

Habitat Mapping in the Town of Clinton



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Importance of Habitats

Healthy, functioning ecosystems support the human community and the living world around us.



Habitat mapping rationale

- Little known about biological resources on most land
- To provide site-specific and landscape-scale information
- To allow land-owners & town agencies to plan future development with sensitive and important areas in mind



Why a habitat approach to biodiversity conservation?

- Habitats are surrogates for species
- Habitat loss and degradation are the primary causes of species extinctions, locally and worldwide.
- Non-biologists can readily recognize many habitats
- Habitat protection can easily be incorporated into local ordinances and site design



Ecologically Significant Habitats



- Rare or declining habitats
- Habitats that support rare or declining species
- Common “matrix” habitats

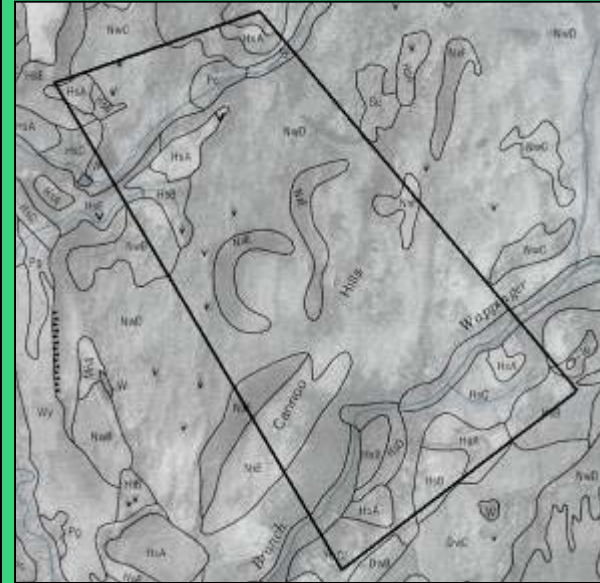
Not included: developed areas and small habitats in between development

Methods: remote data

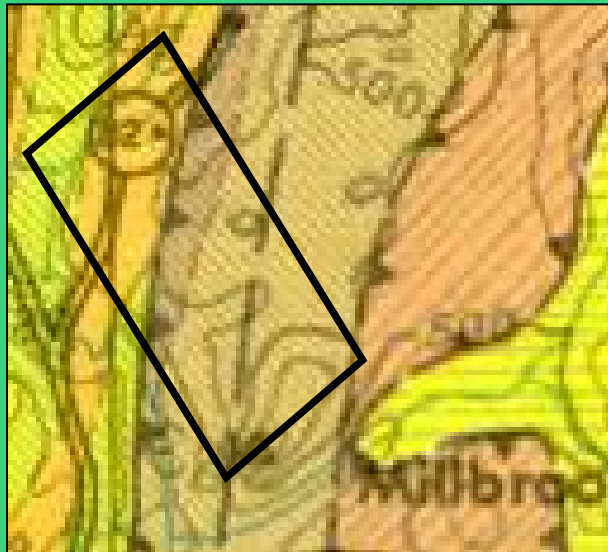
topographic
maps



soils
maps



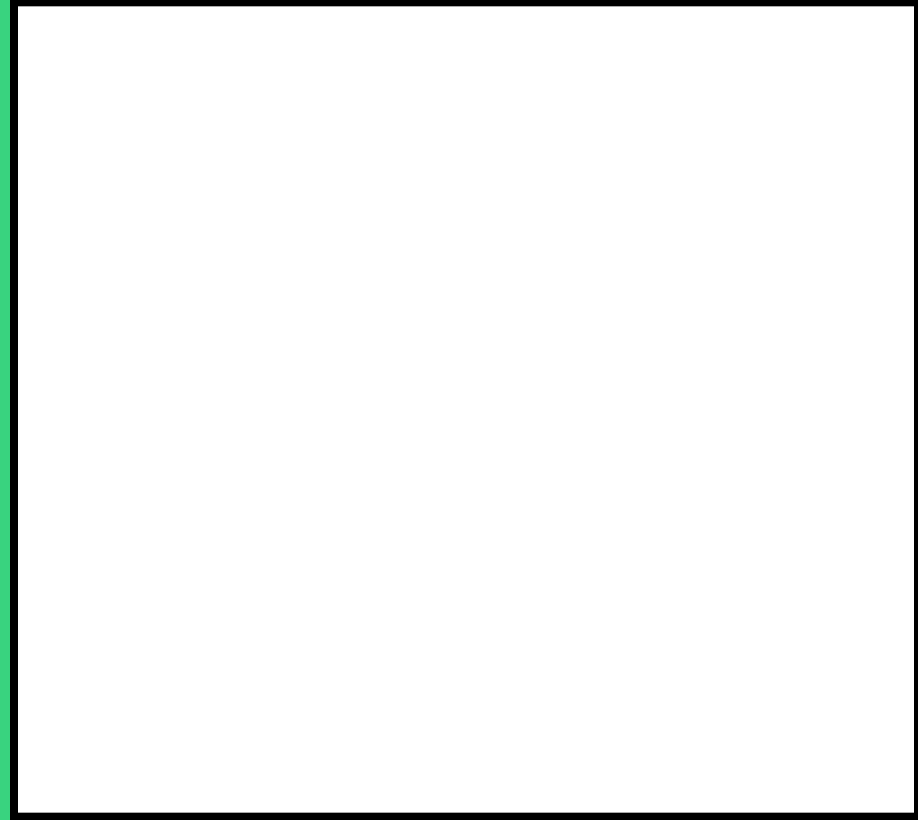
geology
maps



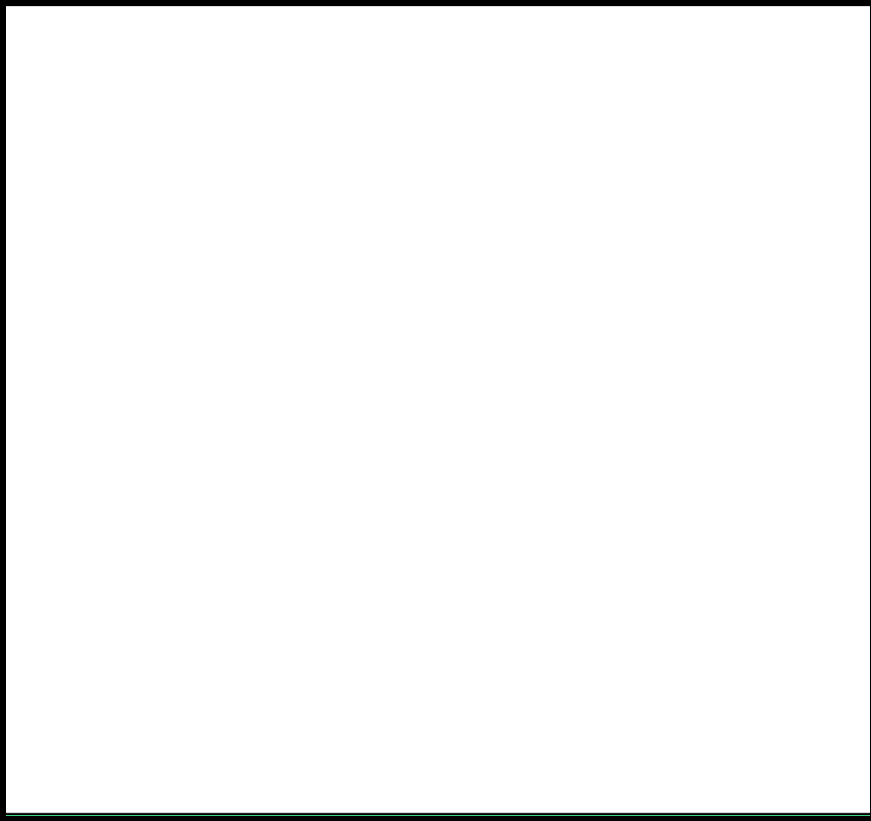
aerial
photos



Preliminary mapping

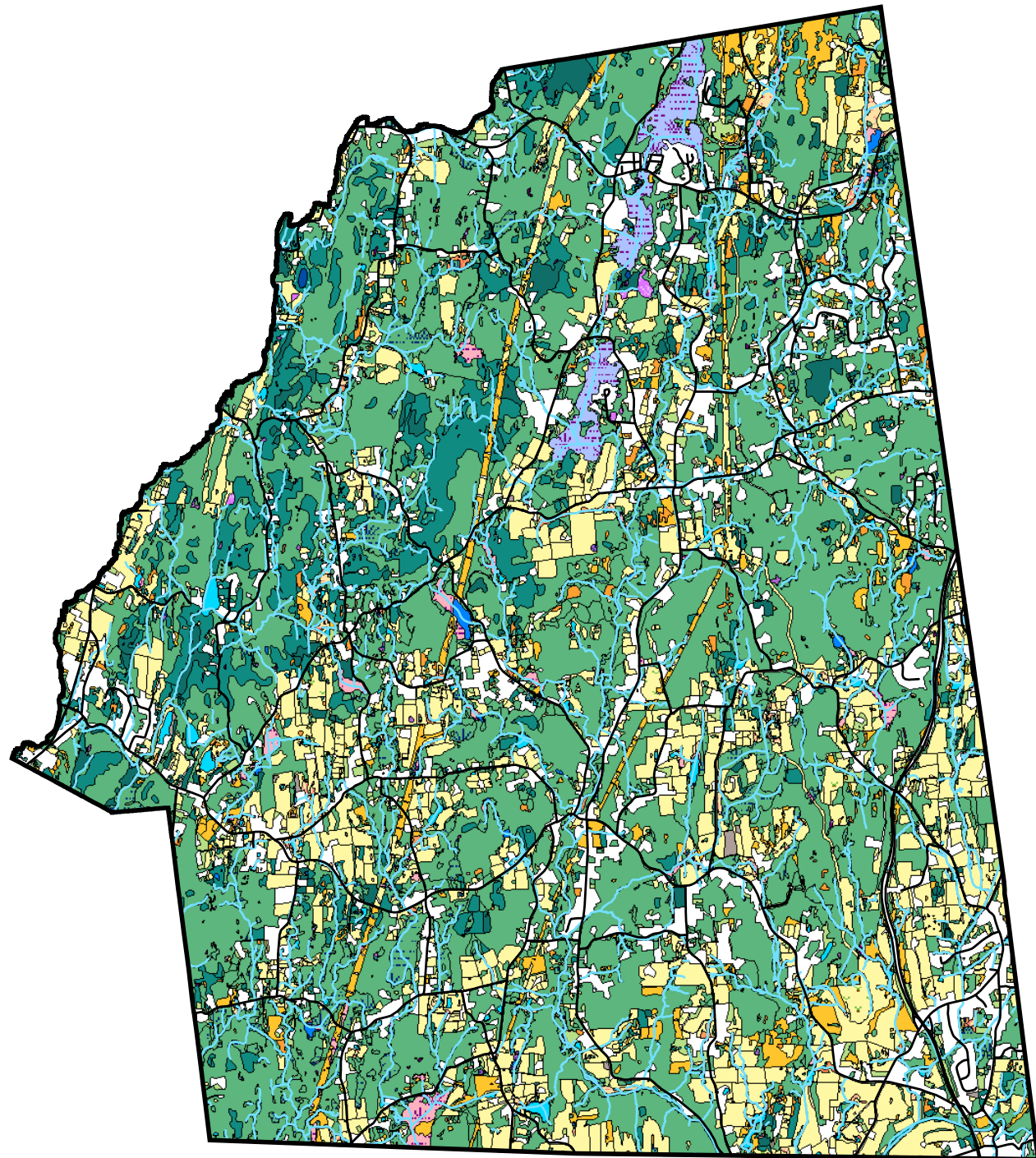
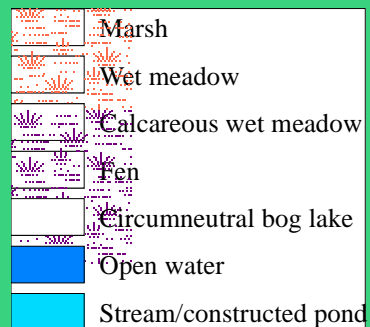
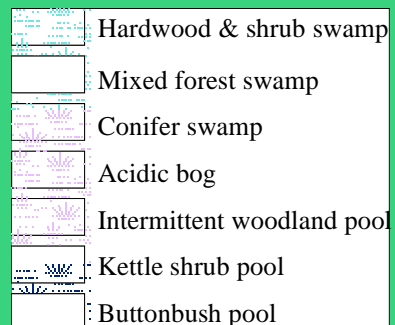
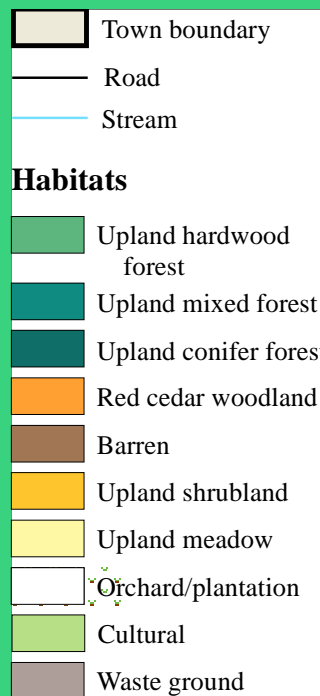


Field checking the preliminary map



Habitat types

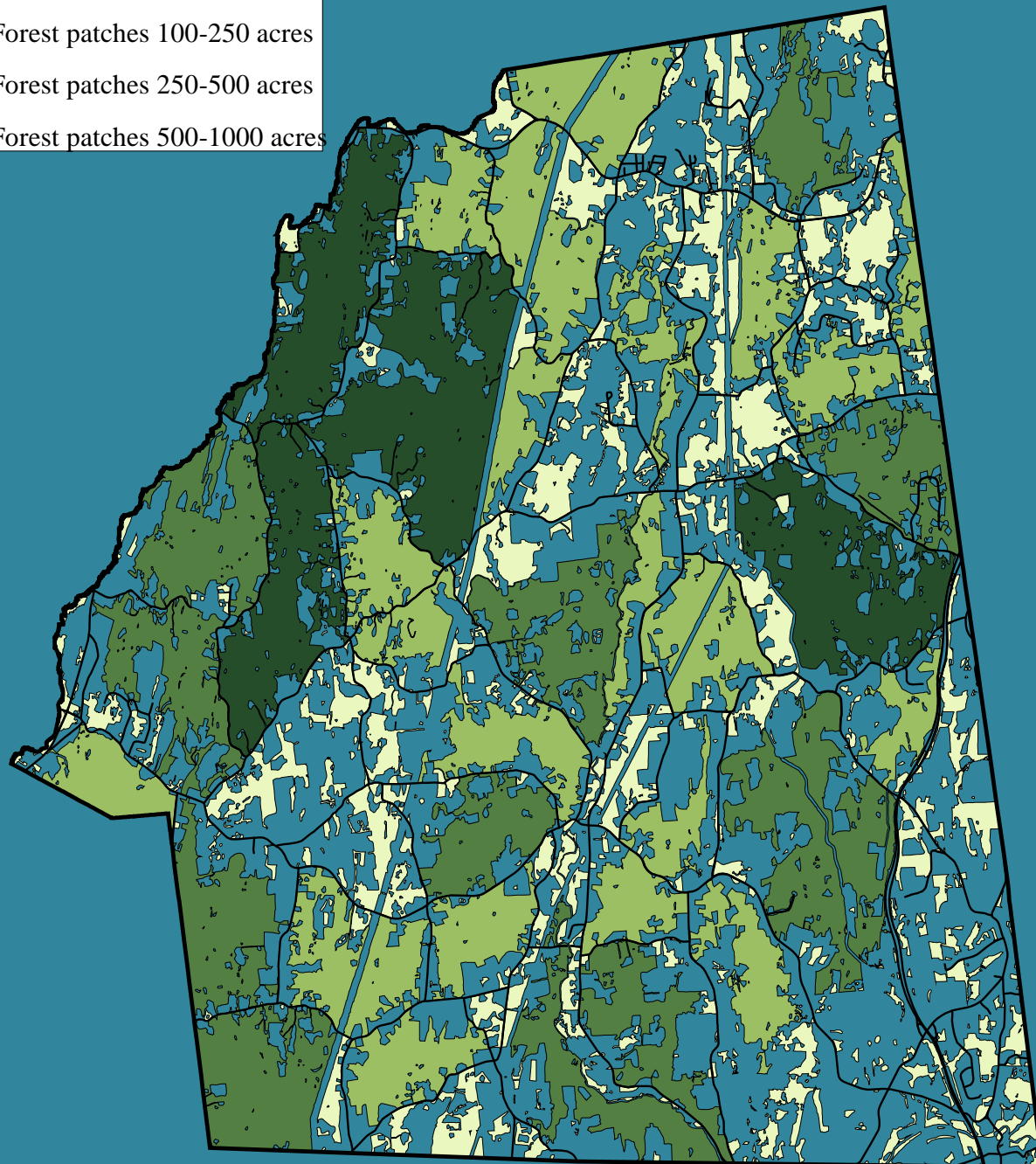
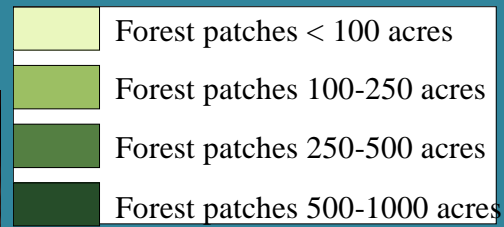
Upland Habitats	Wetland Habitats
Upland hardwood forest	Hardwood & shrub swamp
Upland conifer forest	Mixed forest swamp
Upland mixed forest	Conifer swamp
Floodplain forest	Acidic bog
Red cedar woodland	Intermittent woodland pool
Crest/ledge/talus	Kettle shrub pool
Calcareous crest/ledge/talus	Buttonbush pool
Rocky barren	Marsh
Upland shrubland	Wet meadow
Upland meadow	Calcareous wet meadow
Orchard/plantation	Fen
Cultural	Circumneutral bog lake
Waste ground	Constructed pond
	Open water
	Spring/seep
	Stream



Priority habitat: Large Forests



© David Speiser



Black-and-white warbler



Scarlet tanager

Large Contiguous Meadows



Alan Murphy

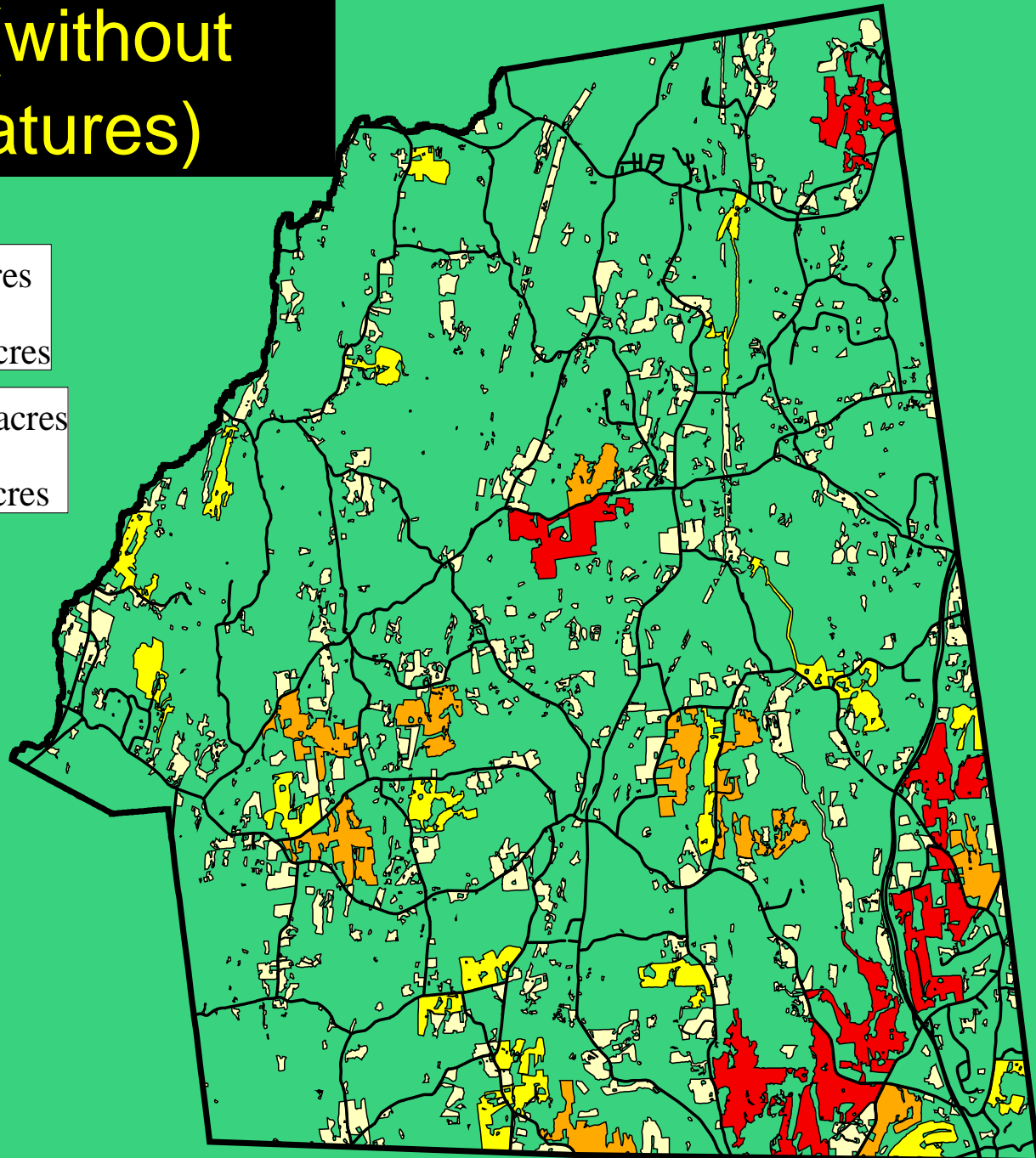
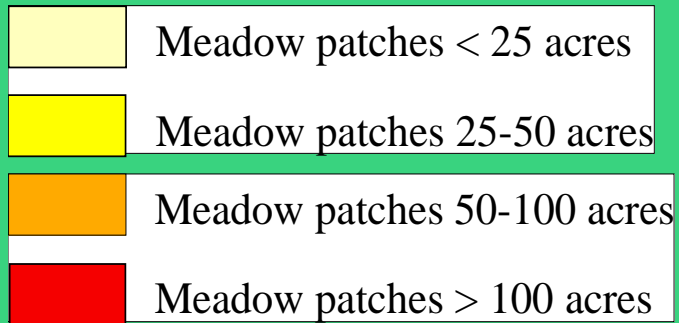
Eastern meadowlark



Peter Schoenberger

Bobolink

Meadows (without fragmenting features)

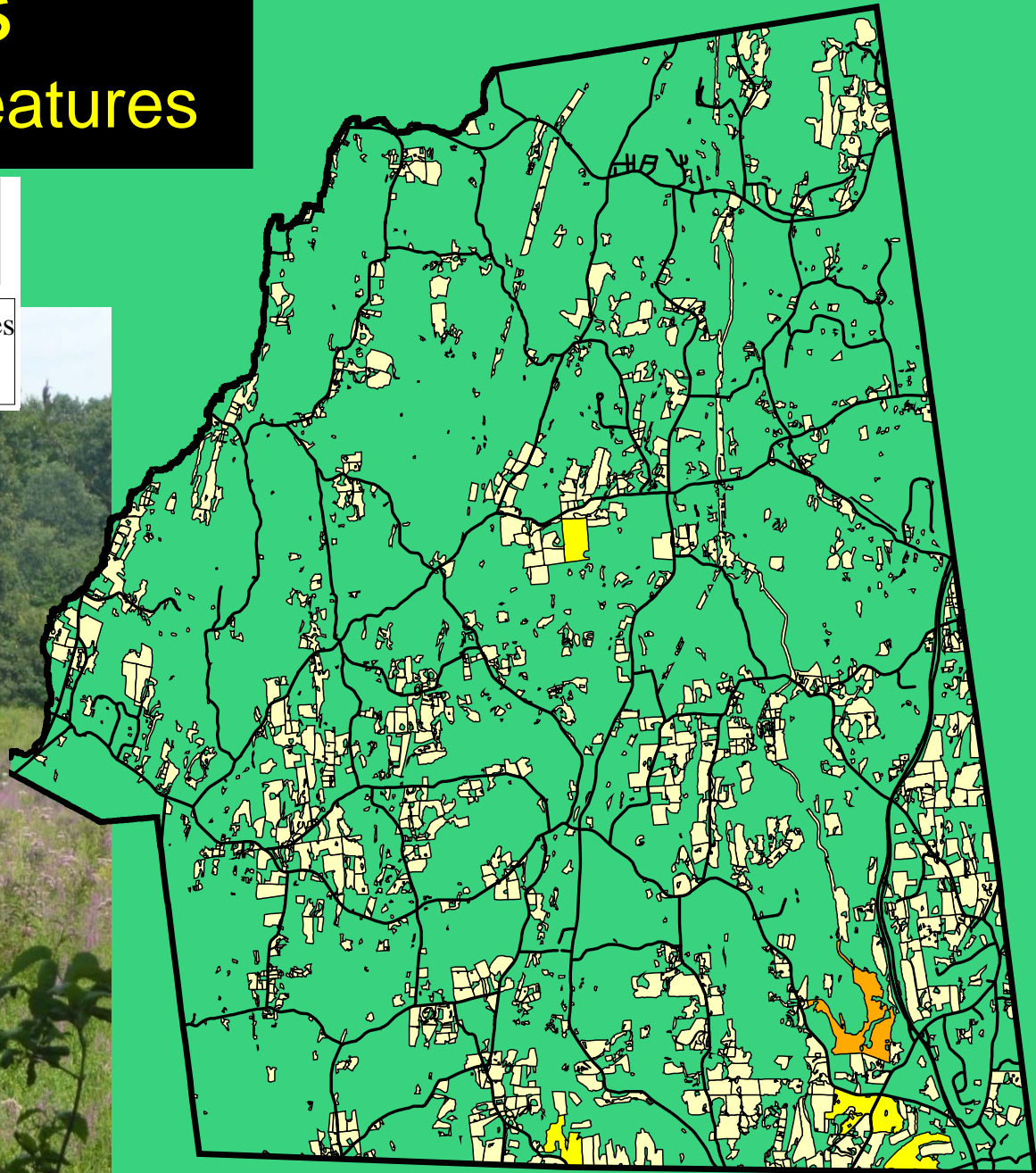
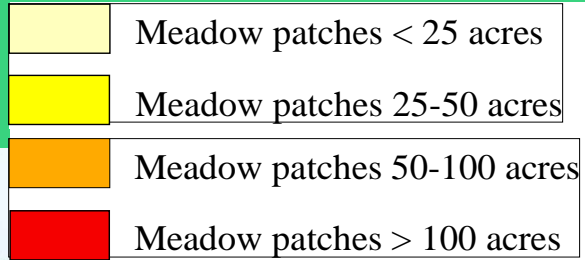


Savannah sparrow

Peter Schoenberger

Meadows

(with fragmenting features)



Rocky crest, ledge, and talus



Calcareous crest, ledge, & talus



Crest, Ledge, and Talus

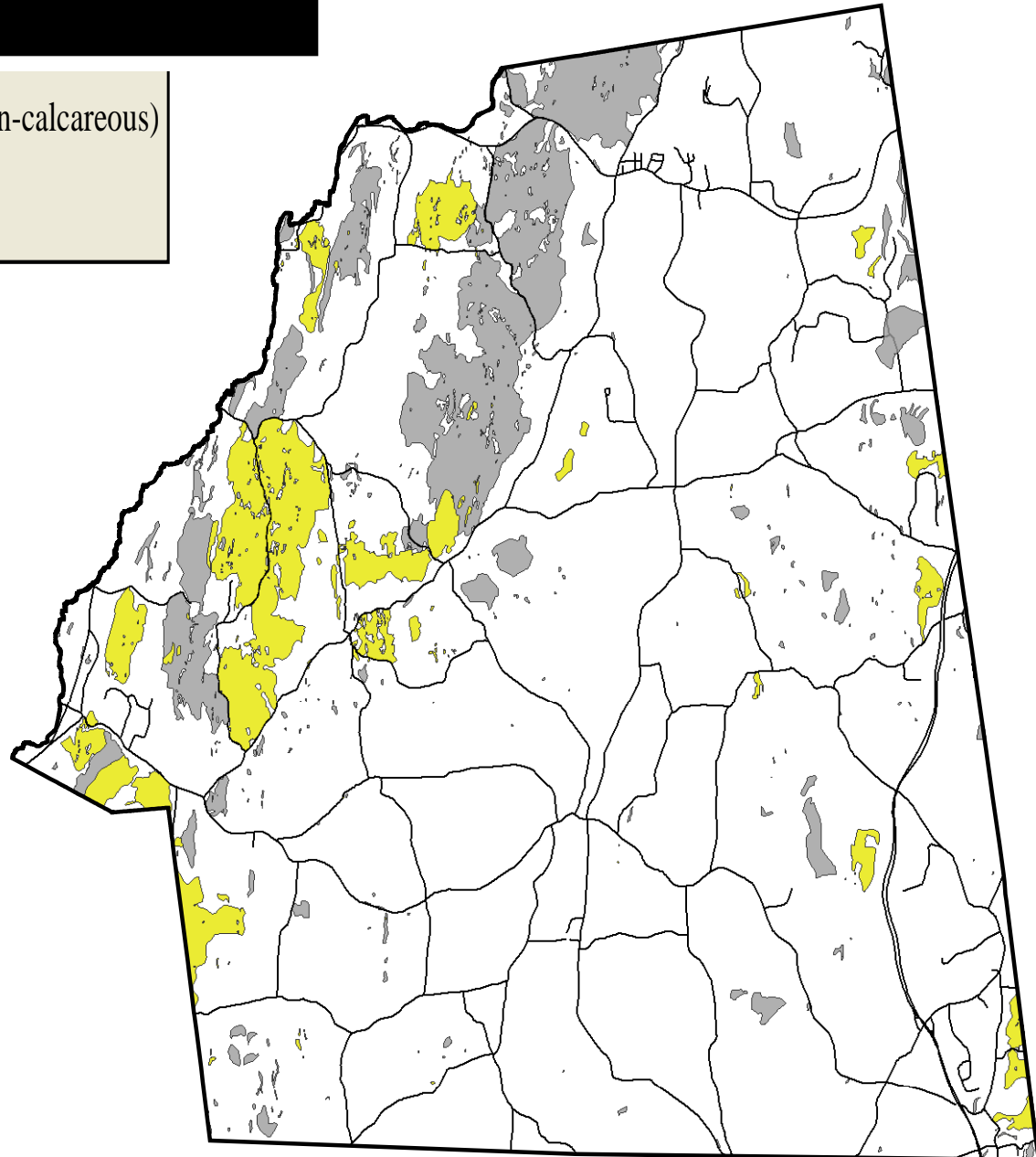
■ Crest, ledge, and talus (may be calcareous or non-calcareous)

■ Calcareous crest, ledge, and talus

Worm-eating warbler



© Lloyd Spitalnik



Clinton wetlands

- Hardwood swamps
- Mixed forest swamps
- Wet meadows
- Marshes
- Ponds/open water



Clinton wetlands

- Intermittent woodland pools
- Kettle shrub pools
- Circumneutral bog lakes
- Wetland complexes
- Streams



Intermittent woodland pools



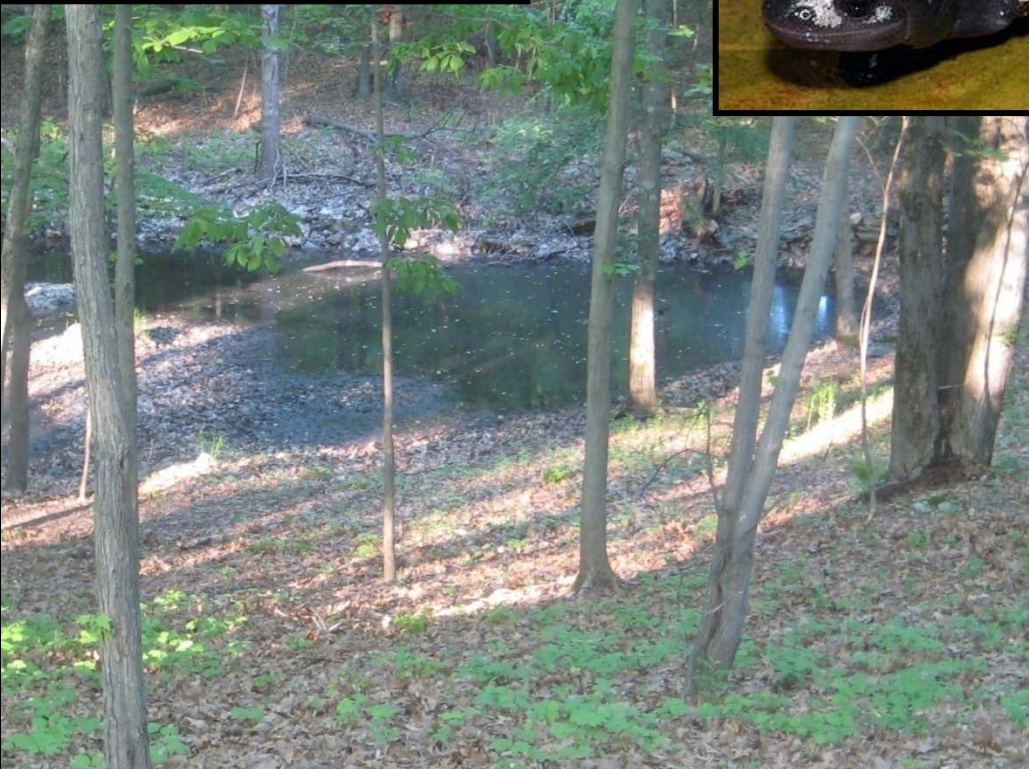
Intermittent woodland pools



Intermittent woodland pools



Wood frog



Pool-breeding amphibians



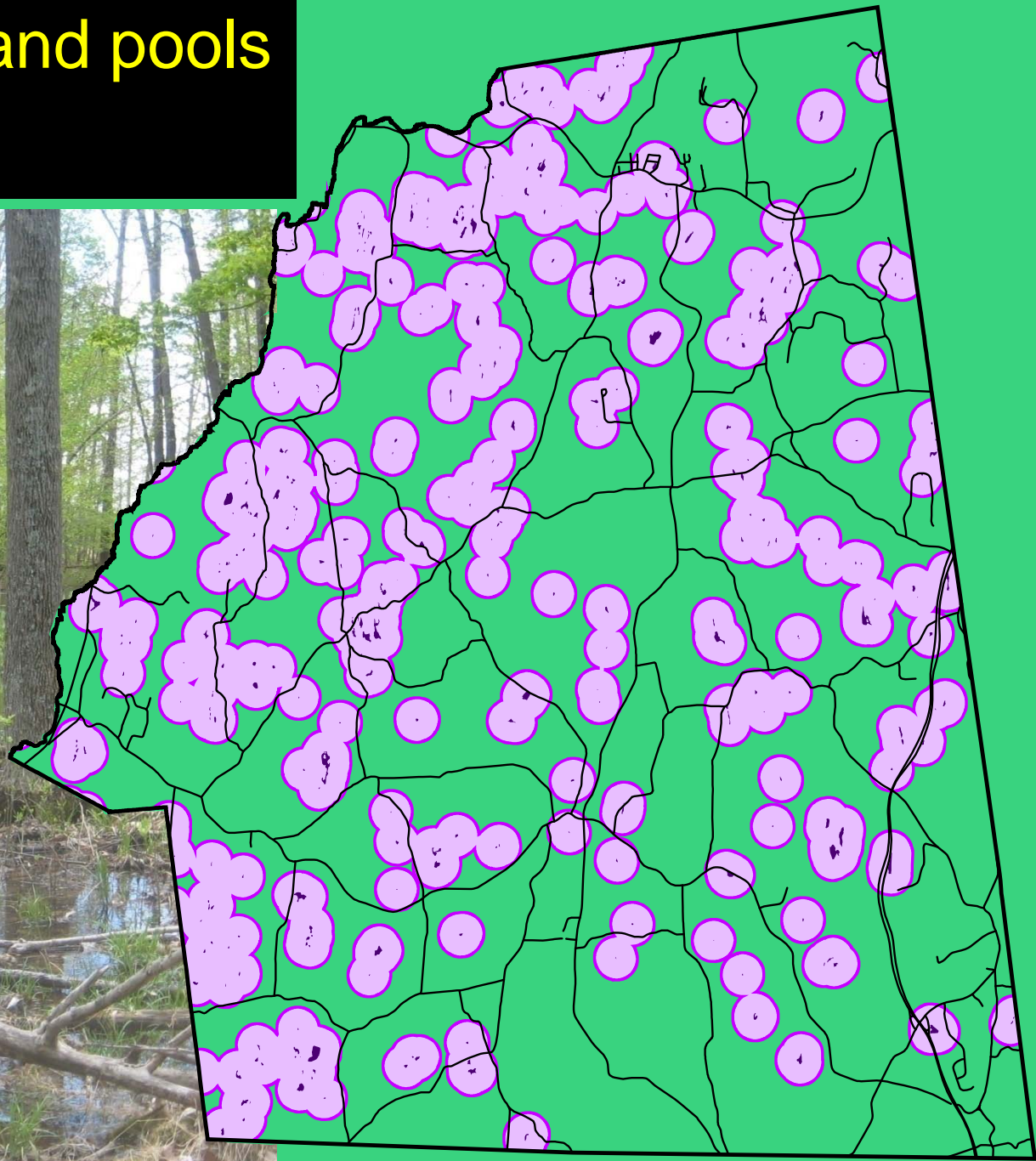
**Mean distance
travelled:**

750 ft

Conservation Zone:

**750-foot radius from
each pool**

Intermittent woodland pools in Clinton

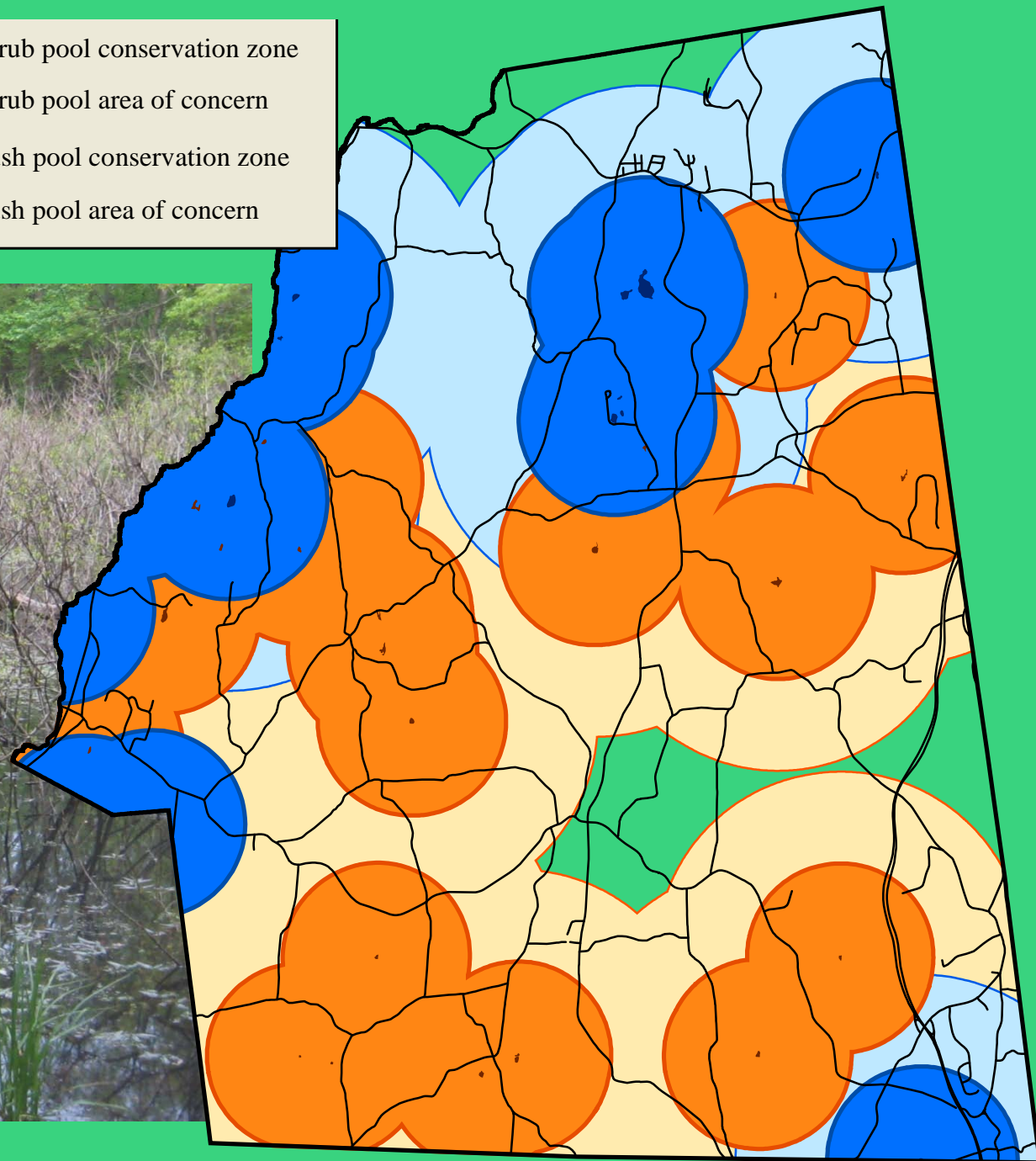
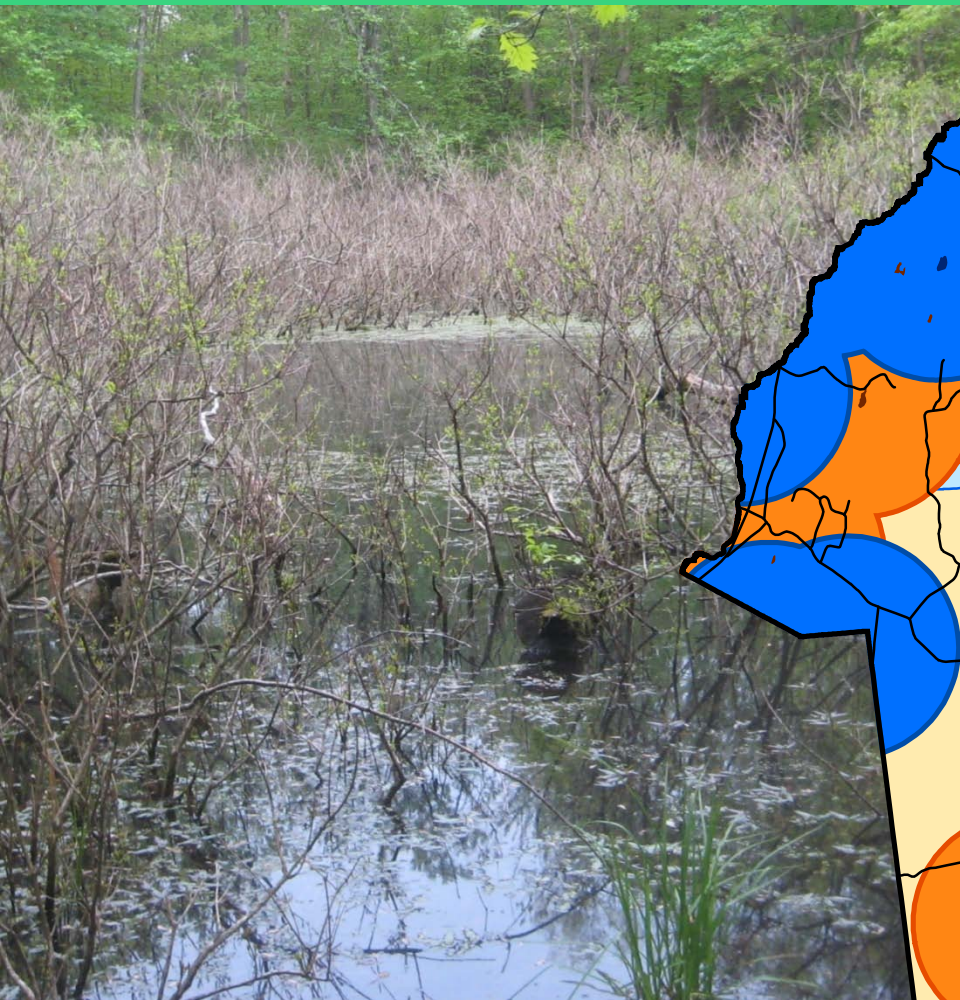
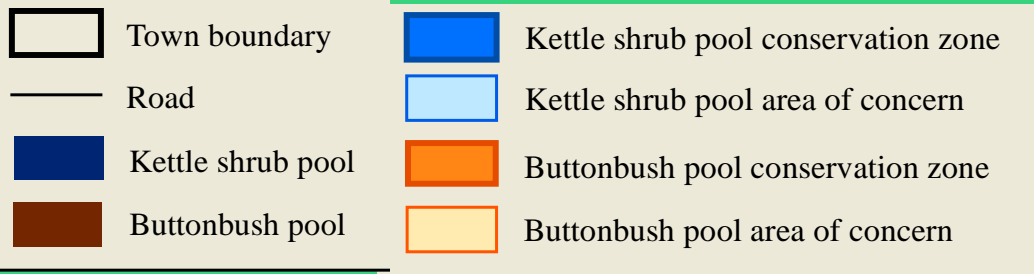


Kettle shrub pools and buttonbush pools



Blanding's turtle

© Carolyn Summers

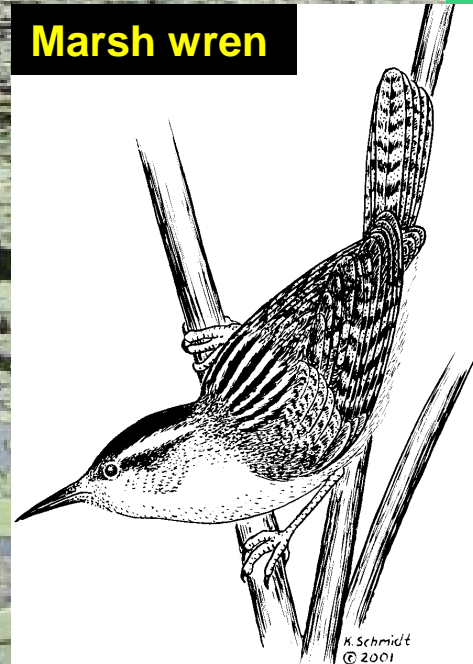


Circumneutral Bog Lakes

Long Pond



Marsh wren



River otter

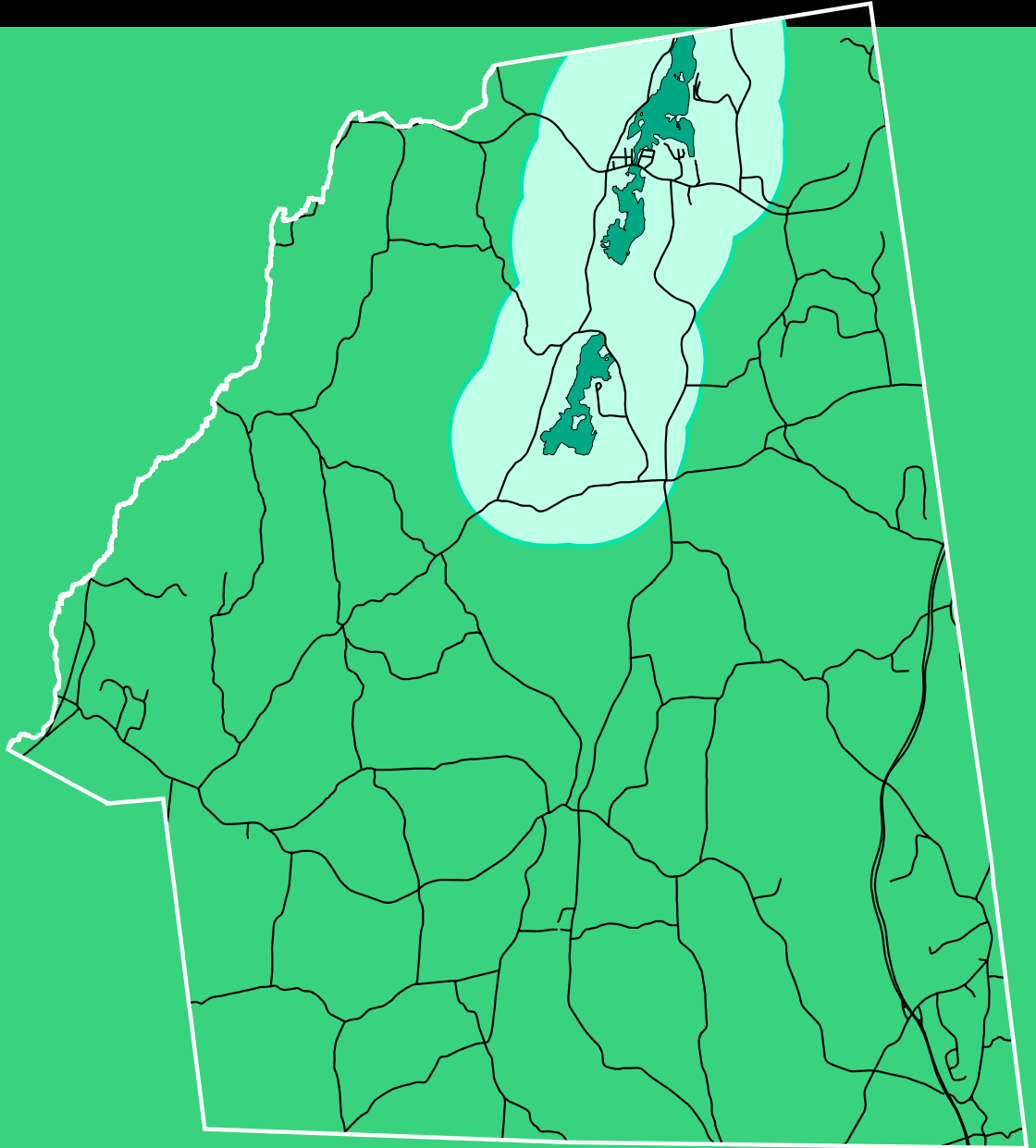
Circumneutral Bog Lakes & Conservation Zones



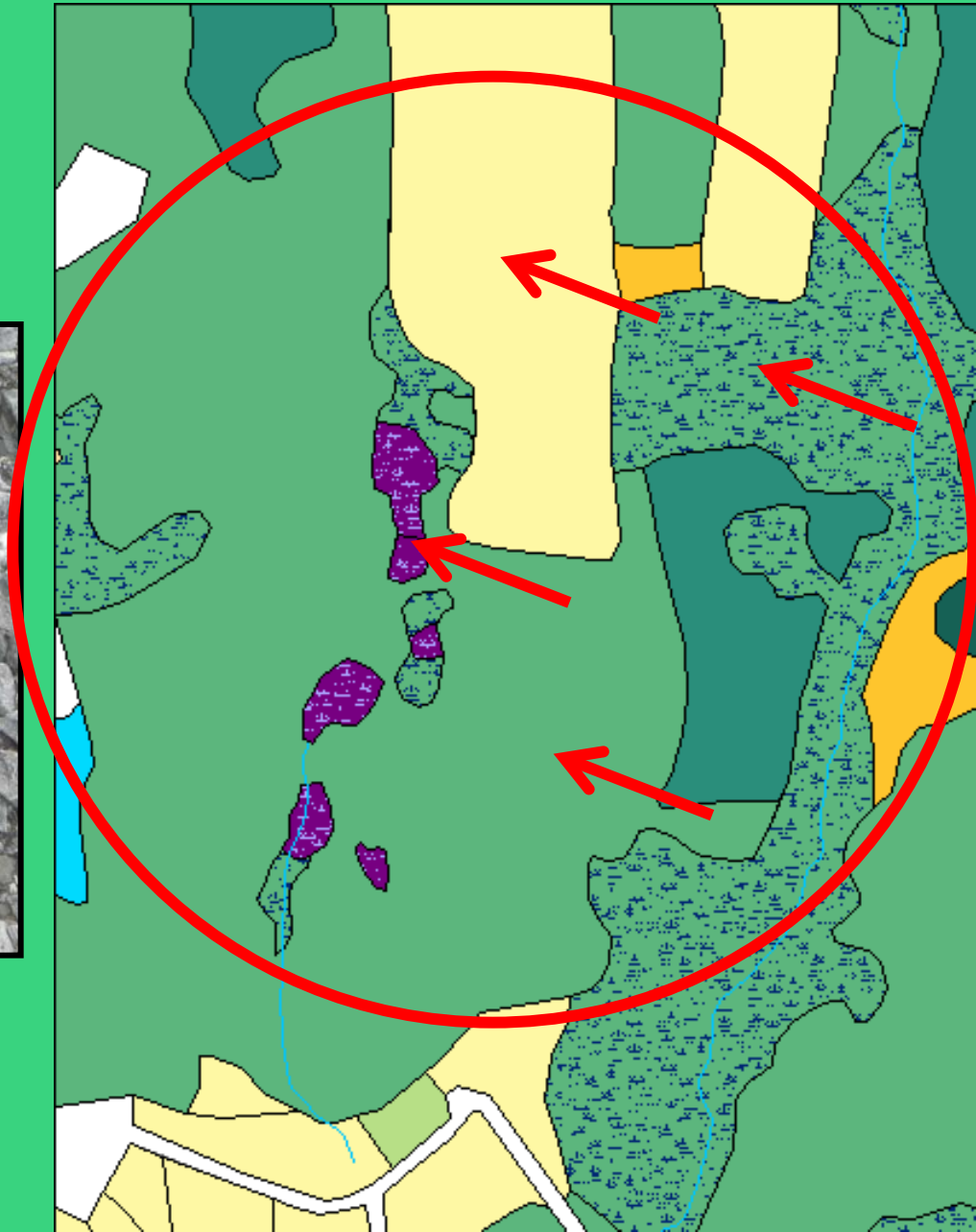
Northern cricket frog

Conservation Zone:

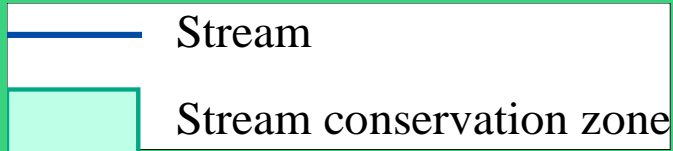
3300-foot radius from lake



Wetland complexes

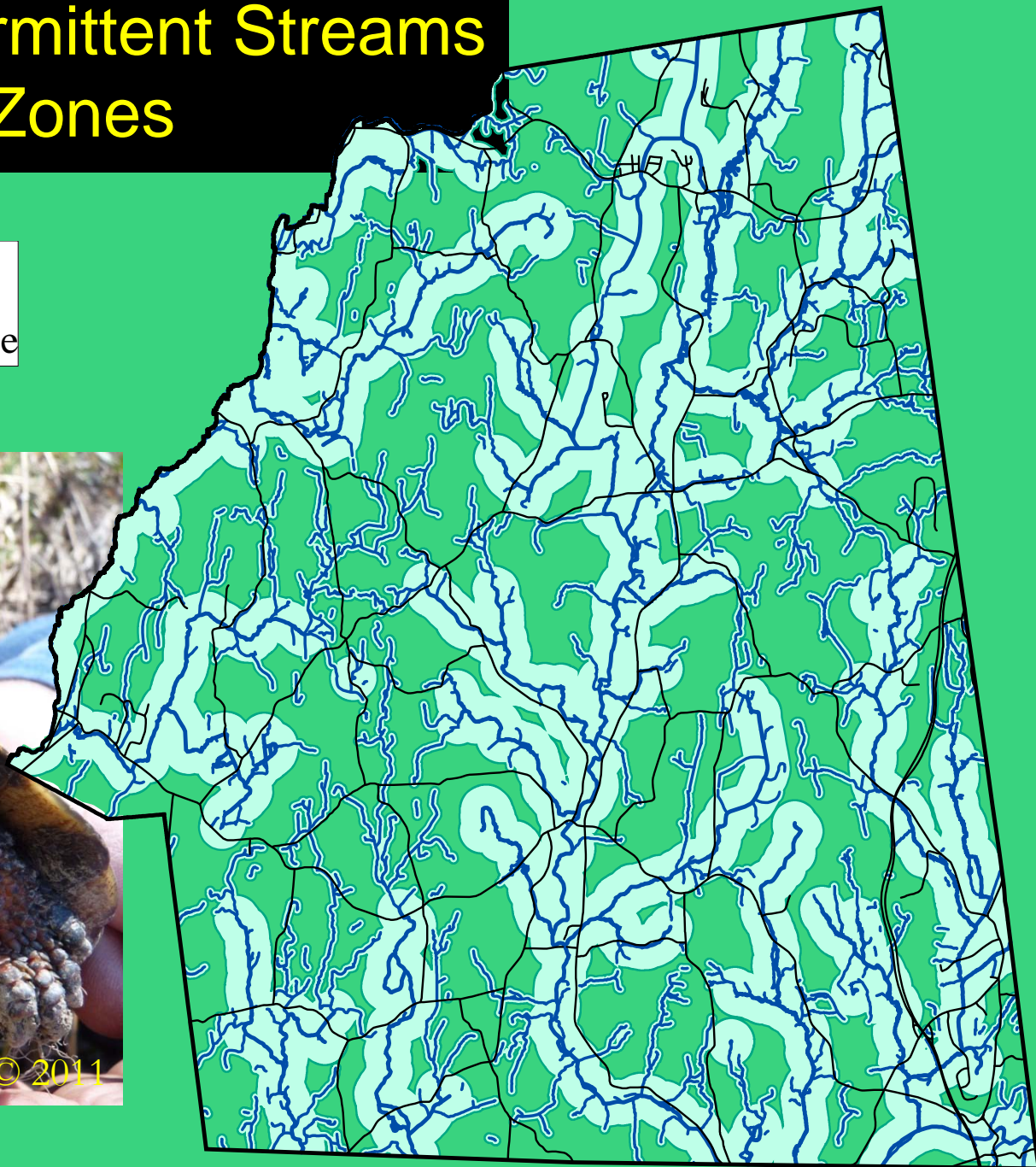


Perennial and Intermittent Streams and Conservation Zones



B. Mansell © 2011

Wood turtle



Using the Maps

- 
- **Town-wide planning**
 - **Review of site-specific proposals**
 - **Resource for land-owners**

Town-wide Planning

1. Tools:

- Comprehensive Plan
- Open space planning
- Municipal zoning
- Permit conditions
- Conservation easements

2. Set priorities

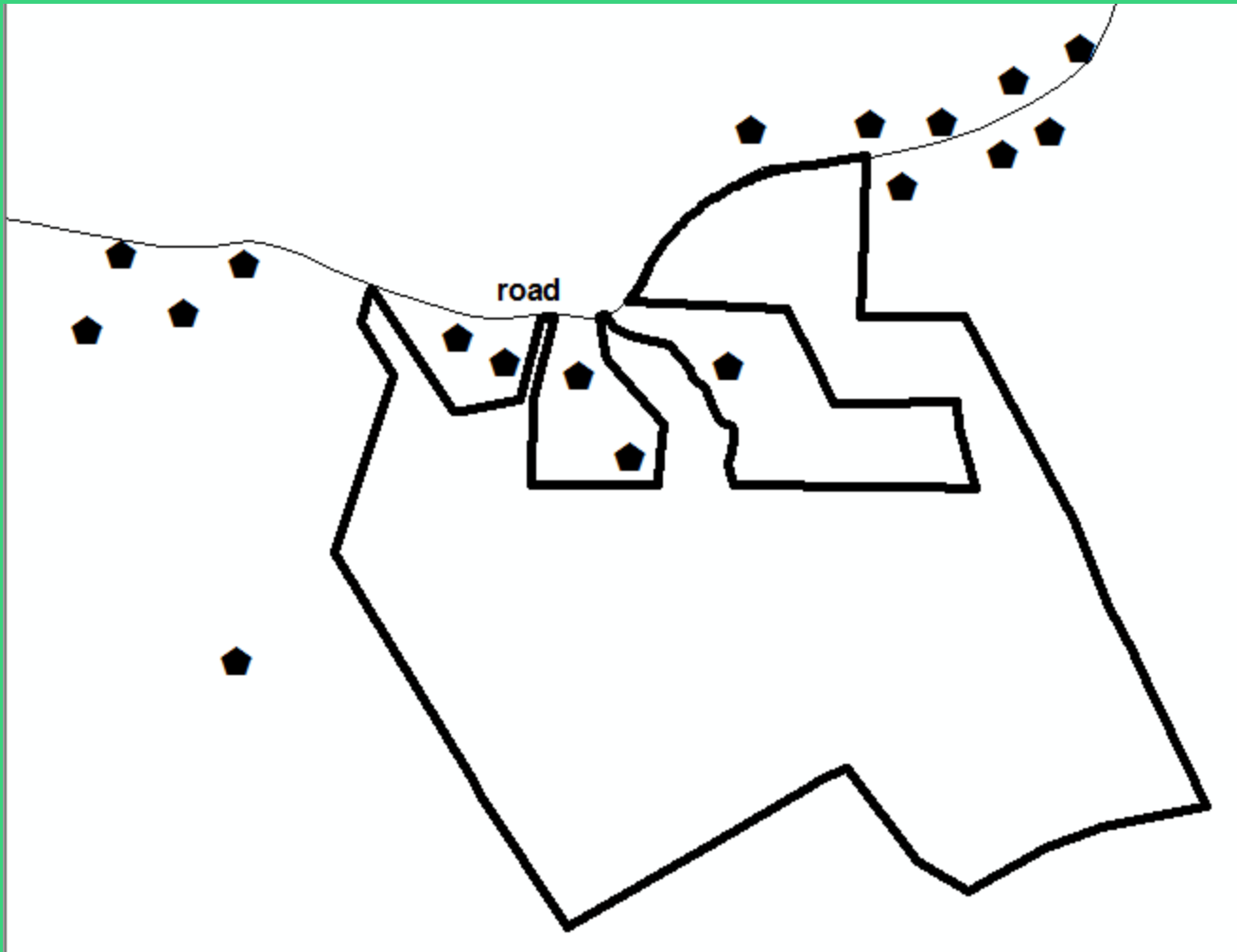


Site-specific Planning

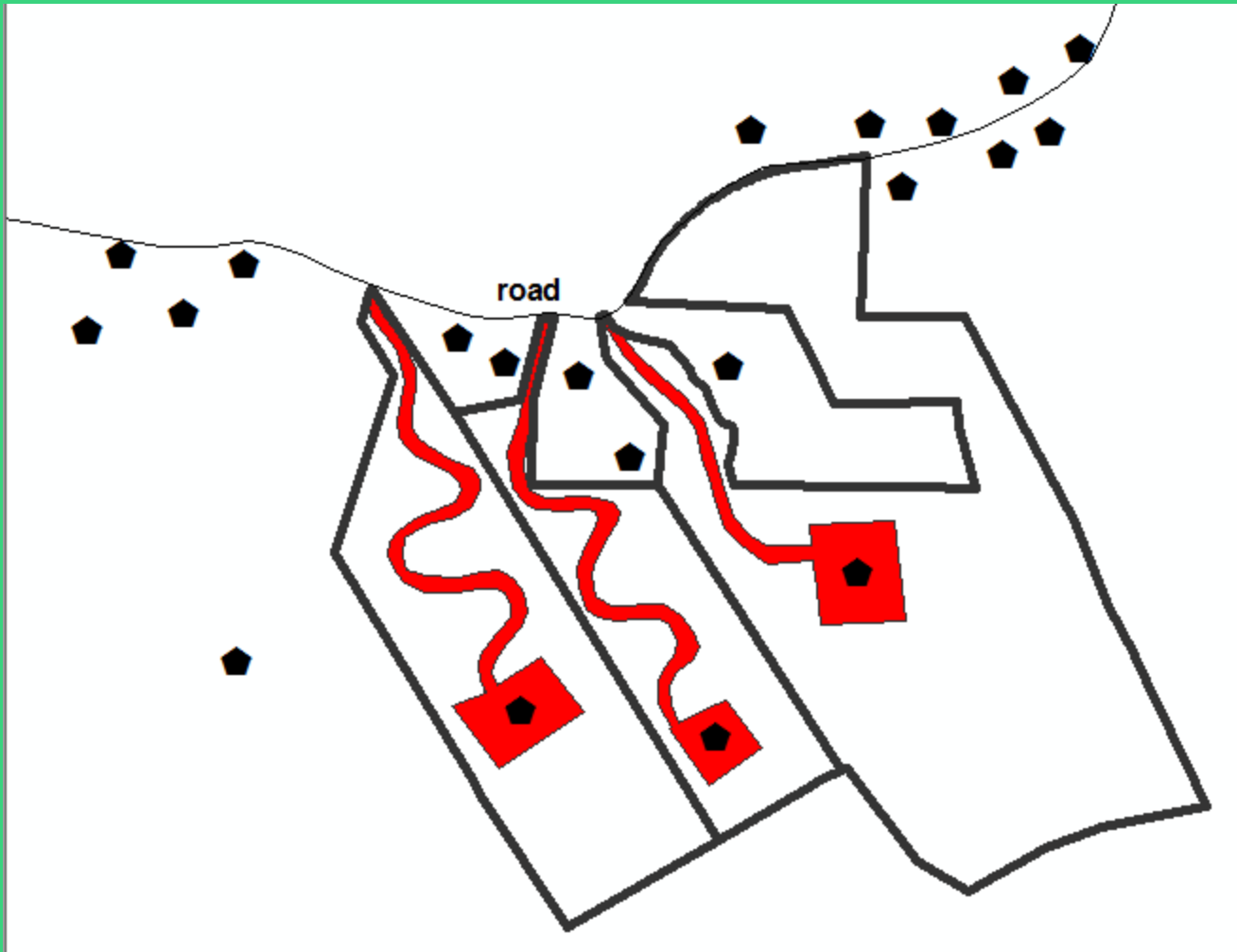
1. Identify priority habitats and conservation zones
2. Maintain connectivity between on-site and off-site areas
3. Help land-owners identify and avoid most important habitats from the start



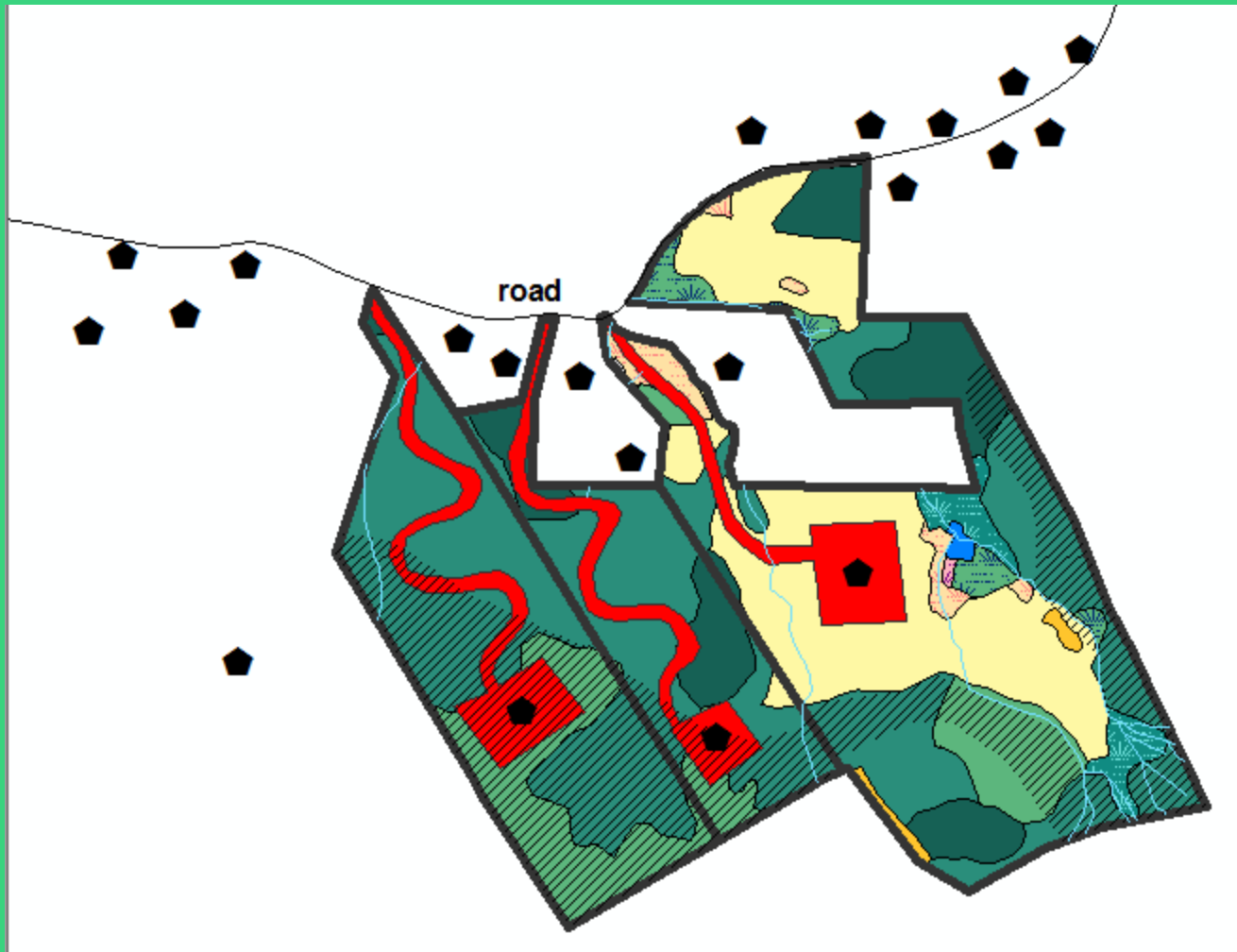
Sample Subdivision Proposal



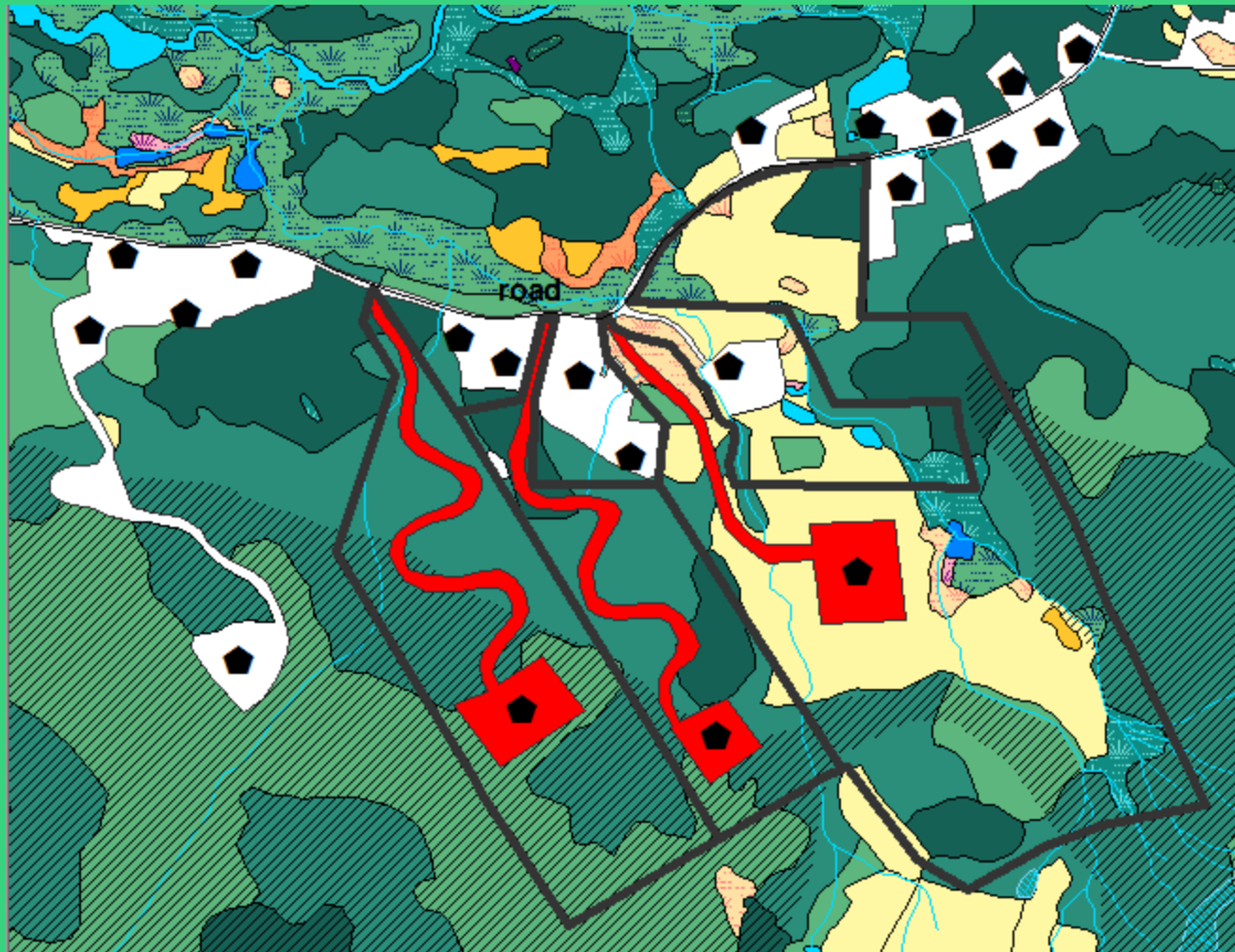
Sample Subdivision Proposal



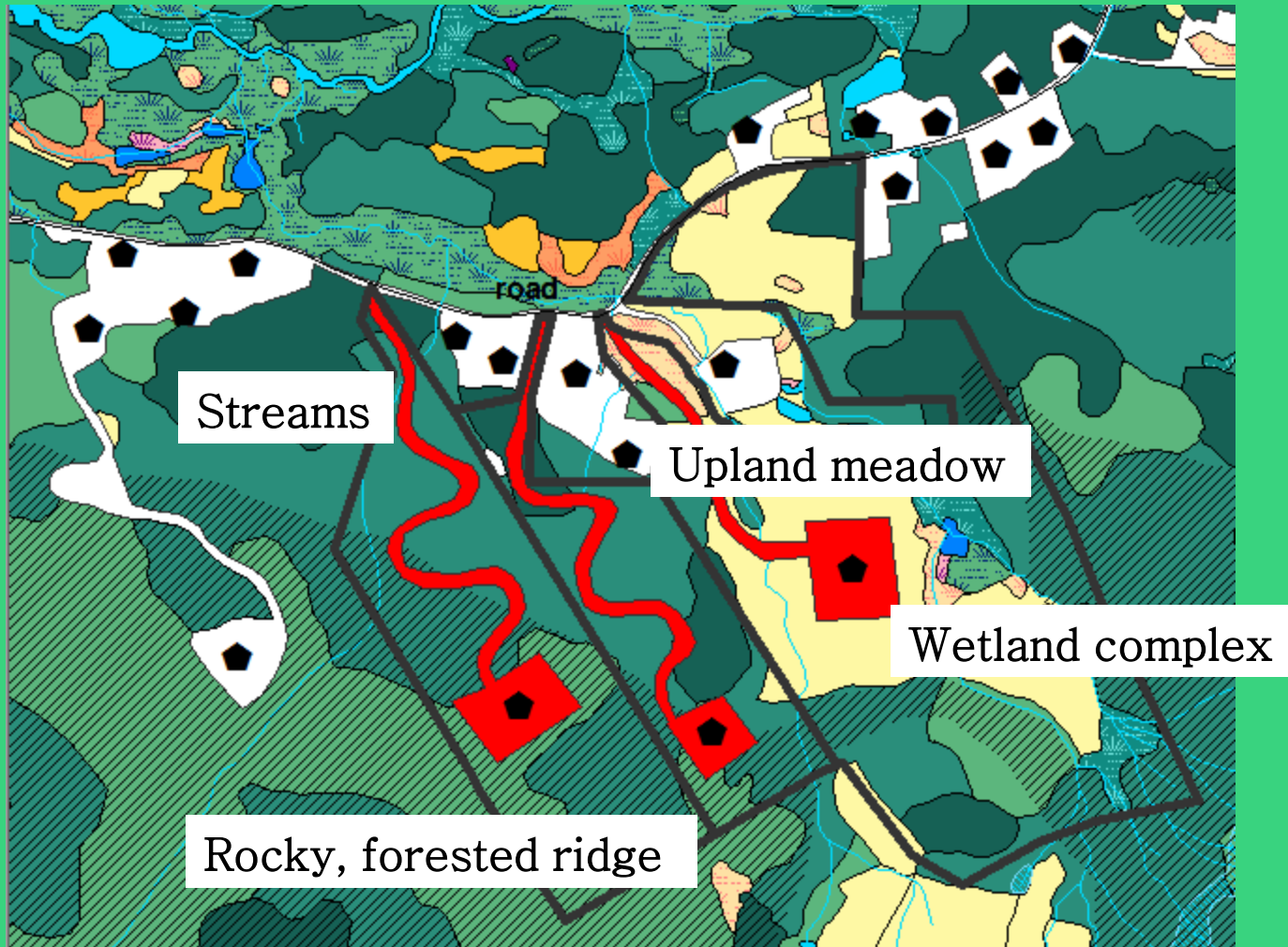
Habitats on the site



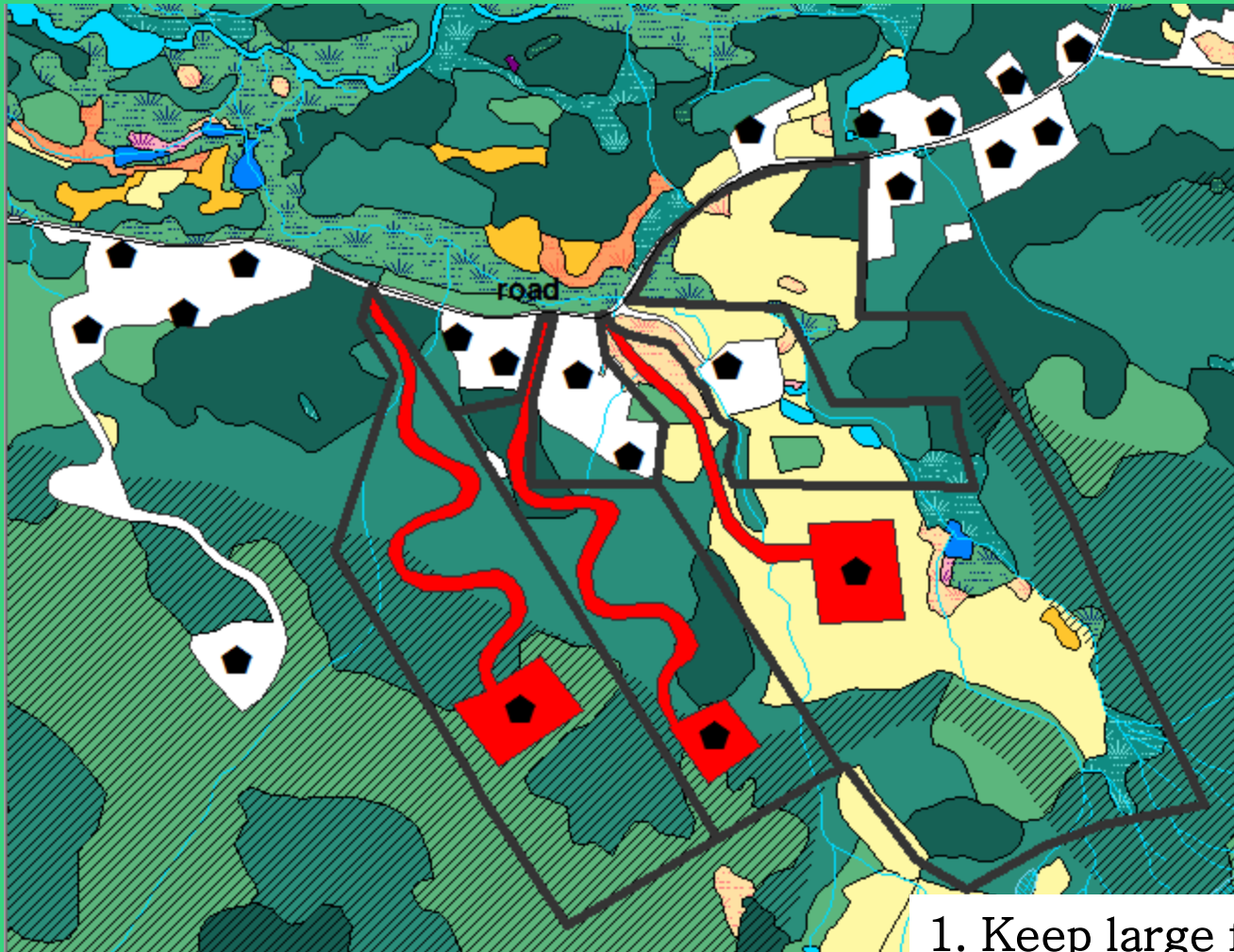
Habitats surrounding the site



1. Are there priority habitats?

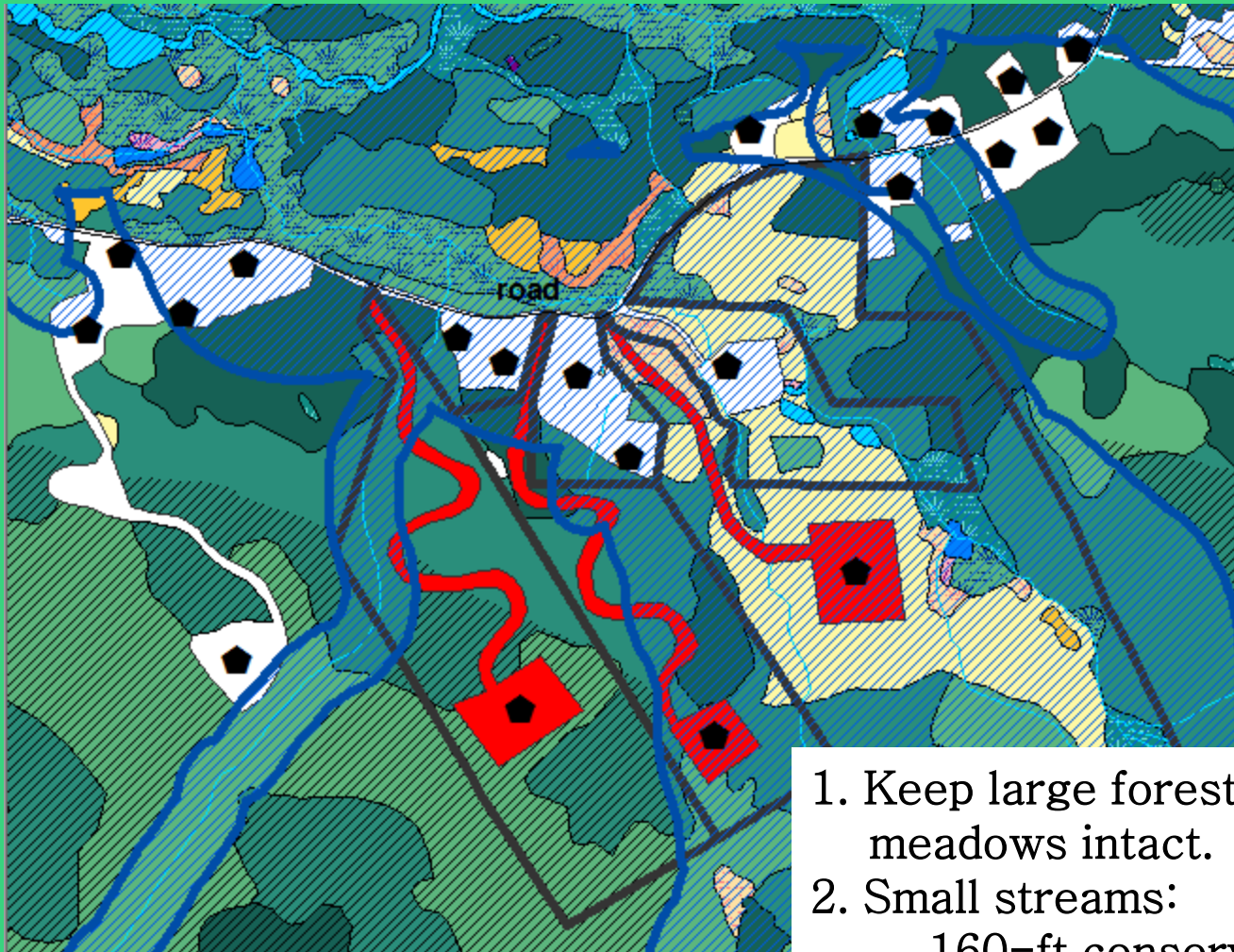


2. What are their conservation zones?



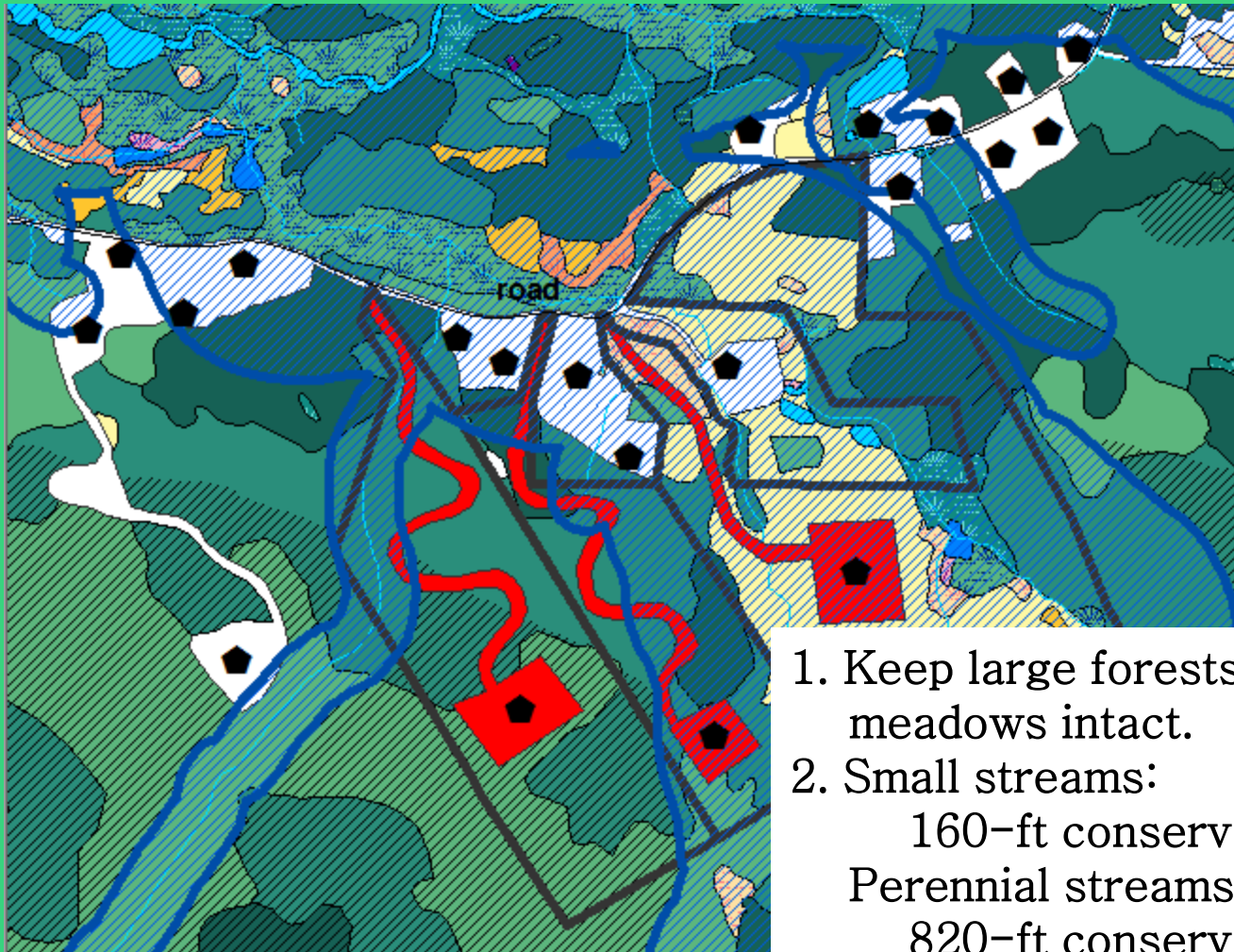
1. Keep large forests and meadows intact.

2. What are their conservation zones?



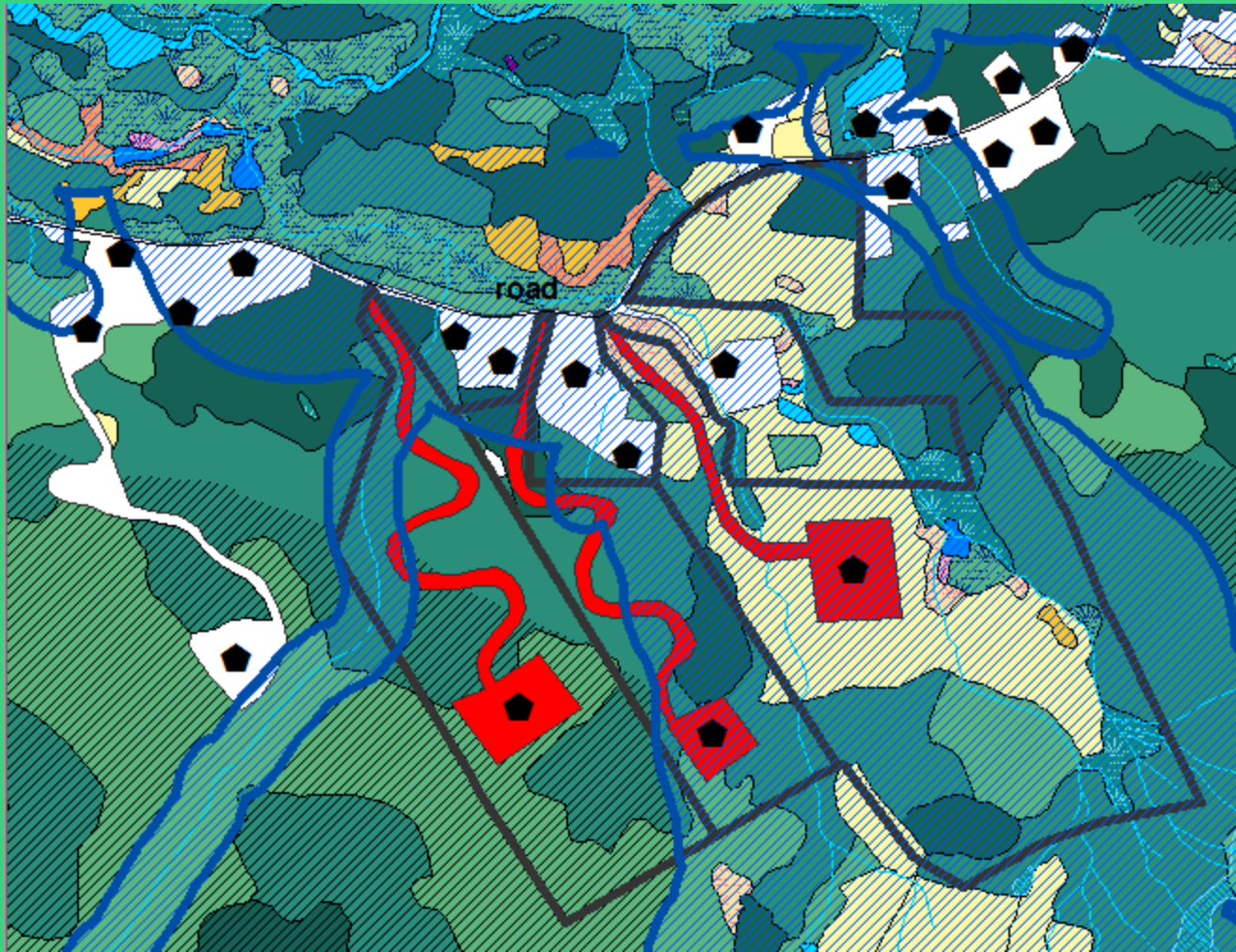
1. Keep large forests and meadows intact.
2. Small streams:
160-ft conservation zone
Perennial streams:
820-ft conservation zone

2. What are their conservation zones?

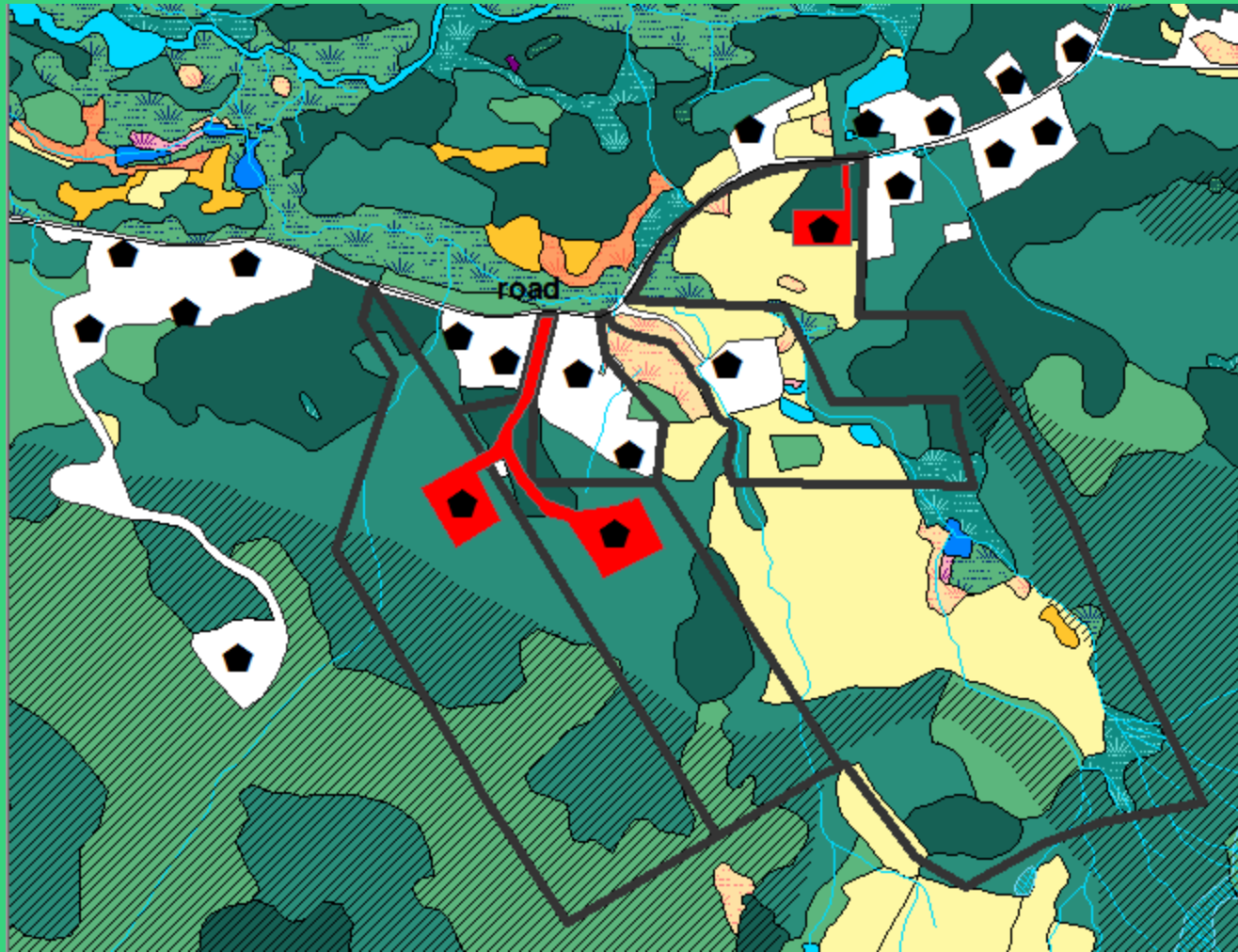


1. Keep large forests and meadows intact.
2. Small streams:
160-ft conservation zone
Perennial streams:
820-ft conservation zone
3. Wetland complex: minimum
100-ft buffer (not shown)

3. Can the proposal be modified?



Alternative Proposal





www.hudsonia.org

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