

# Sustainable Trail Design

EUS 305: EUS Practicum

# Sustainable Trail Design: Information Gathering

- Write your name, major, focus area, year
- For each of the following, list 5+ examples related to Sustainable Trail Design
  - Types of trails
  - Sustainable trail design organizations
  - Publications and/or websites
  - Tools
  - Techniques
  - Concepts

# What is the EUS Practicum?

- EUS requirement
- Practical
- Topic changes
- Underlying goals remain the same
  - Real-world experience
  - Project-based experience (pre-SPROJ)
  - Networking
  - Internship/job/career ideas/experience

# What is Sustainable Trail Design?

- Free-write synonyms/definitions:
  - Sustainable
  - Trail
  - Design
- Concept Map:
  - Sustainable
  - Trail
  - Design

# What ground this course will cover:

- Trail Typology:
  - Hiking Trails, Rail Trails, Multi-use Trails, Bike paths
- Layout/design
  - Destinations, topography, ecology, hydrology
- Construction/maintenance
  - Tools/techniques, organizations, volunteers
- Interpretation/Wayfinding
  - Tools/techniques, social/psychological factors



**WALKKILL VALLEY  
RAIL TRAIL**

**WALKKILL VALLEY  
RAIL TRAIL**

*Open Area to Walk*

*Keep Dogs on Leash*

*Walk parallel through private property;  
please stay on trail.*

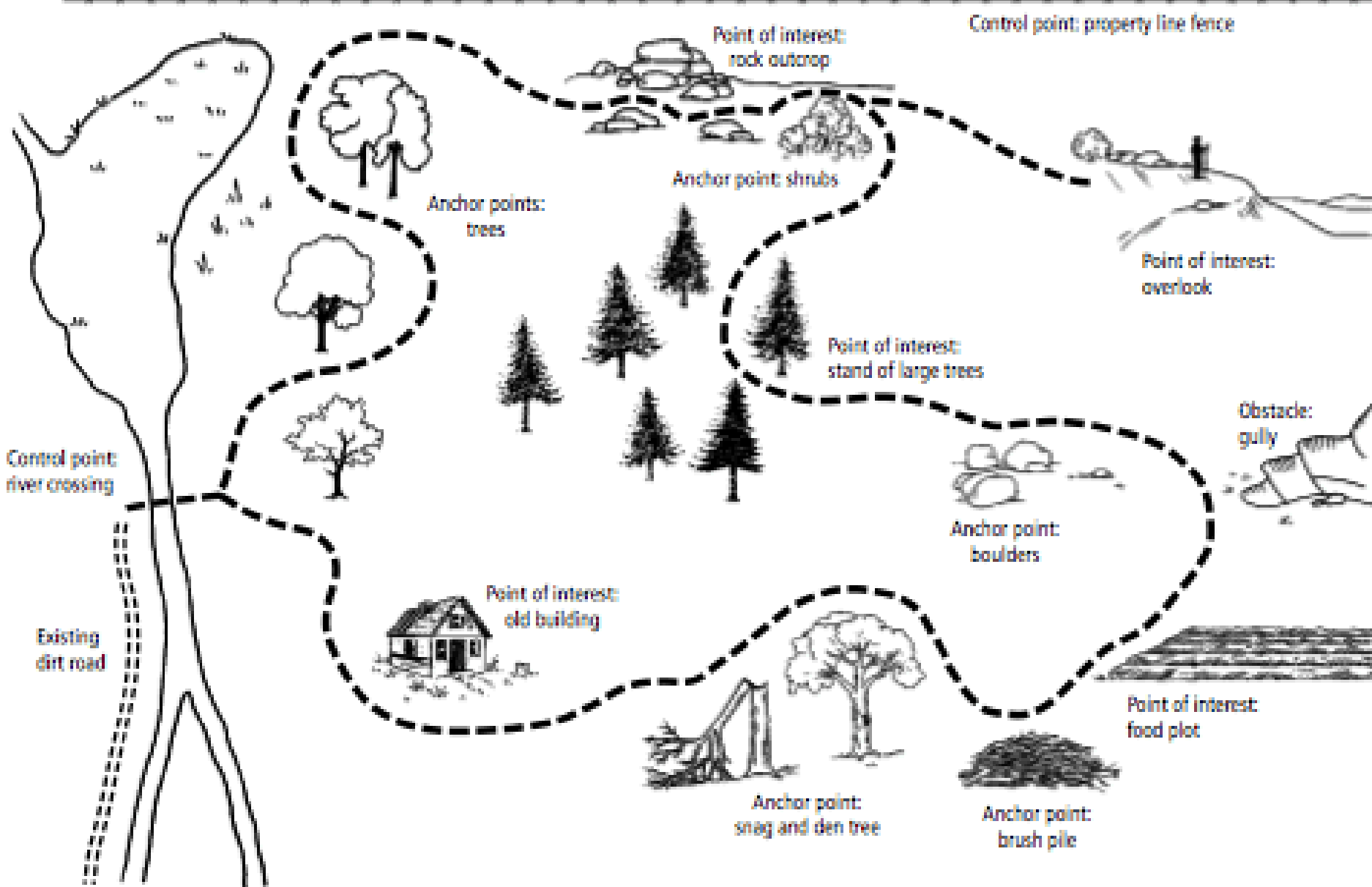
*No Discharging of Firearms  
or other weapons*

**WALKKILL VALLEY'S NEW FRIENDS**

© 2008 Walkkill Valley Rail Trail Association  
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the Walkkill Valley Rail Trail Association.







**Figure 13-1. Consider existing roads and trails, control points, obstacles, points of interest, and anchor points in trail layout.**







WOMEN  
WORKING

closed Tues

WHEEL TRAILS CAMP

Quail 1998





**Before**



**After**









## INTERPRETIVE STOP 1

### Chadakoin Formation outcrop

Devonian Era siltstones, shales and sandstones were deposited on the outer shelf of a Mediterranean-like sea about 350 million years ago. Fossils include brachiopods, bryozoans, crinoids and possibly sponges.



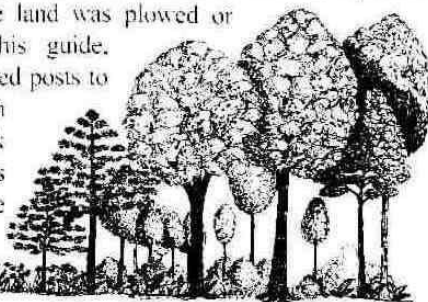
### Walk Into The Past

The Catawago River is a remnant of the ancient Mediterranean Sea that once covered the region. The river's course is a testament to the geological forces that have shaped the landscape over millions of years. The river's path is a result of the erosion of the soft sandstone and shale of the Chadakoin Formation, which was deposited on the outer shelf of a Mediterranean-like sea about 350 million years ago. The river's course is a testament to the geological forces that have shaped the landscape over millions of years. The river's path is a result of the erosion of the soft sandstone and shale of the Chadakoin Formation, which was deposited on the outer shelf of a Mediterranean-like sea about 350 million years ago.

Your journey begins to the left  
Please stay at the boardwalk.



Cherry Lane Trail goes through an area which shows succession at work. Succession is the gradual, predictable changes in vegetation over time as bare soil gradually becomes a climax community. When the Naturealm became a park in 1964, much of the land was plowed or pasture. Follow this guide, stopping at numbered posts to observe changes in the area and to look for the many plants and animals that live near the trail.

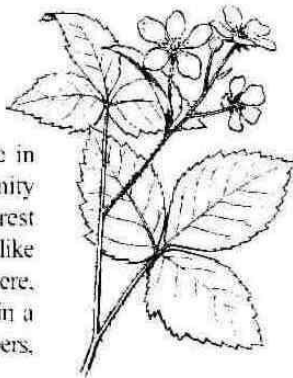


### 1. THE YOUNG FOREST

The trail passes through a young forest where small to mid-sized trees are growing. Trees of this size and type are found 20 to 30 years after forest replaces fields. Ash, cherry, dogwood and locust are common trees; shrubs include multi-flora rose and honeysuckle; vines include five-leaved Virginia creeper, three-leaved poison ivy and wild grape. Listen for the sounds of the animals attracted to this young forest: birds, chipmunks, squirrels and insects mixing with the song of the wind through the trees.

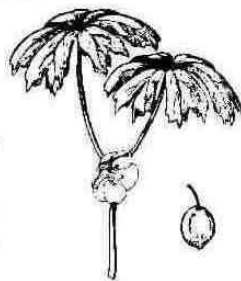
### 2. MEADOW

The meadow on the right of the trail shows what the vegetation of this part of the Naturealm may have looked like in the 1960's. This "edge" community attracts wildlife from both the forest and meadow. Sun-loving plants like blackberry and goldenrod grow here, providing food not usually found in a forest. Look and listen for grasshoppers, spiders, maybe a bluebird.

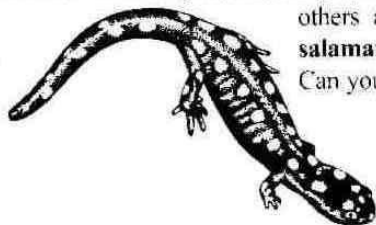


### 3. THE MATURE FOREST

Large oak, maple, beech and hickory trees grow here, typical of mature, upland forest. In this last stage of forest succession, a climax community develops. The type of dominant tree species is determined by soil type and climate. Because sunlight reaches the forest floor early in the spring before the tree leaves open, most forest wildflowers grow then. **May-apple** is one of the longer lasting spring flowers. In spring and early summer, look for its large umbrella shaped leaves.



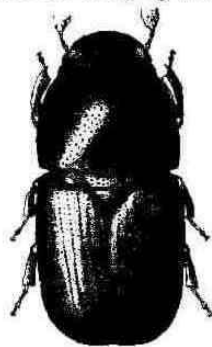
This is a good place to look for the inhabitants of the forest floor. Small holes in the ground are dug by mice, chipmunks or moles; others animals like snakes and **salamanders** use them for shelter.



Can you observe woodland birds like robins, chickadees and woodpeckers, or a toad hopping by on a quest for a juicy worm?

### 4. NATURAL RECYCLING

Death is part of life in a healthy forest. When the forest giants fall, wood-boring insects like **bark beetles**, termites and carpenter ants move quickly into the decaying wood. Worms, millipedes, snails, shrews, salamanders, spiders and beetles live in and around fallen tree trunks. Along with fungus, mushrooms and bacteria, they help to break apart the tough wood fibers into smaller and smaller pieces. Eventually, these natural recyclers return the nutrients and organic matter of the wood and fallen leaves to the soil so living trees can use them again.



### 5. FERNS AND MOSS

Some interesting plants grow on the mature forest floor. Look for different kinds of mosses and **ferns** which thrive where it's cool and moist. Change in the mature forest happens slowly. The existing trees will gradually get old and die, but younger trees of the same mix of species will replace them. A climax forest is home to a great variety of species. Only if a huge windstorm blows down many trees or all the trees are cut down by loggers will succession begin again.



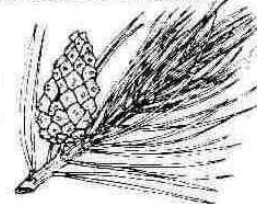
### 6. WHO LIVES HERE?

This suspension or "swinging" bridge carries hikers safely across a deep ravine. Because it was hard to cut down the trees in the ravine, some of the largest trees in the Naturealm are found here. At the far end of the bridge, follow the path to the right. Animals such as **woodpeckers**, squirrels, owls and chickadees have found homes in the trees along the edge of the ravine. The smaller woodpeckers (downy, hairy and red-bellied) chisel out round holes for their nests; owls, raccoons and gray squirrels inhabit the larger holes. Standing dead trees perform a valuable service by providing places for animals to live.



### 7. PINE TREES

Scotch pine trees were planted here (before 1964) by former owners, possibly to be used for Christmas trees. They are not native to this area. They gradually die and are being replaced by oaks, cherries, maples and beeches. Unlike the **pines**, these native trees are suited to the area and will naturally reproduce.





- [Find a Park](#)
- [Discover History](#)
- [Explore Nature](#)
- [Get Involved](#)
- [Working with Communities](#)
- [Teachers](#)
- [Kids](#)
- [About Us](#)



## Vanderbilt Mansion

National Historic Site  
New York



### Explore This Park

[Park Home](#)

[Plan Your Visit](#)

[Learn About the Park](#)

[Get Involved](#)

#### Park Tools

- [FAQs](#)
- [Contact Us](#)
- [Site Index](#)
- [Español](#)
- [Bookstore](#)

## Hyde Park Trails Audio Podcasts



### Welcome to Hyde Park Trails

The Hyde Park Explorer podcast series is your companion guide as you hike the trails throughout the Roosevelt-Vanderbilt National Historic Sites. The program provides a wide range of audio offerings designed to enhance your hiking experience.



### TOUR: Top Cottage

This trail takes you to the highest point on the Hyde Park Trails. When you reach the summit, you will have made the same climb that kings and queens and a host of foreign leaders made during some of the most critical days of the 20<sup>th</sup> century. Top Cottage, FDR's humble hilltop getaway hosted pivotal meetings that shaped world history. It also provided guests with a dramatic vantage point from which to view the natural

CONTINUE STRAIGHT



START OF TRAIL



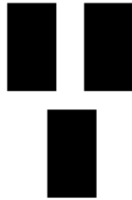
RIGHT TURN



SPUR LEADING TO A DIFFERENT TRAIL



END OF TRAIL



LEFT TURN



BACKCOUNTRY WILDERNESS AREA



TRAILHEAD

Welcome to the Backcountry Wilderness Area and the Douglas County Regional East-West Trail



This trailhead is your starting point – on foot, bike, or horse – for destinations near and far.

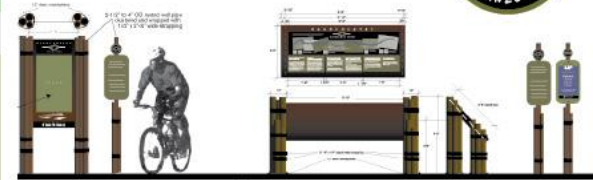
This section of the Douglas County East-West Trail leads you to Coyote Ridge Park. In the future this trail will connect with the East-West Trailhead at Gigs Road and to the Bluffs Regional Park.

One mile up the trail, you will find the Wildcat Mountain Trail System where you can explore 871 acres of the Backcountry Wilderness Area. The Backcountry is an unspoiled, well-protected refuge for native plants and animals. Native grasslands and shrubs make up the majority of the ecosystem which contains elk, deer, raptors, bobcat, and many other species of wildlife.

The Wildcat Mountain Trail System has unique regulations in order to protect the abundant wildlife and natural resources present on the property. Dogs will not be permitted on the trails and there will be seasonal closures. For more information, please go to [www.lhccanline.org](http://www.lhccanline.org)

HIGHLANDS RANCH COMMUNITY ASSOCIATION DOUGLAS COUNTY

TRAILMAPS BY COMPUTER TERRAIN MAPPING





# Introductions

- Free-write
  - Why are you interested in this class?
  - What have you done with trails?
  - What might you do with trails in the future?
  - What would your (funny?) trail name be...?
- Pair/share
  - Who is your partner?
  - What have they done with trails?
  - What might they do with trails in the future?
  - What would their (funny?) trail name be...?



# Exciting!

- Passion for connecting people with nature
- Concerned about damage to parks/habitats
- Worried about “museumification”
- Concerned about climate change & obesity
- Supportive of transportation justice
- Excited by the many trail projects & trail networks happening locally, regionally, nationally
- Interplay of conservation, recreation, fitness, community & economic development



# Skills you should have at the end:

- Identification of trail types, tools, techniques
- Identification of trail organizations and resources
- Critical analysis of layout, design, construction, maintenance, interpretation, and wayfinding.
- Some combination of real-world trail skills (physical, interpersonal, professional, conceptual, creative, clerical, computer, audio)
- Project planning & development skills
- Team skills (constructive criticism, compromise, collaboration)

# Trail Map Grab Bag

- With your partner
- Find a trail map/brochure or two
- Assess the trail:
  - type of user(s)?
  - intensity of use/proximity to civilization?
  - organizations involved?
  - sophistication of construction/maintenance?
  - emphasis on interpretation/wayfinding?

# Overview of Local/Regional/National Trails Projects

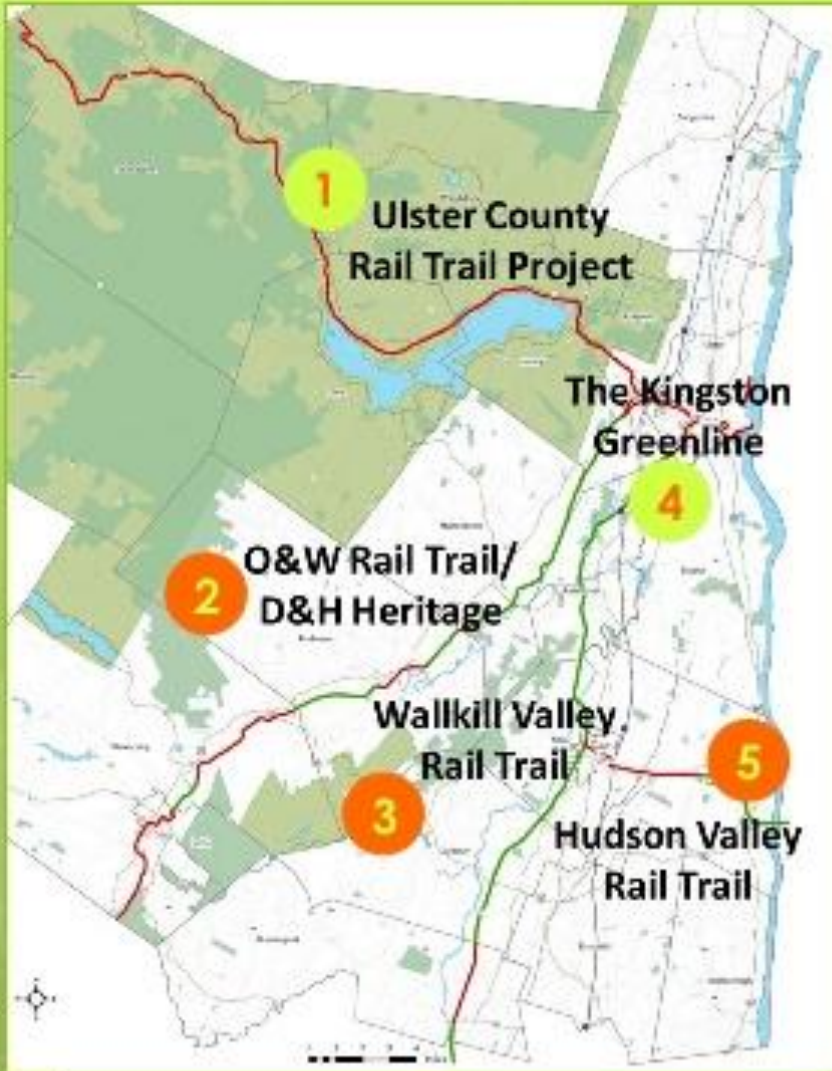
- AT and the PCT [[video](#)]
- National Recreation Trail
- Long Trail vs. Long Path
- High Line, Walkway over the Hudson, High bridge, Queensway, Low Line?
- Ulster Rail Trails; Dutchess Rail Trail
- Red Hook Town Wide Trails Plan; Hook Trail; Village to Village Trail; Upper 9G Corridor plan
  - Bike paths, Bard trails, Tivoli Bays WMA trails, parks







## The Regional System



1. Ulster County Rail Trail Project from the Catskills to Kingston
2. D&H Canal Heritage Trail from Sullivan County to Kingston
3. Walkkill Valley Rail Trail from Orange County to Kingston
4. Kingston Greenline connects D&H, UCRT, WVRT and links to the Hudson River via Kingston Point Rail Trail
5. Hudson Valley Rail Trail links from WVRT to Walkway Over the Hudson

CLEAR CHANNEL

BUILD THE TRAIL, BUT



SAVE THE RAILS.ORG

000441

"When the  
nothing  
in the f

Tu



# Homework

- Write down 5+ problem areas for pedestrians/cyclists in the Tivoli, Bard, and Red Hook areas.
- Fill out the survey here:  
<http://redhooktrailplan.weebly.com/>
- Buy/borrow/share the two text books:
  - Appalachian Mountain Club's Complete Guide to Trail Building and Maintenance
  - With People in Mind: Design And Management Of Everyday Nature
- Start thinking about trails in the Hudson Valley you'd like to visit and organizations in the Hudson Valley you'd like to volunteer for...

# Exit Survey

- What today was exciting?
- What was confusing?
- What do you want to learn more about?