

# Nature Photography 101, *plus...*

## Contest Tips and a gallery tour of the Air Line Trail

Stan Malcolm



Along the Air Line...  
<http://performance-vision.com/airline/>



# Stan Malcolm



Eastern Connecticut photographer Stan Malcolm focuses on the natural world. He finds the extraordinary in objects and places we often overlook. An entomologist by training, Stan's photos have earned many juried awards and been published in newspapers, textbooks, and scientific publications.



# Stan carries on a family tradition of photography.

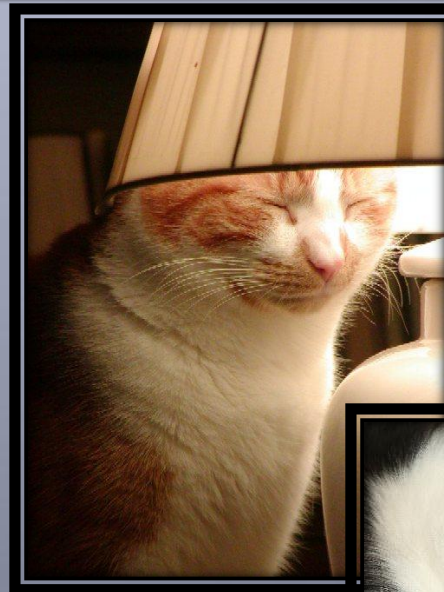
My Great  
Grandfather's work



My  
Grandfather's  
Photos



# Stan's General Photography



# Nature Photography – The Basics

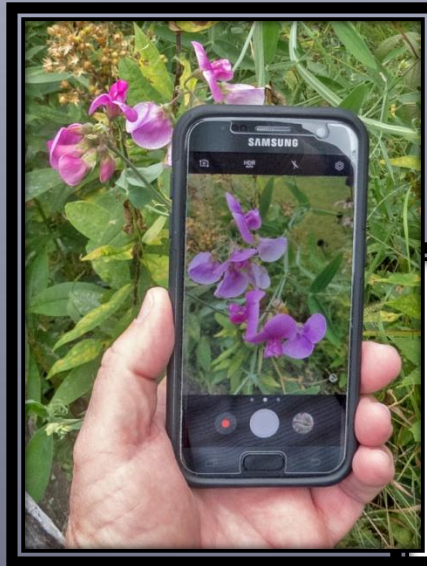
Cameras, Conditions, Composition, Technical stuff, Editing...

...and your little dog too.



# Cameras

- “Nice picture. You must have a great camera!”



# Cameras - Small, medium & large sensors



SX60-HS

Small Sensor  
Fixed Lens  
64x Optical Zoom  
21-1365mm  
3x4 Aspect Ratio  
HD Video



EOS 5D MkII









EOS 7D

APS-C Sensor  
Multiple Lenses  
2x3 Aspect Ratio  
HD Video

Full Frame Sensor  
Multiple Lenses  
2x3 Aspect Ratio  
HD Video

# Features and Accessories

- Aspect Ratios: 3x4 or 2x3
- Sensor Size:
- Megapixels: Twice as many isn't twice as sharp
- Optical versus Digital Zoom
- One lens versus several? Fixed versus Zoom?
- Camera Bag
- Tripod:
  - Sturdy; Quick Release; Allow Low & High shots

						
Sensor Type	1/2.5"	1/1.8"	2/3"	4/3"	APS-C	35mm
Aspect Ratio	4:3	4:3	4:3	4:3	2:3	2:3
Diagonal (mm)	7.2	8.9	11	22.5	27.3	43.3
Width (mm)	5.8	7.2	8.8	18	22.7	36
Height (mm)	4.3	5.3	6.6	13.5	15.1	24



# Flash!

- Forget built-in flash unless...
- On-camera versus off-camera
- Bounce and reflectors
- Telephoto flash
- Macro flash



# Conditions

- Time of Day

- Backlighting:



- Cloudy versus Sunny

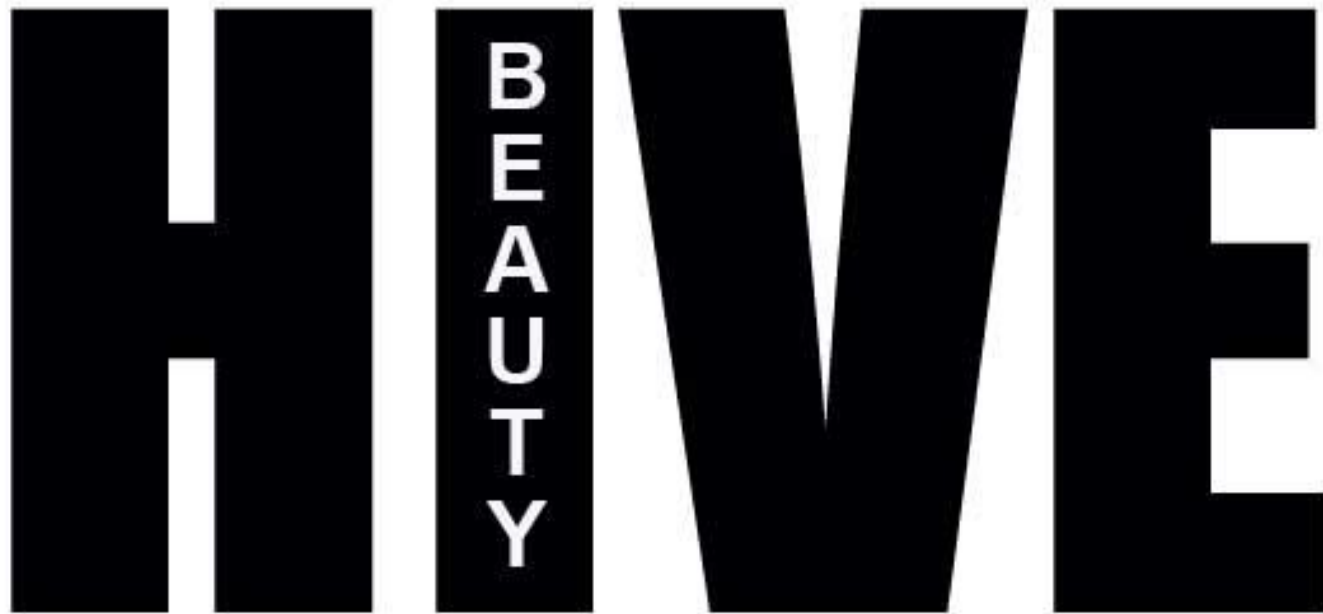
- Wind: The Enemy! (Macro)

- Patience and Persistence

- Digital Pictures are Free! Take Plenty.

- Delete the Junk!

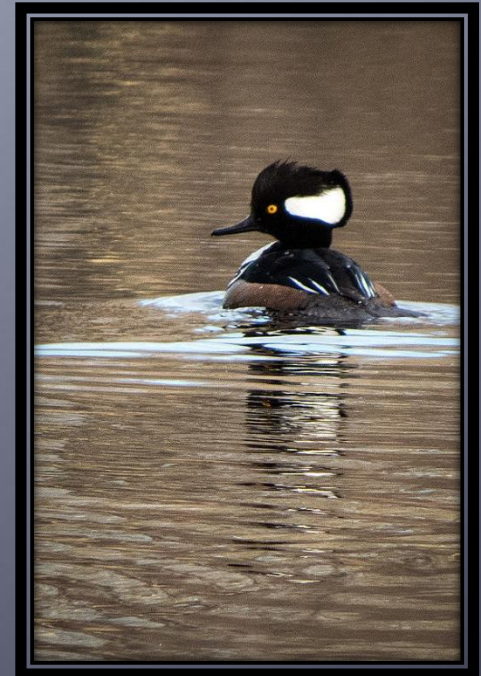
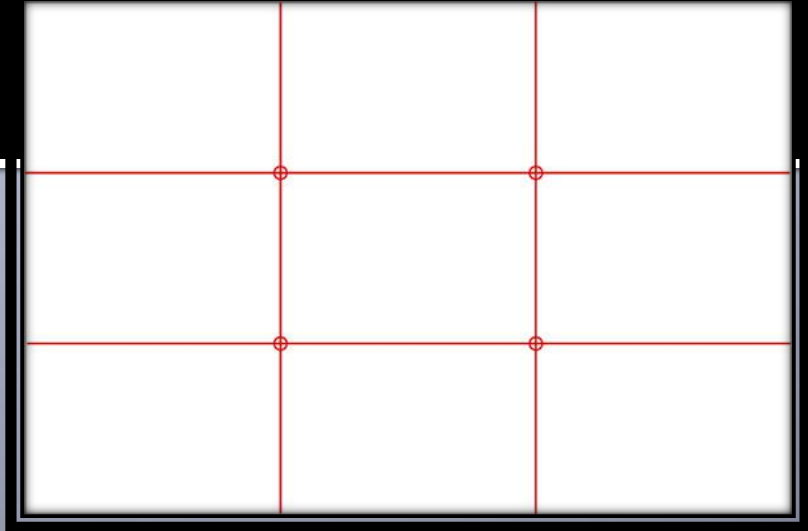
# Composition



**HOME**  
**BEAUTY**

# Composition

- Framing: Rule of Nines



# Composition

- Framing: Rule of Nines
- Rules are Meant to be Broken



# Composition

- Drawing the eye...



# Composition

- Which do you prefer... and why?



# Composition

- Aspect Ratios – from the camera

2x3



3x4



Panorama  
“stitched”





# Composition

- Sometimes less is more



# Composition

- Figure and Ground



# Composition



- Horizons

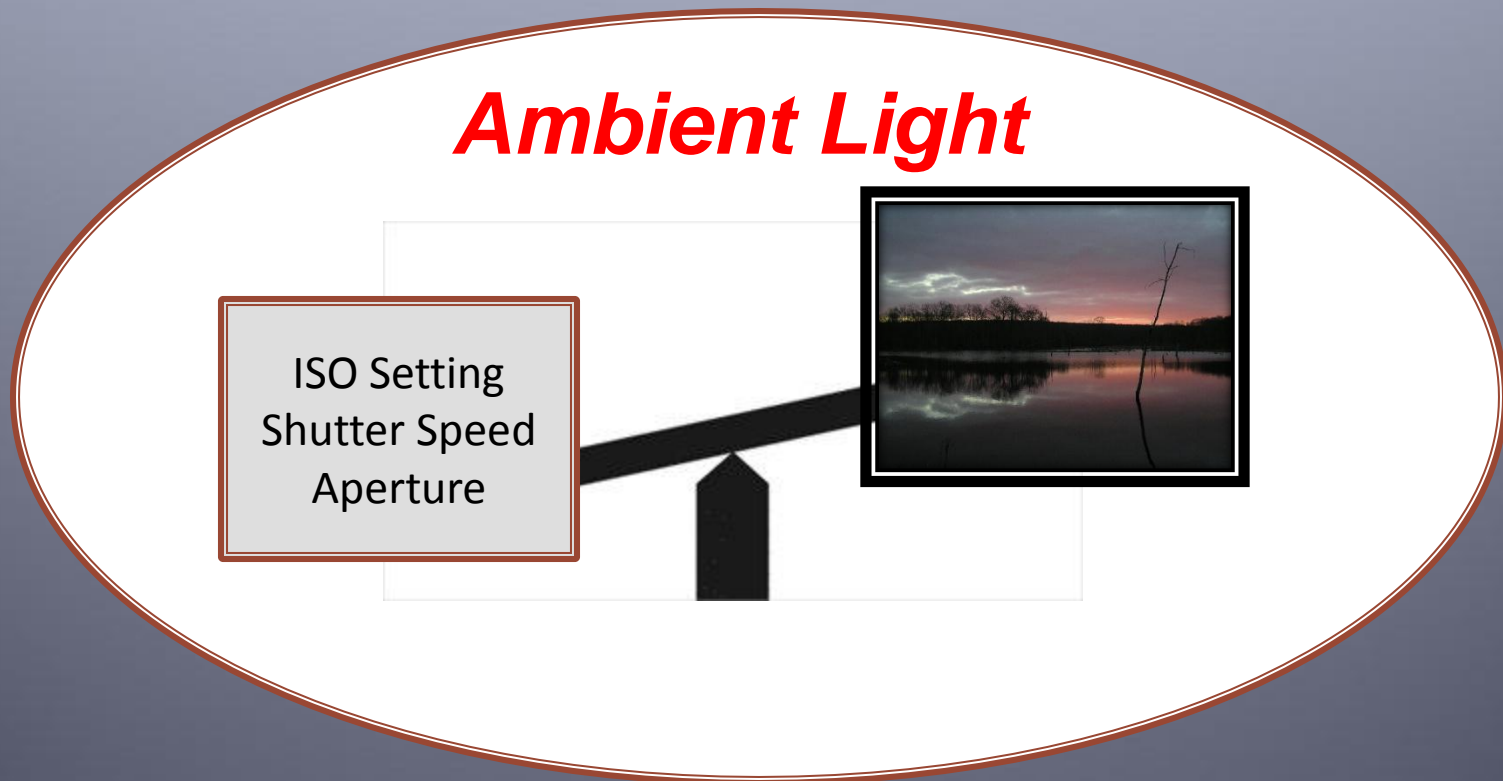


# Composition

- No “Hand of Man”? (NECCCC)
  - Contrails
  - Cars, roads or paths, power lines, signage
  - Buildings, bird feeders
  - People, pets, domestic animals
  - Footprints
  - Stone walls or fences
  - Shadows of those things

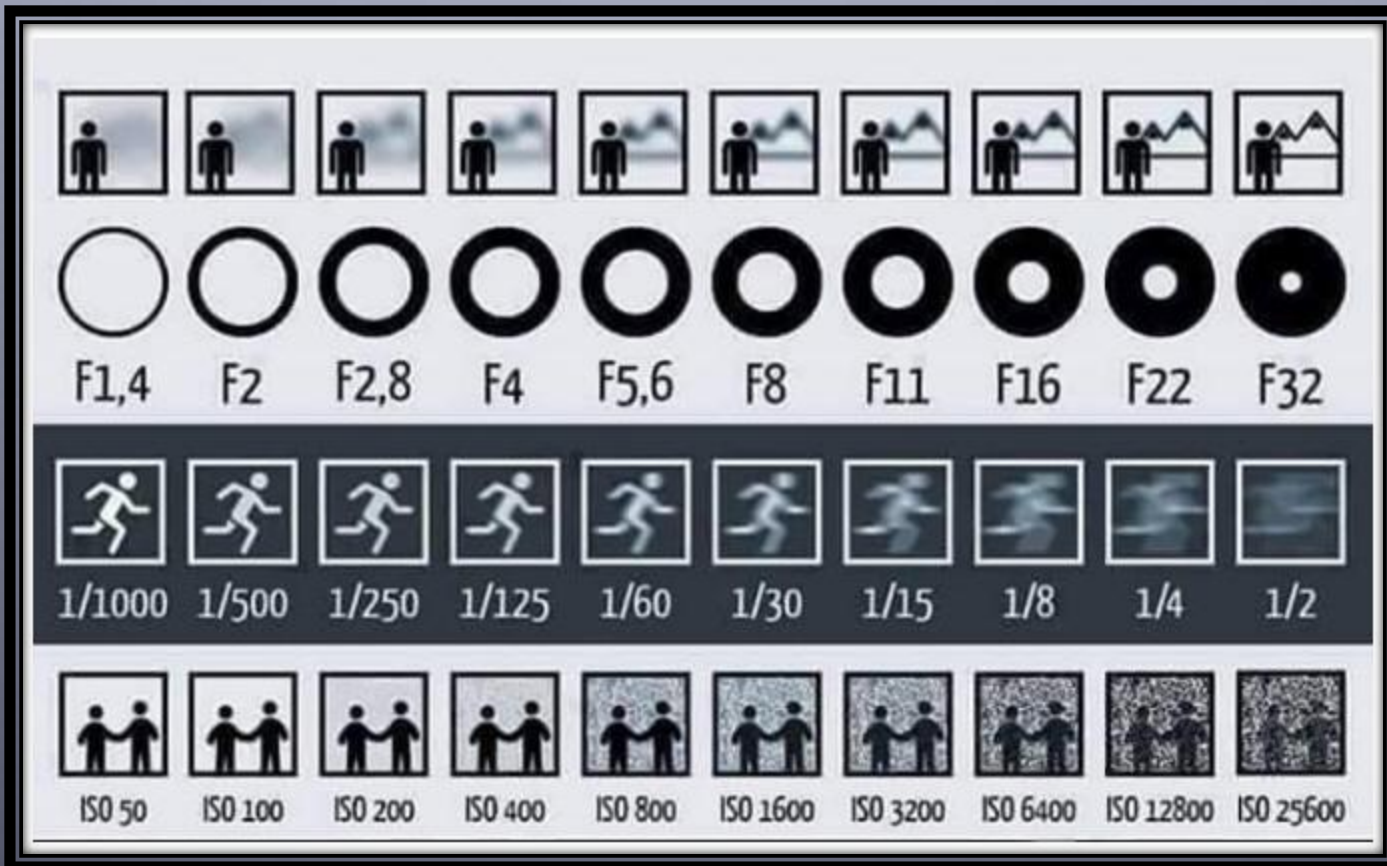
# Technical

- A Balancing Act:



# Technical

- LIGHT – versus Aperture, Speed, ISO:



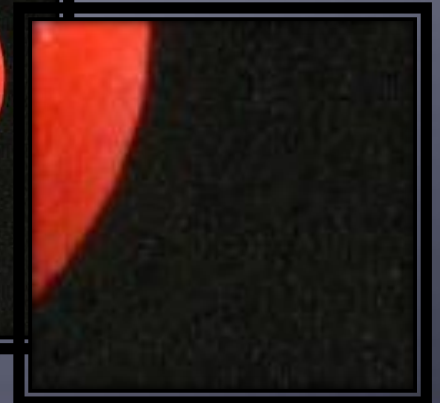
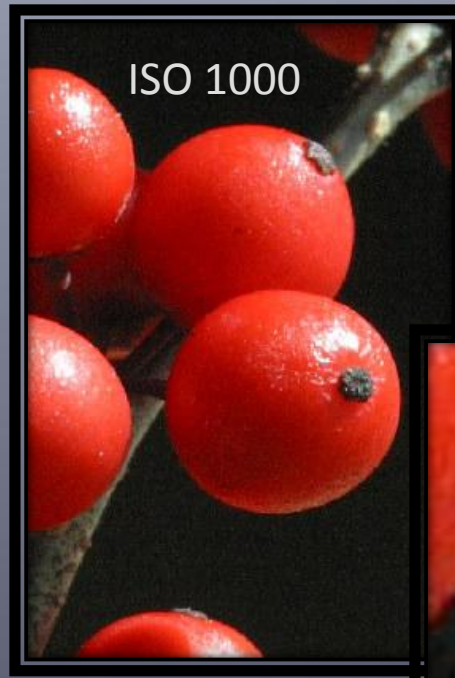
# Technical

- ISO Setting:
  - Sensitivity to light: standards set by the International Organization for Standardization
  - 100 to 1600 common; Higher on new/upscale cameras



# Technical

- ISO Setting:
  - 100 = Low sensitivity; but fine grain (low “noise”)
  - 1000 = High sensitivity; Grrrain!





# Technical

- Shutter Speed:
  - Low: under  $1/60^{\text{th}}$ 
    - risk blur; deep.
    - Tripod
    - Pan
  - High: over  $1/250^{\text{th}}$ 
    - sharp; shallow.
    - movement:  
birds, sports, etc



# Technical

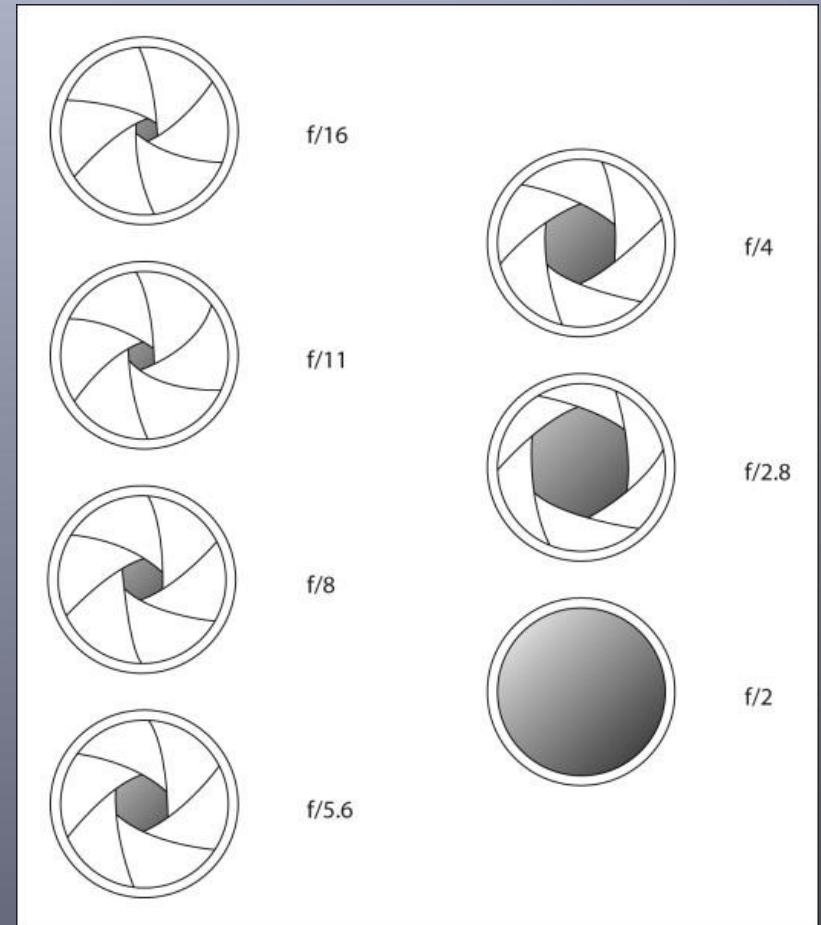
- Sometimes you want motion blur:
  - Low speed: 1/10<sup>th</sup> to 1 second
  - Tripod essential



- Neutral Density Filter?

# Technical

- Aperture:
  - f/16 – small aperture, deep depth of field (background in focus)
  - f/2 – large aperture, shallow depth of field (background blurred)



# Technical

- Depth of Field



# Technical

- Macro Photography



# Editing

- Software

**CAMEDIA Master Pro**

**Canon**



# Editing

- Software – Non-destructive “Recipe” editing



# Editing



- Software – “Content-aware Fill”

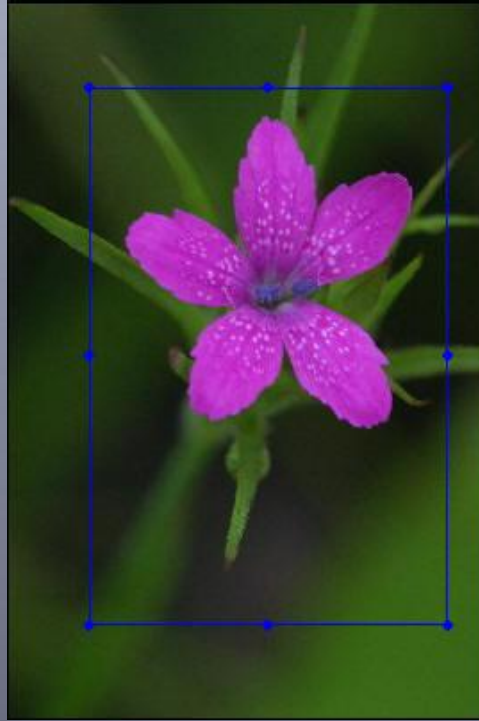


Photo credit: Mary Goehring



# Editing

- Cropping:



# Editing

- Why Crop?:
  - Aesthetics



- Print Aspect Ratios:

4x6

5x7

8x10

11x14

12x18



# Editing

- Resizing: Print versus Screen versus Thumbnail



# Editing

- Brightness
- Contrast
- Gamma = Brightness and Contrast correction

Increased Gamma



Original



Decreased Gamma



# Editing

- “Color Temperature” and White Balance



Cool

Warm



# Editing

- Saturation



Original

# Editing

- Sharpening  
(Be subtle.)



Watch out for noise.

# Editing

- Sharpening



- You *could* combine Sharpening your subject and blurring the background



# Advanced Techniques

- HD Video
- Time-Lapse →
- 3D Stereopticon
- Lightning →
- High Dynamic Range (HDR)
- Focus Stacking →
- Panoramas
- Infrared →



# Advanced Techniques

- Focus Stacking – “The Macropod”



Website:

<http://macroscopicsolutions.com/>

Flickr:

<https://www.flickr.com/groups/2411266@N25/pool/107963674@N07>

# Tips for Photo Contest Success

## Judges at Audubon:

- Typically three, all with different backgrounds .
- Judging is subjective.  
Biases are inevitable, but most we are aware of and try to minimize.  
Listening to other judges helps us see differently: "Ah Ha! moments"

## Process:

- Disperse and view pictures individually.
- Take notes.
- Gather to discuss shared and unique favorites; plusses and minuses.
- Come to consensus.

# Tips for Photo Contest Success

My approach as I wander around, looking at photos class by class:

- Some pictures just POP! Any number of reasons. They tend to get the first, closest attention, but "shy" photos get a close look too.
- For myself, I *informally* consider three aspects of each picture - can be plusses or minuses:
  - Composition (E.g., "Rule" of Nines, leading the eye, appropriate framing/cropping, etc.)
  - Technical aspects (E.g., focus, depth of field, motion blur, color, contrast, etc.)
  - Subject Matter (E.g., does the photo tell a "story" or create an emotion, does the photo present the subject in an innovative way, was the subject rare or otherwise hard to get, or does the photo stand out in some other way?)

# Tips for Photo Contest Success

## Tips for Entrants:

- READ THE RULES and adhere to them: Maximum dimensions, Classes, Eligibility, etc.
- HINT: Some classes get few entries; at Audubon, birds get a lot!
- Medium to large pictures stand out, compared to "little gems".
- Choice of mats and frames matters. If you don't have a good eye for such things (I don't), keep it simple: neutral colors. Mats in white, eggshell, or light gray, for example. Mat size proportional to picture. Canvas wraps can be tricky to get right. Ditto prints on metal or glass.
- Make adjustments in software. Doesn't have to be Photoshop or Lightroom. (But note steep discounts on those if you have a student or teacher ID.) Shooting in "RAW" format allows a much greater range of adjustments, but not all cameras or software can handle RAW.

# Tips for Photo Contest Success

## Tips for Entrants:

- Think about light before you go out to shoot. Overcast often better than sun. Early and late better than mid day. Where will the sun be relative to the direction you'll be shooting?
- Learn by looking at lots of other people's photos. I recommend Photo.net (<http://photo.net/gallery/>) where you can see an ever expanding collection arranged by subjects, post your own photos and ask for critiques, read articles, etc.
- I also highly recommend courses from CreativeLive (<https://www.creativelive.com/>) The deal is you can attend "live" for free on their schedule or purchase courses to view whenever you wish. Prices are reasonable and courses you buy come with nice supplementary materials.

# The Air Line Trail

The Air Line was once a railroad renowned for its relatively straight course from Boston to New York - "as if by a line drawn through the air." You can still find lumps of coal left over from the steam era. Today the rail bed has been converted to a Connecticut linear park and hiking trail.



# Stan's "Along the Air Line..." web site

- [www.performance-vision.com/airline/](http://www.performance-vision.com/airline/)



- Over 20,000 photos taken in all seasons
- Plants, Animals, Landscapes – everything you're likely to see on the trail - identified



# Trail Brochure Available at Town Halls in East Hampton, Colchester, Hebron, and Lebanon, CT – or as a PDF at Stan's web site.

**The Air Line Trail**  
A Connecticut Greenway, State Linear Park, and Multipurpose Trail for non-motorized users

Guide & Map for the Towns of East Hampton, Colchester, Hebron and Lebanon

## East Hampton

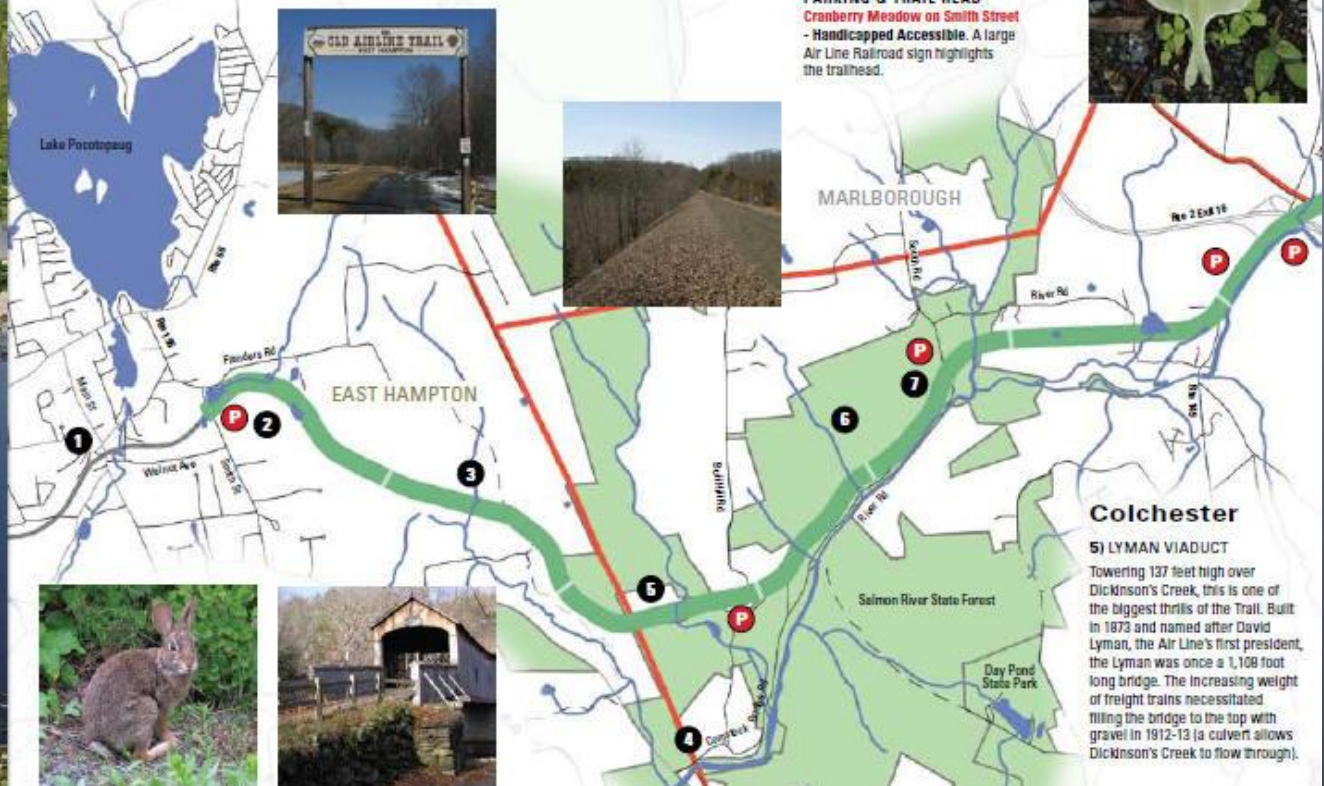
**1) BELL TOWN VILLAGE CENTER & LAKE POCOTOPAUG**  
East Hampton is called "Bell Town" as it was the center of the bell making industry for the country. Taking a detour off the Trail at Cranberry Meadow onto Smith St. and traveling west leads to the Bell Town Village Center, a mecca for antique shoppers. Traveling north leads to the business center of East Hampton and Lake Pocotopaug. Caution is advised on busy roads.

**2) CRANBERRY BOG**  
This pond offers benches for resting; the sights of wildflowers and sounds of bullfrogs in the summer, and picturesque ice skating and hockey games in the winter. Cranberry Meadow and Bog was once a natural cranberry producing bog. During the 1920's and 30's, the cranberries were harvested, transported to grocers, and bartered for groceries.

**3) RAPALLO VIADUCT**  
Built in 1873 (as was its sister, the Lyman Viaduct, 1-1/2 miles east in Colchester), the Rapallo bears the name of a railroad director and was built for two train tracks. Originally a 1,380 ft. long bridge 60 ft. high above Flat Brook, the increasing weight of freight trains necessitated filling underneath it in 1913. The spectacular views of the marsh to the north and other natural surroundings make this a rare treat.

**4) COMSTOCK BRIDGE**  
The Comstock Bridge was built in 1791 and rebuilt in 1860. It is one of only three remaining covered bridges in Connecticut. The Comstock Bridge links East Hampton and Colchester and is approximately 1-1/4 miles south of the intersection of Colchester's Bull Hill Road and the Air Line Trail. The bridge is open to pedestrian traffic and has a picnic area nearby.

**PARKING & TRAIL HEAD**  
Cranberry Meadow on Smith Street - Handicapped Accessible. A large Air Line Railroad sign highlights the trailhead.



## Colchester

**5) LYMAN VIADUCT**  
Towering 137 feet high over Dickinson's Creek, this is one of the biggest thrills of the Trail. Built in 1873 and named after David Lyman, the Air Line's first president, the Lyman was once a 1,108 foot long bridge. The increasing weight of freight trains necessitated filling the bridge to the top with gravel in 1912-13 (a culvert allows Dickinson's Creek to flow through).

# The Air Line Trail - Scope

Over 50 miles from Portland to the Massachusetts border beyond Thompson, plus a 3.6 mile spur to “downtown” Colchester.

A link to the Hop River Trail opened Spring 2016. I generally walk parts in East Hampton, Colchester, Hebron, and Lebanon.



# The Air Line Trail – Utilization

It's a *volume* operation!



# The Air Line Trail – Diverse Users

## RECOMMENDED ACTIVITIES



## PROHIBITED ACTIVITIES



- Photography, fishing, hunting access, camping?
- No waterfowl hunting from the trail *but...*



# The Air Line Trail – Diverse Uses

- No Child Left Inside
- Trail Day
- The Ghost Run



- No interpretive signs
- Few guided events

# The Air Line Trail - Maintenance

Trail and parking good; environment not so much:

Invasives – some transported by humans

Phragmites, etc. in marsh

Birds fewer, e.g., waterfowl



# The Air Line Trail – “Nature”

“Nature” for trail visitors is not very natural, but most don’t know it.

Still, lots of exciting things to see, large and small, through the seasons



# The Air Line Trail – Nature Knowledge

Sad state of nature knowledge



Great Blue Herring



# The Air Line Trail – Web Site Caveat

“Along the Air Line...” compresses time; accents “wild” by omitting signs of man (or man, for that matter).



# Highlights – East Hampton center



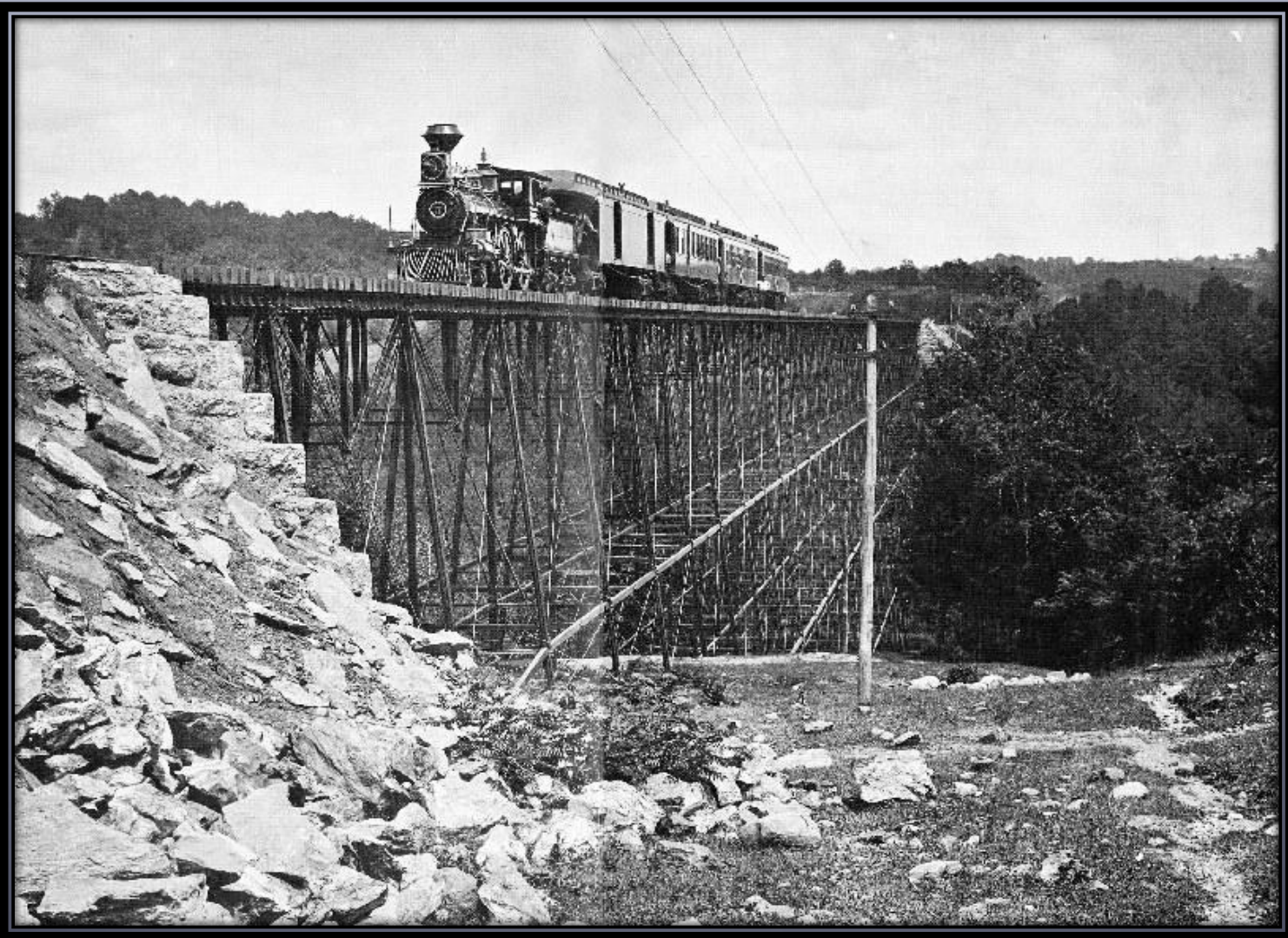
Main Street Pizza  
Po's Rice and Spice



# Highlights – Cranberry Bog



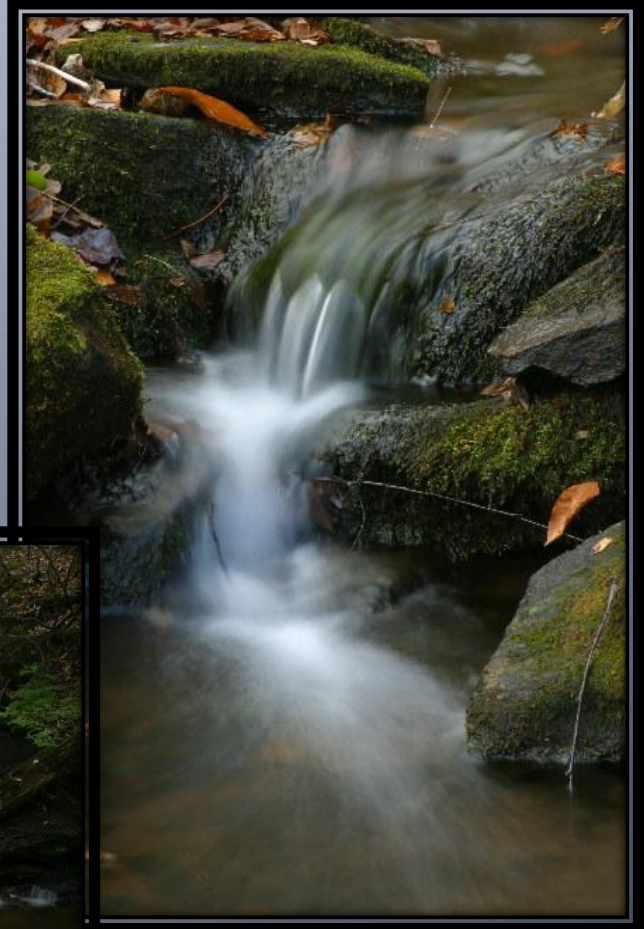
# Highlights – Lyman Viaduct “then”



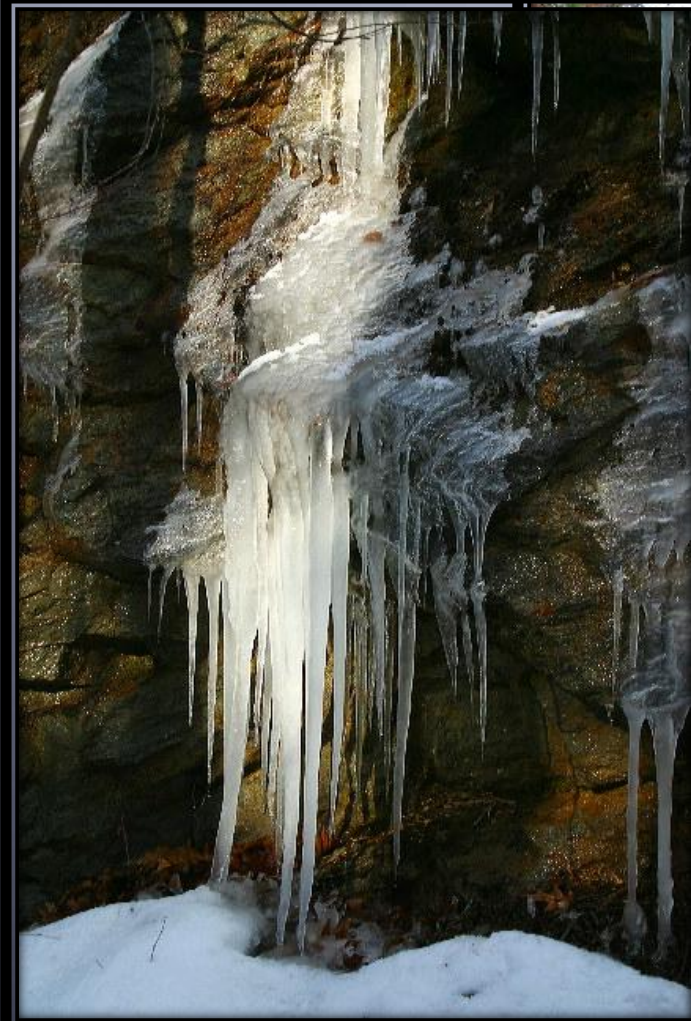
# Highlights – Lyman Viaduct “now”



# Highlights – Minor Waterfalls



# Highlights – Rock Cuts



# Highlights – River Road Bridge



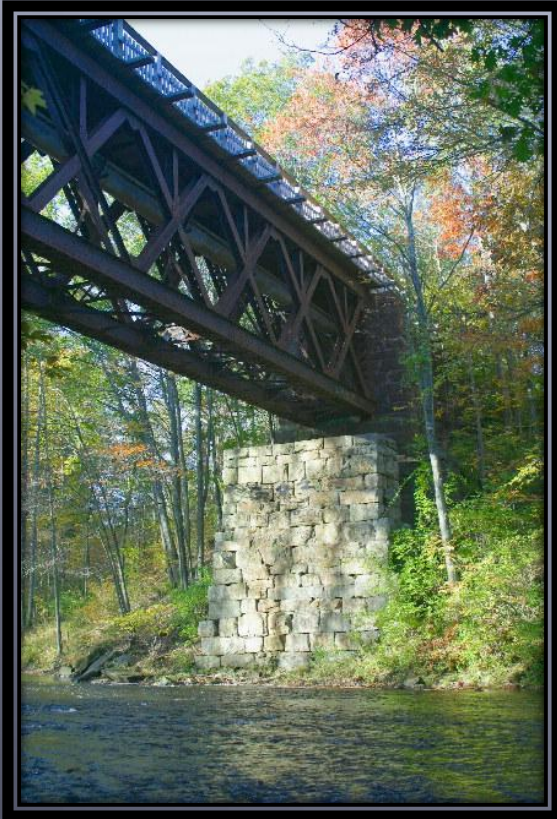
Brownstone, Dated 1887.

Each stone in the arch is numbered, suggesting that some portions were pre-cut before on-site assembly.

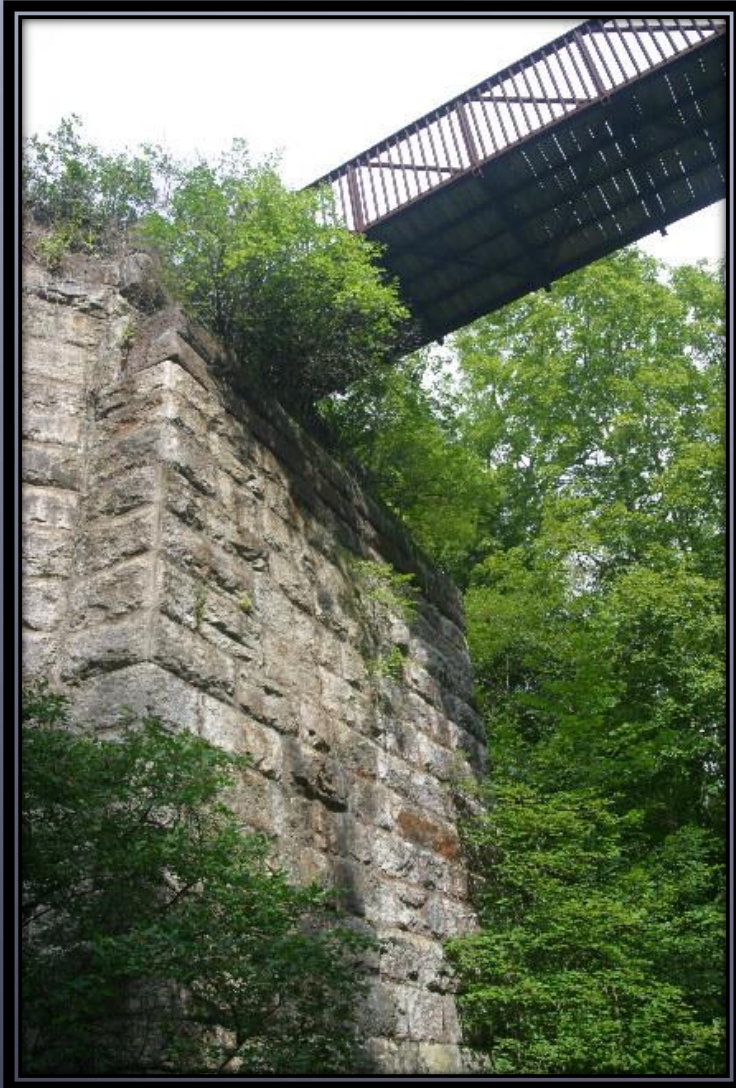




# Highlights – Blackledge River Bridge



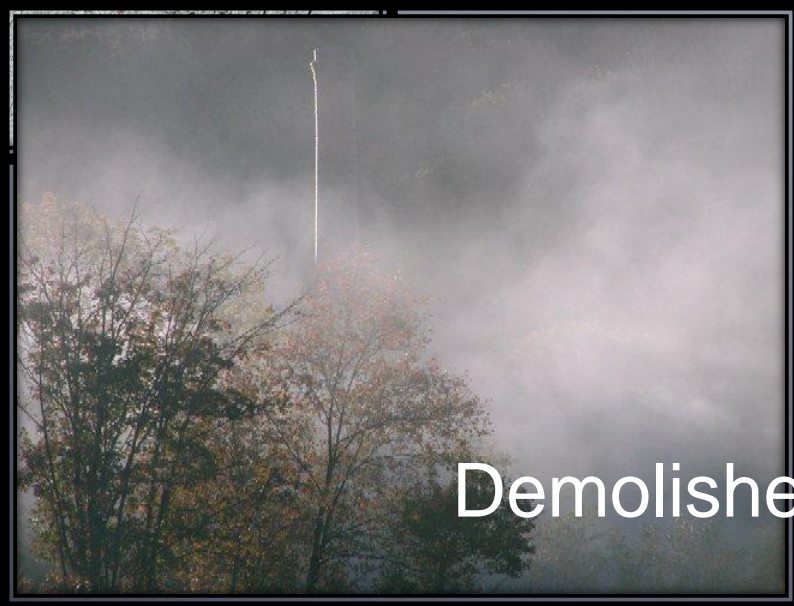
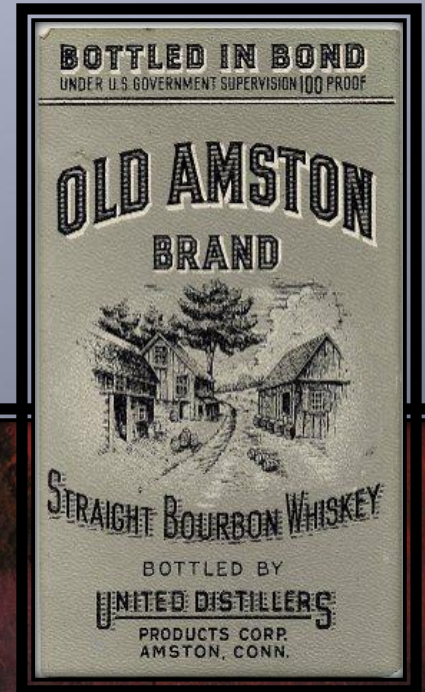
# Highlights – Jeremy River Bridge



# Highlights – Grayville Falls

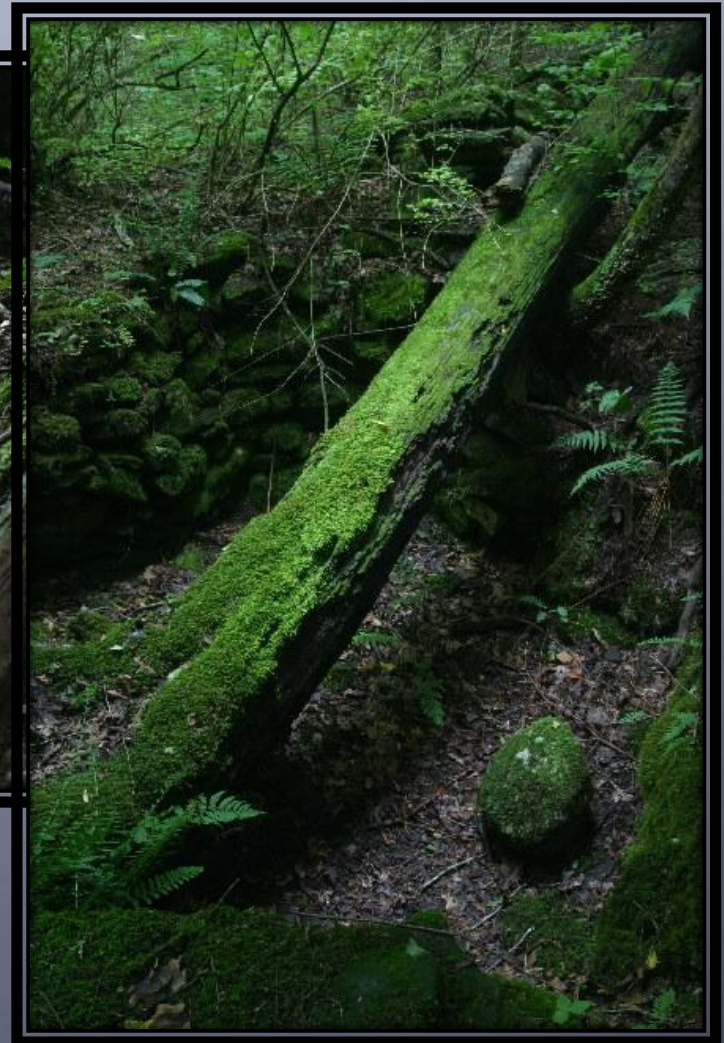


# Highlights – United Distillers ruins

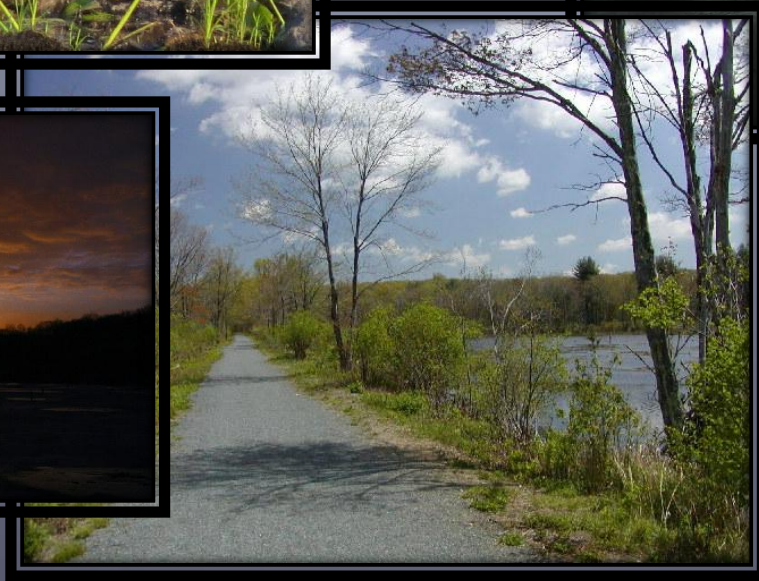


Demolished, January 2013

# Highlights – Cellar Holes



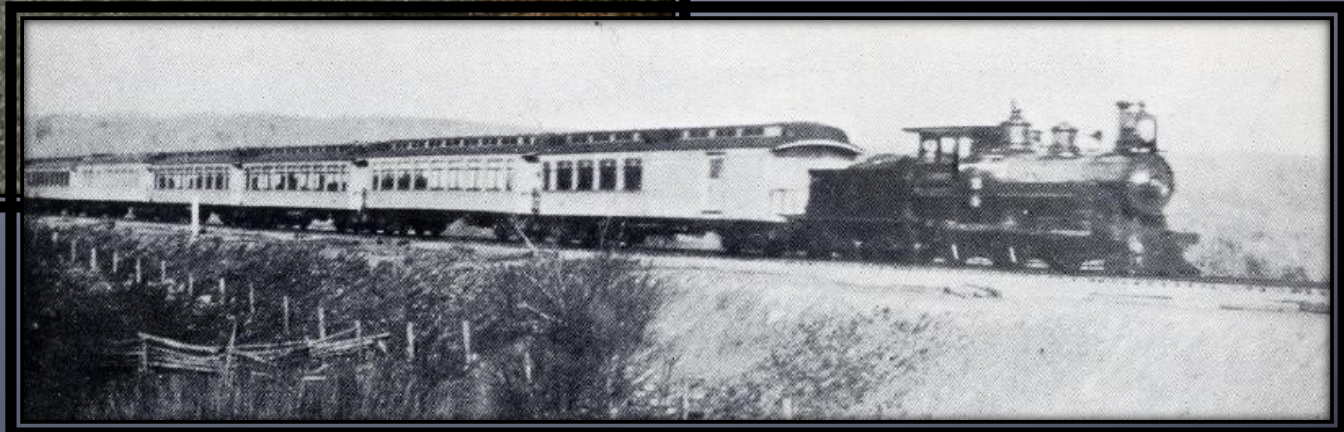
# Highlights – Raymond Brook Marsh



# Highlights – Ghost Run



Around Halloween, the trail hosts the Ghost Run half marathon, named in honor of the Ghost Train which ran white coaches through the night over 100 years ago.

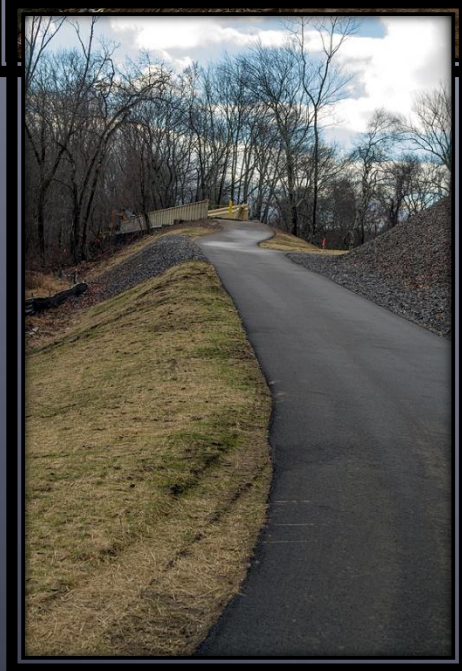


# Highlights – Lebanon to Willimantic





# Highlights – To Downtown Willimantic

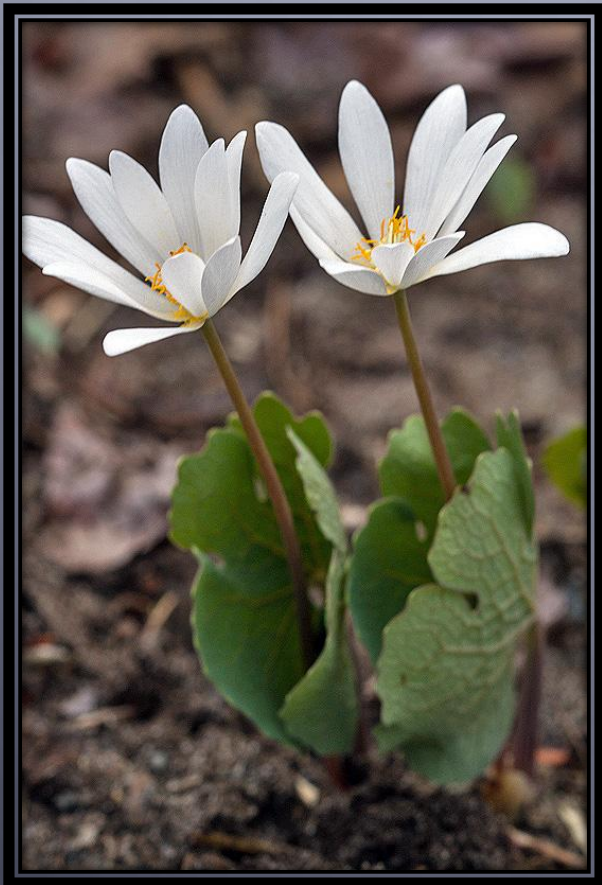


# Lots of Pictures!

Your chance to apply what we've talked about...

***Critique my stuff!***

# Sample Flora



Bloodroot

# Sample Flora

Dwarf Ginseng



# Sample Flora



Red Trillium or Wakerobin



# Sample Flora



Bluets or  
Quaker Ladies

# Sample Flora

Blue Flag Iris



# Sample Flora

Blue-eyed "Grass"





# Sample Flora



Sweet  
White  
Violet



Pink Azalea



Venus's Looking-glass



Dogbane



Birdsfoot Trefoil

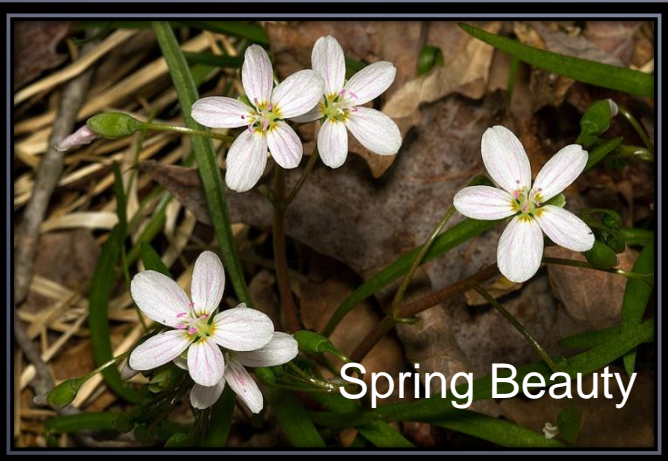
# Sample Flora



Trailing Arbutus



# Sample Flora



# Sample Flora

Wild Oats or Sessile Bellwort



# Sample Flora



Limber Honeysuckle



Common Speedwell

# Sample Flora

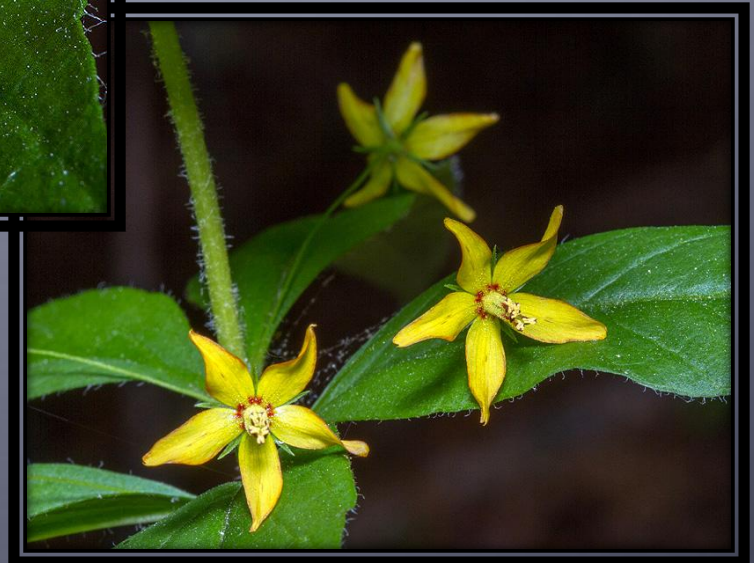


Pasture or Carolina Rose (I think)

# Sample Flora



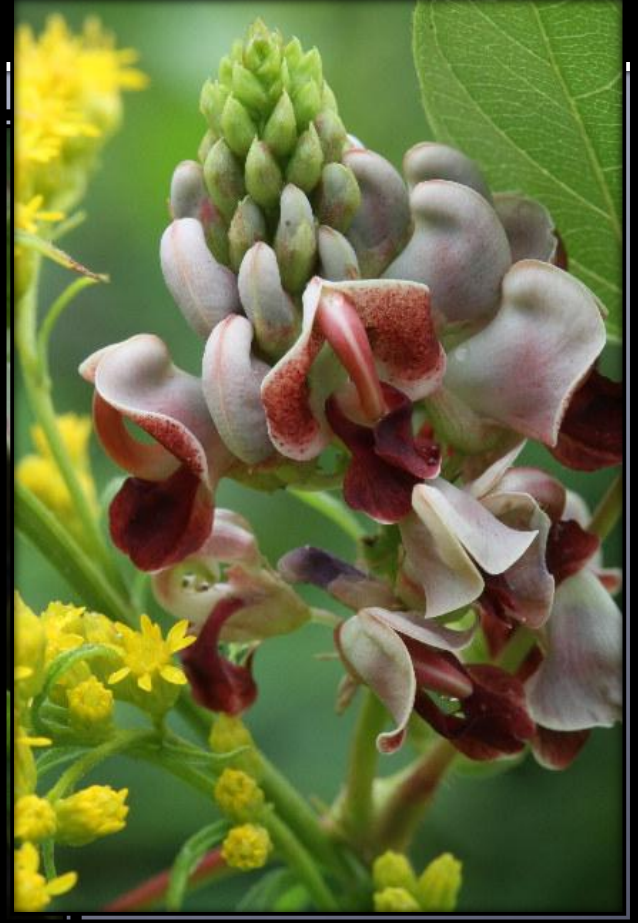
Whorled Loosestrife



# Sample Flora



Butter and Eggs



Ground Nut

Pickerelweed



# Sample Flora



Sweet Pea



Bluecurls



Evening Primrose and  
Primrose Moths

# Sample Flora

Canada Lily



Lily Leaf Beetle



# Sample Flora



Sumac

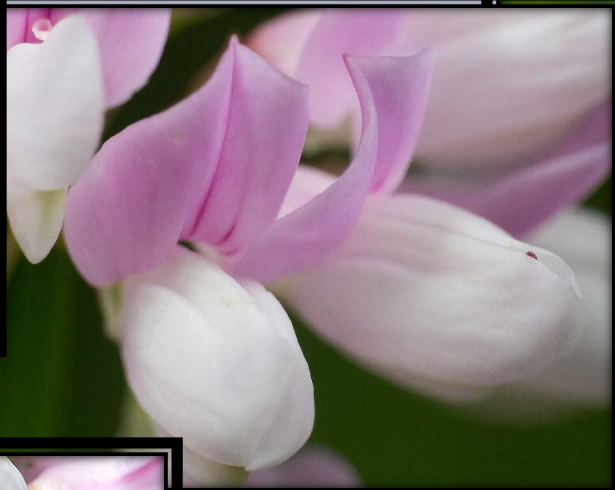
# Sample Flora



Poke Milkweed



# Sample Flora



Crown Vetch

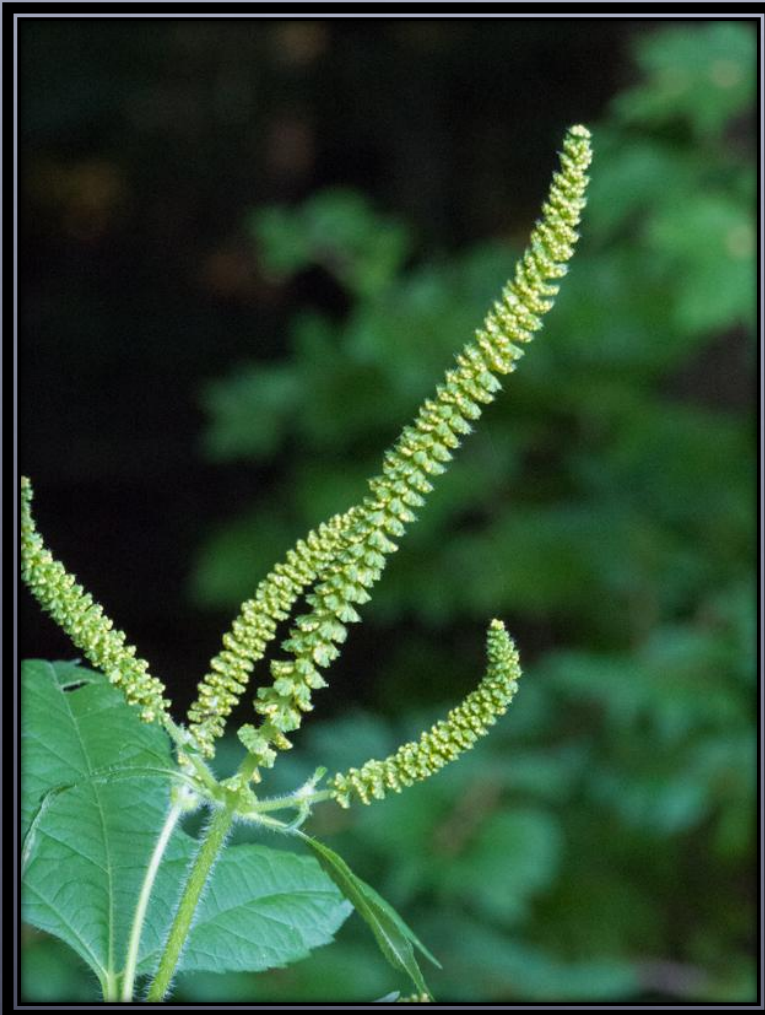


# Sample Flora



Bracted Plantain or Buckhorn

# Sample Flora



Great Ragweed

# Sample Flora

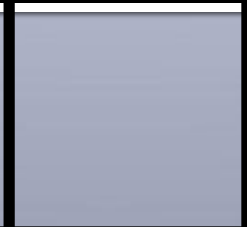


Cardinal Flower





# Sample Flora



Field Milkwort



# Sample Flora



Nodding Ladies'-tresses  
Orchid (*Spiranthes cernua*)



# Sample Flora



Field Thistle



Hummingbird Hawkmoth

# Sample Flora



Deptford Pink



# Sample Flora



Nightshade

Blue Toadflax

St. Johnswort



# Sample Flora



Lobelia



Knapweed



Witch Hazel

# Sample Flora



Red Clover

# Gallery Tour



“Electric” Sunrise – Raymond Brook Marsh, Hebron, CT



# Gallery Tour



Barred Owl – Bull Hill Road, Colchester, CT



# Gallery Tour



Milkweed Seeds – Lebanon, CT

# Gallery Tour



Foggy Morning on the Marsh – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Winter Dawn on the Marsh – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Beaver's Wake – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Great Egret – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



“Kermit” Green Frog – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Mates: Cecropia Moths – Raymond Brook Marsh, Hebron, CT



# Gallery Tour



Pink Lady's Slipper Orchids - Hebron, CT

# Gallery Tour



Poke Milkweed (*Asclepias exaltata*) – Route 85 Trailhead, Hebron, CT

# Gallery Tour



Bee Balm – Route 85 Trailhead, Hebron, CT

# Gallery Tour



Sun Pillar at Dawn – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



“Arguing” Tree Swallows – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Ornamental Iris – Route 85 Trailhead, Hebron, CT

# Gallery Tour



Queen Anne's Lace – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Poke Berries - Colchester, CT



# Gallery Tour



Poke Berries - Colchester, CT

# Gallery Tour



Cellar Hole: Reminder of Times Past - Hebron, CT

# Gallery Tour



Abandoned United Distillers Chimney - Hebron, CT

# Gallery Tour



Green Heron – Cranberry Bog, East Hampton, CT

# Gallery Tour



“Rudolph” Cedar Waxwing with Serviceberry – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Frosted Oak Seedlings - Hebron, CT

# Gallery Tour



Burning Bush (*Euonymus alatus*) - Hebron, CT

# Gallery Tour



Japanese Maple Leaf – Route 85 Trailhead, Hebron, CT



# Gallery Tour



Fern Fronds at Winter's End – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Tree Swallows Take Flight – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Painted Turtle Lineup – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Eastern Chipmunk – Raymond Brook Marsh, Hebron, CT

# Gallery Tour



Spittlebugs - Hebron, CT

# Kaleidoscopes

<http://krazydad.com/kaleido/>



Common Milkweed Kaleidoscope

# Kaleidoscopes

<http://krazydad.com/kaleido/>



Cecropia Mates Kaleidoscope

# Kaleidoscopes

<http://krazydad.com/kaleido/>



Great Egret Kaleidoscope



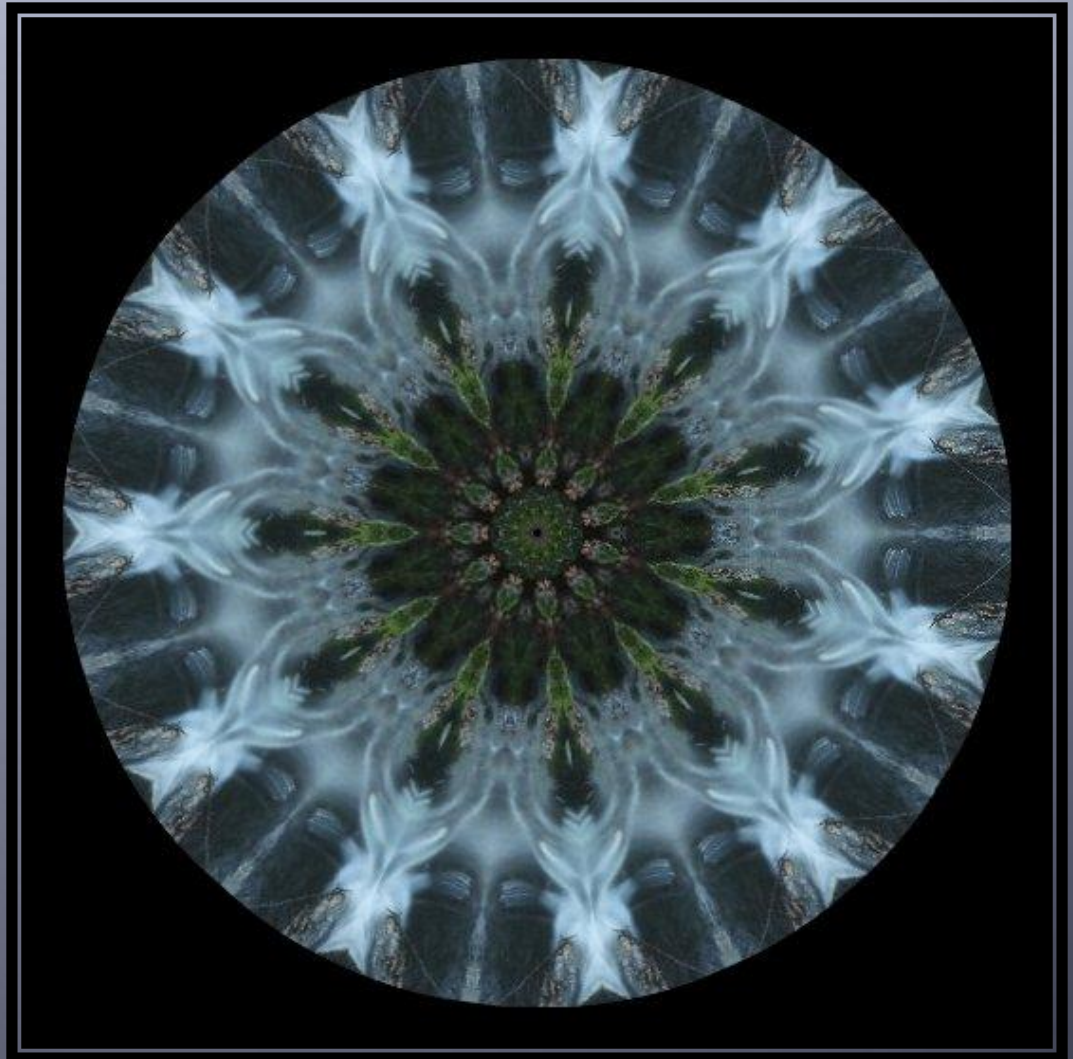


# Kaleidoscopes

<http://krazydad.com/kaleido/>



Trailhead Brook Kaleidoscope



# Kaleidoscopes

<http://krazydad.com/kaleido/>



Beaver's Wake Kaleidoscope

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Beaver's Wake Kaleidoscope



# Kaleidoscopes

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Bald Eagle Kaleidoscope

# Contact Info:



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