



# Outdoor Photography on a Budget!

Rich Hoeg

[365DaysOfBirds.Com](http://365DaysOfBirds.Com)

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# **Agenda:**

- **Equipment**
- **Camera Settings: Exposure Priority & Burst Mode**
- **Camera Settings: Aperture Priority & Low Light**
- **Planning: Research & Anticipate**
- **Getting the Shot: If You Don't Have the Camera ...**
- **Improving Technique: Projects & Groups**
- **Post Processing: Photoshop & HDR**
- **Research: Google Maps & Scouting**
- **Photo Ideas: Low Light & Night**
- **Photo Ideas: Reflections**
- **Photo Ideas: Silhouettes & People**

# Equipment





**Don Anderson:**

**<http://www.captureminnesota.com/users/aphotodga>**

[Web Link](#)



## The Competitors



### Canon PowerShot SX50 HS

Optical Zoom: 50x  
Range: 24-1200mm eq.  
Resolution: 12.1 MP  
Price: \$450 (msrp)



### Canon PowerShot SX60 HS

Optical Zoom: 65x  
Range: 21-1365mm eq.  
Resolution: 16.1 MP  
Price: \$550 (msrp)



### Fujifilm FinePix S1

Optical Zoom: 50x  
Range: 24-1200mm eq.  
Resolution: 16.0 MP  
Price: \$500 (msrp)



### Nikon Coolpix P600

Optical Zoom: 60x  
Range: 24-1440mm eq.  
Resolution: 16.1 MP  
Price: \$500 (msrp)



#### **Olympus Stylus SP-100**

Optical Zoom: 50x  
Range: 24-1200mm eq.  
Resolution: 16.0 MP  
Price: \$400 (msrp)



#### **Panasonic Lumix FZ70**

Optical Zoom: 60x  
Range: 20-1200mm eq.  
Resolution: 16.1 MP  
Price: \$400 (msrp)



#### **Samsung WB2200F**

Optical Zoom: 60x  
Range: 20-1200mm eq.  
Resolution: 16.3 MP  
Price: \$450 (msrp)



#### **Sony Cyber-shot DSC-HX400V**

Optical Zoom: 50x  
Range: 24-1200mm eq.  
Resolution: 20.4MP  
Price: \$500 (msrp)

## Specs Compared

	Canon SX60	Fujifilm S1	Nikon P900	Pentax XG-1	Samsung WB2200
Sensor (size)	16.1MP BSI-CMOS (1/2.3")	16.4MP BSI-CMOS (1/2.3")	16.0MP BSI-CMOS (1/2.3")		16.4MP BSI-CMOS (1/2.3")
Focal range (equiv.)	21-1365mm (65X)	24-1200mm (50x)	24-2000mm (83.3X)	24-1248mm (52X)	20-1200mm (60X)
Max aperture	F3.4-6.5	F2.8-5.6	F2.8-6.5	F2.8-5.6	F2.8-5.9
ISO range (full resolution)	100-3200		100-6400	100-3200	80-6400
Raw support	Yes		No	No	No
LCD size (res)	3" (920k dot)			3" (460k dot)	
LCD type	Fully articulating			Fixed	
EVF resolution	920k dot			200k dot	
Burst rate	6.4 fps	10 fps	7 fps	9 fps	8 fps
Max video res	1080/60p			1080/30p	
Wi-Fi	Yes			No	Yes
GPS	No		Yes	No	
Hot shoe	Yes		No		
Weather-sealed	No	Yes	No		
External mic	Yes	No			
Weight (loaded)	650 g	680 g	899 g	567 g	684 g
Battery life (CIPA)	340 shots	350 shots	360 shots	240 shots	600 shots

\* All five cameras use field sequential technology on their EVFs, hence the actual resolution at any given moment is one third of what's shown above.





Electronics > Camera & Photo > Lenses > Camera Lenses > Digital Camera Lenses



## Sigma 300-800mm f/5.6 EX DG HSM APO IF Ultra Telephoto Zoom Lens for Nikon SLR Cameras

by [Sigma](#)

★★★★☆ 16 customer reviews

Price: **\$7,999.00** [Prime](#)

**Note:** Signature required upon delivery due to high value of this item. [Details](#)

**Only 1 left in stock (more on the way).**

**Want it Wednesday, Nov. 18?** Order within **2 hrs 39 mins** and choose **Two-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com. Gift-wrap available.

Style: **Nikon SLR Cameras**

Canon SLR Cameras

\$7,999.00 [Prime](#)

**Nikon SLR Cameras**

**\$7,999.00** [Prime](#)

Sigma SLR Cameras

\$7,999.00 [Prime](#)

- Optimized for digital SLR cameras
- Multi-layer lens coating and lens design reduces flare and ghosting
- Extra Low Dispersion (ELD) glass elements reduce chromatic aberration to a minimum
- Hyper Sonic Motor (HSM) for ultra-quiet shooting
- Features a drop-in 46 millimeter filter holder

Roll over image to zoom in

**ELECTRONICS**  
**Gift Guide**  
Sponsored by Windows 10



Hottest tech to impress > [Shop now](#)

Electronics ▸ Camera & Photo ▸ Lenses ▸ Camera Lenses ▸ Digital Camera Lenses



## Canon EF 100-400mm f/4.5-5.6L IS USM Telephoto Zoom Lens for Canon SLR Cameras

by Canon

★★★★★ ▾ 391 customer reviews | 118 answered questions

List Price: \$1,699.00

Price: **\$1,399.00** ✓ Prime

You Save: **\$300.00 (18%)**

**Note:** Signature required upon delivery due to high value of this item. [Details](#) ▾

**Note:** Available at a lower price from [other sellers](#), potentially without free Prime shipping.

**Only 12 left in stock.**

Want it tomorrow, Nov. 17? Order within **3 hrs 53 mins** and choose One-Day Shipping at checkout. [Details](#)

Sold by [33 Street Camera](#) and [Fulfilled by Amazon](#). Gift-wrap available.

Product Packaging: **Standard Packaging**

- 100-400mm telephoto zoom lens with f/4.5 maximum aperture for Canon SLR cameras
- 2 Image Stabilizer modes make it easy to capture far-off action or close-in portraits
- Fluorite and Super UD-glass elements largely eliminate secondary spectrum
- Compatibility with extenders 1.4x II and 2x II; 5.9-foot close focusing distance
- Measures 3.6 inches in diameter and 7.4 inches long; 1-year warranty



Roll over image to zoom in

## PowerShot SX50 HS Refurbished



★★★★★ 4.9 | 11 Reviews

[WRITE A REVIEW](#)

Refurbished PowerShot Camera

SKU: 6352B023

### Special Offers

✓ \$237 Instant Savings

Original Price: \$386.99  
Discount: \$237.00  
Price: **\$149.99**

Out of Stock

[ADD TO CART](#)

[Add to Wish List](#)

 Need to Order More Than 10? [Learn More](#)

 **PayPal CREDIT**

**Up to 12 Months No Interest with Easy Payments.**

Min purch req'd. Subject to credit approval. [See Terms](#)

[CHAT](#)





You purchased this item on May 21, 2014.

[View this order](#)



Roll over image to zoom in

## AmazonBasics 67-Inch Monopod

by [AmazonBasics](#)



321 customer reviews | 40 answered questions

List Price: \$19.99

Price: **\$15.99** ✓ **Prime**

You Save: **\$4.00** (20%)

**In Stock.**

**Want it tomorrow, Nov. 17?** Order within **2 hrs 17 mins** and choose **One-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com in [easy-to-open packaging](#). Gift-wrap available.

- Supports video cameras, still cameras, and scopes up to 6.6 lbs.
- 1/4-inch universal thread mount
- Four leg sections able to extend 67-inches
- Non-skid rubber foot and retractable spikes
- Includes carrying bag
- Built in cushion grip and adjustable wrist strap
- Made of lightweight aluminum weighing less than 1 lb

**This item will be visible when delivered.** To keep it a surprise, select **This is a gift** in checkout.



[Shop Camera Bags from AmazonBasics](#)

Discover high-quality camera bags & cases for a variety of camera sizes from AmazonBasics. [Shop now.](#)



Roll over image to zoom in

## AmazonBasics 60-Inch Lightweight Tripod with Bag

by AmazonBasics

★★★★★ 2,171 customer reviews | 403 answered questions

**#1 Best Seller** in Complete Tripod Units

Price: \$23.49 **Prime**

**In Stock.**

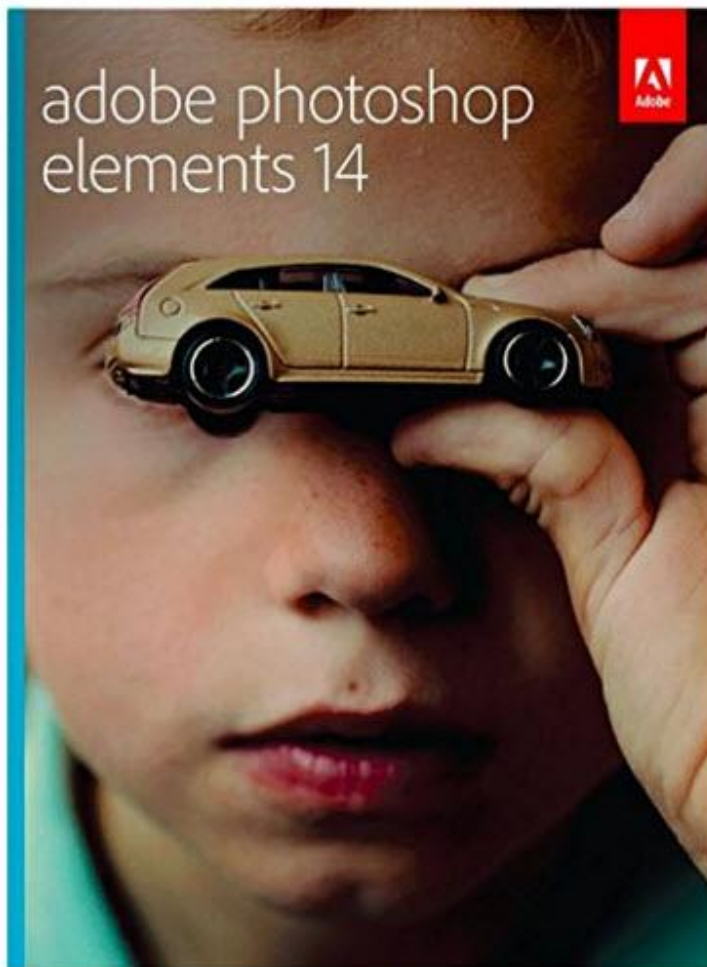
**Want it tomorrow, Nov. 17?** Order within **45 mins** and choose **One-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com in [easy-to-open packaging](#). Gift-wrap available.

Product Packaging: **Frustration-Free Packaging**

- Lightweight tripod with adjustable-height legs and rubber feet
- Compatible with most video cameras, digital cameras, still cameras, GoPro devices, smartphone adapters (not included), and scopes.
- Recommended max load weight is 6.6 lbs (3kg) for optimal performance
- Weighs 3 lbs; Extends from 25 inches to 60 inches when center post is fully extended; Carrying case included
- Two built-in bubble view levels and 3-way head to allow for tilt and swivel motion; portrait or landscape options
- Quick-release mounting plate helps ensure fast transitions between shots

**This item will be visible when delivered.** To keep it a surprise, select **This is a gift** in checkout.



Click to open expanded view

## Adobe Photoshop Elements 14

by [Adobe](#)

**Platform :** Windows 10, Windows 8, Windows 7, Mac OS X

★★★★★ ▾ [44 customer reviews](#)

List Price: ~~\$99.00~~

Price: **\$59.99** ✓ **Prime**

You Save: **\$39.01 (39%)**

**In Stock.**

**Want it tomorrow, Nov. 17?** Order within **4 hrs 58 mins** and choose **One-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com. Gift-wrap available.

Platform: **PC/Mac Disc**

Mac Download  
\$59.99

PC Download  
\$59.99

PC/Mac Disc  
**\$59.99** ✓ **Prime**

- **Organize** - All your memories at your fingertips. Order, label, find and view your photos and videos your way.
- **Edit** - Go from so-so snapshots to forever-favorite photos. Make quick edits, add artistic touches like a pro, or transform your photos to wow friends and family. Photoshop Elements can step you through or do it for you.
- **Create** - Show your creative side. Make scrapbook pages and cards to share lasting memories.
- **Share** - Share memories with the people who matter the most the way that works for you - Facebook, YouTube, Vimeo, Twitter, and more.
- **Find your stuff, fast.** Every memory at your fingertips. Quickly find photos and videos by favorite people, where you were, or what you were doing.











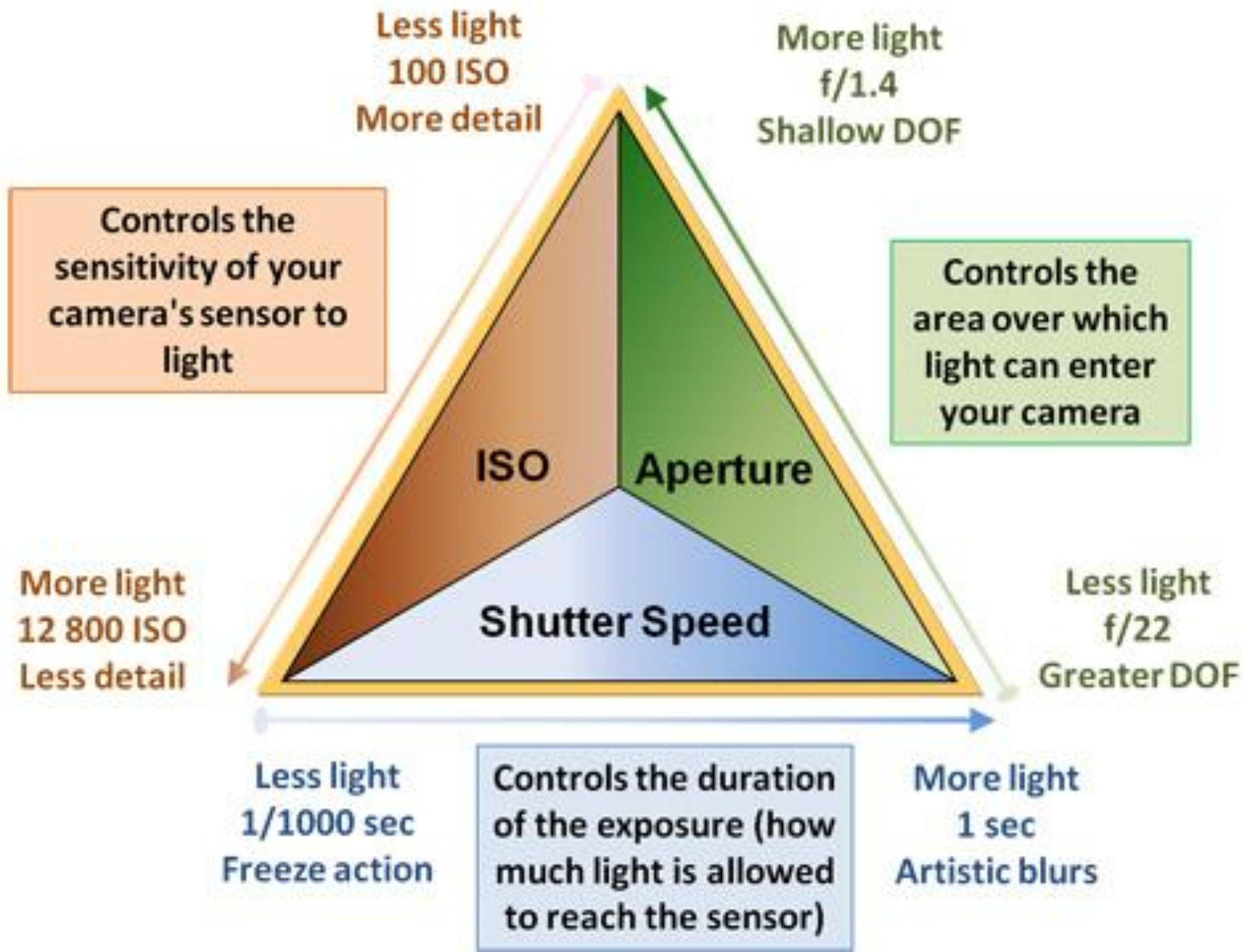
A photograph of two white-bellied nuthatches perched on a pine branch. The birds have light greyish-brown heads and backs, with black wings and tails. They are facing left, with the bird in the foreground slightly ahead of the one behind it. The background is a dense, out-of-focus green pine tree.

**Get Off Automatic!!!**

1. Shutter Priority
2. Aperture Priority
3. Manual

4. Set ISO
5. Set Shutter (burst & delay)





# **Camera Settings**

**Shutter Priority & Burst Mode**

































TARGET  
FIELD





TARGET  
FIELD





TARGET  
FIELD





TARGET  
FIELD





TARGET  
FIELD





# Camera Settings

## Aperture Priority & Low Light

[Photographer's Ephemeris](#)























# THE PHOTOGRAPHER'S EPHEMERIS

[Ephemeris](#)[Locations](#)[Settings](#)[Glossary](#)

Thursday, November 19, 2015



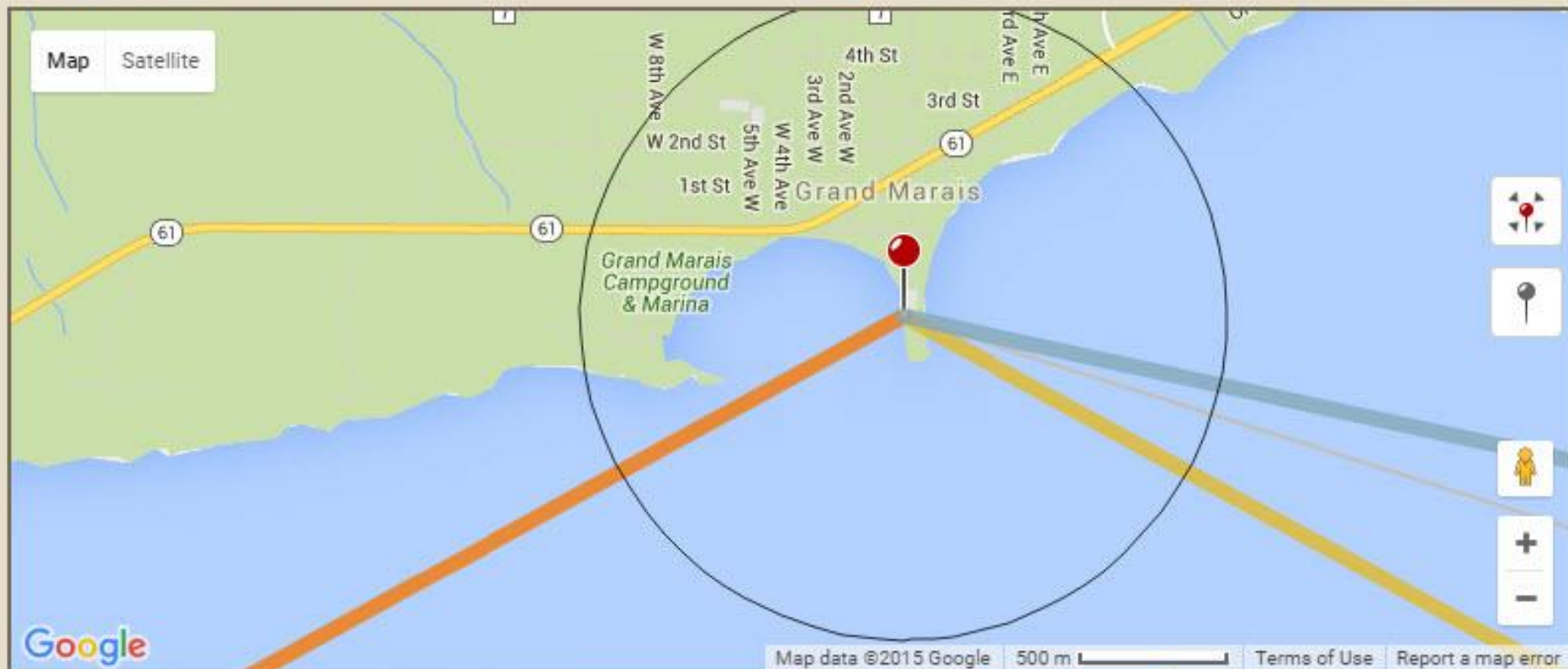
Search by place name/address



Thu 19 Nov 2015 06:11 America/Chicago -0600

Not set

+ 184 m | 47.7468°N 90.3336°W



Astro start

**05:23**

99.4°

Nautical start

**06:00**

105.8°

Civil start

**06:38**

112.5°

Sunrise ↑

**07:12**

118.6°

Moonrise ↑

**13:04**

102.2°

Waxing gibbous  
56.0%

Sunset ↓

**16:20**

241.2°

Civil end

**16:54**

247.4°

Nautical end

**17:32**

254.0°





# THE PHOTOGRAPHER'S EPHEMERIS

[Ephemeris](#)[Locations](#)[Settings](#)[Glossary](#)

Thursday, November 19, 2015



Search by place name/address



Thu 19 Nov 2015 06:11 America/Chicago -0600

Not set

+ 184 m | 47.7468°N 90.3336°W



Google

Map data ©2015 Google Imagery ©2015, Cnes/Spot Image, DigitalGlobe, USDA Farm Service Agency

100 m

[Terms of Use](#)

[Report a map error](#)

Astro start

05:23

99.4°

Nautical start

06:00

105.8°

Civil start

06:38

112.5°

Sunrise ↑

07:12

118.6°

Moonrise ↑

13:04

102.2°

Waxing gibbous  
56.0%

Sunset ↓

16:20

241.2°

Civil end

16:54

247.4°

Nautical end

17:32

254.0°

# **Planning**

**Research & Anticipate**

































# **Getting the Shot!**

**If you don't have the camera ...**





*Rich Hoeg (365DaysOfBirds.Com)*





*Rich Hoeg (365DaysOfBirds.Com)*

























# Improving Technique

## Projects & Groups

[365 Day Photo Project](#)

[Capture Minnesota](#)

[Facebook: Frozen Photographers](#)

.

[Facebook: Great Lakes Aurora Hunters](#)

[Facebook: Northern Lights | Lake Superior Region](#)

[Facebook: Minnesota Birding](#)

[Facebook: Minnesota Northeast Birding](#)

[Facebook: Sax-Zim Bog](#)





















# Post Processing

Photoshop Elements & HDR

[PhotoMatrix HDR](#)































# **Research**

## **Google Maps & Scouting**

[Rich Hoeg's Northern Lights Forecasting & Techniques Web Page](#)



Search Google Maps



John Lake

Arrowhead Trail

Arrowhead Trail

McFarland Lake

74

Canada  
United States

Satellite

Google





Search Google Maps



John Lake

McFarland Lake

74

Canada  
United States



Map

Google



Search Google Maps



Satellite

Arrowhead Trail

Arrowhead Trail

Ary Point Rd

74

Arrowhead Trail

Little John Crossing

74

Google

Border Rte Trail





Search Google Maps



Map

Arrowhead Trail

Arrowhead Trail

AnyPoint Rd

74

Arrowhead Trail

Little John Crossing

74

Border Rte Trail

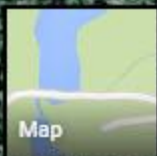
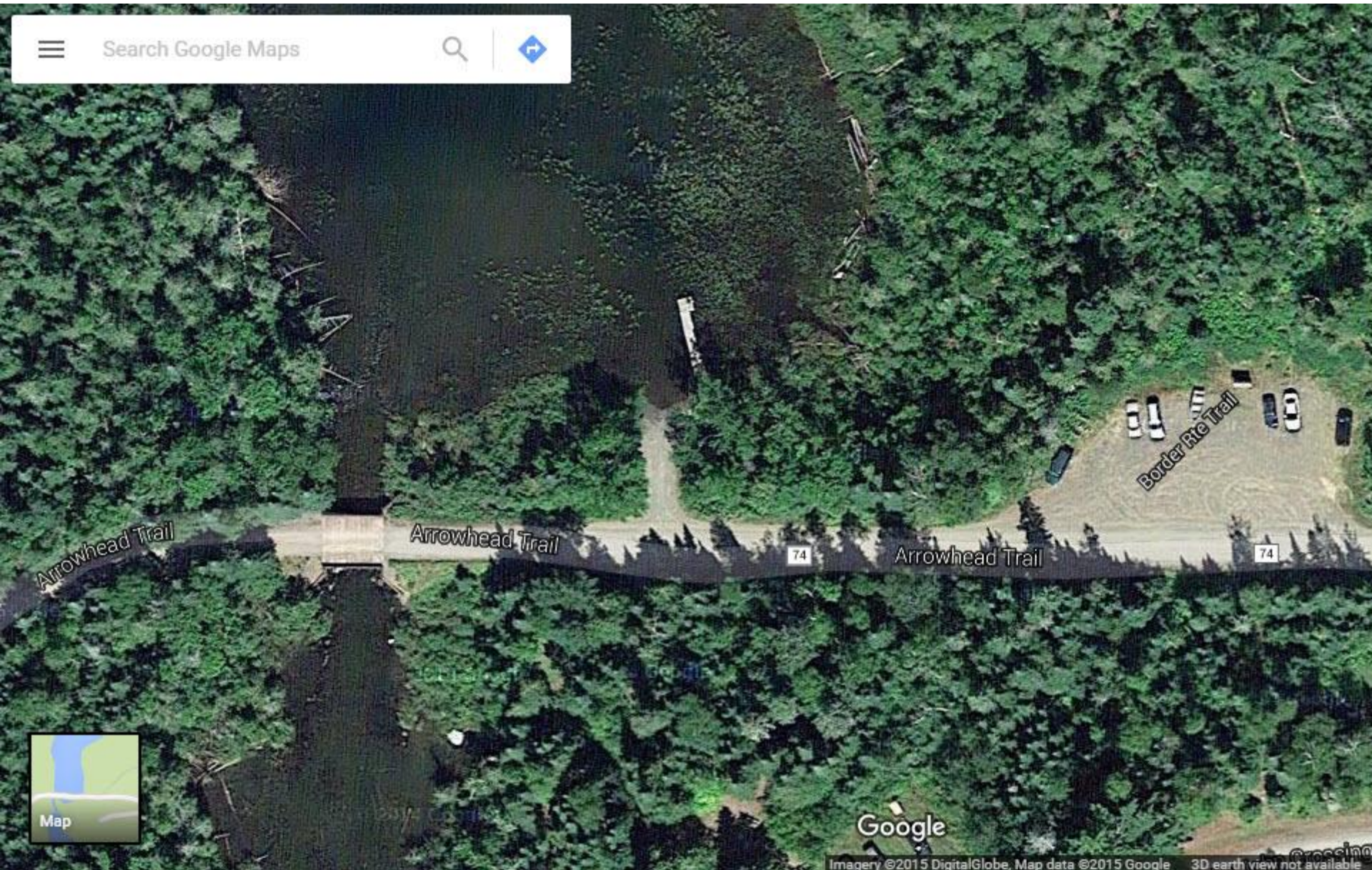
Border Rte Trail

Google





Search Google Maps



Google

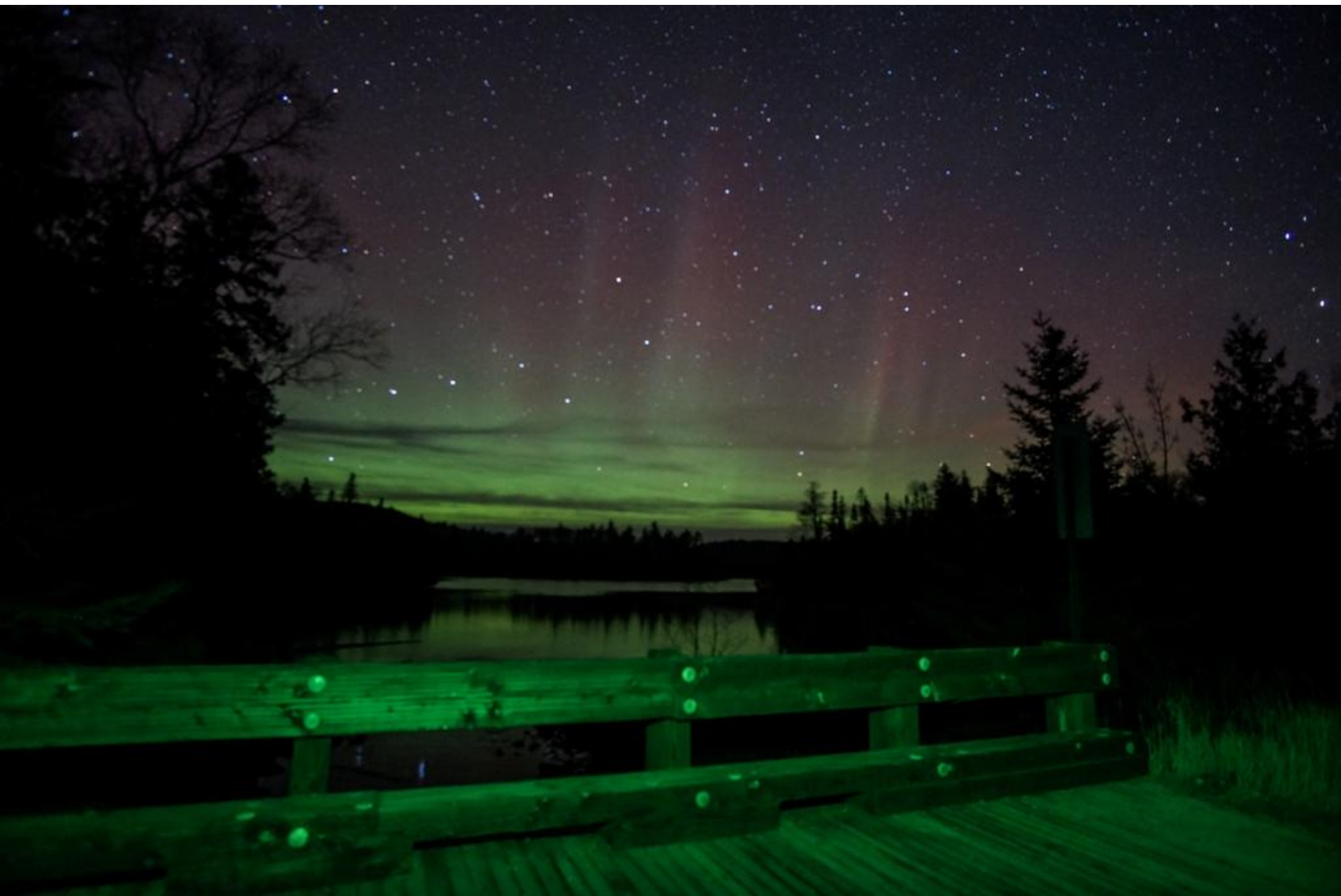
Imagery ©2015 DigitalGlobe, Map data ©2015 Google 3D earth view not available





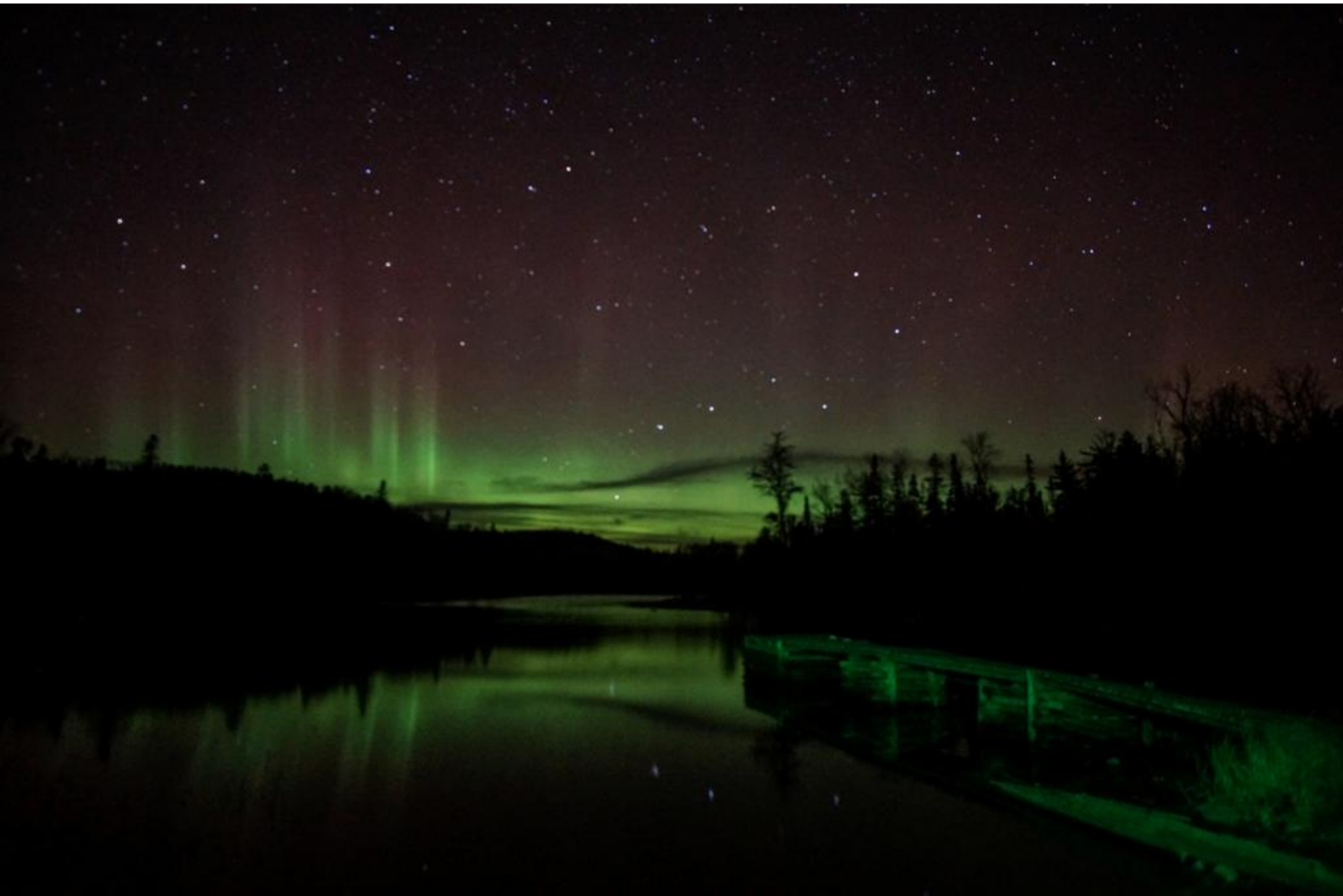












# **Photo Ideas**

**Low Light & Night**



















# **Photo Ideas**

**Reflections**











# **Photo Ideas**

**Silhouettes & People**















**Thank You!**  
**Questions?**

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Materials!](#)**

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