any scrim-like material, such as the translucent part of this reflector: <http://amzn.to/1LO2B6T>

For a budget option, consider using Visqueen, a brand of polyethylene plastic sheeting used in housing construction. Often contractors will have left over Visqueen they will give you for free. Look the opaque, 6-mil style. I like to use a big enough piece to cover the subject and camera.



### Tripod for Macro

When buying a tripod, consider a tripod without a center column. This allows you to get the tripod low to the ground. A better option is a tripod that features a column that can be turned parallel to the ground. This provides much more flexibility.





## Beanbag

A beanbag allows you to set your camera almost completely on the ground and helps provide stability on uneven grounds. My favorite is the Kinesis SafariSack. You can get the SafariSack with plastic bead filling or filled with buckwheat. Although much heavier, I prefer the plastic bead filling. Here's a link to the SafariSack at Amazon: <http://amzn.to/2nBbLQq>

The SafariSack also works great when balancing your lens out of your car window to shoot wildlife.

## Flash and Flash Brackets

Using an off-camera flash for macro photography can help you get pictures when it's windy and it also can help you handhold a camera to get into a tricky location. Flashes aren't necessary, but if you have one it consider bringing it.

To use a flash effectively, you need to get it off your camera. You'll need a few items such as a TTL Flash Cord and a flash bracket. You can pay a lot of money for a flash bracket, but if you're willing to cobble together a bracket from parts, you can make a nice butterfly bracket for a fraction of the price that the dedicated brackets cost. For approximately \$30, you can build your own butterfly bracket. Here's what you need:

- Run Shuangyu Heavy Duty Photography L Bracket – Amazon.com link: <http://amzn.to/2nBez02> \$10
- Lonker Dual Flash Bracket Tripod Mount – Amazon.com link: <http://amzn.to/2nhQbxb> \$9
- AKOAK 1/4" Swivel Mini Ball Head – Amazon.com link: <http://amzn.to/2ocfQMn> \$6
- Fotasy SCX2 1/4-Inch 20 Tripod Screw to Hot Shoe Adapter – Amazon.com link: <http://amzn.to/2nMXsIX> \$7
- Nuts and bolts as needed to put everything together



### **5:1 Reflector**

A reflector allows you to bounce light back onto your subject when it is under an umbrella or scrim. You can buy a big studio-sized reflector like that shown in the above photo or you can buy something more portable. I like a reflector that is about 20 inches. The Etekcitec 24" 5-in-1 Portable Multi-Disc Collapsible Photography Photo Reflector is an ideal reflector for macro photography. Amazon.com link: <http://amzn.to/2nBhZ2M>

### **Miscellaneous Equipment**

If you have extra clothespins or small spring clamps around, bring some along. These can help hold plants out of the way while you shoot your flower. Ideally, we don't want to harm any plants while photographing our subjects, and clothespins help us Leave No Trace.

A small, soft paint brush or makeup brush can be useful if you need to clean and dirt off your subject.

Use a spray bottle to add water droplets to your subjects. This gives them that morning dew look that looks great in shots.

If you really want to be geeky, bring along an 8x10 or 8x12 matt photo of a blurred forest, grassland or something with uniform color. You can hold these photos behind your subject and get a beautiful blurred background while maintaining significant depth of field in your subject.

### **Macro Specific Equipment List**

This is in addition to the other equipment. You don't need all this equipment, but I highly recommend either a macro lens, close-up filters or extension tubes.

- Macro lens
- Close-up Filter
- Extension tubes
- Flash bracket
- Flash
- Flash cord
- 8x10 or 8x12 matt pictures of blurred backgrounds
- 5:1 reflector
- Clothespins or clamps
- Soft brush
- Spray bottle

## Night Sky Workshops

Any camera with interchangeable lenses is acceptable, but more recent models will do better at night. Full frame models are better than cropped sensor models. Night photography is hard on batteries and sucks the life out of them much faster than you'd expect. While newer batteries are often better than older ones, I still carry backup batteries to make sure I have enough juice for the entire day. You may not need four batteries, but four is a safe bet.

For lens selections and to learn more about the northern lights see:

- <http://www.bryanhansel.com/2015/northern-lights-viewing-faq/>

### Lightning Trigger

A lightning trigger can help you capture lightning. I use the Pluto Trigger. It requires a smartphone, but it offers many other features that will help trigger your camera in unique circumstances.

- <http://www.plutotrigger.com?afmc=n4>

### Lighting Equipment for Night Photography

I'll provide this lighting equipment for the photography workshop, so this is a reference for the equipment I use for natural low-level lighting for Nightscapes. All the links go to Amazon.com.

Learn more here:

- <http://www.bryanhansel.com/2017/low-level-lighting-landscape-milky-way-photography/>

### Lighting

- Neewer CN-160: <http://amzn.to/1gAw3Tf>
- Neewer CN-216: <http://amzn.to/1V1oliH>

- Batteries: <http://amzn.to/1gAwfBT>
- Lantern: <http://amzn.to/1YnRNDP>
- Princeton Tec EOS Headlamp: <http://amzn.to/1gAyBRd>
- Waterproof tea lights - yellow: <http://amzn.to/2nkqCfP>

### Umbrella

- Westcott 43-inch: <http://amzn.to/1MiClwK>

### Light Stand

- Pedco UltraPod GO mini-tripod: <http://amzn.to/1V1oZMY>
- CowboyStudio Aluminum Adjustable Light Stand: <http://amzn.to/1jh7gud>
- Cowboy Studio Flash Bracket: <http://amzn.to/1YnSqxn>

### Miscellaneous

- Gaffer's Tape: <http://amzn.to/1V1onXK>
- Rosco Sun 85 CTO Gel: <http://amzn.to/1MiD86r>

### Equipment for Milky Way Panoramic Images

While you don't need any specialized devices to make this style of image, it doesn't hurt to have some. I recommend the following items:

- L-bracket designed for your camera like this universal bracket: <http://amzn.to/2rgTDgV> I would buy one that is designed for your camera. If you don't buy anything else, this will be the biggest help for you when making Milky Way panoramic images.
- The widest rectilinear lens, f/2.8 or faster, for your camera system. On full-frame cameras, 14mm makes making these images much easier. On cropped sensors, 10mm or 12mm works well. Rokinon makes manual focus lenses that are inexpensive and work well for night photography. Amazon link: <http://amzn.to/2qvIBCF>
- Panoramic head, such as Gemtune's panohead: <http://amzn.to/2rOxN5q> and a nodal slider as long as your lens.



Desmond makes several in assorted sizes.  
<http://amzn.to/2rP4HCH>

- If you really want to get techie, you could purchase a Nodal Ninja or similar device.



## Extra Reading for Winter Workshops

### Clothing

Temps can range from -30 to +30°F so make sure to bring a wide range of clothing. We will be outside even if it's -30°F and a blizzard out. While it may sound daunting if you haven't spent time outdoors in sub-zero temps, wearing the right clothing makes the cold bearable and enjoyable.

A key concept to keep in mind during winter photography is thermoregulation, which is keeping your body temperature within a range around normal body temperature of 98.6°F (37°C). Your body has mechanisms designed to help you maintain your normal body temperature. When you're hot, you sweat. When you're cold, you shiver. Clothing affects body thermoregulation. If you have a ton of warm clothing on and you start sweating, you'll likely continue to sweat and soak your clothing making it more difficult to stay warm. If you have too little of clothing on in the winter, you'll likely shiver and get too cold and perhaps end up with some of cold related medical issues. You need to select your clothing to help your body's thermoregulation succeed. When in the field, you need to adjust your clothing to help maintain normal body temperature.

One way to help your body maintain the proper temperature is to use a method of dressing known as layering. Layering is the use of several different pieces of clothing known as "layers" to give you flexibility in how much clothing you have on at any one time. The clothing system consists of three parts: a base layer, mid-layer (or insulation) and a shell. Each of those components accomplishes a different function.

When using layers in the field, if you get too hot, you can start to shed layers until you're just right. If you're too cold, you add layers until you're just right. One common problem with photographers is that we're often put into two different types of clothing situations in the same outing. We may stand still in one place for a long period, which requires

warmer clothing, and then hike on to the next photo location, which requires fewer items of clothing. Those two situations put two different types of strains on our bodies and you need to be proactive to avoid any problems.

While standing around waiting for a photo, you'll need to add layers, and before you get overheated and start sweating on the hike, you need to remove layers. I like to keep an extra layer of clothing handy in my backpack and then put it on while standing around. Before I set off on a hike, I'll often remove clothing even if it feels slightly cold, because I know I'll soon be warm. The other way to do it is start hiking and when you feel your body just starting to heat up, but before you start to sweat, remove a clothing item. Through practice, you'll find exactly what you need in each situation, but before you do that, just add and subtract layers to stay just warm enough so you don't soak your clothing with sweat.

### Gloves

You need to be careful with your hands, because if you touch metal in below zero temps with bare skin, you could end up with a cold injury (remember not to stick your tongue to your tripod as well), and exposure to the cold air and wind can drop the temperature in your hands quickly making them extremely uncomfortable and more susceptible to cold injuries. You need a glove system that allows you to access and control all the functions on your camera while keeping your hands protected and warm. For that, a three-layer system works well.

In that three-layer system, I recommend wearing a thin synthetic or wool liner glove under your other gloves. The liner acts like a base layer, but more importantly you always keep the liner glove on and it's thin enough to accurately push buttons, turn knobs and spin dials. One consideration when choosing your gloves is whether your liners will fit comfortably under your next layer, so bring your gloves with you when shopping.

For the next layer of gloves, you'll need something that provides insulation and helps stop the wind. Windstopper fleece or other types of softshell gloves work well for this. Don't write off insulated leather work gloves. Even the inexpensive brands lined with Thinsulate from home improvement stores provide lots of warmth for the weight. The downside with leather gloves is that it gets wet more easily than fleece or soft shells. With practice, you can learn to manipulate all the parts of your camera with both the liner and insulation-layer gloves on. This is something you can practice while sitting on the couch at home. Once you're in the cold, it's much harder and more frustrating to learn to manipulate the controls with two layers of gloves on your hand.

For shell gloves, look for something that fits over your other gloves and can be quickly removed, such as a Gore-Tex over mitten. An example is Outdoor Research's Mt. Baker Modular Mittens. Over-mittens, such as these, trap the radiant heat near your hands and prevent convective heat loss. A nice feature to look for is a lanyard attachment. With a lanyard, you can clinch the strap around your wrist or forearm and let the mitten dangle when you take it off. This is much easier to do in winter, especially when it's windy, then trying to tuck it into a pocket or stuff it under your armpit or between your knees. The only disadvantage to using a lanyard is that over-mitts work well as extra insulation under your knees if you need to kneel and a lanyard makes it inconvenient to use in this way.

If you get cold hands using hand warmers in your gloves works well to keep your hands warm. Some styles of gloves and mittens feature zippered pockets designed for the chemical hand warmers packs. Typical hand warmers, such as Grabber's, maintain temps of 135 to 156°F and last up to seven hours. At less than a dollar a pair, it's good insurance to carry these in your backpack for the colder days.

NOTE: If you have a touchscreen on your camera, you must buy a pair of gloves that works with a touchscreen. Taking your gloves off in sub-zero temps is not an option.

### **Balaclavas**

On your head, I recommend wearing a balaclava and synthetic or wool hat. If you're a glasses wearer, you need to buy a balaclava that directs your breath downward instead of towards your eyes and glasses; otherwise your glasses will fog and ice up. Balaclavas that work for glasses wearers usually have an opening for both your nose and mouth. If you don't wear glasses, you can use whatever variety of balaclava you like.

### **Snowshoes and Traction Devices**

There are two pieces of specialty gear that are required for the workshop: snowshoes and ice cleats. We'll use the snowshoes to hike up frozen river canyons and we'll use the ice traction devices along Lake Superior's shore.

If you need to rent snowshoes, reserve a pair from the Lake Superior Trading Post (218-387-2020). For ice cleats read the linked article in the above reading list.

### **Camera Gear**

The cold is hard on batteries and sucks the life out of them much faster than you'd expect. While newer batteries are often better than older ones, you should carry backup batteries to make sure you have enough juice for the entire day. I highly recommend that you test your camera in cold weather to see how quickly your batteries drain and then plan accordingly. You may not need four batteries, but four is a safe bet.

If you use a mirrorless camera, consider four batteries a minimum.





## Discounts

As a photography workshop student, you have the opportunity for discounts from several companies.

- **Singh-Ray:** As a workshop participant, you qualify for a 10% discount on Singh-Ray filters. Purchase direct and enter **"hansel10"** at checkout. You can also order by phone and use the same code for the same discount.
- **SmugMug:** If you're looking for an easy to use website to host your portfolio and offer your images for sale, SmugMug is one of the places. For new users, you get a 10 to 15% discount by using this link:  
<http://www.bryanhansel.com/out/smugmug>
- **The Clymb:** Check out this site, The Clymb.com. It's a members-only website featuring premium Outdoor brands at up to 70% off retail prices! Membership is free, and since I invited you, you'll receive an instant \$10 shopping credit towards your first purchase of \$50 or more!  
<http://www.theclymb.com/invite/BryanHansel205820>

## Other Photography Resources

The following photography resources are those that I love. The online ones are ones that I check out often for inspiration or just because they're interesting. The books are ones that I return to now and then for inspiration, especially the Galen Rowell books.

### On the Web

- [The Online Photographer](#): Consistently the best and most intelligent photography resource on the Internet. Michael Johnston, the primary author, has figured out a way to make money in photography by running a blog and there's good reason that he makes his living via the blog. It's always good. It's the first thing that I read on my RRS feed each day.
- [David Muench](#) invented near/far but doesn't have any books about it. You can visit his work on the website. He's one of the photographers whose prints I own.
- [Digital Photography School](#): I have mixed feeling about Digital Photography School, but I read it now and then while keeping in mind that the website is designed specifically for SEO and selling their eBooks. I'll pick up tips and tricks every now and then that make visiting the website worth it.
- [Nikon Rumors](#): I mainly shoot Nikon and like to read rumors about what is coming next. It helps me plan for future expenses and such. There are rumor sites for all major brands, so if you're a gearhead, they can be fun. If you're not, then not so much.

### Books

- [National Geographic Photography Field Guide](#): Landscape: This book is a solid introduction to landscape photography. It's pithy and has beautiful photography. National Geo produces several photography field guides covering all kinds of subjects.

- [Galen Rowell's Inner Game of Outdoor Photography](#): This is a good starting point to Galen Rowell and a book I come back to over and over, but I come back to his books all the time. He passed away before his time, but his look still feels modern and has impact. Once you finish this book, you should get the rest of his books. The subject matter is diverse and the tricks and tips you find in his books are like finding gold in the bottom of your pan.
- [Ansel Adams' Examples: The Making of 40 Photographs](#): Do you question whether you should use filters, develop your images using Photoshop? If so, pick up a copy of this book and you'll see everything that Ansel Adams did both in the field, during developing and in the darkroom to make his prints. If you've never shot black and white, some of the technical terms will go over your head, but he talks about his vision and then what he did to make that vision happen on the print.
- John Shaw's [Guide to Digital Nature Photography](#): Great beginners guide to nature photography. Recently updated to digital.
- [Art Wolfe's The Art of the Photograph: Essential Habits for Stronger Compositions](#): While not written by Wolfe, the book has amazing photography and good advice.
- [Art Wolfe's The New Art of Photographing Nature](#): While not written by Wolfe, the book has inspirational photography and good advice.
- [Bruce Barnbaum's The Art of Photography: An Approach to Personal Expression](#): The first seven chapters of this book are pure gold. While I disagree with some of his ideas about why composition works and the elements of composition and think he mixes composition technique with the elements of composition, this book covers a wide range in a short time. The stuff about film

can mainly be ignored and there is no “zone” system for digital. For digital, we call it expose to the right and it exposes differently than the zone system, so you can read the chapter, but it’s just a solid okay. Chapters 13 onward are all excellent. This is a worthwhile book to own and study.

## Magazines

- Outdoor Photography Magazine is a good magazine. I don’t subscribe anymore, because they recycle topics about every two years and I got sick of how to become a digital Ansel Adams

articles, which haven’t really talked about Adams’ vision and have instead concentrated on how to make a color digital file black and white. I still read that magazine, but it isn’t one that I keep on the shelf. The magazine is now under new ownership, so, hopefully, it will get better.

## Miscellaneous Links

- Adventure Cycling Association’s Blog Post on Travel Insurance: <http://www.adventurecycling.org/resources/blog/travel-insurance-be-protected-from-the-unexpected/>





# Photography Cheat Sheet by [www.bryanhansel.com](http://www.bryanhansel.com)

## Shutter Speed - Controls the look of motion



## Aperture - Controls Depth of Field



## ISO

Increasing ISO allows a faster shutter speed for your aperture.

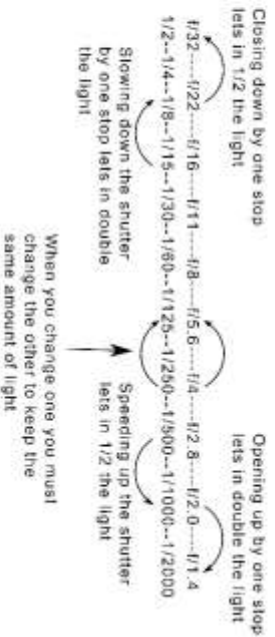
Higher shutter speeds cause more noise.

## Priority Modes

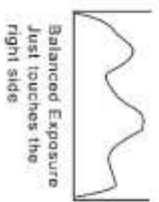
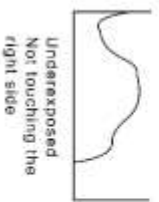
**Aperture Priority:** You set the aperture, camera sets shutter speed.

**Shutter Priority:** You set the shutter speed, camera sets aperture.

## Stops of Light



## Exposure Compensation



Shutter Speed for 600 Rule and 500 Rule www.bryanhansel.com				
Shutter Speed				
Focal Length (mm)	Full Frame		DX	
	600 rule	500 rule	600 rule	500 rule
10	60	50	40	33
12	50	42	33	28
14	43	36	29	24
15	40	33	27	22
16	38	31	25	21
18	33	28	22	19
20	30	25	20	17
24	25	21	17	14
28	21	18	14	12
30	20	17	13	11
35	17	14	11	10

Note: Round up to nearest shutter speed

**ND Filter Exposure Chart**  
www.bryanhansel.com

Shutter Speed	5-stop ND	6-stop ND	10-stop ND
1/4000	1/125	1/60	1/4
1/2000	1/60	1/30	1/2
1/1000	1/30	1/15	1 sec
1/500	1/15	1/8	2 sec
1/250	1/8	1/4	4 sec
1/125	1/4	1/2	8 sec
1/60	1/2	1 sec	15 sec
1/30	1 sec	2 sec	30 sec
1/15	2 sec	4 sec	1 min
1/8	4 sec	8 sec	2 min
1/4	8 sec	15 sec	4 min
1/2	15 sec	30 sec	8 min
1 sec	30 sec	1 min	15 min
2 sec	1 min	2 min	30 min
4 sec	2 min	4 min	1 hour
8 sec	4 min	8 min	2 hours
15 sec	8 min	15 min	4 hours
30 sec	15 min	30 min	8 hours

# Grand Teton

National Park Service  
U.S. Department of the Interior  
Grand Teton National Park  
John D. Rockefeller, Jr.  
Memorial Parkway



## Bear Safety



### Exploring Bear Country

Black bears and grizzly bears thrive in Grand Teton National Park and the John D. Rockefeller, Jr. Memorial Parkway. You may encounter a bear anywhere at anytime. Some of the most popular trails pass through excellent bear habitat. Bears will usually move out of the way if they hear you approaching.

Your safety is important to us. Please review the following bear safety information before hiking or camping in the park.

### Make Noise

Do not surprise bears! Make noise when you are hiking or away from your vehicle. Bears will usually move out of the way if they hear you approaching. Calling out (such as 'Hey Bear') and clapping your hands at regular intervals are the best ways to make your presence known. Bear bells are not sufficient.

Some trail conditions make it difficult for bears to hear, see, or smell approaching hikers. Be particularly careful near streams, when it is windy, in dense vegetation, or in any circumstance that limits line of sight (such as a blind corner or rise in the trail). Be aware of your surroundings. The use of portable audio devices is strongly discouraged.

### Hike in Groups

If possible, hike in groups of three or more people. Typically, larger groups of people make more noise and appear more formidable to bears. Keep your group together and make sure your children are

close to you at all times. Avoid hiking when bears are more active; early in the morning, late in the day or when it is dark. Trail running is strongly discouraged; you may startle a bear.

### Bear Spray



Bear spray is extremely effective to deter bear attacks. Bear spray is a non-toxic and non-lethal means of warding off aggressive bears. It temporarily affects the bear's respiratory system and mucus membranes.

Keep bear spray immediately available on your belt or your pack's waist strap, not in your pack. Use only bear spray; personal self-defense pepper spray is not effective. Bear spray is not a repellent. Bear spray should never serve as a

substitute for standard safety precautions in bear country. Follow the manufacturer's instructions. Know how to use it, and be aware of limitations, including the expiration date.

For your protection, do not remove the safety clip unless you are preparing to use the spray. It may accidentally discharge. Never store the bear spray in a vehicle. It may explode due to heat. Keep out of reach of children. Ask a ranger for additional information.

### Stay with Your Food

DO NOT leave backpacks, coolers, or anything with an odor unattended for ANY length of time. Your food should always be within arm's reach or properly stored.

be relocated or killed.

If approached by a bear while eating, put food away and retreat to a safe distance. Never abandon food because of an approaching bear. Always take the food with you.

DO NOT allow bears to obtain human food.

Allowing a bear to obtain human food, even once, often results in aggressive and dangerous behavior. The bear is then a threat to human safety and must

Never throw your pack or food at a bear in an attempt to distract it.



## Traveling in Bear Country

### Keep it Stored!

Black and grizzly bears can be anywhere in the park at anytime. Odors attract bears into parking lots, campgrounds and picnic areas.

When not in immediate use, store all items with an odor in a bear-resistant food storage locker or in a hard-sided vehicle with doors locked and windows closed day and night. Do not leave coolers in the back of a truck or strapped to a rack. Only have the items out that you are actually using, and restore them when finished.

Never store food, garbage, or toiletries in tents. Improperly stored or unattended food will be confiscated and you could be cited and fined.

Properly store:

- Food and drinks (including water)
- Coolers and food containers (empty or full)
- Stoves and grills
- Cookware (clean or dirty)
- Toiletries including bug repellent and sunscreen
- Pet food and bowls
- Garbage in a bear-resistant dumpster.

**Be Bear Aware!** It all smells to a bear, please take care and lock it up! If in doubt, store it.

Immediately report careless campers and all bear sightings to the campground kiosk or nearest ranger.

### Bear Encounters

If a bear approaches or charges you,

#### **DO NOT RUN!**

Most bear attacks result from surprise encounters when a bear is defending her young, or a food source, such as a carcass. Some bears will bluff their way out of a threatening situation by charging, then veering off or stopping abruptly. Bear experts generally recommend standing still until the bear stops and then slowly backing away.

If you are attacked, drop to the ground and lie completely flat on your stomach. Spread your legs slightly and clasp your hands over the back of your neck. Do not move until you are certain the bear has left.

In rare cases, bears have attacked people at night or after stalking them. These types of attacks may mean the bear views you as prey. If you are attacked at night or as prey, or you feel you are being stalked, fight back. Do whatever you can to let the bear know you are not easy prey.

## What Kind of Bear?

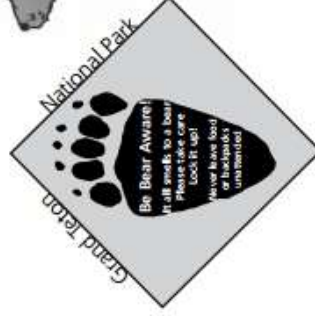
### Black Bear

- Color varies from blonde to black
- Face profile is straight from nose to ear
- No distinctive shoulder hump
- Ears are tall and pointed
- Front claws are short and curved (1-2" long)



### Grizzly Bear

- Color varies from blonde to black
- Face profile appears dished in
- Distinctive shoulder hump
- Ears are short and rounded
- Front claws are long and less curved (2-4" long)



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