

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.



Just for fun

H **BEAUTY** **WE**

Stan carries on a family tradition of photography.

My Great
Grandfather's work

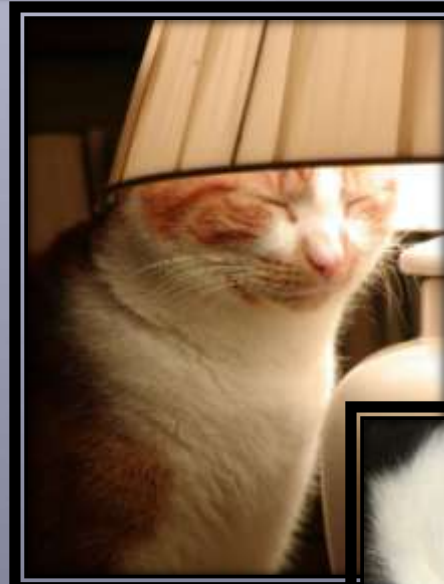


My
Grandfather's
Photos



Stan's General Photography

- StanMalcolmPhoto.com



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



SX50-IS

Small Sensor
Fixed Lens
50x Optical Zoom
24-1200mm
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

Common Sensor Sizes						
						
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

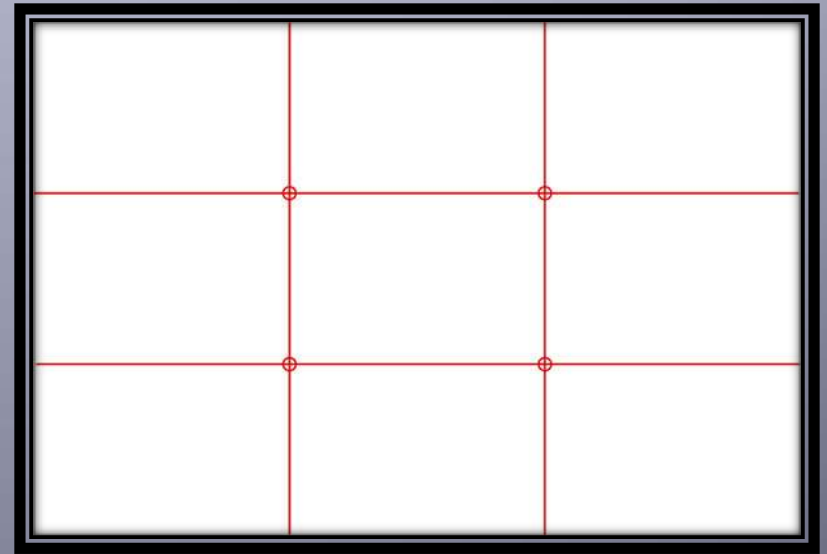
- Time of Day
- Backlighting:



- Cloudy versus Sunny
- Wind: The Enemy!
- Patience and Persistence
 - Digital Pictures are Free! Take Plenty.
 - Delete the Junk!

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
 - Stone walls or fences
 - Shadows of those things

Technical

- A Balancing Act:

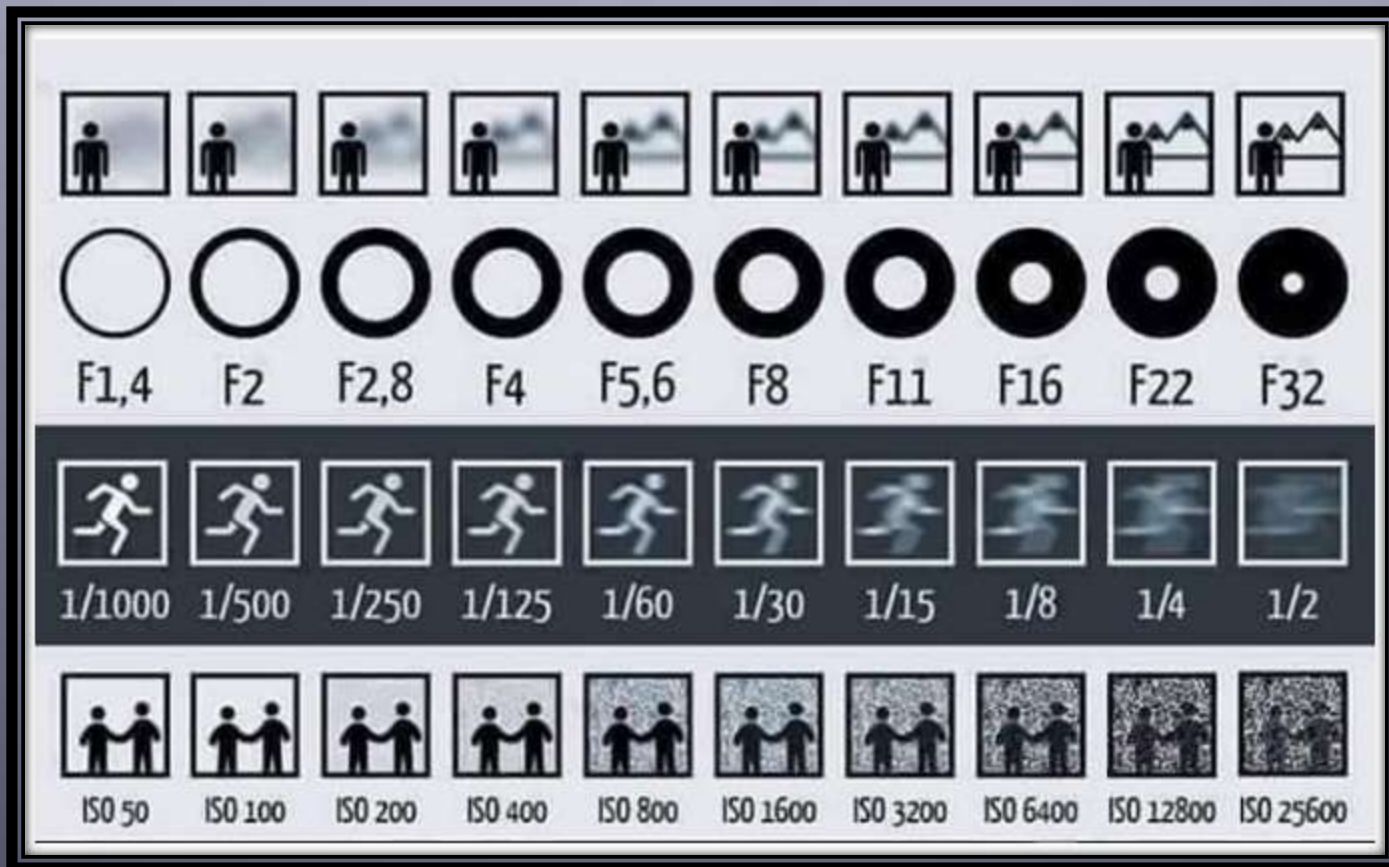
Ambient Light

ISO Setting
Shutter Speed
Aperture



Technical

- LIGHT – versus Aperture, Speed, ISO:



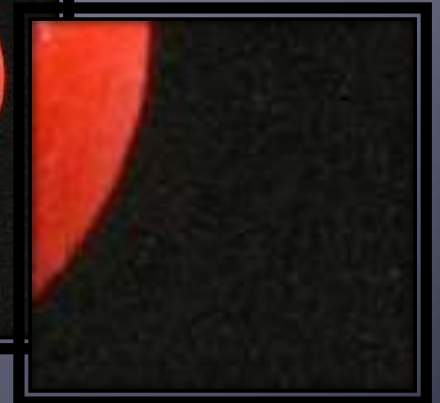
Technical

- 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: $1/10^{\text{th}}$ to 1 second
 - Tripod essential

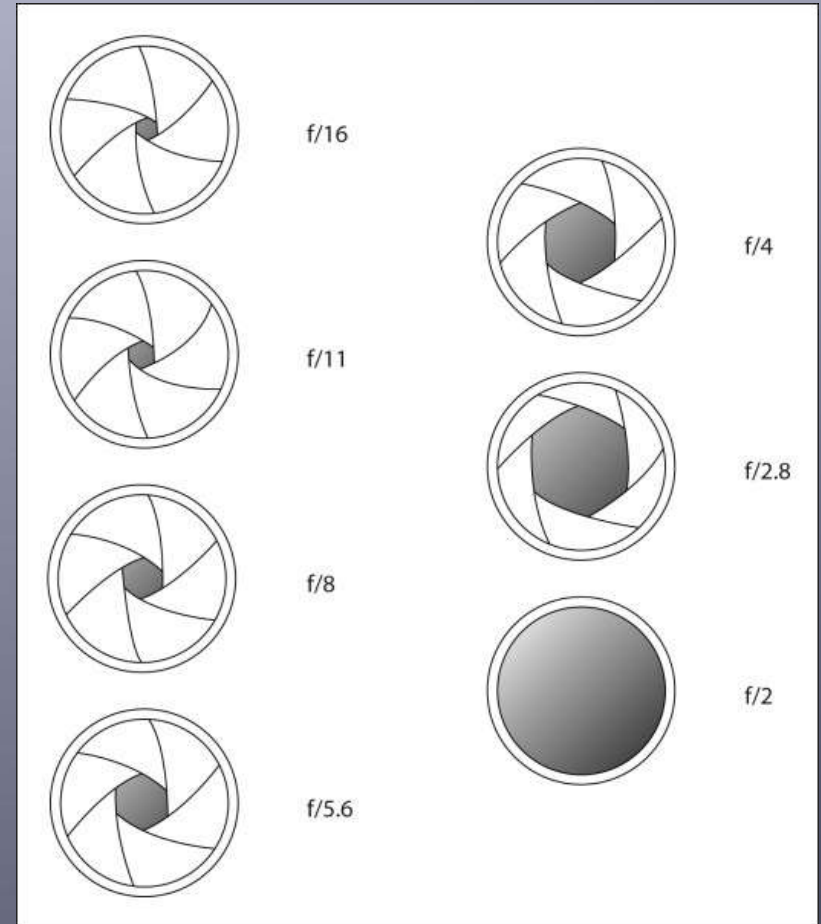


- Neutral Density Filter?



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:

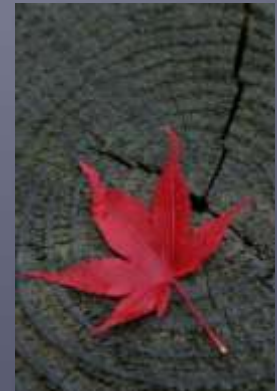
4x6

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



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/



- Over 17,000 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

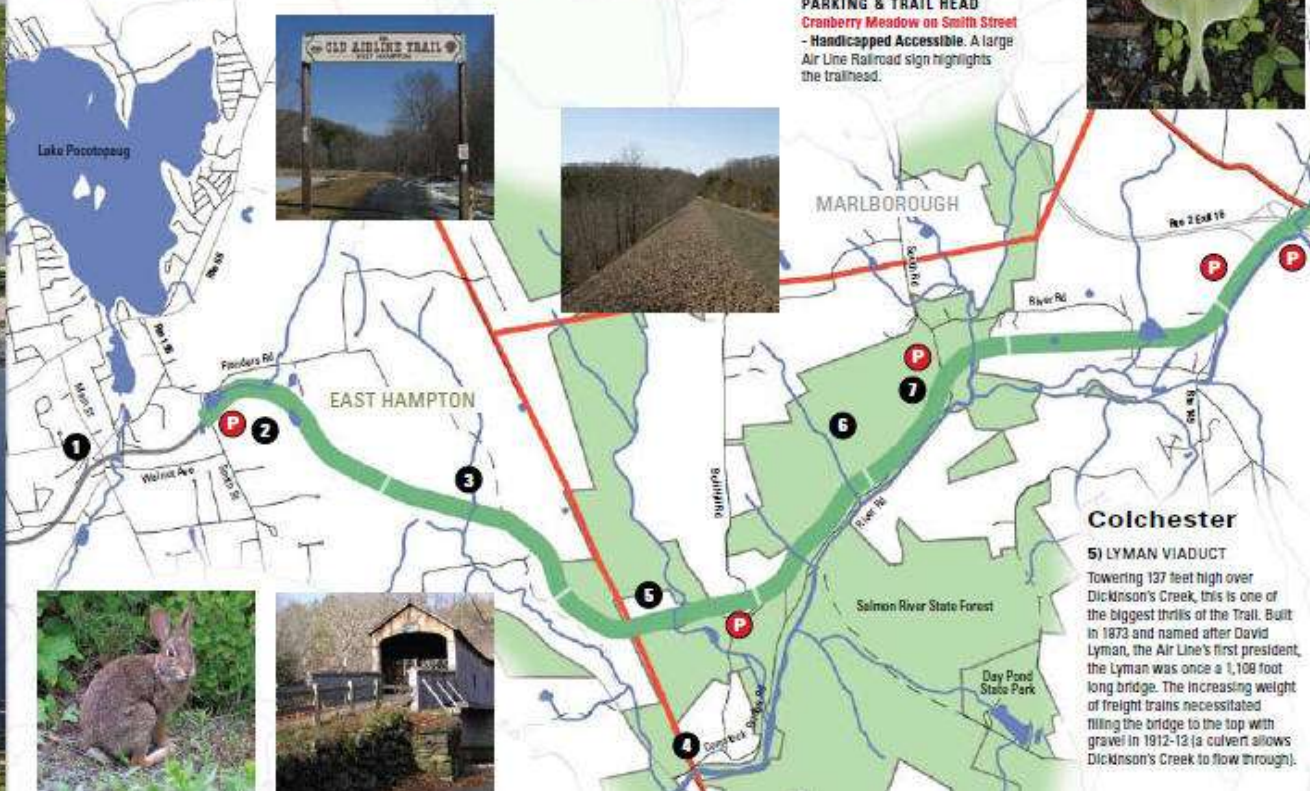
1) BELL TOWN VILLAGE CENTER & LAKE POCOTOPAUG
East Hampton is called "Bell Town" as it was the center of the bell making industry for the country. Taking a detour off the Trail at Cranberry Meadow onto Smith St. and traveling west leads to the Bell Town Village Center, a mecca for antique shoppers. Traveling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

Currently, 22.95 miles from East Hampton through Lebanon, plus a 3.6 mile spur to Colchester, plus portions of Windham and further east (e.g., Goodwin State Forest).

To downtown Willimantic and link to Hop River Trail opened Spring 2016.

Spring 2017 portions opened from East Hampton west to Portland.



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

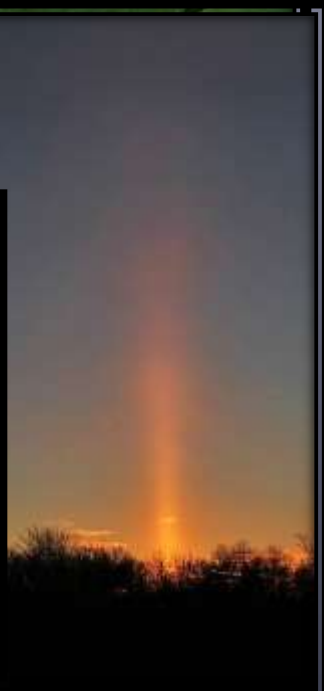
Birds fewer, e.g., waterfowl



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



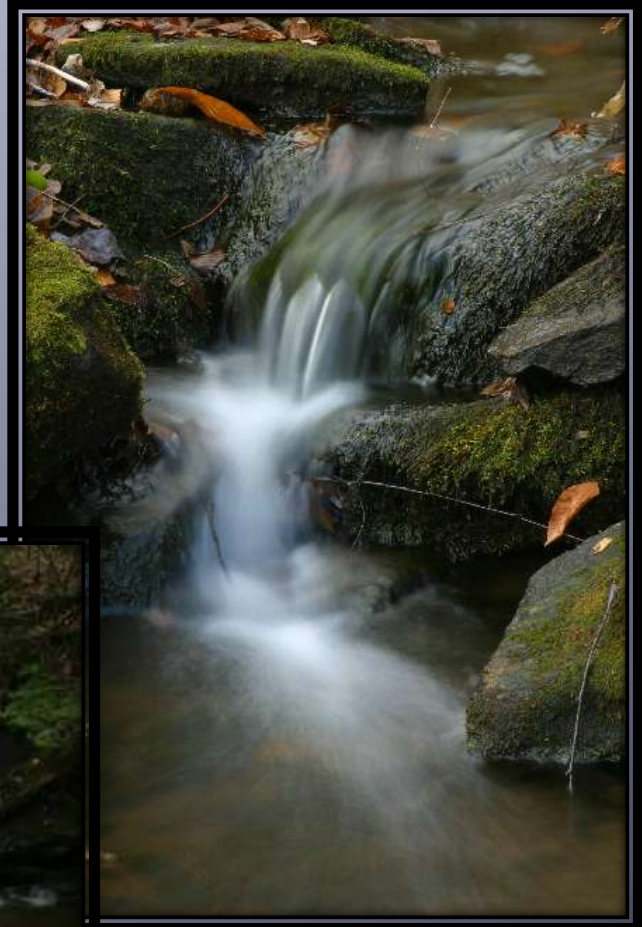
Highlights – Lyman Viaduct “then”



Highlights – Lyman Viaduct “now”



Highlights – Minor Waterfalls



Highlights – Rock Cuts



Highlights – River Road Bridge

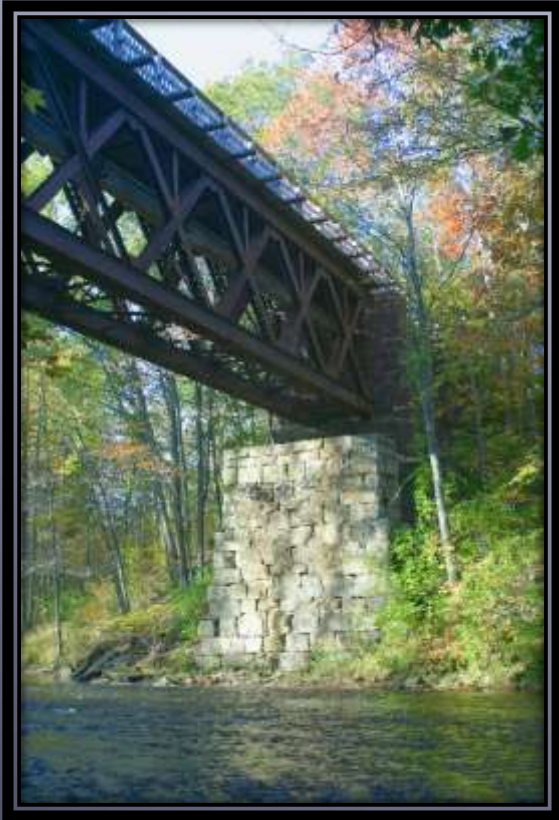


Brownstone, Dated 1887.

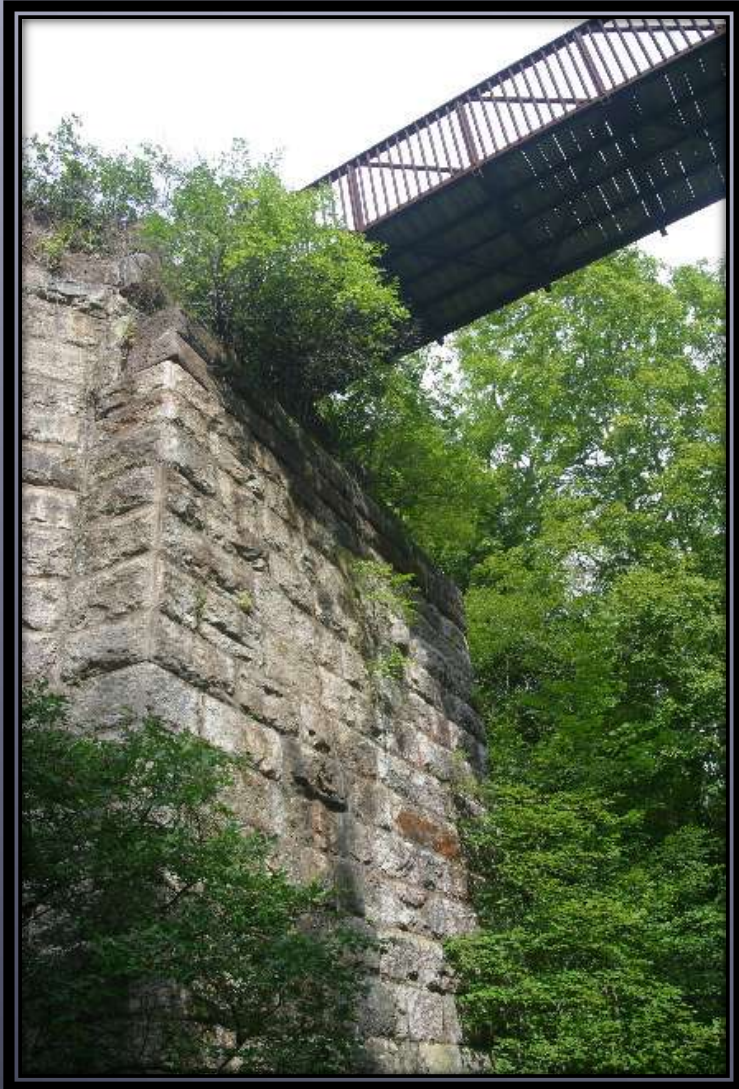
Each stone in the arch is numbered, suggesting that some portions were pre-cut before on-site assembly.



Highlights – Blackledge River Bridge



Highlights – Jeremy River Bridge



Highlights – Grayville Falls

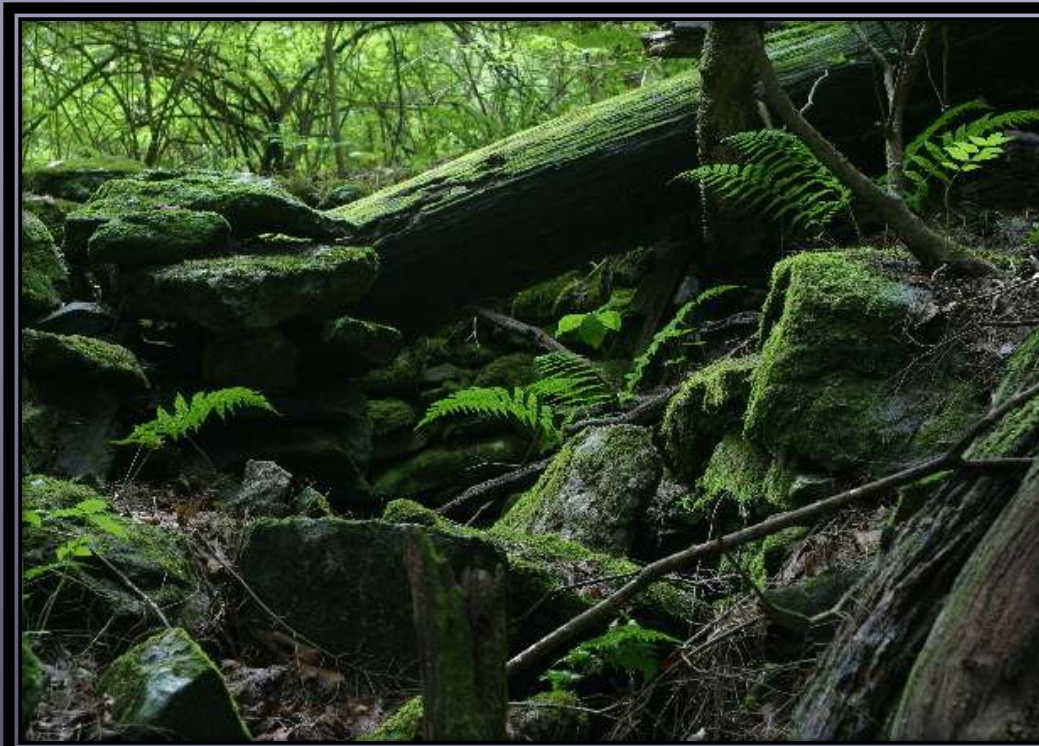


Highlights – United Distillers ruins



Demolished, January 2013

Highlights – Cellar Holes



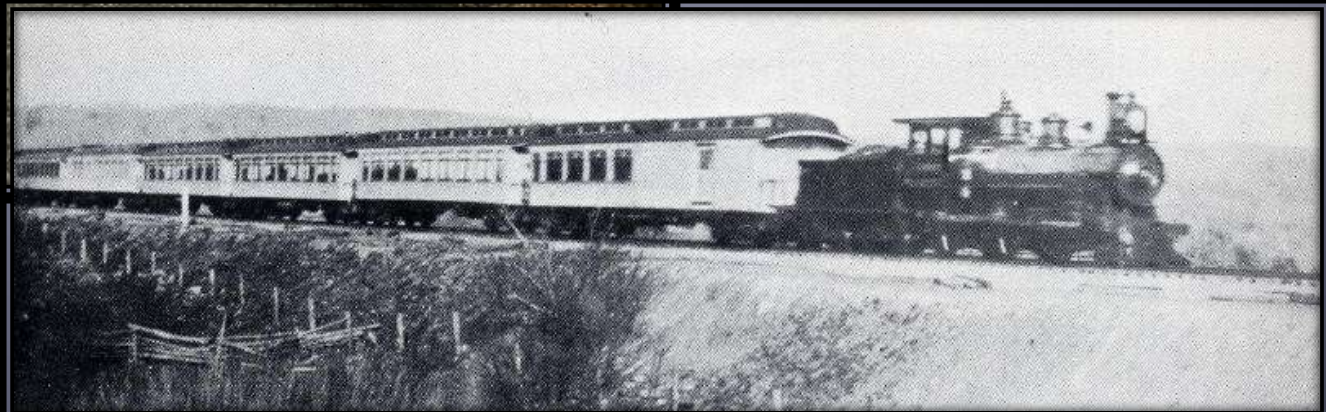
Highlights – Raymond Brook Marsh



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

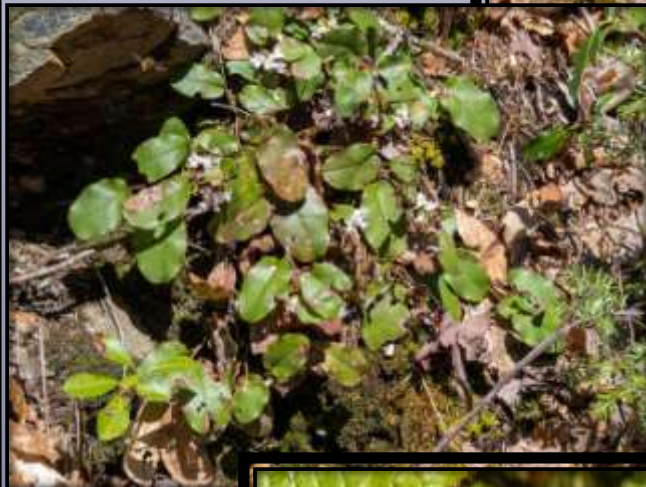


Dogbane

Birdsfoot Trefoil



Sample Flora



Trailing Arbutus



Sample Flora



Spring Beauty



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

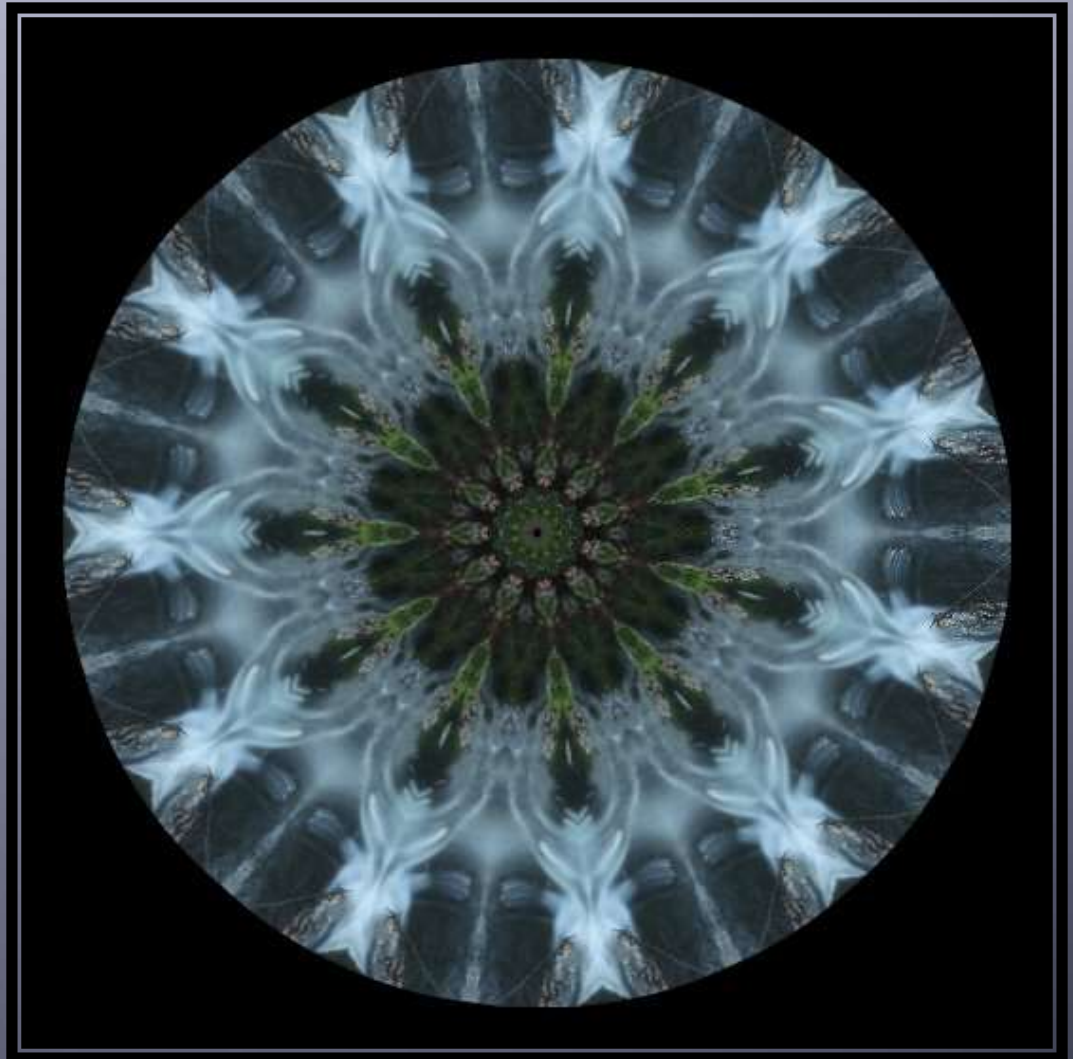


Kaleidoscopes

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



Trailhead Brook Kaleidoscope



Kaleidoscopes

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



Beaver's Wake Kaleidoscope



Kaleidoscopes

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



Beaver's Wake Kaleidoscope



Kaleidoscopes

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



Bald Eagle Kaleidoscope



Contact Info:



stan@performance-vision.com

860-295-9711