CT Trail Census and CT Trail Finder

CT Trail Symposium, Oct. 13, 2023

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Outline

- Program Overview
- CT Trail Census
  - Overview
  - Count Program
  - Dashboard Demo
- CT Trail Finder
  - Overview
  - Status
  - How and why to contribute

UConn CT Trails Program

https://cttrails.uconn.edu/

UCONN COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

CONNECTICUT ENERGY & ENVIRONMENT

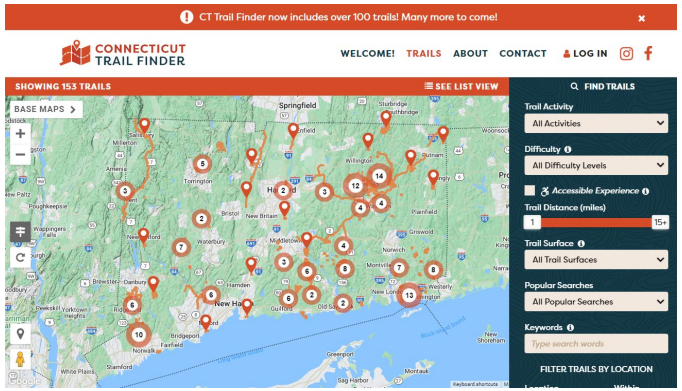
NVCOG

CONNECTICUT GREENWAYS

CLEAR Center for Land Use Education & Research

CT Trail Census

CT Trail Finder



cttrailfinder.com

Active Living (PATHS)

People Active on Trails for Health & Sustainability

Active Living (PATHS)

People Active on Trails for Health & Sustainability

Educators and outreach professionals connecting communities to their environment through active living.

- provides tools and resources to achieve equitable communities and a sustainable landscape
- informed by research and engagement to respond to environmental concerns, opportunities/barriers to outdoor activity, and community health risks

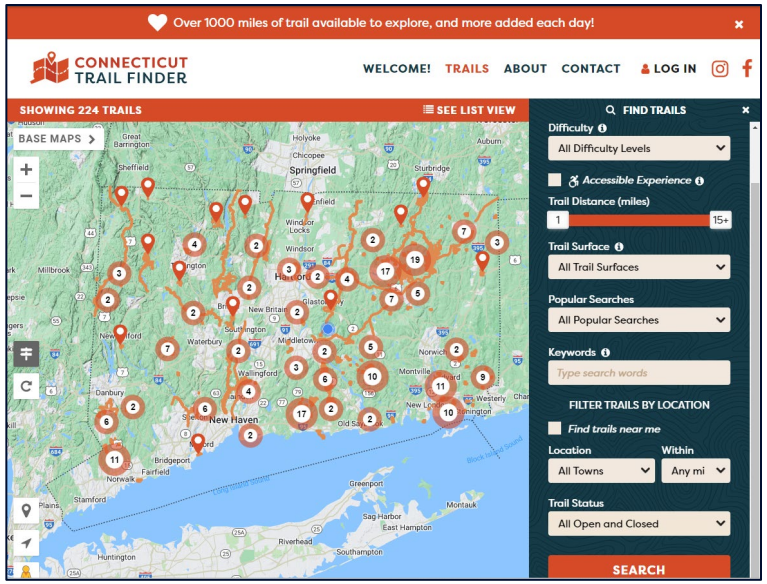
CT Trail Finder

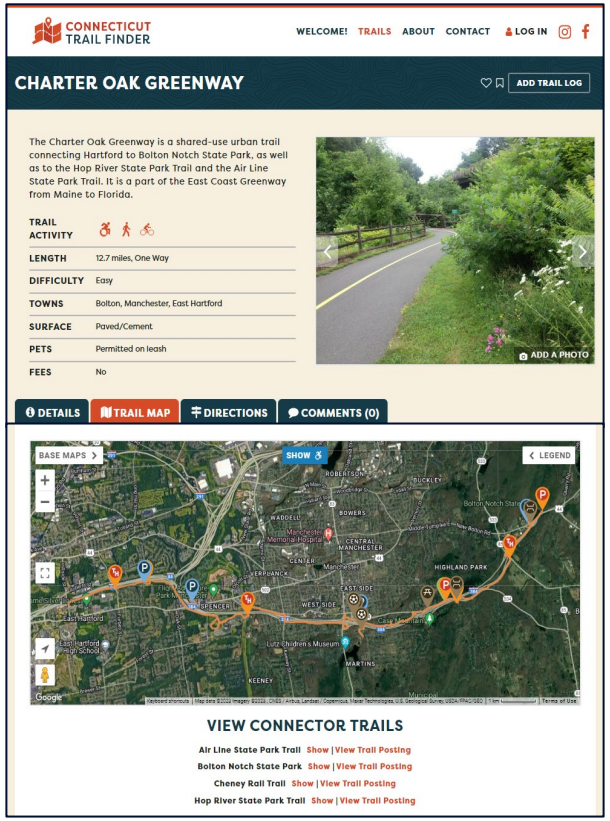
cttrailfinder.com

CONNECTICUT TRAIL FINDER

The go-to website for discovering trails.

- All trail postings are manager-approved ensuring accurate information for authorized uses
- Trail connections by location
- For ALL audiences





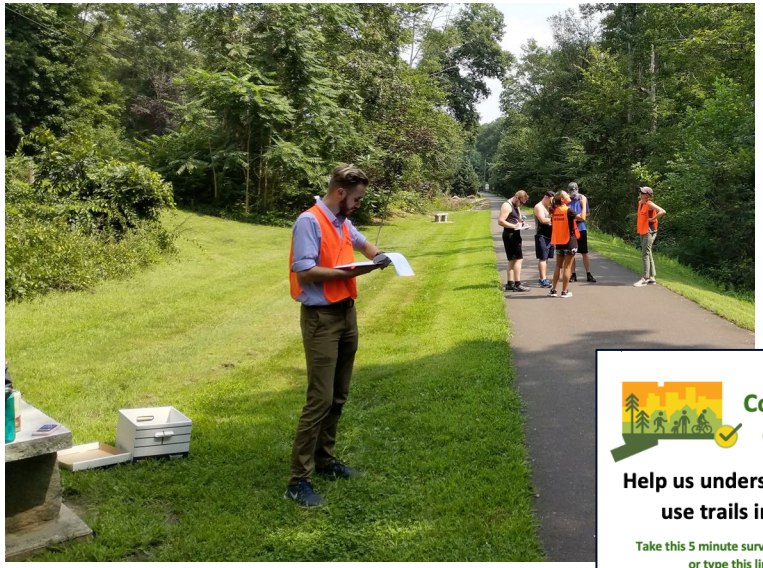
- **260 postings** and growing
- **1450+ trail miles** and growing
- Coming Soon: Trailside services, Badges

BONUS

Statewide trails GIS layer

CT Trail Census

Trail use counts recorded by infrared counters, trail user surveys, and public education.



STATEWIDE

- Urban, rural, suburban multi-use paths

MULTI-YEAR

- 7th year of data collection
- Identify patterns and trends

VOLUNTEER-BASED

- Active community participation
- Data informed decision-making

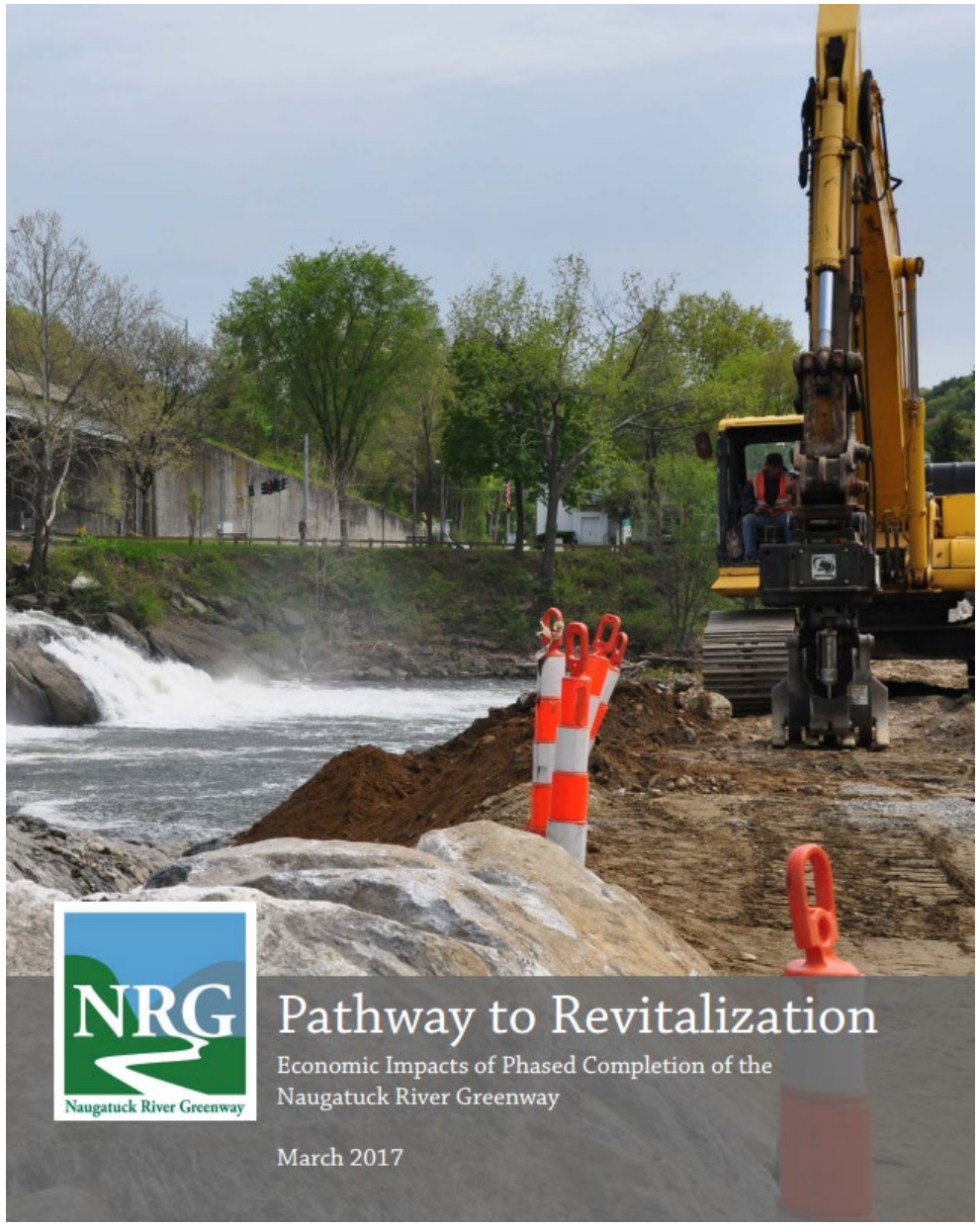
2015-2016 Naugatuck River Greenway Economic Impact Study

Provide municipal officials with data about economic and health benefits of continued construction of the NRG

NVCOG partnered with UConn and the CT Center for Economic Analysis and UConn Extension to conduct the Study

Report published March 2017

www.nvcogct.org



2015-2016 Naugatuck River Greenway Economic Impact Study

Very little trail use/user data out there

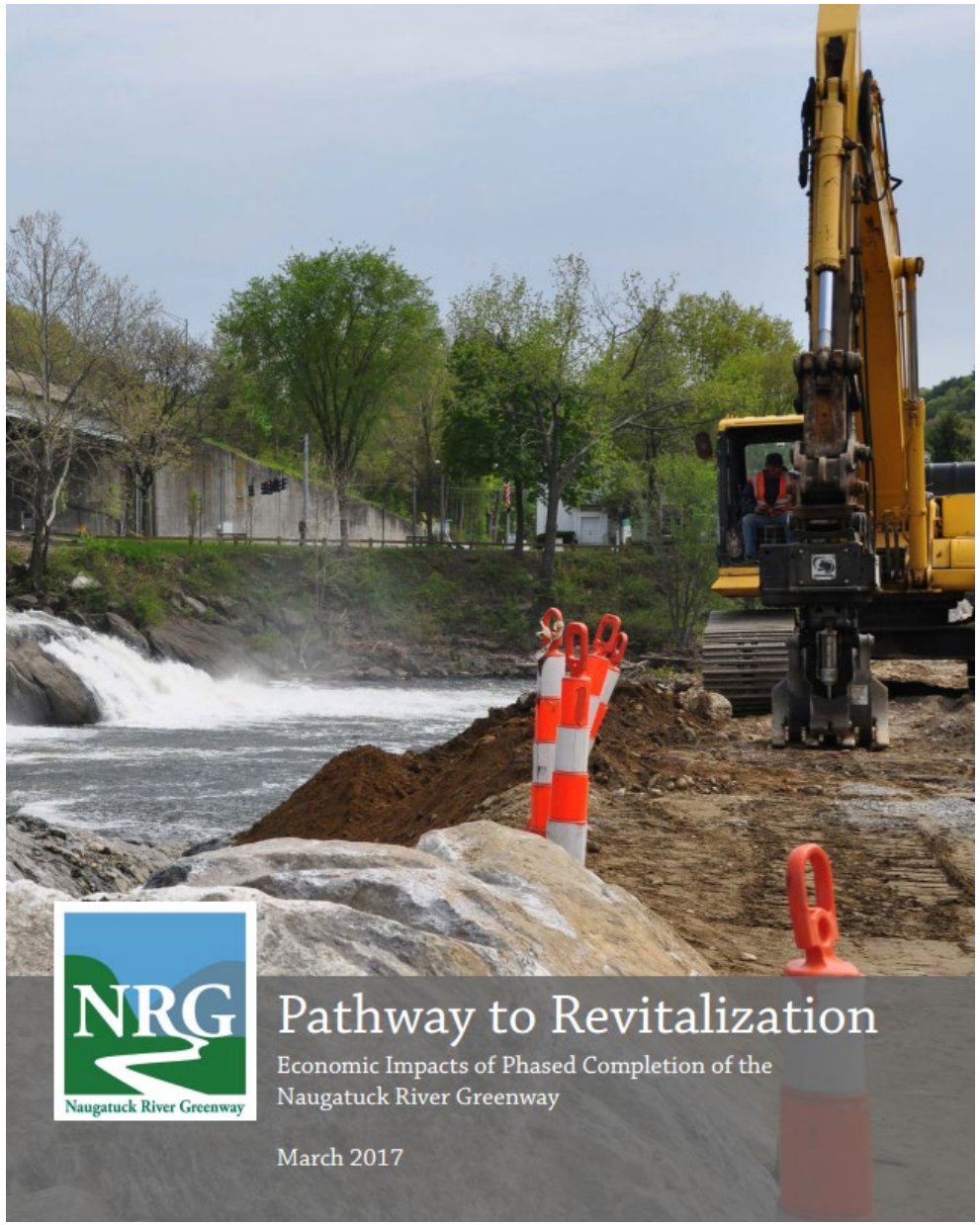
Methods unclear, and data was sometimes misrepresented

To conduct the economic study, we needed data about trail users.

Ended up collecting our own:

- IR Trail Counts
- Intercept Surveys
- Focus Groups
  - Business Owners
  - Trail Administrators
  - Health Professionals

"Wouldn't it be great if we could collect this information statewide on a regular basis?"



CT Trail Census

GOALS

- collect multi-year information about trail use, user demographics, economic impacts
- understand who is using trails when, why, how
- promote local participation in monitoring to understand the value of trails
- educate about trails and their impacts

Infrared Trail Counters

How many trail uses?
When are uses occurring?
Use patterns?

Trail counts ongoing

Intercept Surveys

Who is using the trails?
How are the trails being used?
Spending? Health Benefits?

Nearly 5,000 surveys completed
2017-2021 – Suveying Paused

Trail Counters

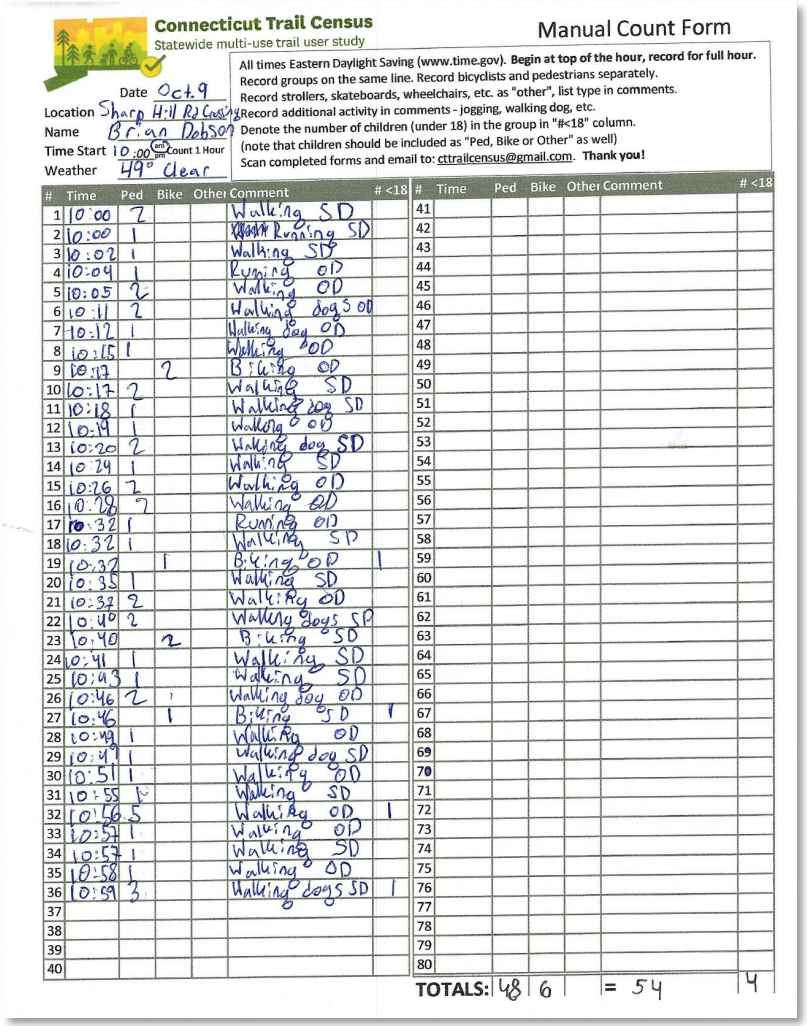
- TrafX brand infrared counter
- Registers warm bodies passing by
- USES not USERS

Generally undercounts

- People walking side by side
- Groups
- Fast cyclists

Calibration

- Manual counts by volunteers
  - Minimum 10 hours/counter/year
  - Different times of year and times of day
- Hourly manual counts are compared to actual trail counter counts
- Calibration factor is created for each location



Connecticut Trail Census
Statewide multi-use trail user study

Manual Count Form

All times Eastern Daylight Saving (www.time.gov). **Begin at top of the hour, record for full hour.**
Record groups on the same line. Record bicyclists and pedestrians separately.
Record strollers, skateboards, wheelchairs, etc. as "other", list type in comments.
Record additional activity in comments - jogging, walking dog, etc.
Denote the number of children (under 18) in the group in "#<18" column.
(note that children should be included as "Ped, Bike or Other" as well)
Scan completed forms and email to: cttrailcensus@gmail.com. **Thank you!**

Date Oct. 9
Location Sharp Hill Rd Coventry
Name Brian Dobson
Time Start 10:00 am/pm Count 1 Hour
Weather 49° Clear

#	Time	Ped	Bike	Other	Comment	# <18
1	10:00	2			Walking SD	
2	10:00	1			Running SD	
3	10:02	1			Walking SD	
4	10:04	1			Running OD	
5	10:05	2			Walking OD	
6	10:11	2			Walking dogs OD	
7	10:12	1			Walking dog OD	
8	10:15	1			Walking OD	
9	10:17		2		Biking OD	
10	10:17	2			Walking SD	
11	10:18	1			Walking dog SD	
12	10:19	1			Walking OD	
13	10:20	2			Walking dog SD	
14	10:24	1			Walking SD	
15	10:26	2			Walking OD	
16	10:28	2			Walking OD	
17	10:32	1			Running OD	
18	10:32	1			Walking SD	
19	10:32		1		Biking OD	1
20	10:35	1			Walking SD	
21	10:37	2			Walking OD	
22	10:40	2			Walking dogs SD	
23	10:40		2		Biking SD	
24	10:41	1			Walking SD	
25	10:43	1			Walking SD	
26	10:46	2			Walking dog OD	
27	10:46		1		Biking SD	1
28	10:49	1			Walking OD	
29	10:49	1			Walking dog SD	
30	10:51	1			Walking OD	
31	10:55	2			Walking SD	
32	10:56	5			Walking OD	1
33	10:57	1			Walking OD	
34	10:57	1			Walking SD	
35	10:58	1			Walking OD	
36	10:59	3			Walking dogs SD	1
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#	Time	Ped	Bike	Other	Comment	# <18
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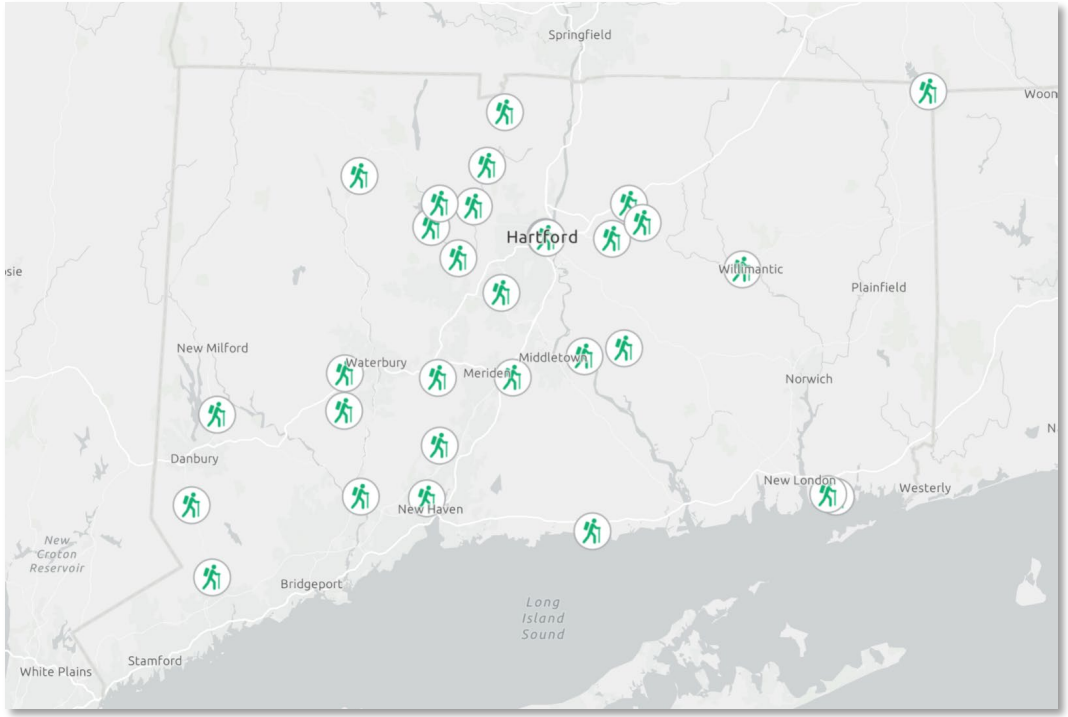
TOTALS:		48	6		= 54	4

Data Collection

- Trail Census Team visits each counter quarterly
  - Check status, removes insects, etc.
  - Download data and reset the counter
- At the office, upload to TrafX data portal
- Review and clean data
  - Upload to Data Portal
- At the end of the year
  - Determine and apply calibration factors
  - Annual Report

CTTC Trail Count Program 2023

- 24 long term counters installed
- 6 partner counters
- Investigating supplemental/ novel data sources
- Temporary Counter Pilot



CTTC Trail Count Program 2023

- 24 long term counters installed
- 6 partner counters
- Investigating supplemental/ novel data sources
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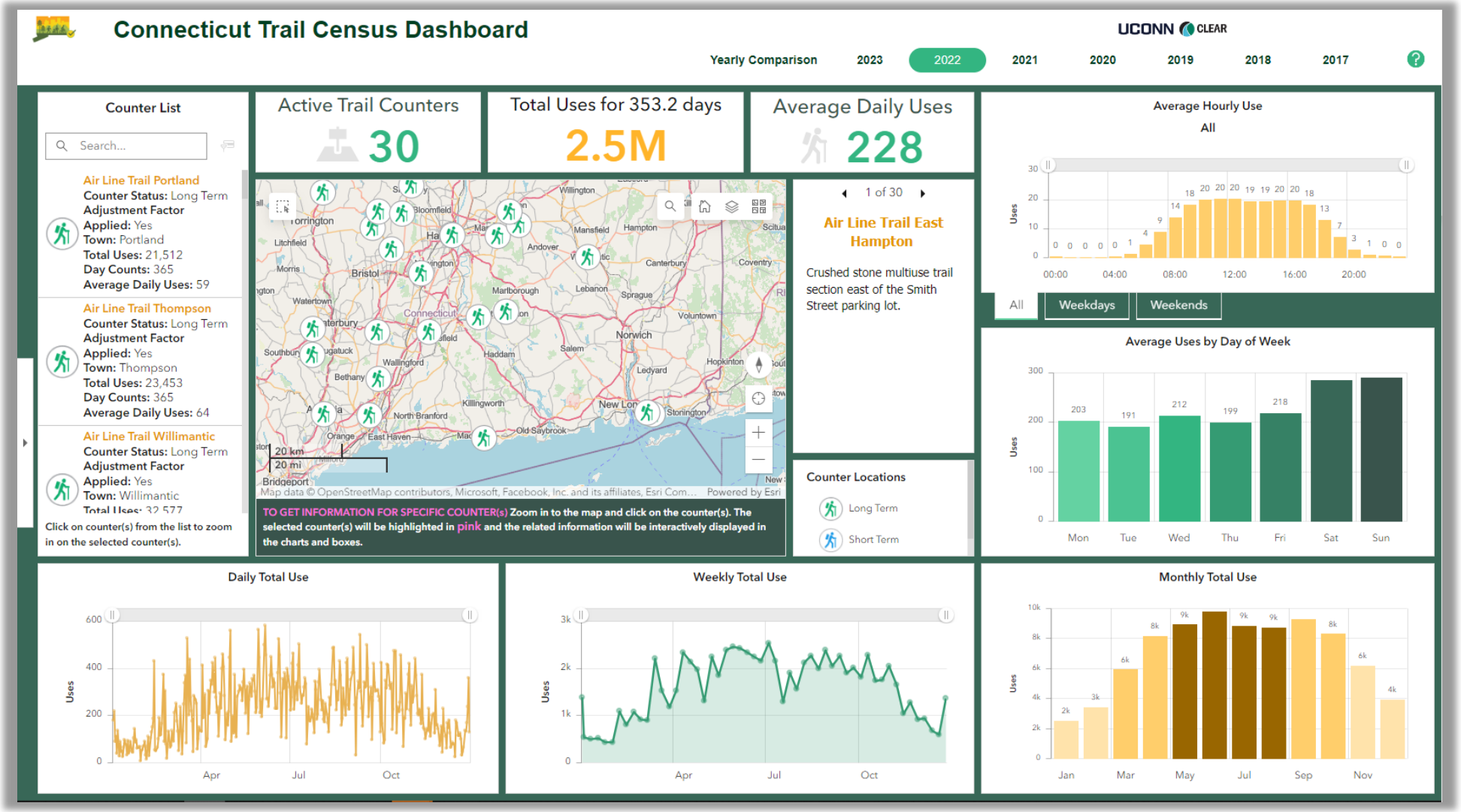
- AND… a brand spankin’ new data dashboard!

Demo time!! https://cttrails.uconn.edu/dashboard



Connecticut Trail Finder

CONNECTICUT TRAIL FINDER

- CT Trail Finder Overview, Project, & Process
- CT Trail Finder Postings
  - Data Collection - Narrative
  - Data Collection - Geographic
- Coming Soon!

Administered by UConn Extension with Center for Community GIS (CCGIS

Funded by CT DEEP and the Greenways Council, DOT

Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2017-2022

Goal 3: Ensure that all residents and visitors can locate and access all outdoor recreation areas and facilities.

Strategies

A. Implement a wide range of public outreach and communication tools
B. Increase accessibility to outdoor recreation areas and facilities for people with disabilities
C. Remove impediments to visiting outdoor recreation facilities
D. Identify, increase, and promote the availability of public transportation to and from outdoor recreation facilities

SCORP

Connecticut Trail Finder is a free, interactive website designed to help people find all kinds of trails across the state.

The goal is to help people get out, be active, and explore Connecticut.

Benefits for the Trail User

- Find ALL kinds of trails (state, local, land trust, non-profit, etc.
  - Search by many characteristics
    - Trail activity (hike, bike, horseback, etc.)
    - Difficulty and distance
    - Accessible trails
- Authorized trails only (all are manager approved)
- Accurate maps and information
- Show connections between trail and trail posts
- Easy to use even for new-comers (remove barriers)

Benefits for the Trail Manager

- Only Manager-approved trails
  (including info & map)
- Ability for alerts
  (closures, hazards, etc.)
- Connect users to the trail organization
- Tie trails to local economies
- Compliment and promote local activities (does NOT replace them)
- Prevent overuse by spreading it out

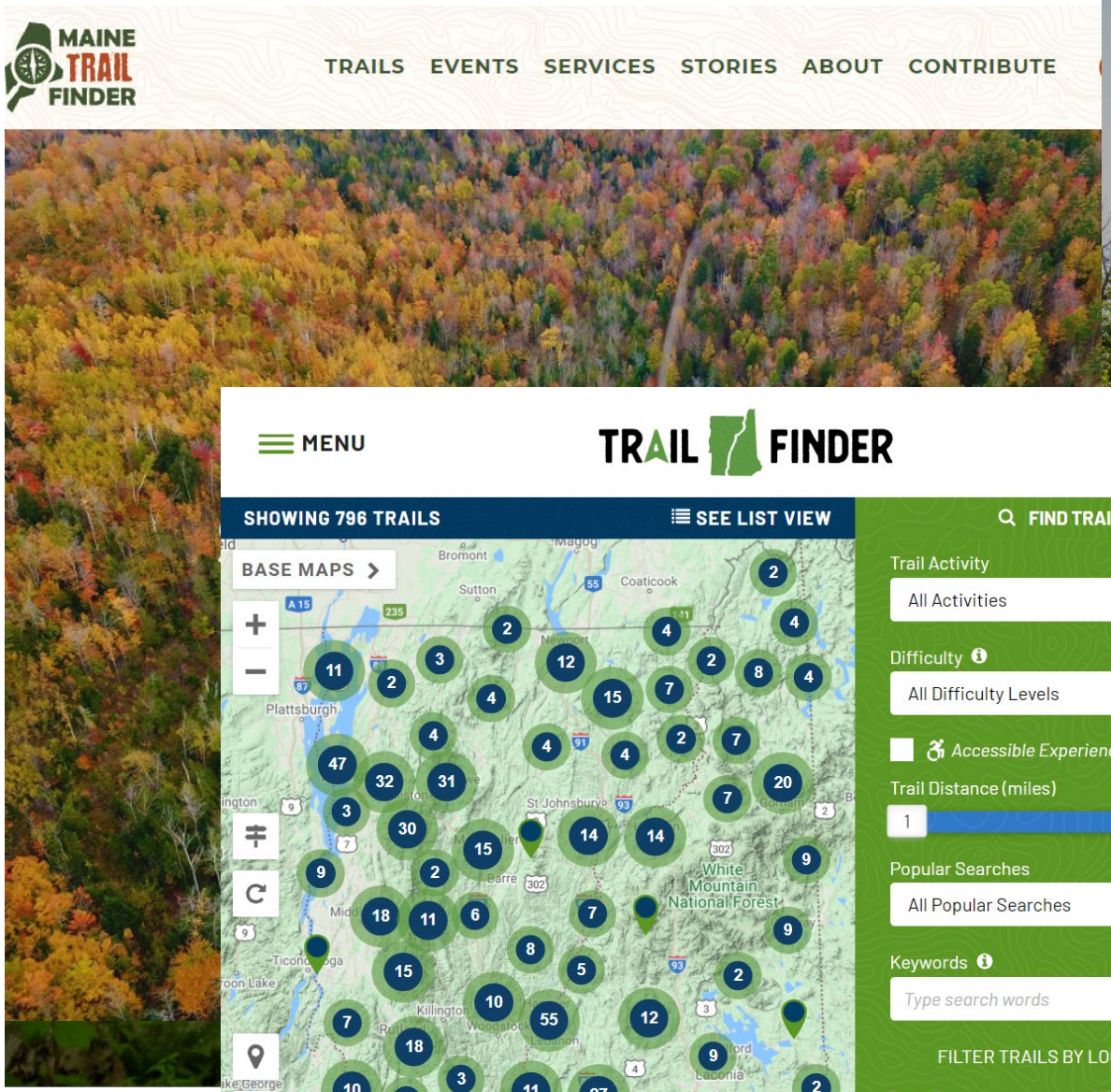
MANAGER BONUSES

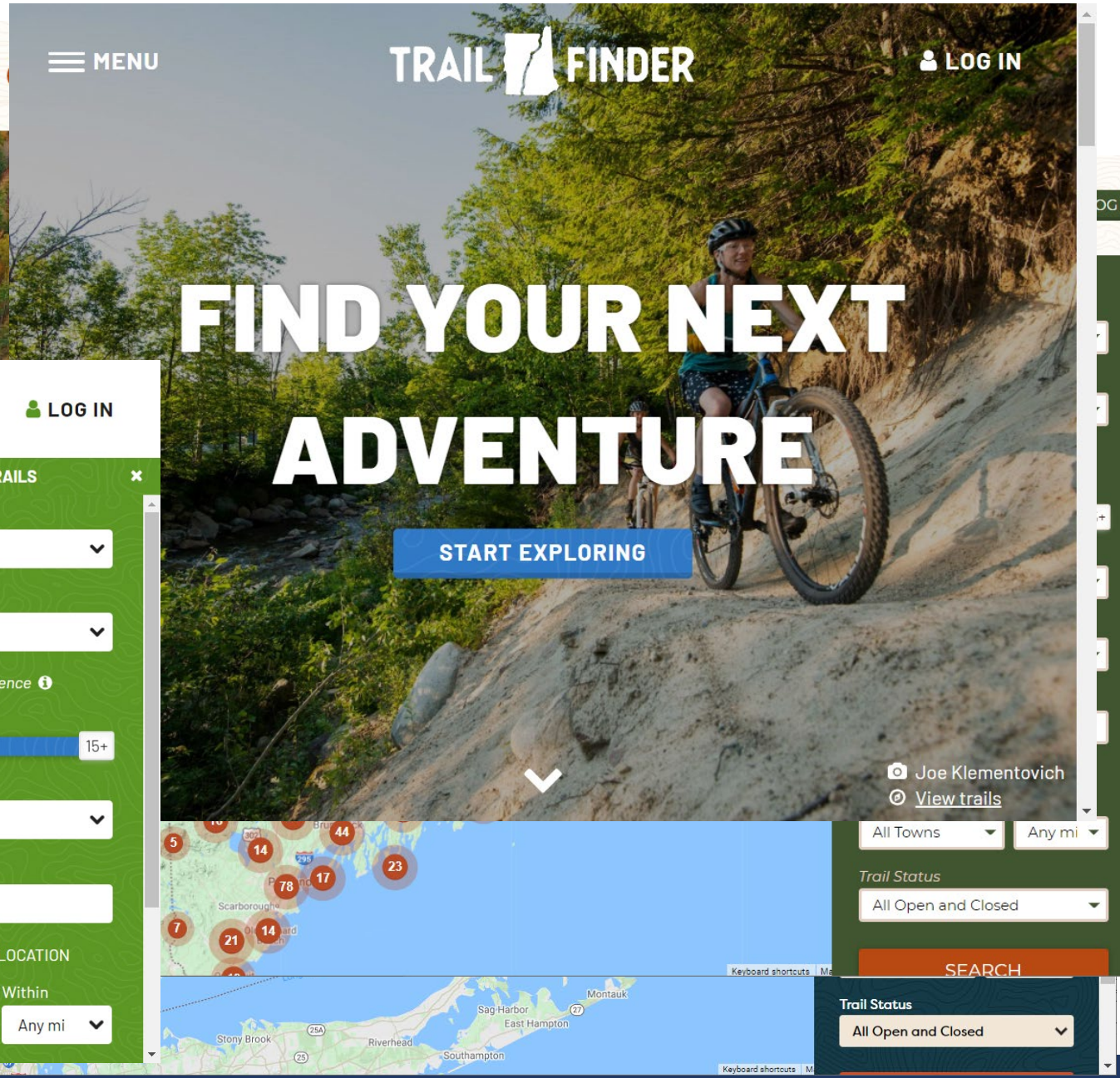
- Free GIS work
- Link to the trail finder post
- Use a map that includes ALL of your trails
- Manager access to edit posts (optional)
- Work with nice people

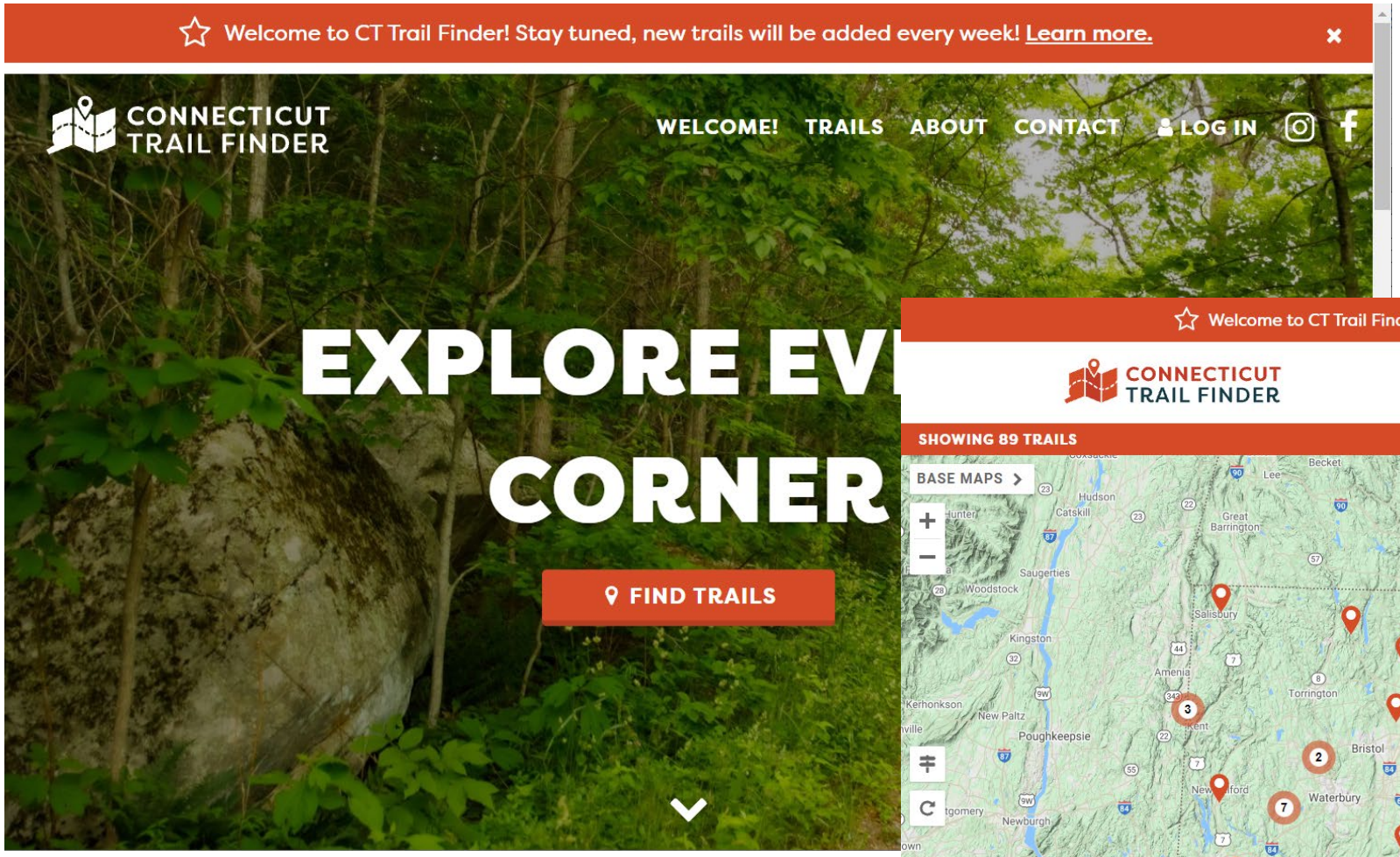
Trail Finder is NOT

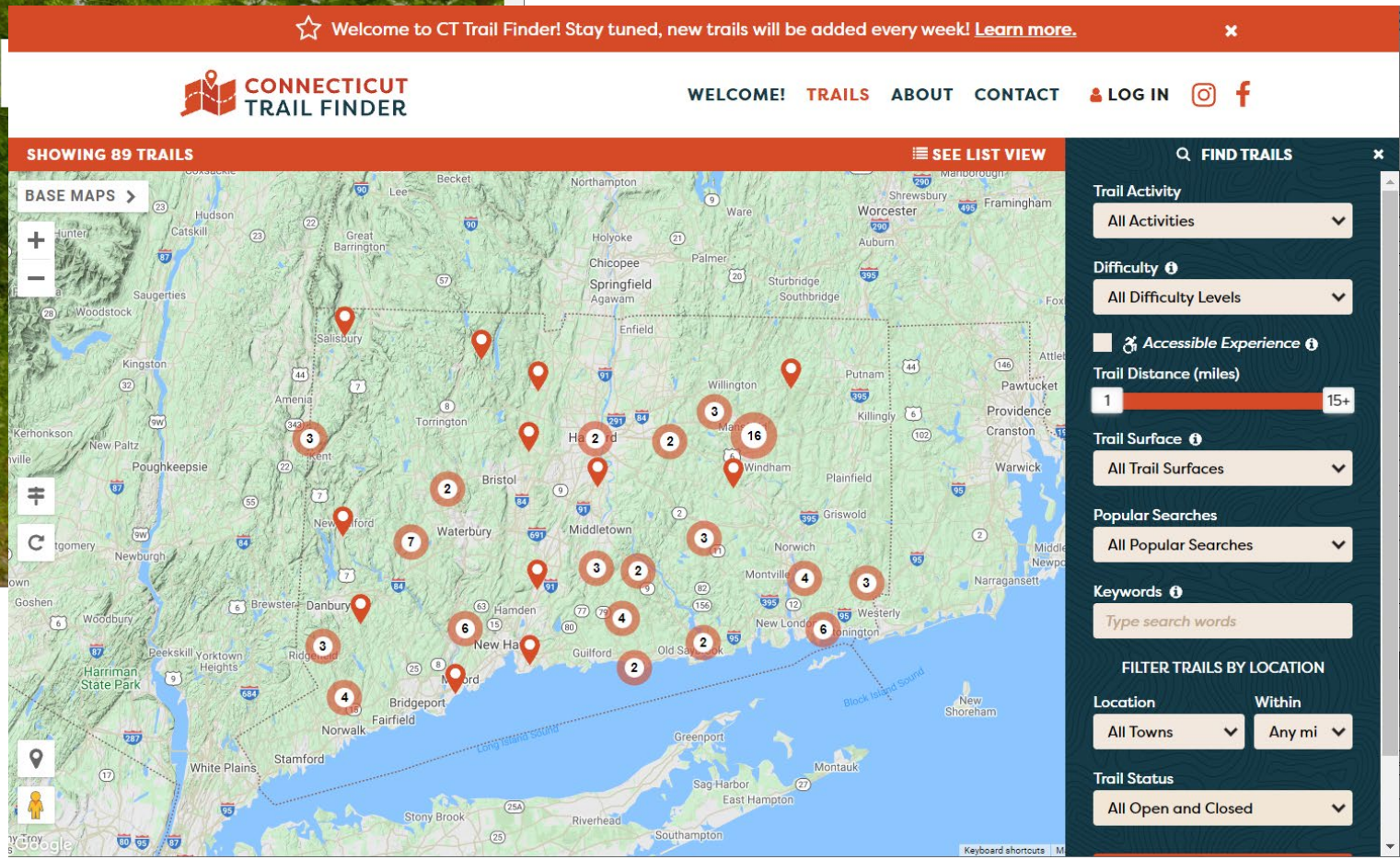
- A crowd-sourced app
- A tracking app
- A GPS data collector
- Automatically populated in any way
- A replacement for any of these or your organizations website

mainetrailfinder.com trailfinder.info






Welcome to CT Trail Finder! Stay tuned, new trails will be added every week! Learn more.
CONNECTICUT TRAIL FINDER
WELCOME! TRAILS ABOUT CONTACT LOG IN
EXPLORE EV
CORNER
FIND TRAILS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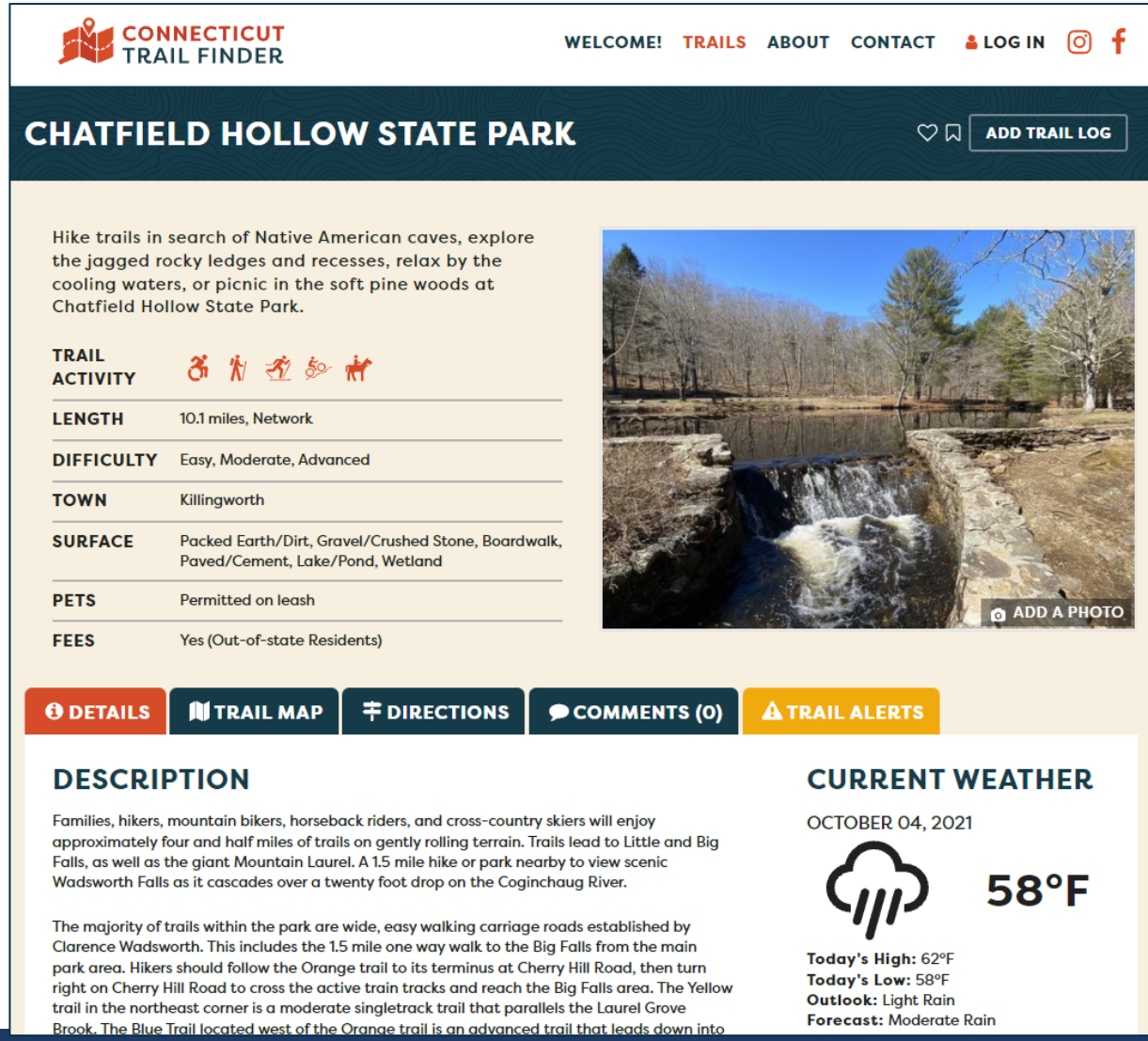
CONNECTICUT TRAIL FINDER
WELCOME! TRAILS ABOUT CONTACT LOG IN
SHOWING 89 TRAILS
SEE LIST VIEW
BASE MAPS
FIND TRAILS
Trail Activity
All Activities
Difficulty
All Difficulty Levels
Accessible Experience
Trail Distance (miles)
1
15+
Trail Surface
All Trail Surfaces
Popular Searches
All Popular Searches
Keywords
Type search words
FILTER TRAILS BY LOCATION
Location
All Towns
Within
Any mi
Trail Status
All Open and Closed

[Demo]

Trail Post Process

1. Outreach
2. Data Gathering
   - Narrative
   - Geographic Data
3. Website Trail Posting Development
4. Trail Manager Review & Approval
5. Publish Posting
6. Follow-up, Advisory Notifications, Updates



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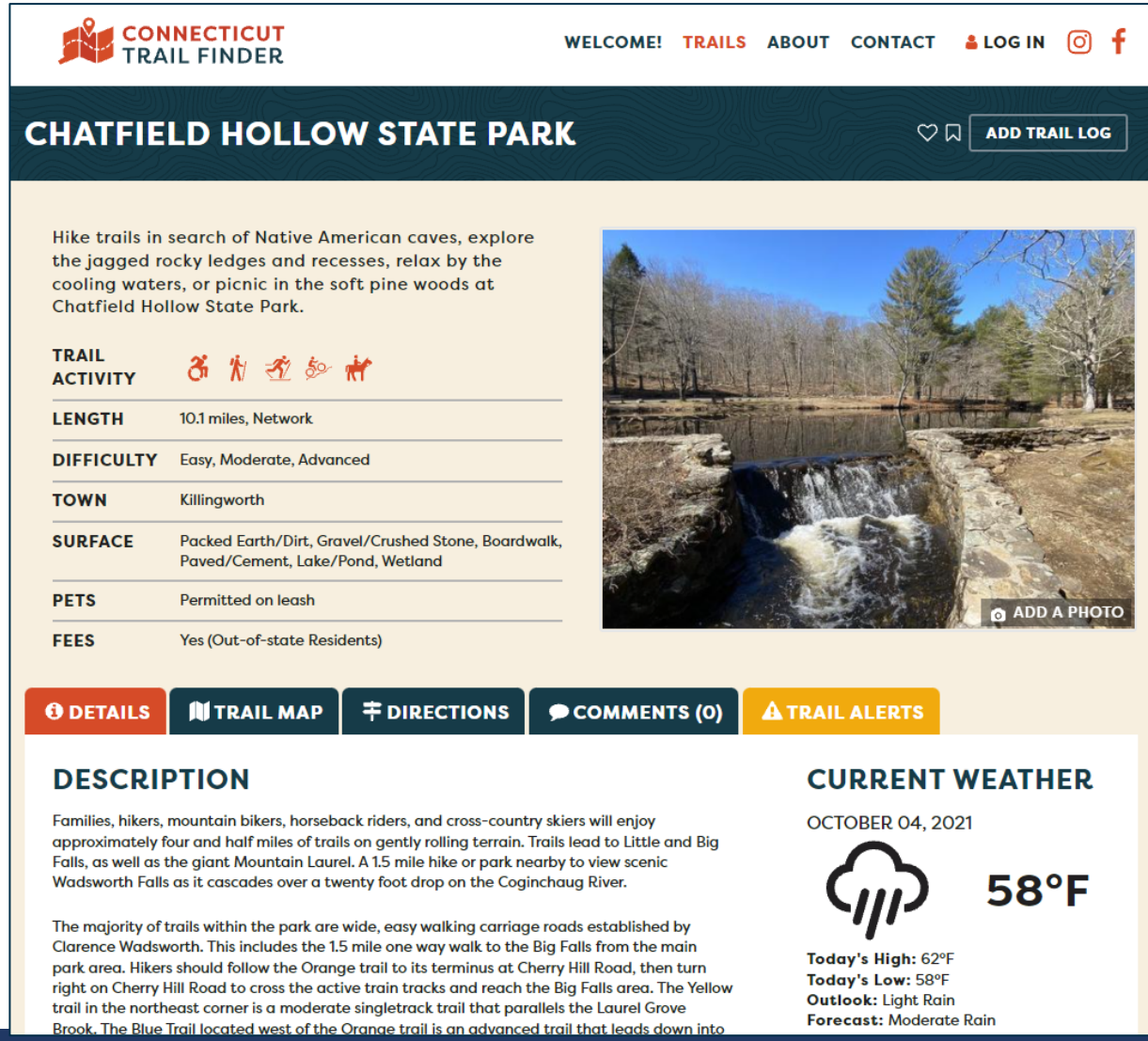
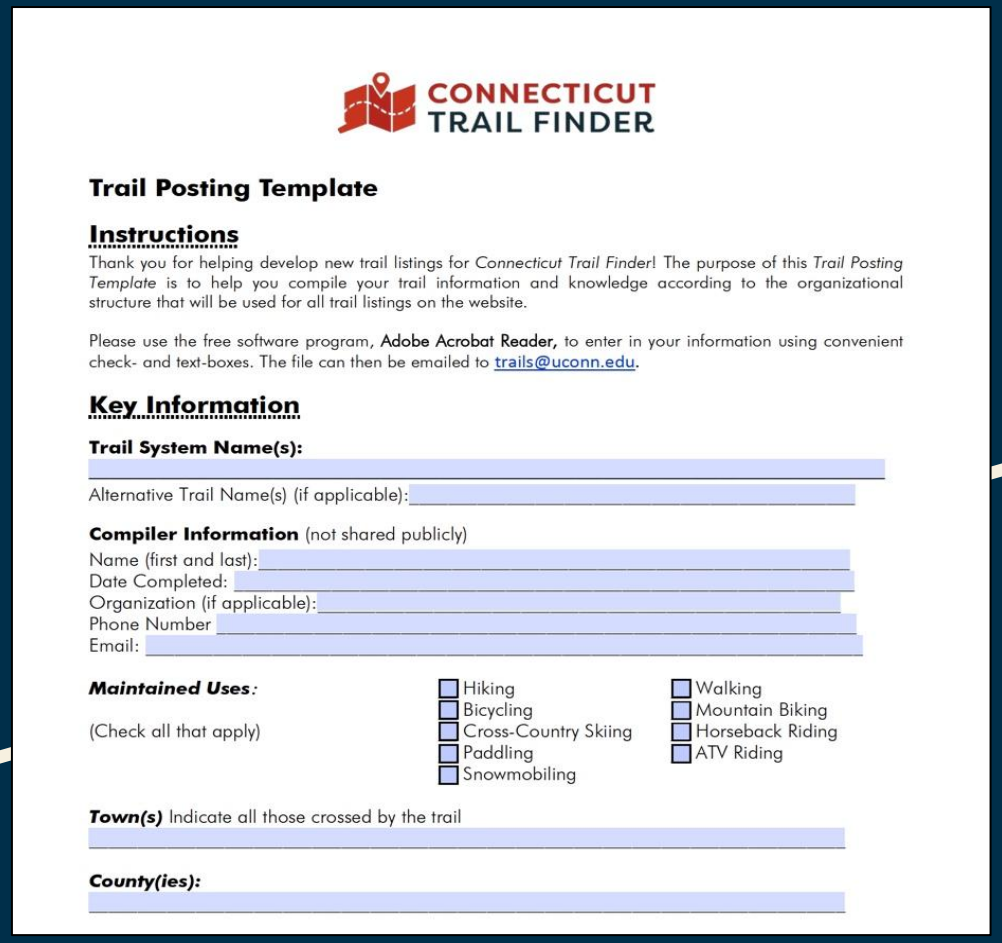


Data Gathering - Narrative



CONNECTICUT TRAIL FINDER

Trail Posting Template

Instructions

Thank you for helping develop new trail listings for *Connecticut Trail Finder*! The purpose of this *Trail Posting Template* is to help you compile your trail information and knowledge according to the organizational structure that will be used for all trail listings on the website.

Please use the free software program, **Adobe Acrobat Reader,** to enter in your information using convenient check- and text-boxes. The file can then be emailed to trails@uconn.edu.

Key Information

Trail System Name(s):

Alternative Trail Name(s) (if applicable):

Compiler Information (not shared publicly)

Name (first and last):
Date Completed:
Organization (if applicable):
Phone Number
Email:

Maintained Uses:

(Check all that apply)

- ☐ Hiking
- ☐ Bicycling
- ☐ Cross-Country Skiing
- ☐ Paddling
- ☐ Snowmobiling
- ☐ Walking
- ☐ Mountain Biking
- ☐ Horseback Riding
- ☐ ATV Riding

Town(s) Indicate all those crossed by the trail

County(ies):

- Trail Names
- Location (Town/County)
- Trail Attributes (allowable uses, difficulty, surface, fee, pet policy)
- Accessibility
- Trail Manager contact information
- Descriptive Sections
  - Abstract
  - Trailhead
  - Trail Description
  - Other Information

We can help!

Data Gathering – Narrative

Trail documentation guide:

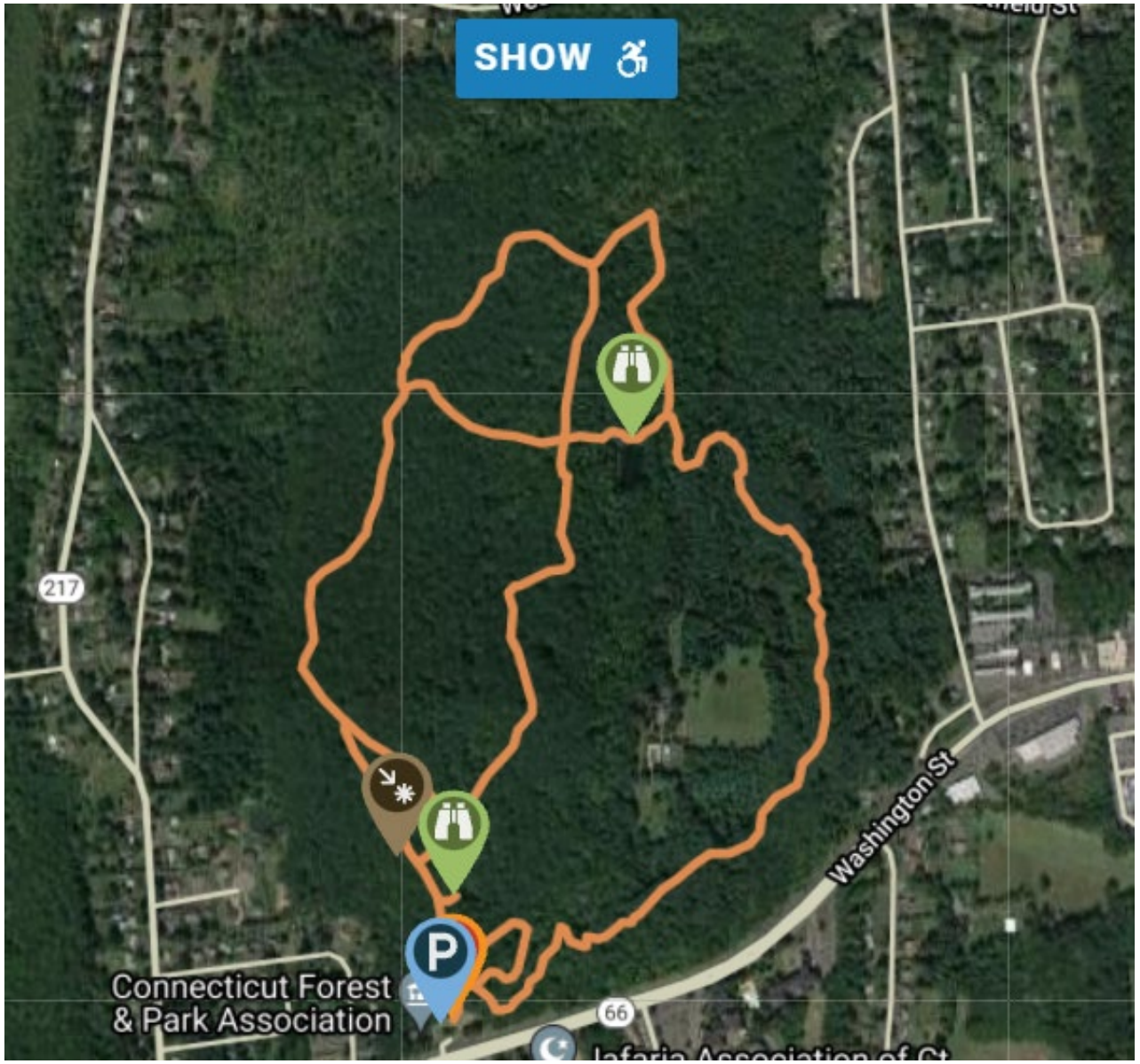
https://cttrails.uconn.edu/trailfinder_add/

- Also need at least one photo and logo

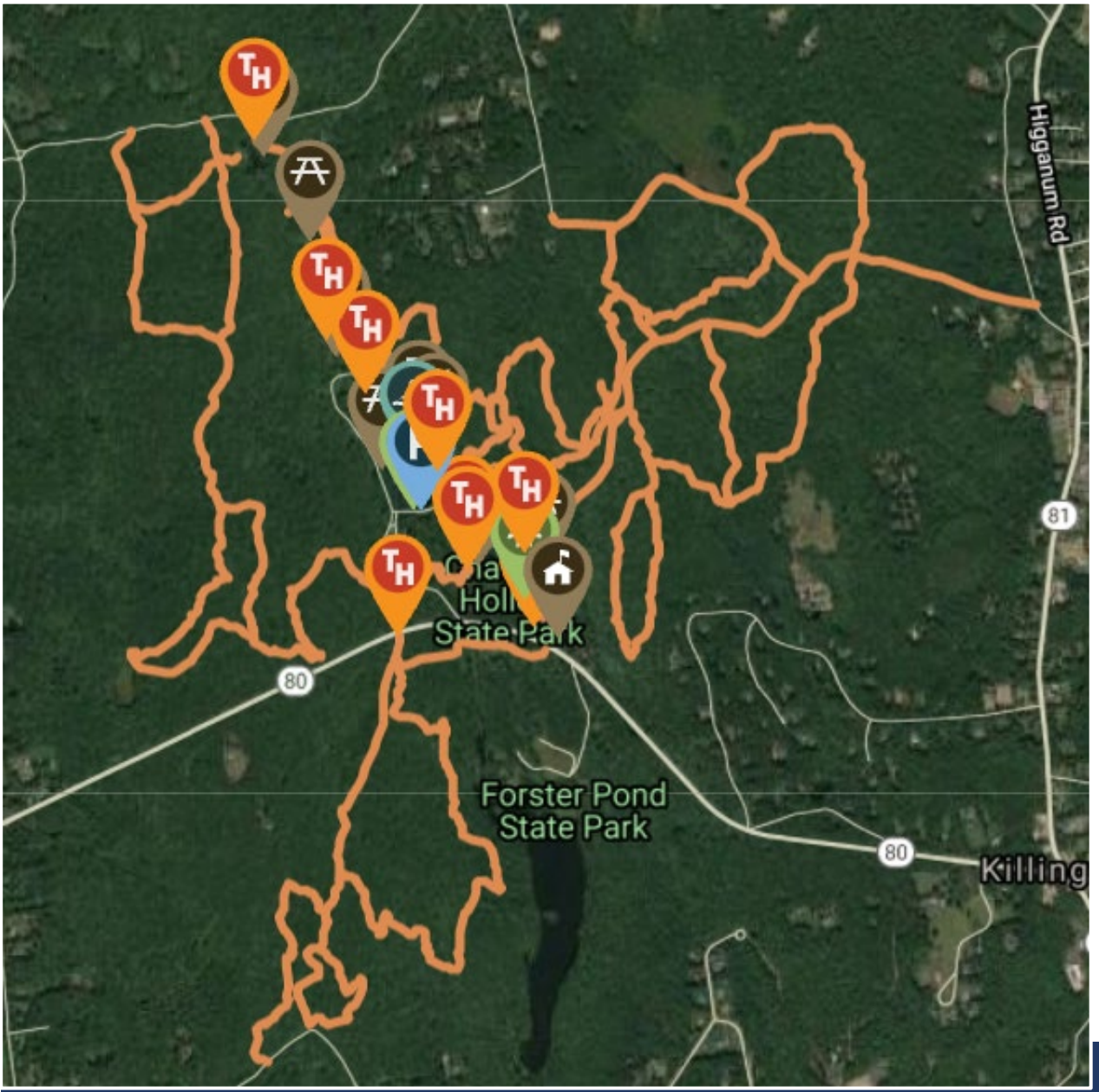
Data Gathering - Geographic

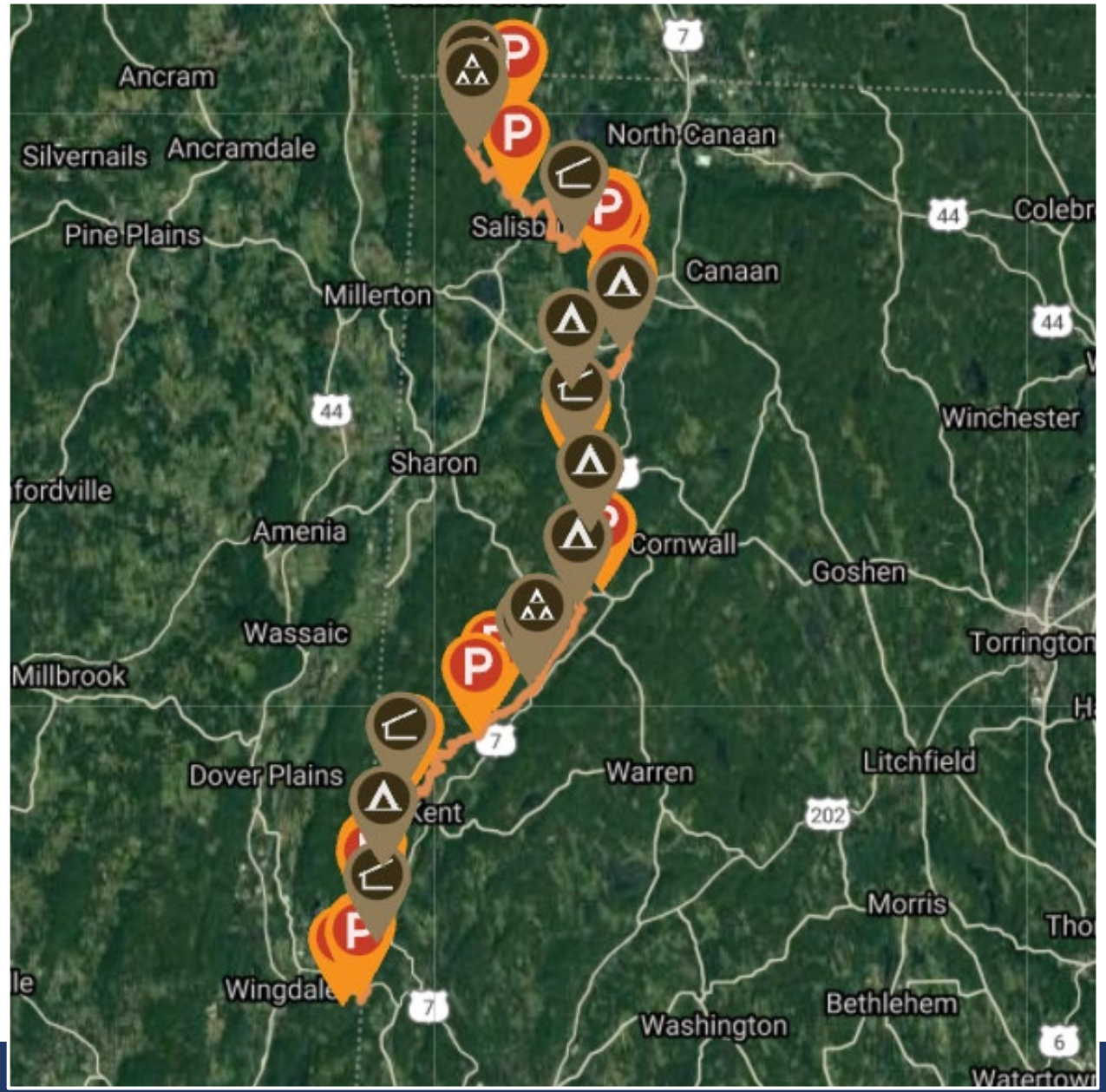
The Trail Map

- Trail Lines
- Points of Interest



Range of Complexity





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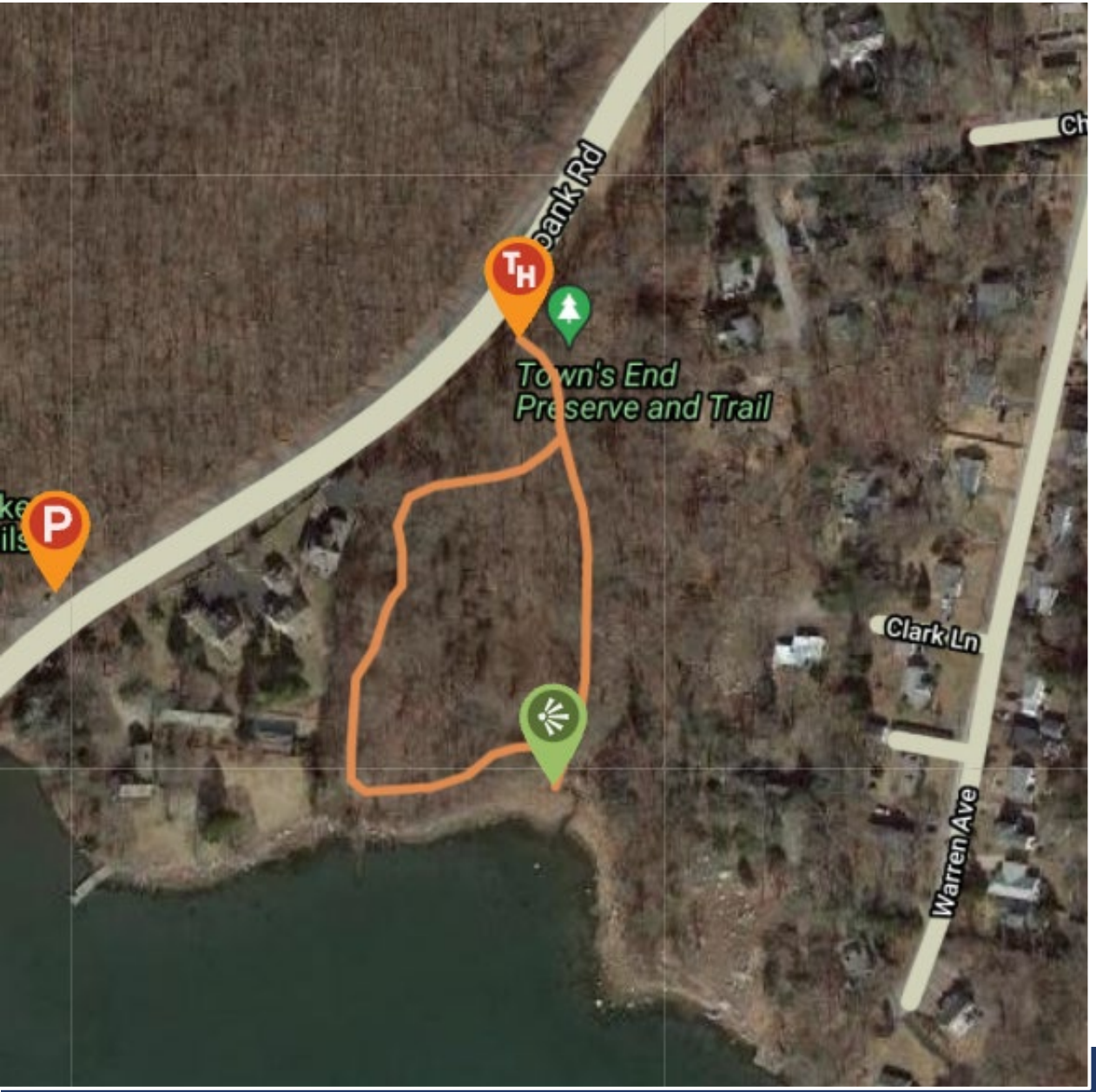

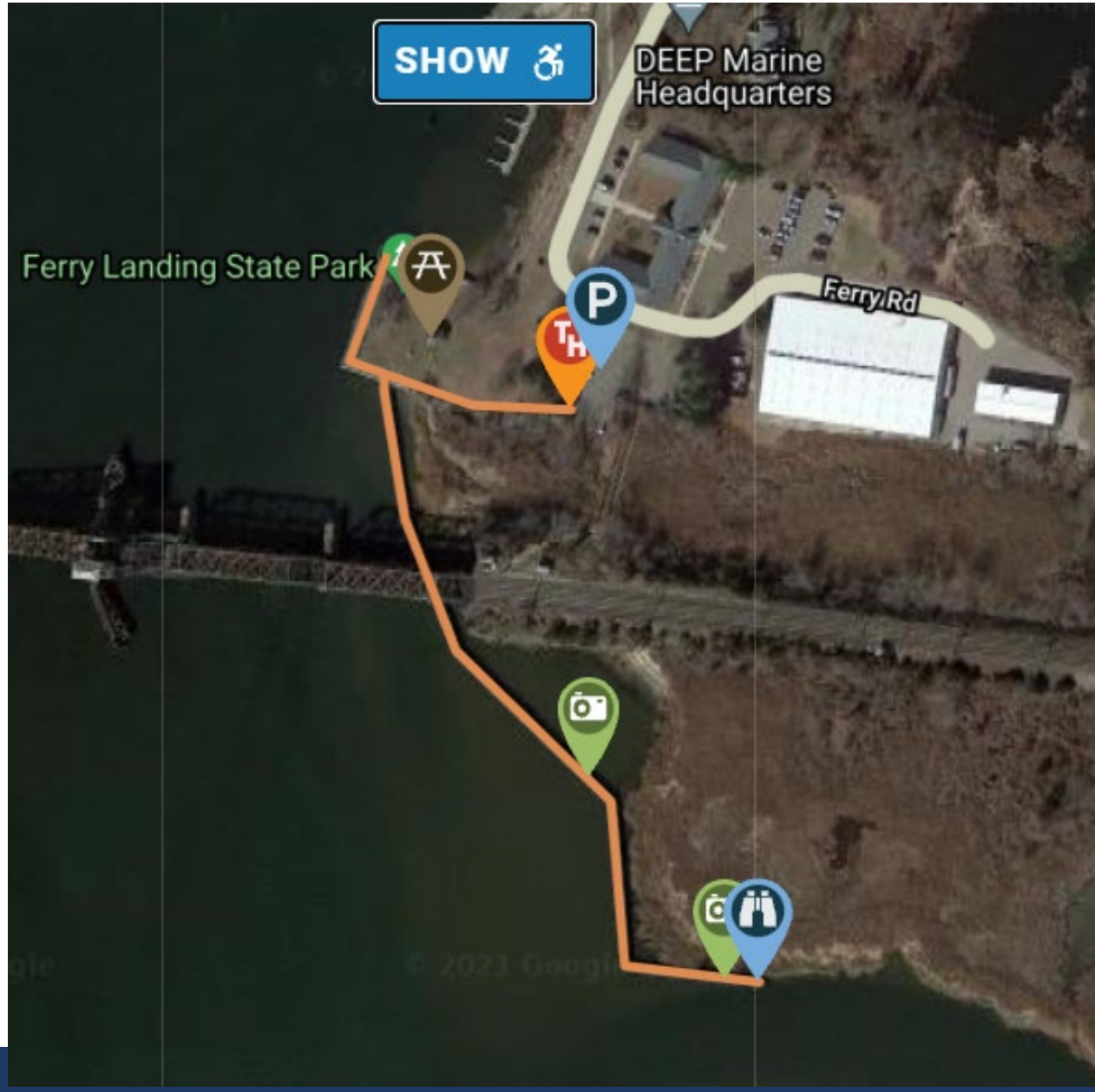

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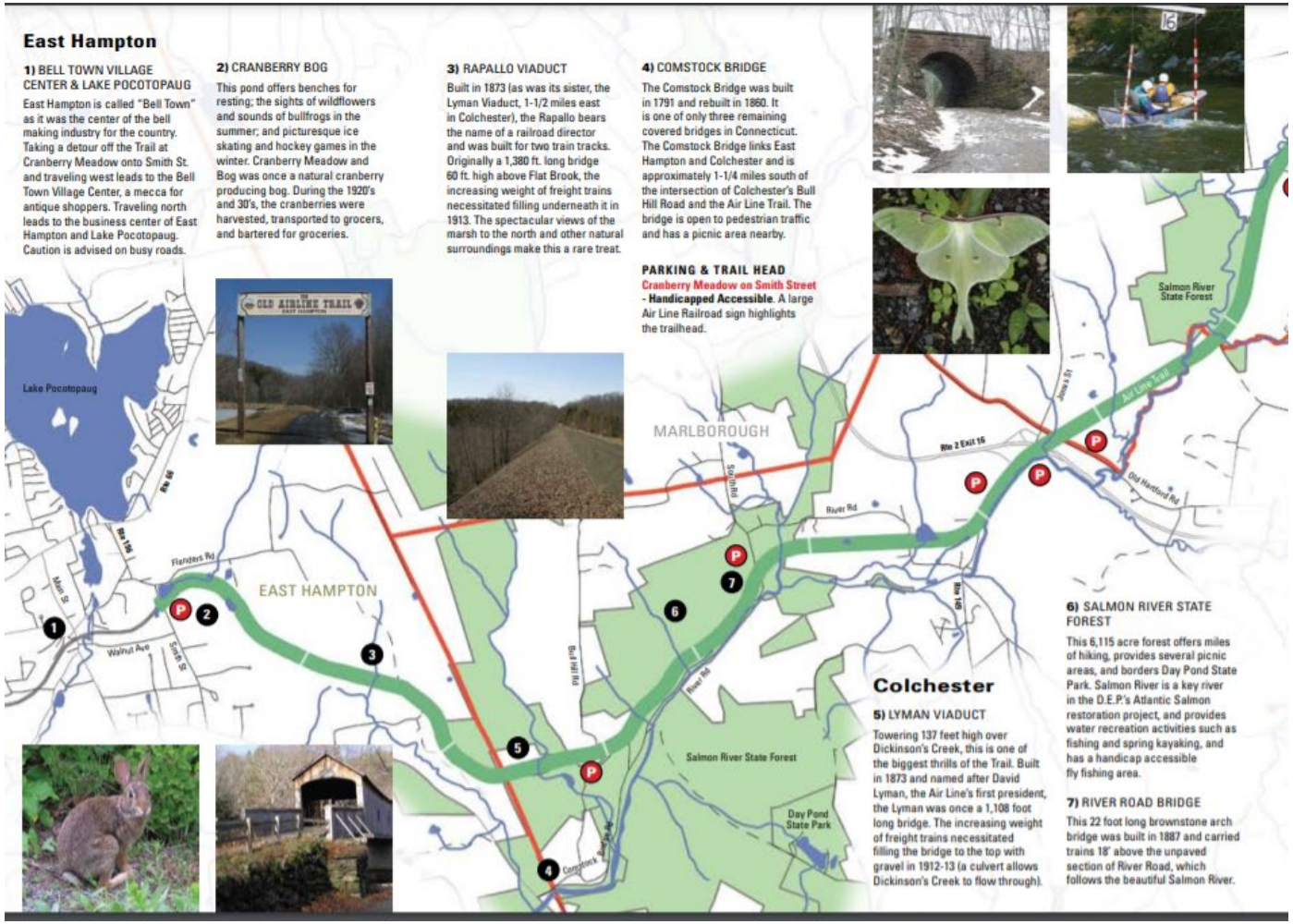

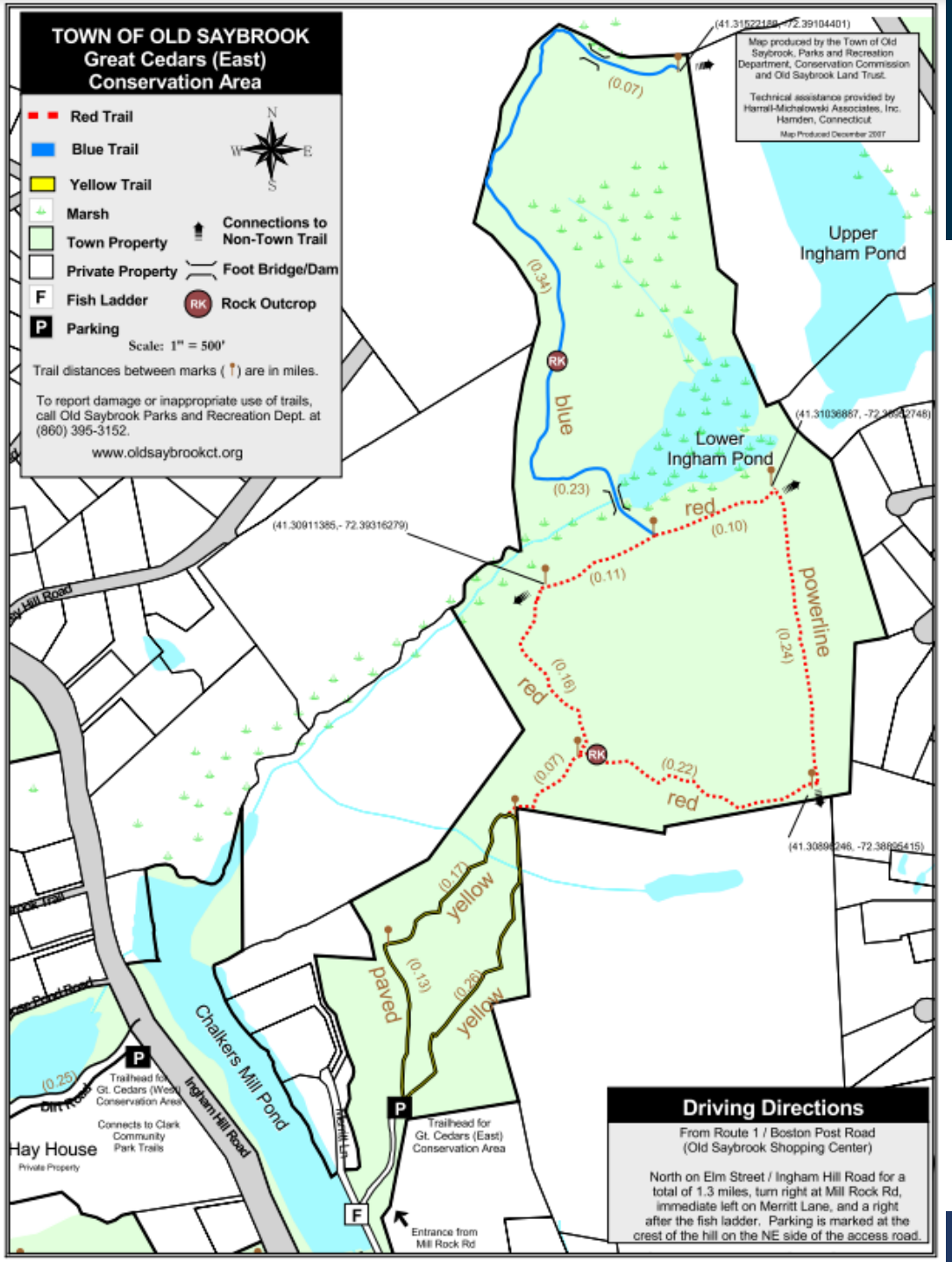

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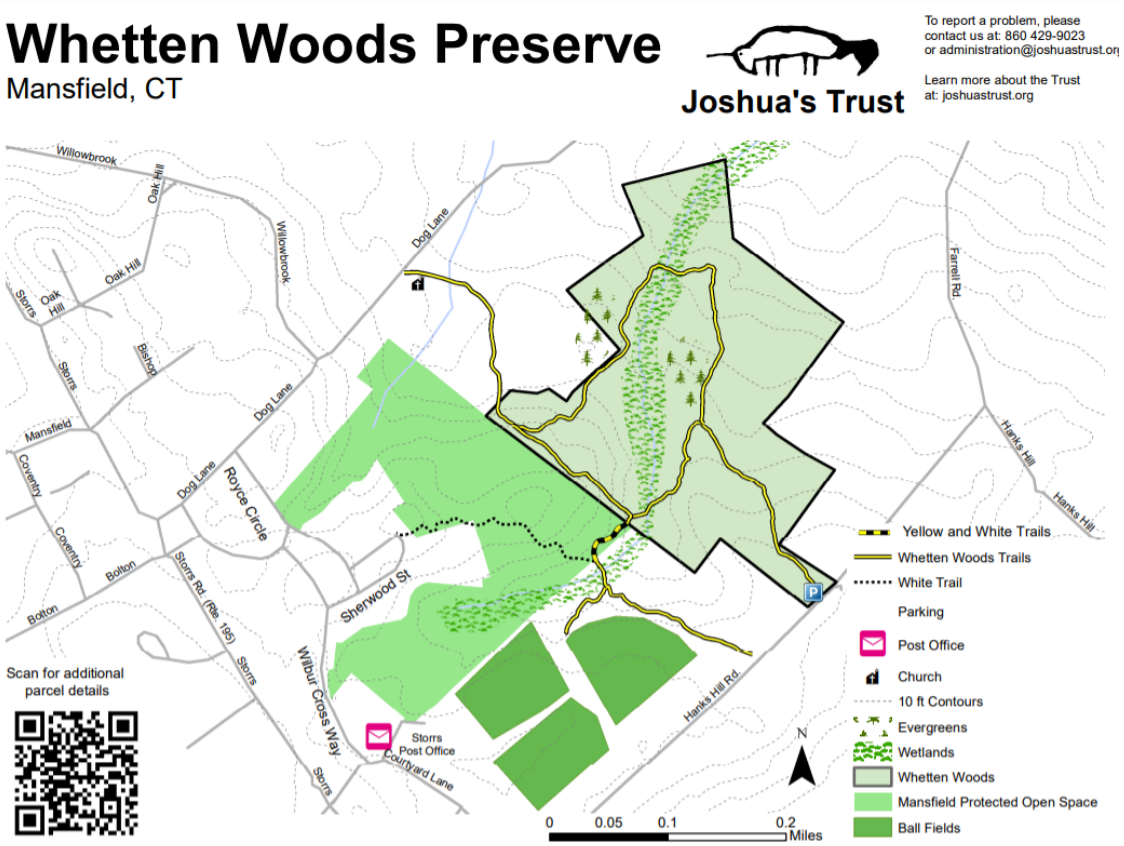

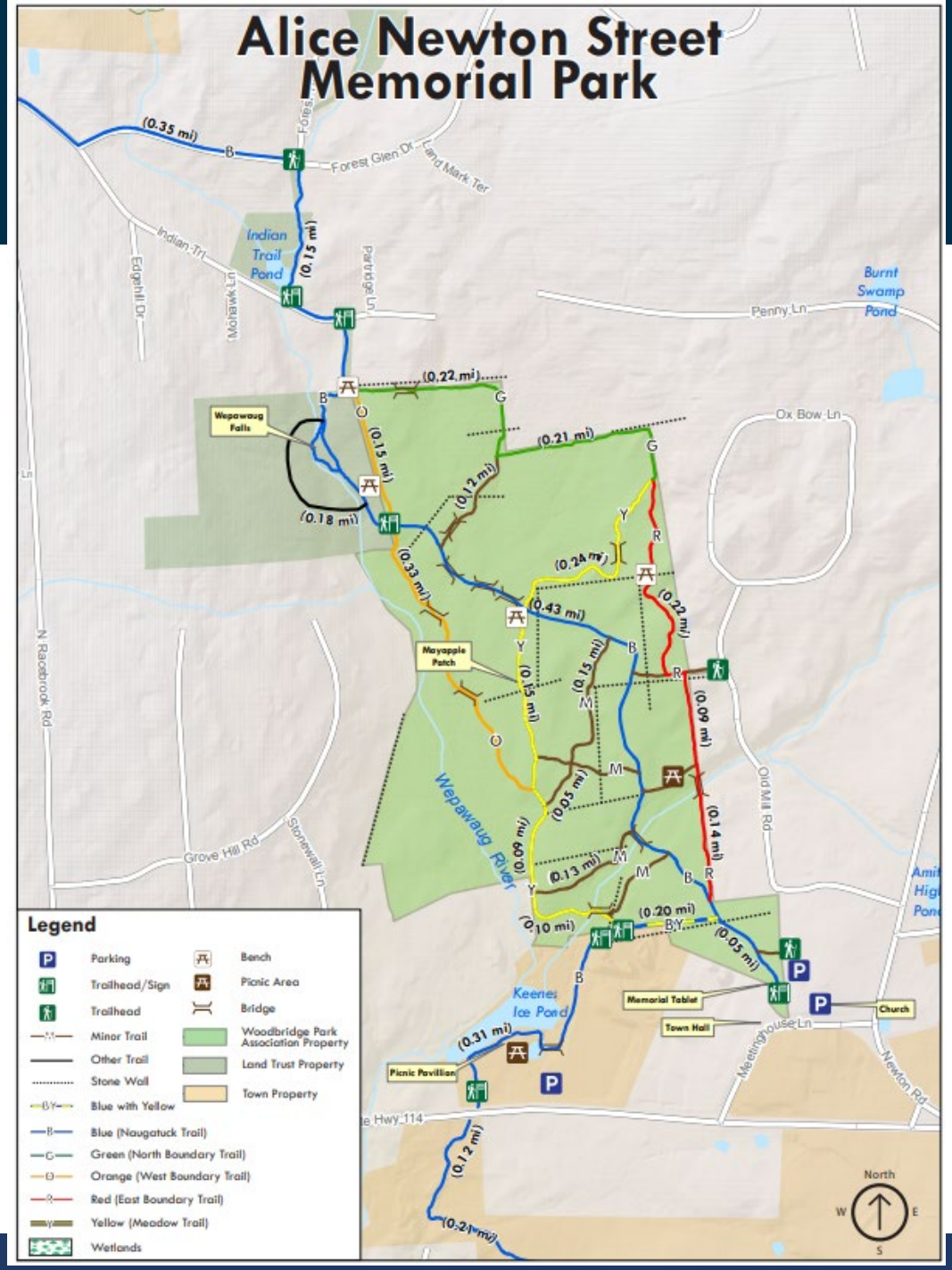

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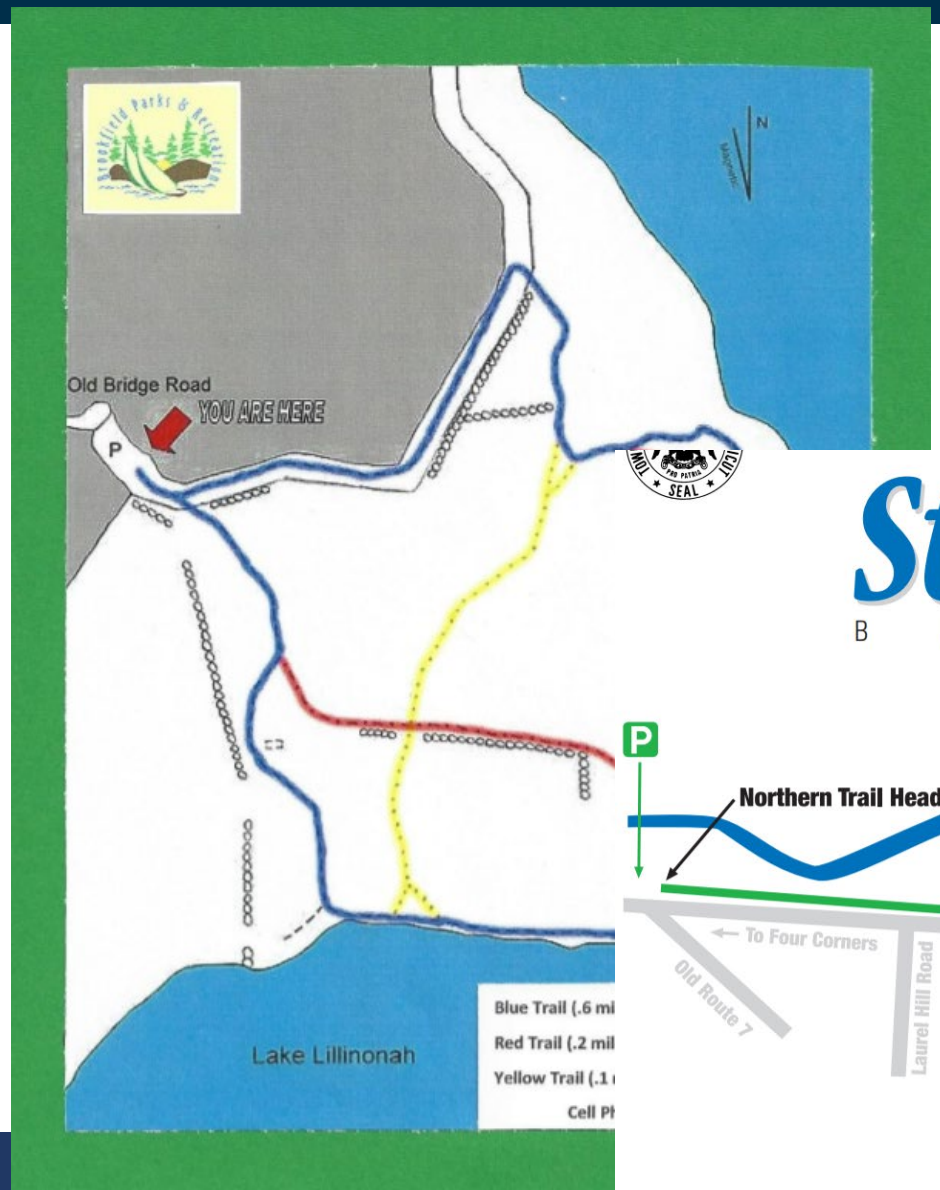

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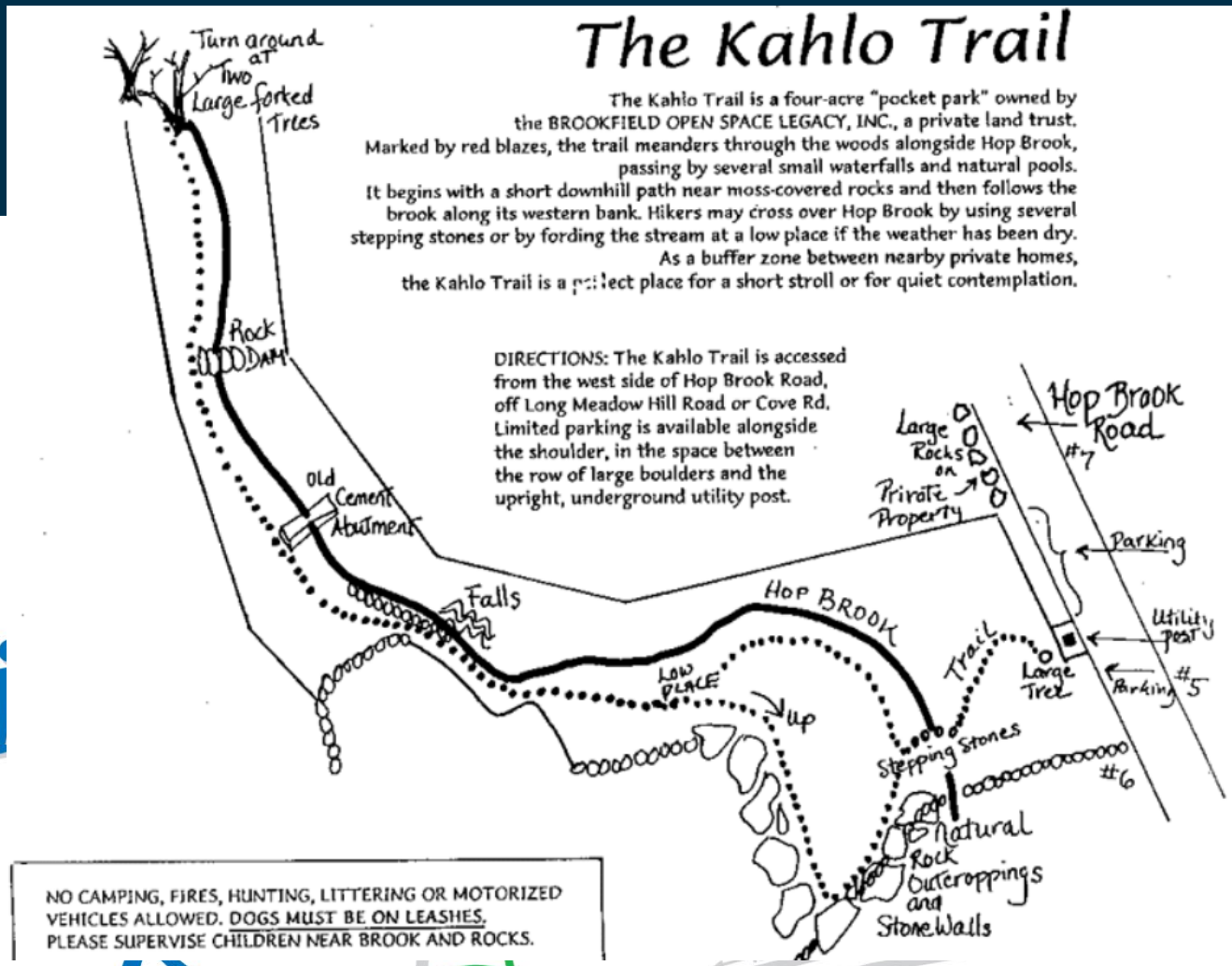
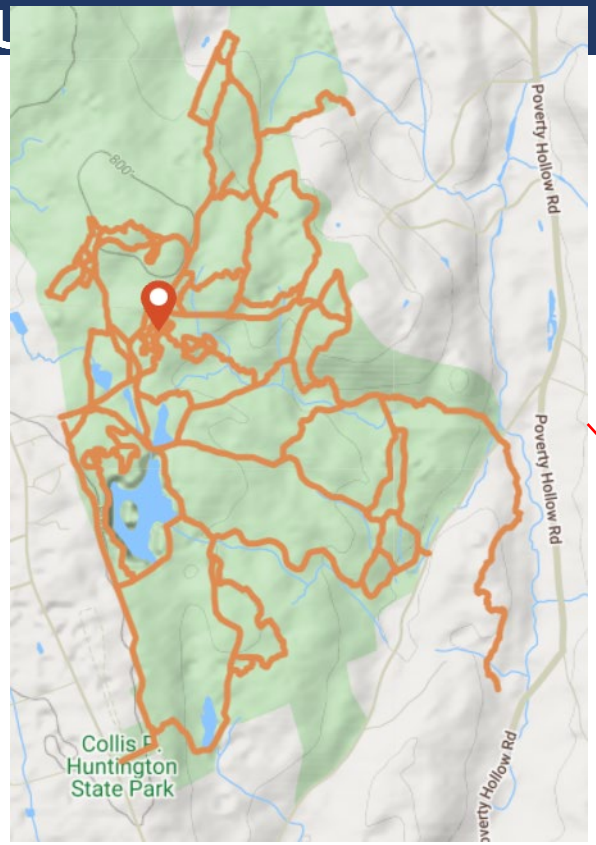
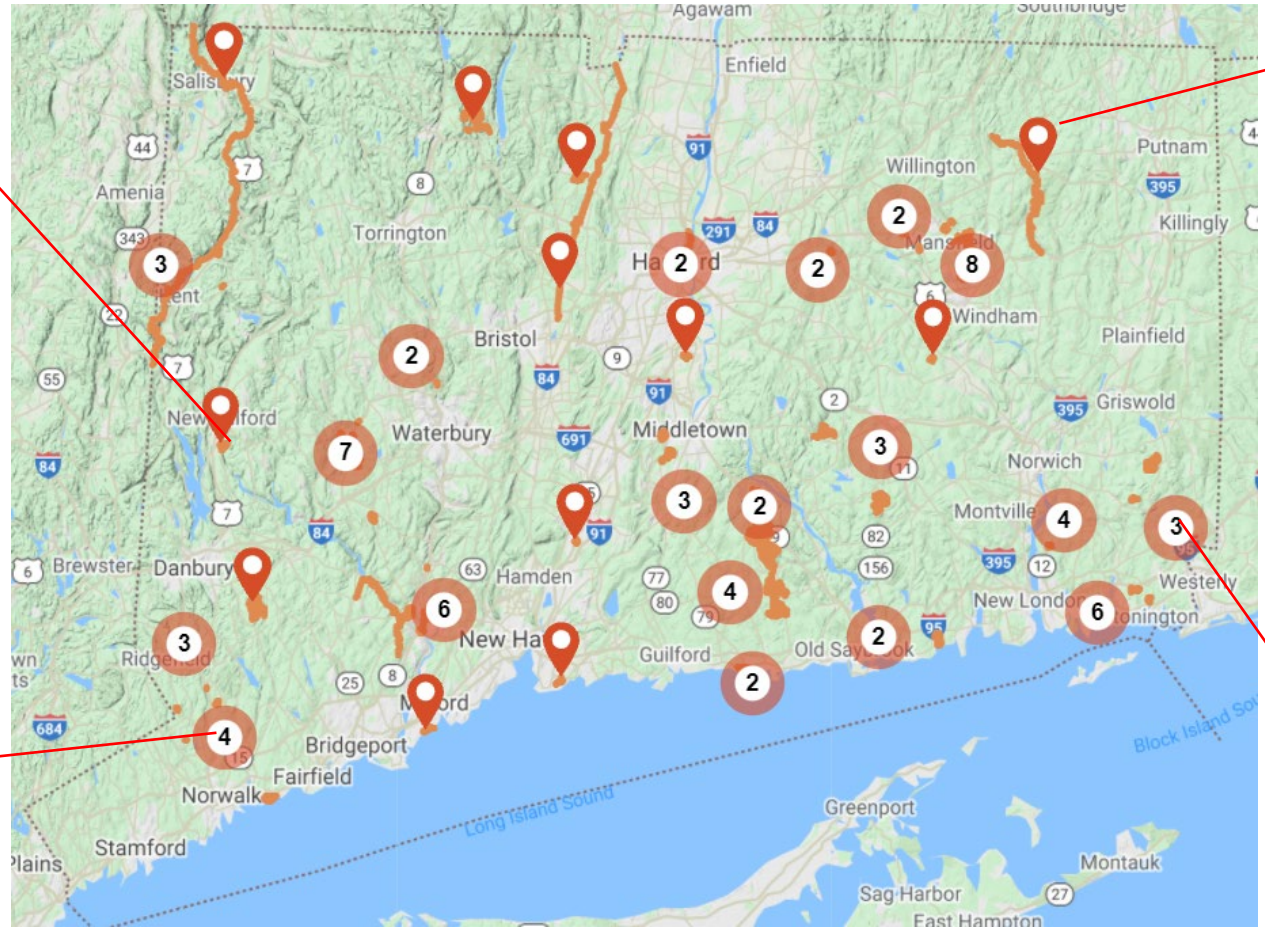



Poverty Hollow Rd
Poverty Hollow Rd
Collis P. Huntington State Park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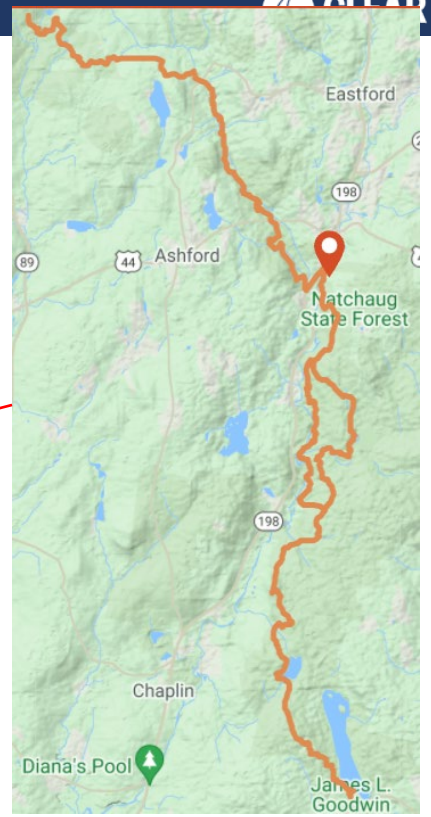
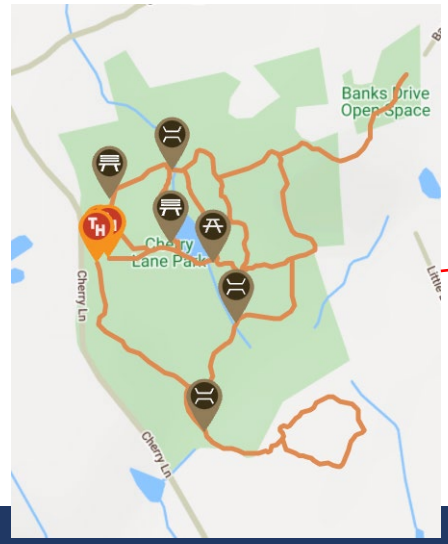
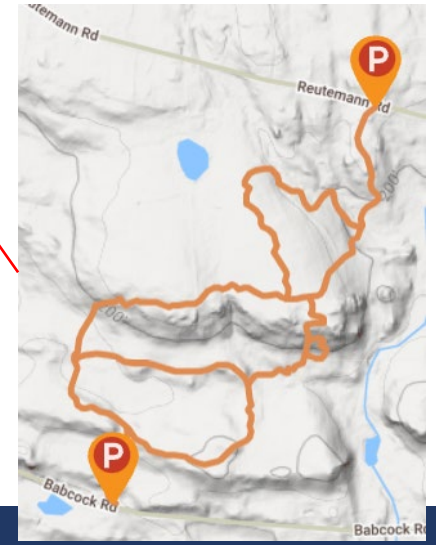
Willington
Putnam
Killingly
Amenia
Torrington
Bristol
Windham
Plainfield
Waterbury
Middletown
Griswold
Norwich
Montville
Brewster
Danbury
Hamden
New London
Westerly
Guilford
Old Saybrook
Bridgeport
Fairfield
Norwalk
Stamford
Greenport
Montauk
Sag Harbor
East Hampton
Long Island Sound
Block Island Sound


Eastford
Ashford
Natchaug State Forest
Chaplin
Diana's Pool
James L. Goodwin


Banks Drive Open Space
Cherry Lane Park
Cherry Ln


Reutemann Rd
Babcock Rd

UCONN | UNIVERSITY OF CONNECTICUT

Choose your own adventure!

START

You have GIS data

Yes

Is it relatively up-to-date and accurate?

Yes

Yes! Is it in an acceptable format?
Gpx, kml, shapefile, geodatabase

Yes

No

Can it be edited to be acceptable?
(bring brownies to your GIS friend)

No

Yes
(bring cake too)

No

What's GIS data?

GIS = Geographic Information System. How we work with geographic data (maps) using software on a computer. GIS is also a tool and a profession.

Yes

Call someone who might have it.
Town hall? COG? State agency like DEEP? Land trust? Local hiker fanatic?

No luck

Audience = Trail Managers

GIS Points and Lines for Trail Finder

CONNECTICUT TRAIL FINDER

REQUIRED

- Accurate enough (we can edit)
  - Location – in the right place
  - Information –blaze colors, etc.
- Includes authorized trails only
- Acceptable format
  GPS (gpx), KML, KMZ, shp, gdb
- Parking and Trailhead point locations

OPTIONAL

- Additional Points of Interest

We can help!

Collecting Geographic Data

Collect it.

Handheld GPS

(hopefully you know how to use it)

Send us the GPX line file

Smartphone App

use any you like or

Avenza Maps App

Send us the files

New Training!

Geospatial Training Program

Center for Land Use Education & Research

Introduction to GPS Mapping with Avenza Maps

A focus on data collection

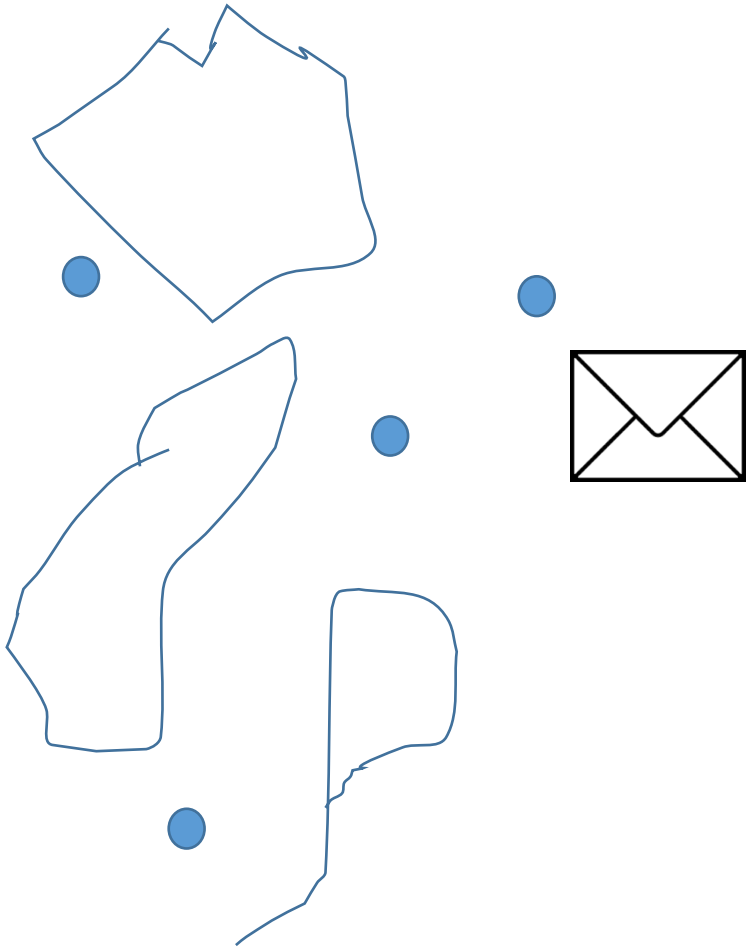
- How to collect GPS tracks, placemarks, geolocated photographs, and more.
- Data formats and strategies including the use of data schemas.
- Potential uses of the GPS data including CT Trail Finder, sharing, and strategies for other mapping software including Google Maps, QGIS, and ArcGIS.

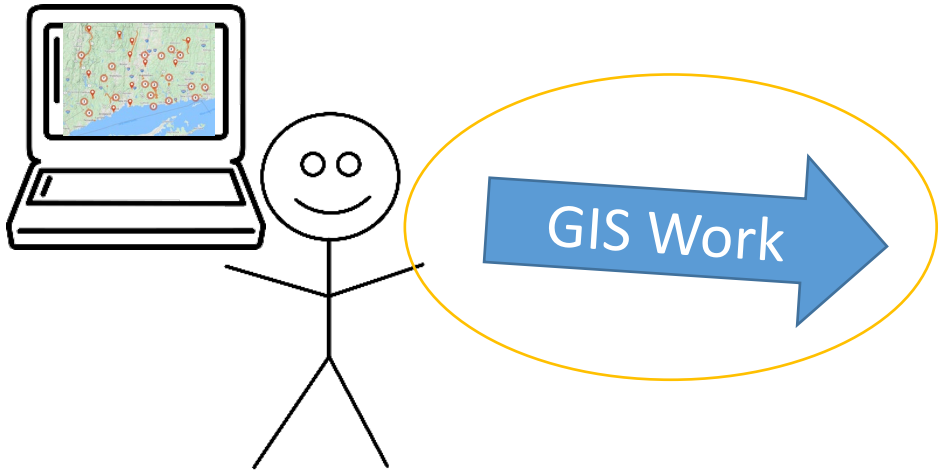
First one!

November 9, 2023, 9am-12pm
Middlesex County Extension Center

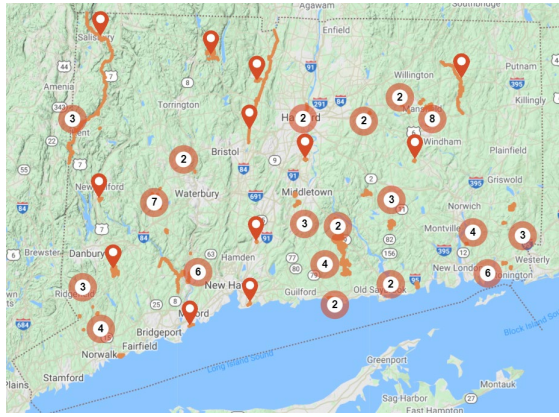
Data Gathering - Geographic

Points and Lines

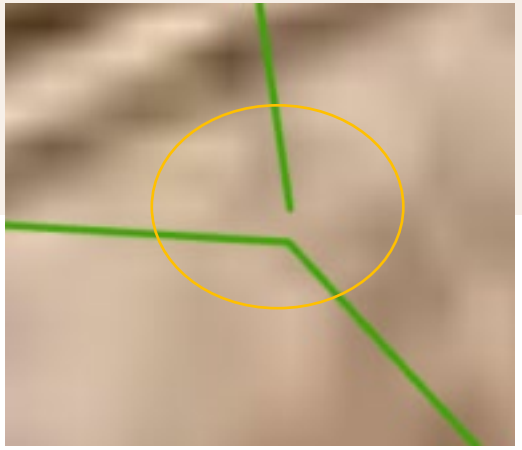




CONNECTICUT TRAIL FINDER

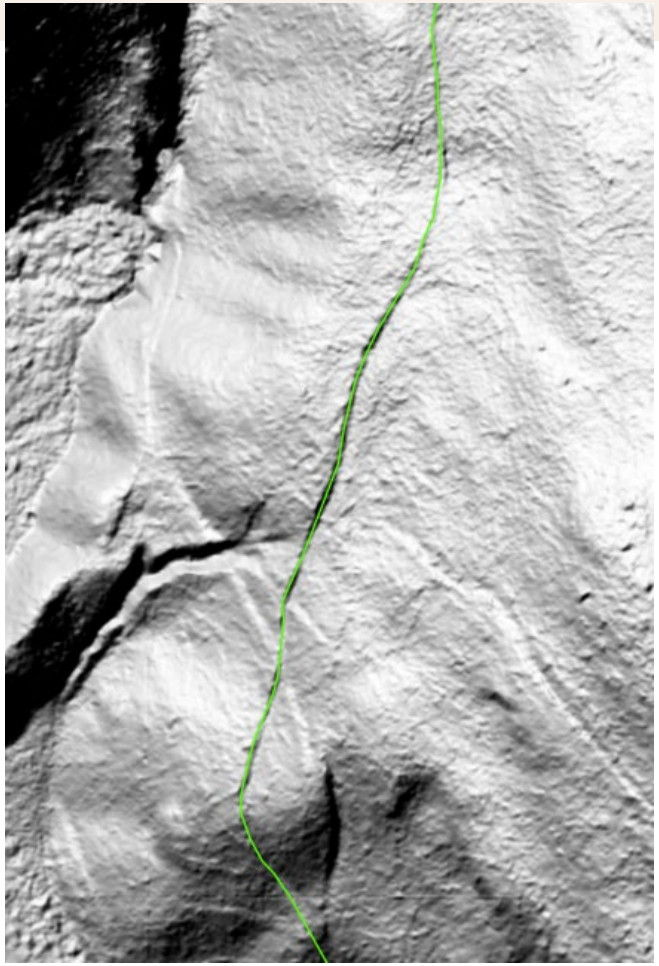


GIS Work - Lines



- Data format conversion (if necessary)
- Clean any hanging lines, snap intersections
- Check line location for accuracy, edit

GIS Work - Lines



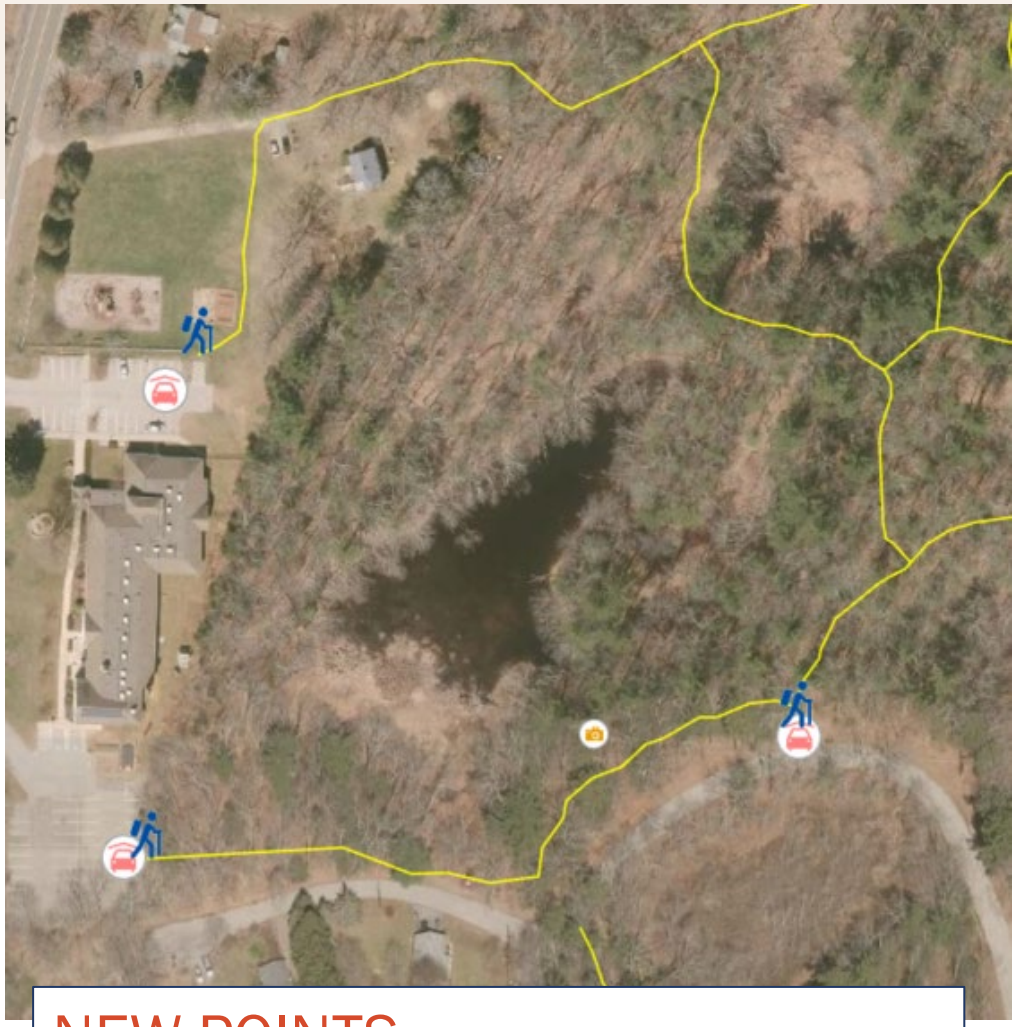
- Create segments (cut and merge) to match trails
- Add attributes to the table (name, system, blaze, surface)
- Calculate attributes for each segment
  (distance, min & max elevation, average slope)

CONNECTICUT
TRAIL FINDER

GIS Work - Points

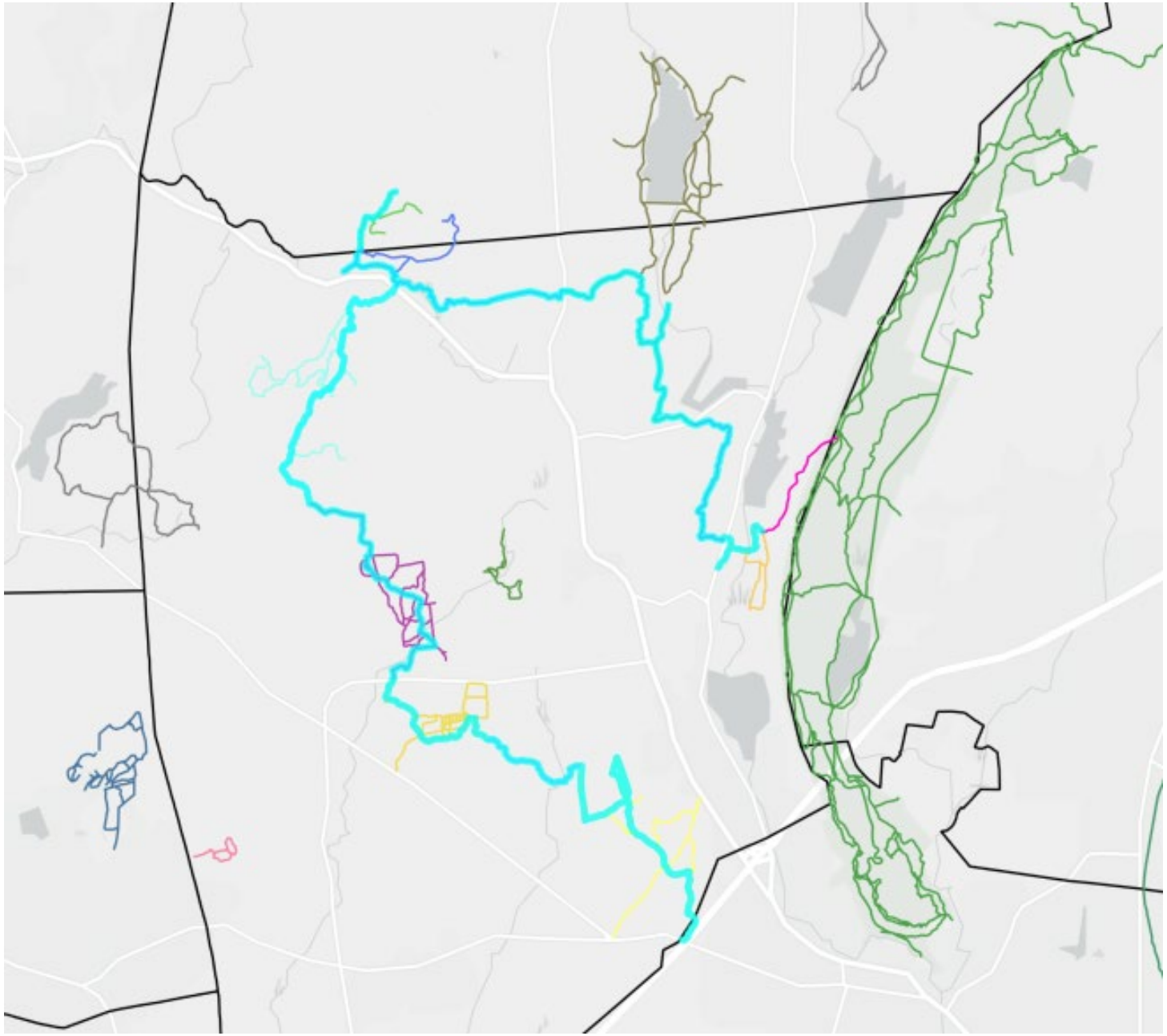
- Data format conversion (if necessary)
- Check location for accuracy, edit
- Add attributes to the table (name, type, notes)

- Bench
- Bicycle Repair Station
- Boat Launch *(put Marina/Ferry in notes)*
- Bridge
- Campground
- Caution
- Cultural Attraction
- Dam
- Fishing Area
- Gate
- Group Tent Site
- Hand-carry Boat Launch
- Hand-carry Boat Launch
- Hut/Lodge/Cabin
- Kiosk/Information
- Landmark
- Lean-to Shelter
- Lookout Tower
- Natural Attraction
- Park Office
- Parking *(specify lot vs. shoulder in notes)*
- Picnic Area
- Playground
- Portage
- Photo (if geotagged)
- Rapids/Falls
- Recreation Facility
- Scenic View
- Store
- Summit
- Swimming Area
- Tent Site
- Trailhead
- Waterfall
- Wildlife Viewing

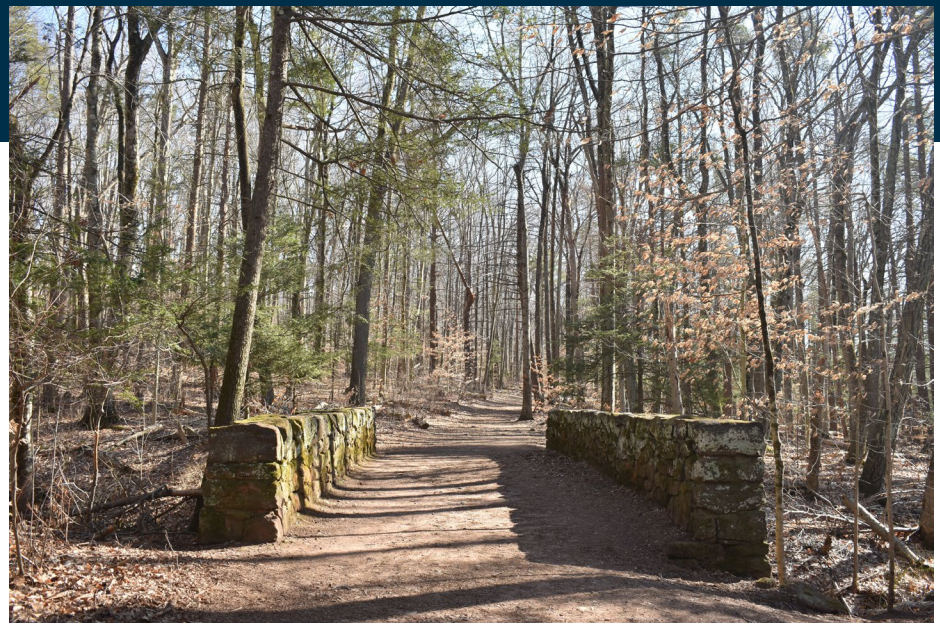


NEW POINTS

- EV Charging Station
- Junction
- Public Transportation



Have Trails to Add?

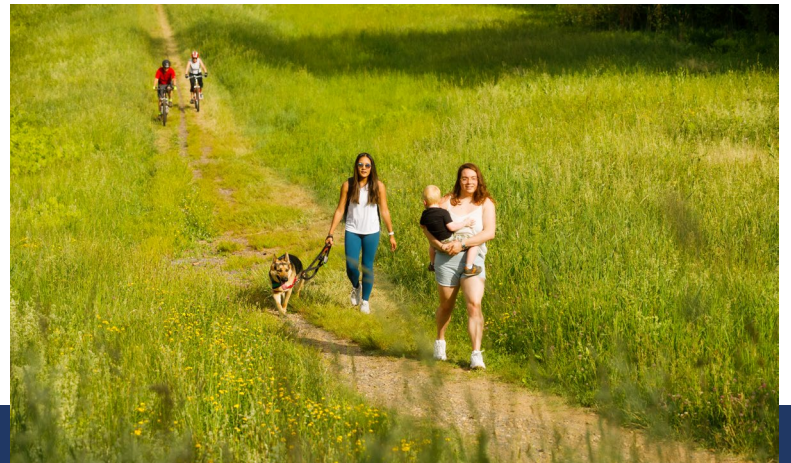


- Email us

  trails@uconn.edu

- Instructions and documents

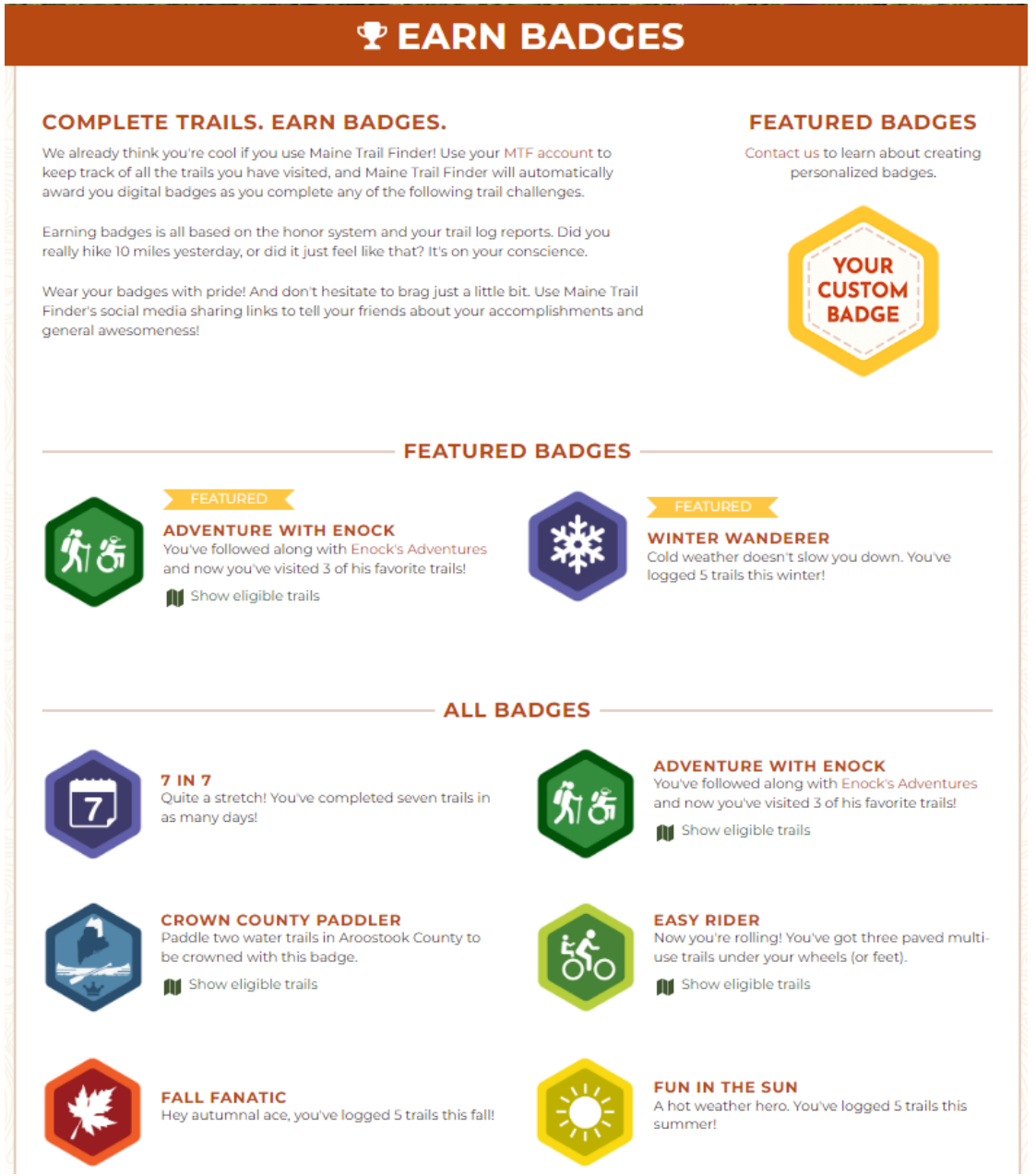
https://cttrails.uconn.edu/trailfinder_add/



Coming soon

Badges

Provide motivation
Align badges with outreach programs



EARN BADGES

COMPLETE TRAILS. EARN BADGES.

We already think you're cool if you use Maine Trail Finder! Use your MTF account to keep track of all the trails you have visited, and Maine Trail Finder will automatically award you digital badges as you complete any of the following trail challenges.

Earning badges is all based on the honor system and your trail log reports. Did you really hike 10 miles yesterday, or did it just feel like that? It's on your conscience.

Wear your badges with pride! And don't hesitate to brag just a little bit. Use Maine Trail Finder's social media sharing links to tell your friends about your accomplishments and general awesomeness!

FEATURED BADGES

Contact us to learn about creating personalized badges.

YOUR CUSTOM BADGE

FEATURED BADGES

FEATURED

ADVENTURE WITH ENOCK
You've followed along with Enock's Adventures and now you've visited 3 of his favorite trails!
Show eligible trails

FEATURED

WINTER WANDERER
Cold weather doesn't slow you down. You've logged 5 trails this winter!

ALL BADGES

7 IN 7
Quite a stretch! You've completed seven trails in as many days!

ADVENTURE WITH ENOCK
You've followed along with Enock's Adventures and now you've visited 3 of his favorite trails!
Show eligible trails

CROWN COUNTY PADDLER
Paddle two water trails in Aroostook County to be crowned with this badge.
Show eligible trails

EASY RIDER
Now you're rolling! You've got three paved multi-use trails under your wheels (or feet).
Show eligible trails

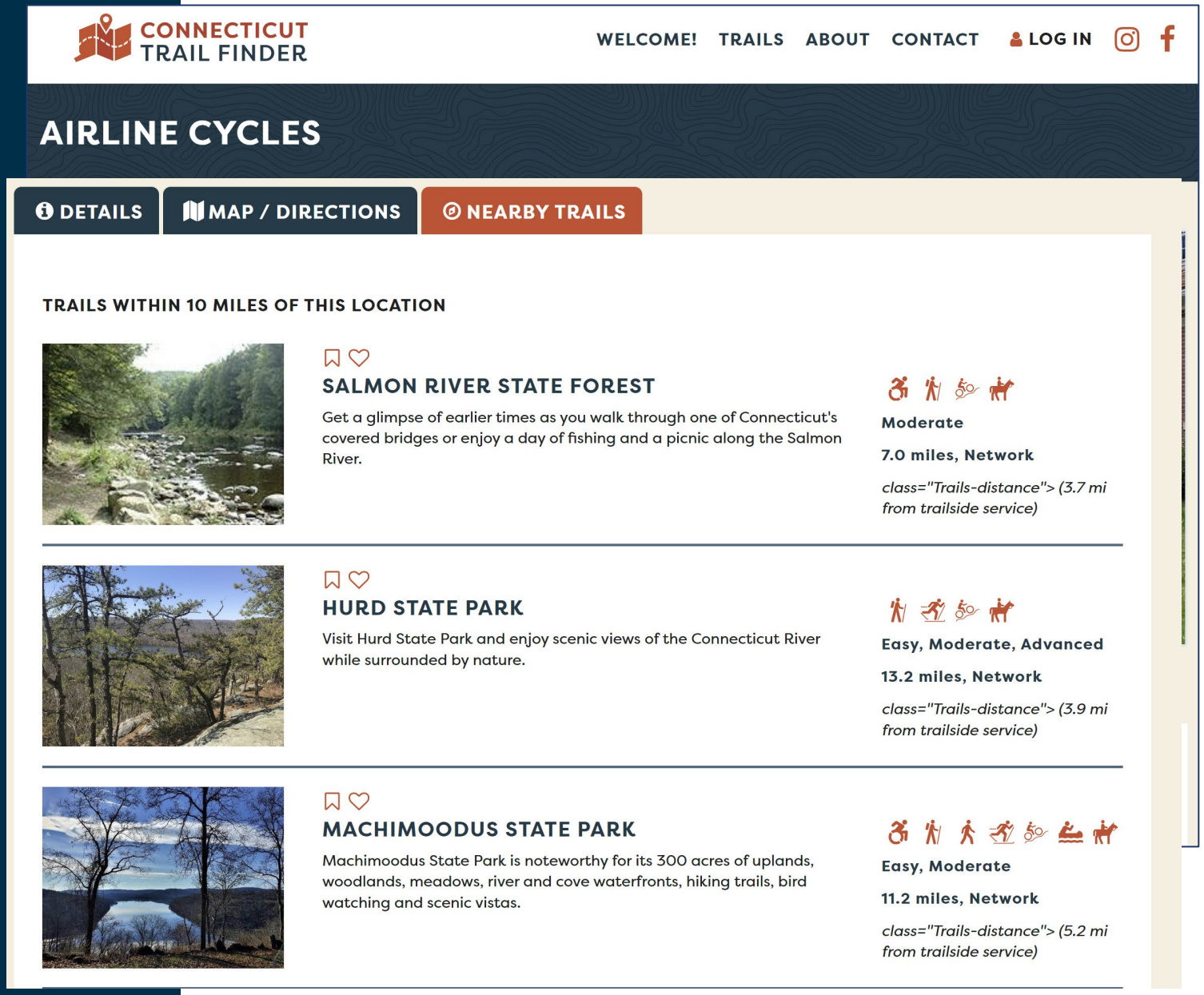
FALL FANATIC
Hey autumnal ace, you've logged 5 trails this fall!

FUN IN THE SUN
A hot weather hero. You've logged 5 trails this summer!

Coming soon

Trailside Services

Connect local businesses and services to trails

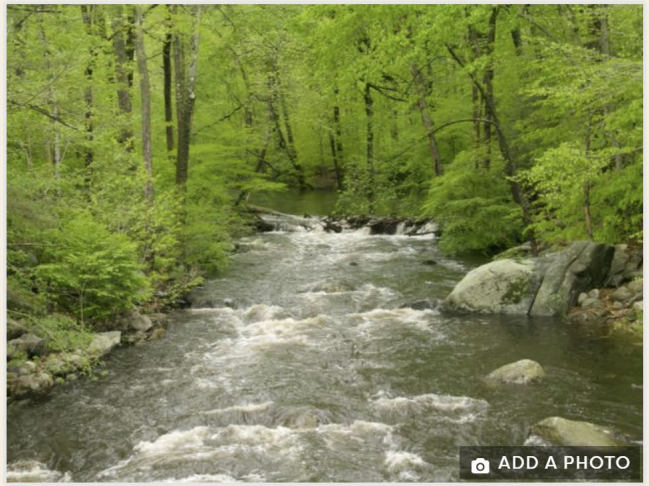


Bringing it together: custom “embed” map

MIANUS RIVER PARK AND STATE PARK

ADD TRAIL LOG

Mianus River Park is a 391 acre nature reserve on the Greenwich/Stamford border in Connecticut. The park feature a stretch of the beautiful Mianus River, forest lands, vernal pools, glacial outcroppings, varied wildlife and miles of rolling trails.



TRAIL ACTIVITY	
LENGTH	12.3 miles, Network
DIFFICULTY	Easy, Moderate
TOWNS	Greenwich, Stamford
SURFACE	Packed Earth/Dirt, Gravel/Crushed Stone, Paved/Cement
PETS	Permitted on leash
FEES	No

DETAILS | TRAIL MAP | DIRECTIONS | COMMENTS (0) | TRAIL ALERTS

DESCRIPTION

The Mianus River Park and State Park is an urban park containing over 12 miles of trails. The park includes a variety of paths and is well know for its flora and fauna. The Nature Trail (green) is 2.6 miles long with 13 points of interest marked with green letters. Visit the Nature Trail for a description of each point. The Yellow Trail is a 4.5 mile loop covering most of the park. Many smaller trails intersect and connect.

Mianus River Park spans two municipalities and consists of three contiguous properties:

- *Mianus River and Natural Park*, 110 acres, owned by the Town of Greenwich

CURRENT WEATHER

OCTOBER 06, 2023

70°F

Today's High: 71°F
Today's Low: 63°F
Outlook: Light Rain

New Map Options

- We select which trail posts to include

Show trail lines
Yes

Markers to show
Below are multiple options of how you can show trail markers

Show the primary trail marker
Yes

Show parking markers
No

If enabled, these markers will always sh

Show trailhead markers
No

If enabled, these markers will always show regardless of which POI markers are selected in "Show selected POI markers".

Show selected POI markers

0 items selected | Filter | Add all

Drag an item here or click the "+" button to select it

- Bench +
- Bicycle Repair Station +
- Boat Launch +
- Boat Launch-Accessible +
- Bridge +
- Campground +
- Campground-Accessible +
- Caution +

Copy iframe code

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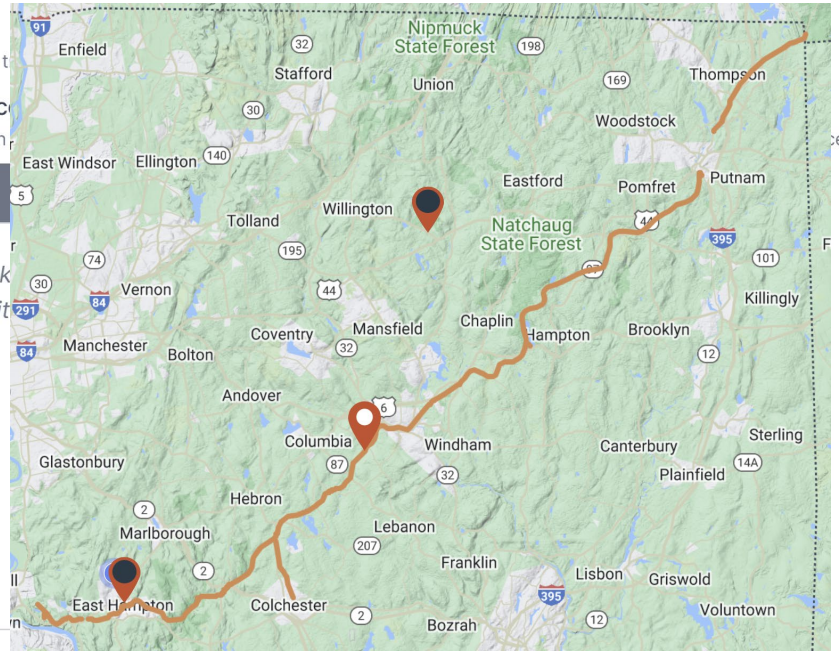
<iframe width="769" height="564"
src="https://www.cttrailfinder.com/trails/embed/513ec23d-2823-4b63-85dc-2df71885aedf"></iframe>
```

Show Trailside Services
Below are options to choose how to display Trailside Services

Show all trailside services
No

Show trailside services within a certain distance of the primary trail pins (miles)

Drag an item here or click select it



IN A HOUSE
ON THIS SITE
JOHN BROWN
WAS BORN
MAY 9 1800

Thank you and Questions?

Aaron Budris

abudris@nvcogct.gov

Emily Wilson

emily.wilson@uconn.edu

https://cttrails.uconn.edu/