Connecticut
Department of Energy &
Environmental Protection

Field Visit to the Wolf Parcel
Property of the Great Meadows Conservation Trust
Hartford Avenue, Wethersfield, CT
Estimated 19 acres

Post Visit Report by the
DEEP Forestry Division

Attending: Tim Lewis, Jim Woodworth, Will Adams, and Brian Kenny (Tree Warden) representing the Land Trust and town of Wethersfield; and David Irvin, the DEEP Central District Service Forester. May 21, 2025, 10-11:30am.

Stewardship Objectives

1. Improve forest health and wildlife habitat, if applicable
2. Kill or remove the widespread invasive plants to improve the wetland ecosystem
3. Evaluate for public recreation and education potential.

All photos included were taken on this land trust property May 21, 2025.

PROPERTY OVERVIEW

This is the first evaluation produced for the Great Meadows Conservation Trust (Great Meadows Conservation Trust – Preserving the Land) by the DEEP Forestry Division in recent years and by the current Central District Service Forester. The parcel known as the "Wolf" parcel in Wethersfield was visited in late May 2025. This is a unique property composed of primarily Connecticut River floodplain, and the entire parcel occurs on either wetland or farmland soils or both. It is located between 408 to 416 Hartford Avenue, near the geographic northeast corner of Wethersfield, virtually wedged between highway corridors of Route 15 and I-91. The floodplain is an extension of "Wethersfield Cove", connected to the main Connecticut River. The east side of the property is roughly defined by Folly Brook.

It is pertinent to note that this is not a management plan, nor intended to substitute for such. It is a recap based on a tour of the property without collection of necessary data used to formulate clearer objectives of a management plan. Recommendations are based on a limited site visit and qualitative observations, and may be modified based on land trust objectives and choices going forward. This document is intended as an introduction to possibilities and options identified thus far.

Approximately half of the floodplain forest is part of a small "Core Forest" (see Core Forest map). Core forests of small (<250 acres), medium (250-500 acres) and large (500+ acres) acreages are tracts of unbroken forest that provide a more stable and useful home for plant and animal species, thereby protecting biodiversity. *They are priority forest stewardship areas in Connecticut.* "Core forests" do NOT prohibit any natural resource management activities, they are simply valued areas that should be protected from *development*. While loss of habitats is always a major concern in a populated state like Connecticut, fragmentation of existing habitat is a greater concern, as even where protection of valued habitat and ecosystems may be occurring, fragmentation of those areas into smaller and less useful tracts is frequently much less understood and noticed.

The land trust property appears to be part of an Audubon Landscape-Scale Important Bird Area (IBA), the Great Meadows IBA. This zone includes the lush farmland and forested wetlands along an 8-mile stretch of the Connecticut River, and accents the importance of protecting this property. While details are currently unavailable here, you are encouraged to visit the Audubon website on IBAs and to reach out to the organization to learn more: Important Bird Areas (IBAs) in CT | Audubon.

The CT DEEP Natural Diversity Database (NDDB) does have nine occurrences of state or federal listed species of Endangered, Threatened or Special Concern status on the property or in the vicinity. Details of the species are provided in the NDDB preliminary site assessment at the end of this report, and are discussed via the links provided below after all but the plant species. Just click on the links at the end of each listing. The species are:

- Bald eagle (*Haliaeetus leucocephalus*), bird--Threatened Bald Eagle
- Yellow lampmussel (*Lampsilis c*ariosa), invertebrate—Endangered Yellow Lampmussel
- Tidewater mucket (*Leptodea ochracea*), invertebrate—Species of Special Concern Tidewater Mucket
- Eastern pondmussel (*Ligumia nasuta*), invertebrate—Species of Special Concern Eastern Pondmussel
- Northern arrowhead (*Sagittaria cuneata*), plant—Endangered
- Cattail sedge (*Carex typhina*), plant—Species of Special Concern
- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), fish—Federally Endangered Atlantic Sturgeon
- Shortnose sturgeon (*Acipenser brevirostrum*), fish—Federally Endangered Shortnose Sturgeon ; Shortnose Sturgeon Research
- Blueback herring (*Alosa aestivalis*), fish—Species of Special Concern Blueback Herring

Here is a list of Endangered, Threatened and Special Concern plants in Connecticut: Endangered Threatened and Special Concern Plants ; for more information on the plants shown for the Wolf Parcel, you are encouraged to contact Bill Moorhead, our state's Botanist and Plant Community Ecologist, 860-424-3861, William.moorhead@ct.gov . He is also a great contact if the land trust decides to order a more thorough and comprehensive on-site plant survey in the future.

Note that this information is the result of an automated preliminary site assessment. Prior to any vegetation management work or recreational trail creation, it is recommended that the land trust get a full NDDB review as a first step. About the Natural Diversity Data Base (ct.gov) . Note that it is also possible that much of this property is considered part of a noted imperiled ecosystem in Connecticut. Here is a link to a listing and discussion of these 13 special rare ecosystems, which includes "Large Rivers and Associated Riparian Communities", applicable to the Wolf Parcel: Thirteen of Connecticut's Most

Imperiled Ecosystems.

The property occurs in the Connecticut Main Stem Regional Drainage Basin, and is part of the Connecticut River Major Drainage Basin.

FOREST VEGETATION

Tree Cover

The tree species list *identified and noted* in this forest is as follows (note that this is not likely a complete list of any species that can be found):

Silver maple (*Acer saccharinum)*
Sugar maple (*Acer saccharum***)** a.k.a. hard maple or rock maple
White ash (*Fraxinus americana*) mostly dead
Black ash (*Fraxinus nigra*)
Black cherry (*Prunus serotina***)**
Eastern cottonwood (*Populus deltoides***)**
American sycamore (*Platanus occidentalis***)**
Elm (*Ulmus spp.***)**
Pin oak (*Quercus palustris***)**
Bitternut hickory (*Carya cordiformis)*
Black walnut (*Juglans nigra***)**
Northern catalpa (*Catalpa speciosa***)**
Mulberry (*Morus spp.)* –mulberry found was likely white mulberry or a common natural hybrid of white/red.

The forest is all floodplain forest and can be characterized as a silver maple/pin oak floodplain. This forest tends to have an unclosed canopy and is a mix of sawtimber-size trees (12" and larger in diameter) and sapling sizes (under 6" diameter), with sometimes pole-size trees (6-11") substituting for larger sawtimber. Most observations of ash, catalpa, sugar maple, black walnut, and hickory listed above were only in the sapling sizes. Scattered large "wolf" trees that predate most of the forest and were often open-grown, are particularly prominent in the northwestern edge of the parcel, but were found along the entire western area that provided a slight upland transition zone between the backyards and the inundated floodplain. That zone was the only area that could be walked. Additional species and vegetation associations may occur in the flooded areas that were unable to be toured in spring.

These floodplain forests are valued ecosystems that provide many services, including a natural water retention and buffer against flooding developed areas, carbon sequestration, water purification, and provide more rare types of habitats and biodiversity. Here is a page from the DEEP website on Inland Wetlands and Watercourses--Inland Wetlands and Watercourses home page; Connecticut Wetlands. Here is a link to a newsletter for Floodplain Managers: The Torrent - A Newsletter for Floodplain Managers.

Here are additional educational and informational resources regarding floodplains: Floodplains Ecosystem
Benefits of Natural Floodplains | FEMA.gov
Protecting and Restoring Floodplains | National Wildlife Federation
Floodplains - an overview | ScienceDirect Topics

Forest Understory/Ground Cover

The native understory was heavily dominated by poison ivy, noted as climbing vines, branched vines, independently erect in sapling-form, and low ground cover. Other native plants included blackberry, grapevine, Virginia creeper, ferns, juniper, spicebush, dogwoods (red osier identified), and "green dragon". Sumacs were growing on the edge of the grassy pathway.

Invasive species noted included multiflora rose, Asiatic bittersweet, garlic mustard, bush honeysuckle, mugwort, Japanese

knotweed (a patch at the edge of the grassy area), and phragmites, although the latter is believed to be on adjacent private land and not actually within the Wolf Parcel. Pachysandra is spreading onto the land trust parcel from an adjacent private parcel. This plant is not on the official invasive plant list, but does have invasive qualities. The Connecticut Invasive Plant Working Group at the University of Connecticut is a great resource for the identification and control of invasive plants, and you are encouraged to visit their website: Home | Connecticut Invasive Plant Working Group (uconn.edu) . Here is also a resource regarding control of some of the more common invasives we see in the state: Invasives_guide_2020_web.pdf . Invasive control is likely to become the top priority for the land trust in managing this parcel and could be nearly the only active form of vegetation management pursued.

The leaf litter and some presence of coarse woody material (CWM) from dead trees and limbs promote soil health and nutrient recycling, as well as healthy insect populations and therefore feeding opportunities for birds and mammals. They also provide cover for small mammals, birds, reptiles, and amphibians and are valued in any forested environment.

A large pin oak at the Wolf Parcel. Note the bittersweet vine on the left spiraling its way upward by climbing another vine.

Planting Trees and Shrubs

Here is some planting information, should you be interested. But for the most part, planting is likely not necessary in most of the area, simply killing invasives and making space for natural regeneration of natives is probably the best approach.

2025 Connecticut Native Tree, Shrub, and Perennial Availability List–this is an excellent publication with many links to other useful information within.

Tree Nurseries.pdf
Earth Tones Native Plant nursery (locally sourced native plants)
Seeds can be purchased from the Northeast Seed Collective. These seeds are sourced from local ecoregions.
Here is a link to information on plantings that are deer resistant: DEER RESISTANT NATIVE PERENNIALS | Connecticut Invasive Plant Working Group

In wetland areas and damp farmland soils or floodplain areas that are prevalent to this property, you could consider native blackgum, sycamore, silver maple, river birch, pin oak, willows (natives, not weeping willow), tulip-poplar, swamp white oak, cottonwood, black walnut. Also great on those wet sites are alders, buttonbush, spicebush, winterberry, sweet pepperbush. Elderberry, red osier dogwood, gray dogwood, silky dogwood, beautyberry, highbush blueberry, buttonbush and witch-hazel, and hazelnuts are great native plantings, as well. Always know the lighting requirements before selecting and planting. You are probably best consulting with an arborist for any degree of planting, in order to ensure proper site selection and species selection and to help ensure longer-term survival. Remember that you will be likely need to access any plantings for watering for the first growing season or two and provide deer protection measures!

The grassy opening at the entrance can continue to be converted to native warm season grasses such as little bluestem, Indian grass, or switchgrass, along with valued plants for pollinators such as milkweed, goldenrod, and smooth sumac, winged sumac, or staghorn sumac around the shrub edges.

cttreeownersmanualpdf.pdf (for many types of tree care)
arborist-list-March2024.pdf (ctpa.org) (all licensed arborists, from the CT. Tree Protective Association website)

In the appendix, a one-page handout has been included from Wildlife Biologist Pete Picone providing a list of native plant species that naturally form thickets that some wildlife seek for habitat. These thicket-forming species can be used to replace any of the nonnative invasive thickets that currently exist.

Invasive Control

This concern was introduced in "Forest Understory/Ground Cover" above.

If funding becomes available, it could be best to hire contractors to take care of the invasives, rather than depend on just volunteers, due to the extensive but irregular nature of invasive coverage at this property. Also note that it is not necessarily essential to hit invasives property-wide all at once, but just focus on specific acres that may be priority to the land trust. While the property mostly occurs on and near wetlands, note that Garlon 3A is wetland-approved, including open water and shores. Garlon® 3A Herbicide — Land Management. Vendors that professionally perform invasive plant control typically can charge between $500 and $1,000 per acre, depending on density. This kind of price can be paid for by a number of grant possibilities available to land trusts, provided the land trust has, or is willing to produce, a forest management plan or stewardship plan. On the other hand, it is pertinent that the total area likely to be included in invasive plant treatment is only approximately 2-1/2 acres, which is a GIS estimated of all property not inundated at the time of the visit.

The land trust should understand that in many cases, control does not mean one season of pulling, cutting or spraying. It often means multiple growing seasons and 2-3 years minimum to conquer the invasives. Persistence and patience is the key, and it is also recommended that you not be in a hurry to plant. Planting is probably best to plan at least a couple years out, to allow time for a thorough invasive eradication first. Most effective invasive controls implemented by land trusts involve some combination of mechanical and chemical controls. Chemical likely becomes even more important here due to the sensitivity of the soils and therefore the questionable nature of bringing in equipment to assist in mechanical removals.

I have included a document at this link as a guideline to disposing of invasives, rather than leaving on the premises once pulled: Invasive plant disposal guide 6-2012.pdf . Many of your invasives are unfortunately in the category of not leaving on site because of their ability to re-root or re-sprout. But I also understand how difficult and labor intensive it may be to dispose of that volume of plant material otherwise. If necessary, you could pile the material but do your best to leave root systems in the air and not touching the soil, exposed to dry out more quickly.

Be sure to cut vines. Poison ivy, Virginia creeper, greenbrier, and grapevine are native and do have wildlife benefits. Asiatic bittersweet is not native and is a very destructive plant to natives. The best control of it is cutting late summer/fall and to remove a section of the vine and not simply cut it, to help prevent re-attachment. For larger bittersweet, you can also cut the

vine and treat the stump with herbicide using a Buckthorn Blaster as shown in the appendix. Some professional vendors may be suggested to contact outside of this report for estimates.

For phragmites: Controlling Invasive Phragmites in Connecticut's Wetlands ; make sure any is actually on your land first.

Japanese knotweed is a very difficult and challenging plant to eradicate and it is suggested you make its removal a priority. Most parts of this plant can develop into new plants, so proper disposal will be important if any mechanical control is used initially.

Mugwort can be controlled with milestone. Spray the plant in early emergence in May, or cut it back midsummer and then spray the new resprout as it emerges. Milestone is persistent for 1-1/2 years and no hay should be used from the site to feed animals.

Tree Insects and Diseases

- Most ash has died or is in decline from emerald ash borer attack. (Emerald Ash Borer EAB (ct.gov)

- Spongy moth (formerly gypsy moth) could threaten your oak in the future, but since oak is not really uniform and dominant, this reduces forest health vulnerability to this species. The Spongy Moth: Information for Tree and Woodland Owners (ct.gov) .

- Beech Leaf Disease. This recent introduction has impacted virtually all beech statewide, of any size. While the ultimate outcome is not certain, the future of beech does not appear promising. This information is being provided for general awareness, but beech is not really a component at Wolf.

Wildlife Habitat

Here are some important points for improving specific aspects of your wildlife habitat or for wildlife protection:

- Many turtle species are vulnerable to impacts because they are slow-moving, long-lived, and cannot reproduce quickly. In summer, any use of machinery in the woods should be preceded by a cursory search of the area for turtles. If any are found, they should be moved to a safer location, but not a different part of the property. They should only be moved as far away as necessary for the immediate work at hand. Winter work with machinery pose a concern for hibernating turtles. Vegetation management can improve turtle habitat, but for harvests conducted between November and March, care should be taken to not disturb hibernation sites such as downed logs and pits from tipped up root mounds, as well as edges of openings and streambank areas. Any tipped over tree from windthrow, with its root system exposed, should be left alone. Did you know . . . the illegal turtle trade is a multi-million dollar international underground business, and this has contributed to the drastic population decline of some species. No one should ever be allowed to remove a turtle from its habitats in Connecticut, and this certainly applies to your visitors. For more information, here is a link to the Collaborative to Combat Illegal Trade in Turtles (CCITT): https://parcplace.org/species/collaborative-to-combat-the-illegal-trade-in-turtles/ .

- Planning and scheduling any widespread vegetation work outside of the bird nesting season can protect wildlife using your forest. Bird nesting for most tree canopy, shrub, and ground nesters is May through July. Vegetation control work from August 1 onward through fall and winter have little concern for accidental mortality of nesting birds, other than a few nonmigratory species or backyard generalists.

- Bats boxes may be of benefit on the property, something that can be done with little impact and effort. Bats Count (ct.gov) . Due to the imported white-nose syndrome disease of bats, many of our bat species have declined and some are even federally or state listed now. Anything that can be done to help bats is a beneficial part of any natural resource management program. It may be possible to arrange acoustic bat surveys Wildlife Division Office Directory. This could show the land trust which bats have definitively been identified on the property, to bolster protection/management for the bat species as part of a management plan.

- Great Meadows could also consider a bird survey through Audubon, or a bird habitat assessment report to accompany and even help justify a professional management plan: Habitat Assessment Program and Resources | Audubon Connecticut

- Build wildlife brush piles with woody debris—Brush Piles for Wildlife

- Consider installing wood duck boxes in the floodplain. Wood Duck ; Nest Boxes and Structures for Wildlife

- Develop pollinator plantings, visit the Pollinator Pathway website: Connecticut . Here is a link to other Pollinator Pathway work right in Wethersfield: Wethersfield. Connecticut has over 300 species of native bees and their populations are declining. While much focus has been on the non-native honeybee, it is the native species that require our attention. Learn more at - Focus on Native Bees, Not Honey Bees . Also, Butterfly Gardens. It would be a fantastic improvement to replace the Japanese knotweed clump with a pollinator garden! That entire eastern edge of the grassy mowed opening could be a pollinator area or at least managed for shrubland bird habitat.

- Consider not mowing the grassy area once off the narrow entrance access corridor. It could just be mowed annually to maintain the grasses.

- If any trees or shrubs are selected for planting, it might be worth considering increasing conifer cover, which is currently lacking at Wolf. This can include native plantings of hemlock, white pine, Atlantic white-cedar/northern white-cedar, eastern redcedar on drier spots, tamarack, native red or black spruce. Even small patches of conifers can provide great diversity for wildlife.

- Retain the crabapple trees, if desired, but note that with new openings and management, they could spread. DEEP Wildlife has noticed crabapple becoming invasive in some areas. The land trust may not want to encourage that.

- The invasive controls provide the most important wildlife benefit of all. Even if low cover is provided by shrub

thickets, the invasive plants do not provide the forage and nutrition of native foods, creating a barren environment for a great many types of wildlife, particularly the birds that would benefit from native shrubs. Berries of nonnative invasive shrubs, for instance, do not contain the fat content that our native birds require. Even if wildlife use the invasives by consuming, it can cause detrimental effects for the species reproductive and migratory viability.

The full width of the grassy access corridor to the Wolf Parcel is pictured here, showing why a public parking area or forest management access is not practical.

Recreation Management

There are currently no authorized public recreational trails at the Wolf Parcel and it is not recommended that trails be developed due to the sensitivity of soils and the lack of suitable parking for public access. The narrow corridor for access is not adequate for development of parking. At present, the land trust hosts a public walk on the property once a year during winter dormancy, which is likely the most reasonable method of permitting exploration of this area, with the chance to appreciate the floodplain ecosystem and history. The limited access would also limit forest management options due to the inability to harvest forest products.

The boundaries of the property should be fully marked to help prevent encroachments. It may be necessary that this work takes place in winter and when not flooded. If there is no A2 survey for the parcels, it is recommended that the land trust order one, or it may be possible to find the legal corners and lines by searching abutting properties and using their surveys.

Financial Assistance

There are multiple sources of grants and cost share opportunities that could be available to your land trust, and it sounds like this has already been successful at another property. Funding often covers numerous forestry related activities, including pre-commercial thinning/TSI (Timber Stand Improvement), girdling to create snags, stream crossing construction and streambank restoration, planting trees and shrubs, invasive plant control, trail construction, etc.

- NRCS provides financial means with no minimum acreage. It could be worthwhile to inquire about cost-share or grant possibilities. EQIP | Natural Resources Conservation Service or IRA - EQIP Forestland | Natural Resources Conservation Service . You can also contact: todd.bobowick@ct.usda.gov or call 475-355-3864. This is a chief means of financial support for many land ownerships. *Just note that at present, the continued availability of funds is in question with our current federal administration. While NRCS is still accepting applications and funds are likely available this year, we are still uncertain about future years.* That said, it is worth pursuing options. Todd Bobowick or another NRCS forester would likely make an appointment to come see your property to evaluate for pre-approval to qualify for this program. **Note that for this and most other options for financial assistance, a management plan would be expected and required**. If cost-sharing is a concern for your ability to pay out of pocket expenses for your portion, there may also be options in DEEP to provide coverage for the out of pocket cost share portion.

- Visit CT DEEP's grants website, as the list of funding opportunities is updated as they become available. If eligible, the Land Trust may have particular interest in the Land and Water Conservation Fund: Outdoor Recreation and Legacy Partnership Program (Land and Water Conservation Fund Grant Program (ct.gov)). Note that more grants may become available and announced as 2025 continues. The site should be monitored.

- Partners for Fish and Wildlife Program (Partners for Fish and Wildlife | U.S. Fish & Wildlife Service): it may be worth contacting the US Fish and Wildlife Service (USFWS) regarding funding for possible habitat work. The Partners program provides assistance to landowners to conduct habitat work for species of concern such as the New England cottontail and American woodcock. Contact information is David Sagan, Wildlife Refuge Specialist, Partners for Fish and Wildlife Program, USFWS, 413-687-3588, ext. 5005, david_sagan@fws.gov . New England Cottontail Restoration

- Visit CT DEEP's Urban & Community Forestry Program's grants website, as the list of opportunities is updated as they become available. You can contact deep.ucf.grants@ct.gov with specific questions.

- Contact the Connecticut Botanical Society to assess viability for their small grant program: Grants – Connecticut Botanical Society (ct-botanical-society.org). There is at least one land trust I can think of that has successfully secured funding from the Botanical Society in the past several years.

- Engage your Capitol Region Council of Governments: Regional Councils of Governments. While this is generally thought to pertain more to municipalities, it should be a valuable resource to inform landscape-scale planning efforts – free consultant services may be available, grant opportunities may exist, and valuable information and services can be provided. There may be multiple forms of grant opportunities, including those relating to Climate Pollution Reduction Grants (CPRG) and community Sustainability: Home - CRCOG | Capitol Region Council of Governments

- CLCC: the Connecticut Land Conservation Council's Climate Smart Grant Program . Ricky Bentley is the coordinator: rbentley@ctconservation.org. This organization and its grants are exclusively for land trusts, and could be your greatest opportunity of all.

SUMMARIZED RECOMMENDATIONS AND OPTIONS

- *Hire a consulting forester to write a management plan.* ForestPractitiCertificatExamAnnouncementReport . Another list is provided in the appendix of this report, showing the qualified "TSP"s that can write stewardship plans to NRCS standards. This step is not considered essential for this particular property, but would be necessary if the land trust wants to pursue financial grants.

- Mark your boundaries. Enforce encroachments.

- Create and install bat and other nesting boxes.

- Create brushpiles if there is interest. Retain all cavity trees and snags (standing dead trees)

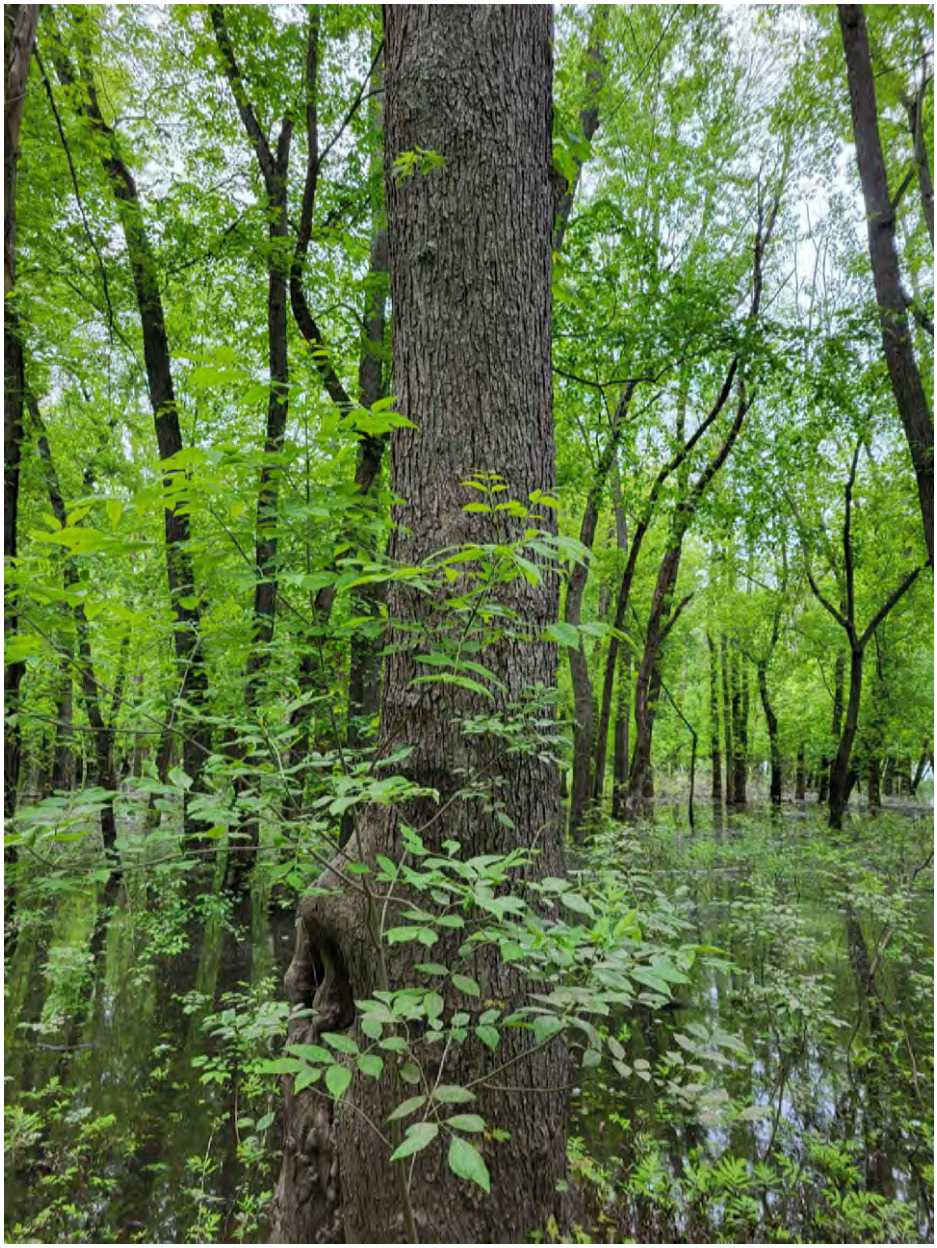
- Consider the value of a bird survey or bird habitat assessment through Audubon, and a bat acoustic survey through the DEEP Wildlife Division. Possibly a plant survey by contacting the state botanist.

- *Plan for thorough invasive control.*

- Establish pollinator plantings and shrubland habitat near the access.

- Non-commercially thin in the forest, dropping smaller trees, especially where specific and tangible benefits can be attained, such as releasing young ash to more sunlight. Catalpa can be selected for removal in favor of native species. Dropped trees can be left in place.

- If planting, use deer protection and plan to water, even on these sites. Consider planting conifers, native wetland/floodplain species previously suggested, and thicket-forming native wildlife shrubs (appendix).



A silver maple at the edge of the area inundated during the May 2025 site visit. Note the valued wildlife cavity at the base of the tree, and the ash sapling growing in front of it. While large ash has been killed by emerald ash borer, the insect cannot attack a tree less than 1" diameter, leaving room for hope wherever young ash continues to try reaching for sun.

The DEEP website has many educational materials available on numerous aspects of managing for healthy forest resources: https://portal.ct.gov/deep/forestry/ct-forestry-division

Here is a valuable link to the Connecticut Forest Action Plan from 2020, which is a companion piece to the previously-referenced Wildlife Action Plan. Most recommendations and missions by the DEEP Forestry Division can be linked to this comprehensive document which is produced after extensive surveys and interviews with stakeholders of our state's forest ecosystems and resources: 2020-approved-ct-forest-action-plan.pdf

Here is a "Story Map" presentation of this plan that is fascinating and very helpful in understanding the principles of the statewide plan: Connecticut's 2020 Forest Action Plan (arcgis.com)

For information on how habitats have changed in Connecticut see Habitat History slide show on the Belding WMA webpage.

Check out the Native Landscaping slide show for more information on the importance of native plants.

Want to learn much more? Become a Master Woodland Manager! Annual application deadline for landowners and land trust members is July 15. This is a program of coursework spread out over nearly a year and DEEP would love to see at least one representative from each land trust go through this program eventually! More information: https://portal.ct.gov/-/media/deep/forestry/mwm-flier.pdf .

Want to consider following up your report with an educational presentation by the forester (for the land trust board, members, or the general public in Berlin)? Fill out this online form and submit! Education and Outreach Request (Page 1 of 2)

Please feel free to share this report!

Prepared by:

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Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Base Map with Town Parcels
N
Wolf Parcel, GMCT
Parcels
Town Line
300 150 0 300 Feet
Prepared by David Irvin
CT DEEP Service Forester
david.irvin@ct.gov
Prepared for GMCT
May 5, 2025


Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Wolf Aerial Photo Base Map
N
Rt. 5/15
Hartford Avenue
Wolf Parcel, GMCT
Town Line
200 100 0 200 Feet
Prepared by David Irvin
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Prepared for GMCT
May 5, 2025


Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Elevation/Hillshade LiDAR Map
N
Prepared by David Irvin
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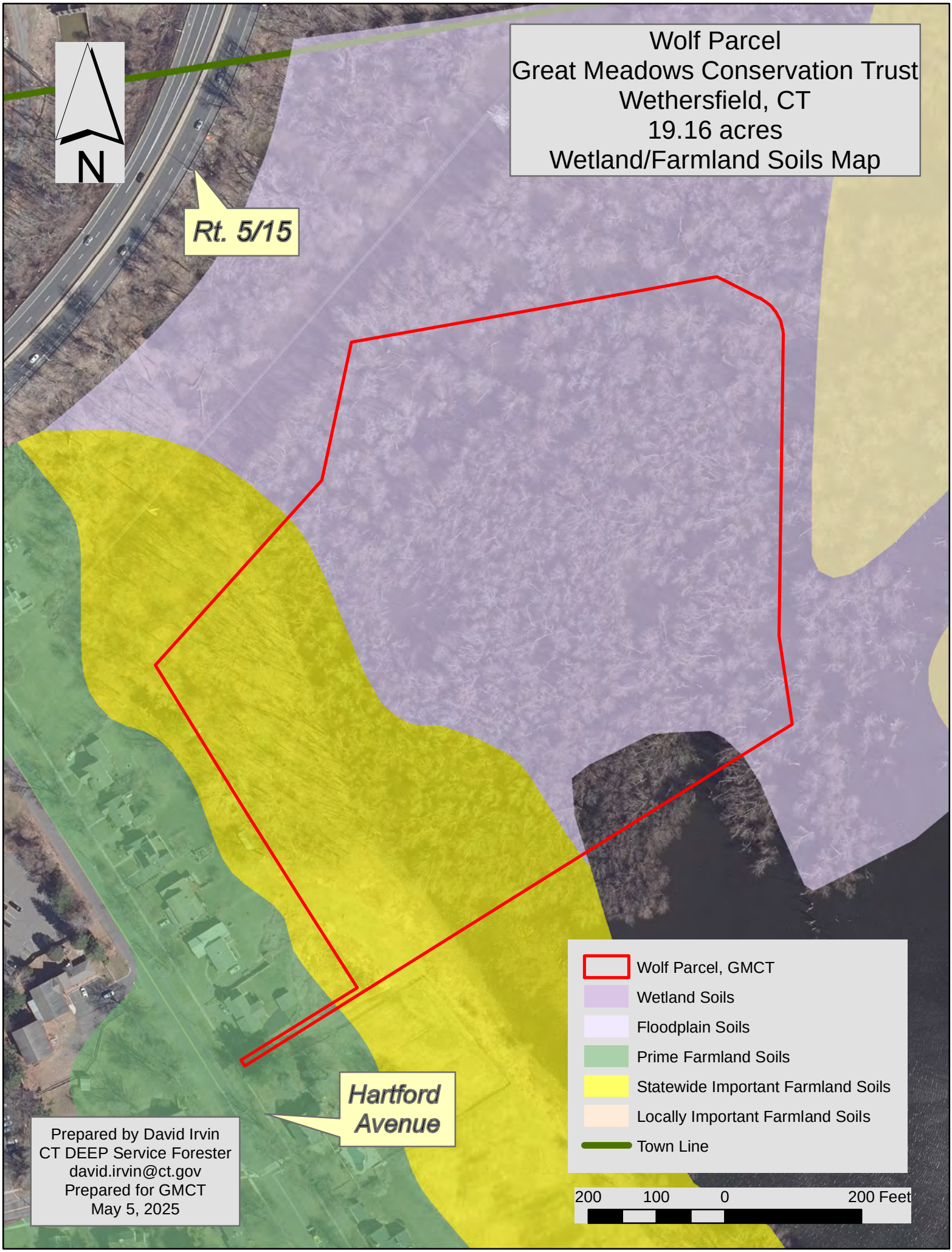
Prepared for GMCT
May 5, 2025
Wolf Parcel, GMCT
200 100 0 200 Feet


Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Wetland/Farmland Soils Map
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Rt. 5/15
Hartford Avenue
Wolf Parcel, GMCT
Wetland Soils
Floodplain Soils
Prime Farmland Soils
Statewide Important Farmland Soils
Locally Important Farmland Soils
Town Line
200 100 0 200 Feet
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Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Core Forest Map
N
Wolf Parcel, GMCT
Core Forest (small)
Core Forest (medium)
Core Forest (large)
200 100 0 200 Feet
Prepared by David Irvin
CT DEEP Service Forester
david.irvin@ct.gov
Prepared for GMCT
May 5, 2025


Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
NDDB/Critical Habitat Map
N
FF
Wolf Parcel, GMCT
Natural Diversity Area
Critical Habitat
Critical Habitat
Town Line
200 100 0 200 Feet
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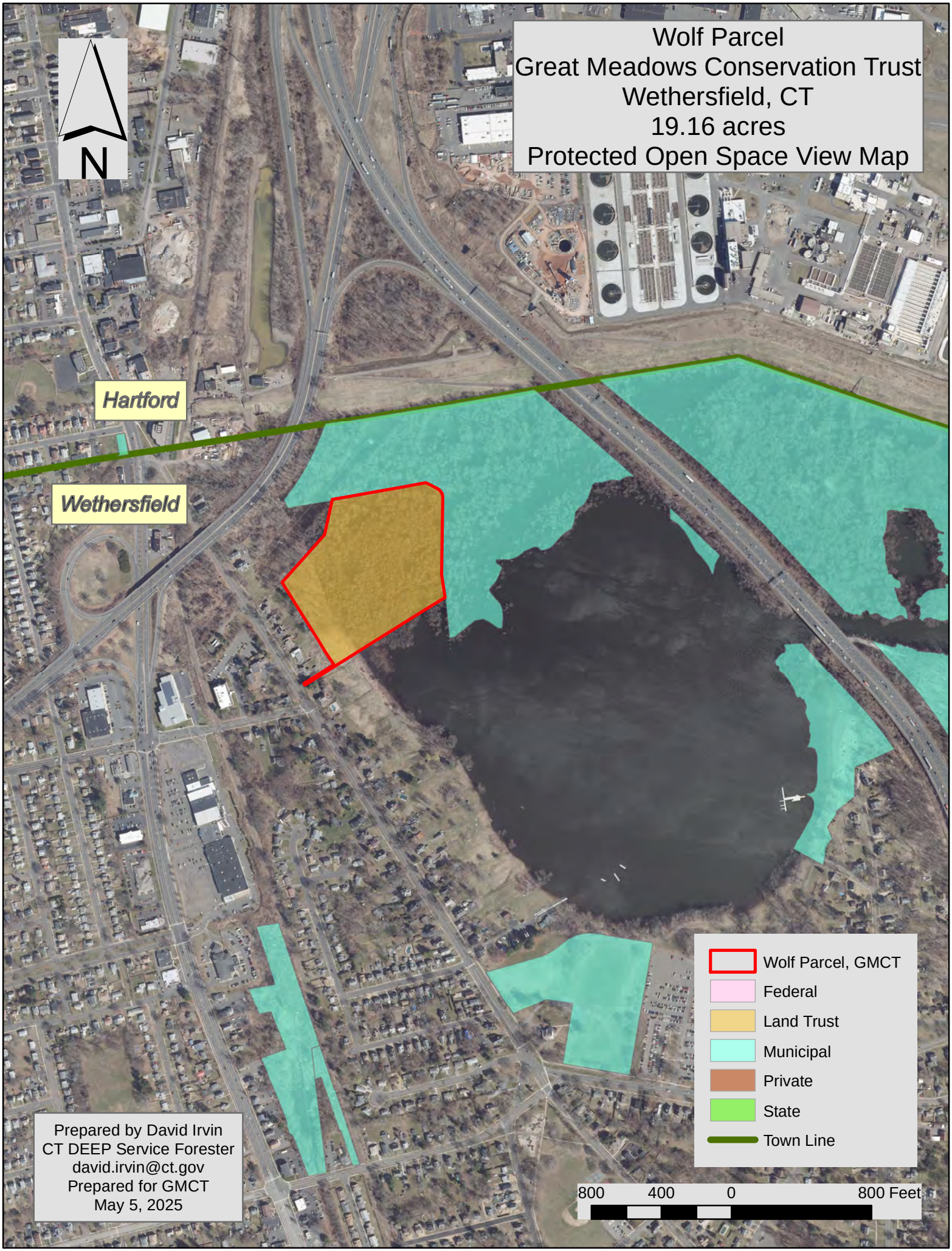
Wolf Parcel
Great Meadows Conservation Trust
Wethersfield, CT
19.16 acres
Protected Open Space View Map
N
Hartford
Wethersfield
Wolf Parcel, GMCT
Federal
Land Trust
Municipal
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Town Line
800 400 0 800 Feet
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Connecticut
Department of Energy &
Environmental Protection

APPENDIX I

FOREST HISTORY

Between eighteenth century colonial settlement and the mid-nineteenth century, most of western Connecticut was cleared for farming, with only a few small patches of forest remaining by the mid-nineteenth century. Only 25% of Connecticut was forested then. Under these conditions, the biggest animal left in the woods was a muskrat. Turkeys, deer, bobcat, beaver, and bear were either rare or entirely gone. Most of the land was used for livestock pasture, with only the best soils used for hay or tilled crops. Imagine a very open agrarian landscape.

It was during this farming period that the stonewalls were built to keep livestock out of crops and the neighbor's property. Most of these walls were topped off with piled wood and stumps to make them taller. Stonewalls were also a depository for rocks removed from cultivated land. A stonewall with many fist-sized rocks means that one side of that wall had tilled crops, where the winter freeze of bare ground would push rocks to the surface. After barbed wire became widely available in 1875, many of these walls were supplemented with wire. Barbed wire was used to corral cows and goats, but not sheep (barbs did not hurt the sheep). Sheep pasture used smooth-wired rectangular page fencing.

Most of the western CT hill farms were abandoned between the mid-nineteenth century and early twentieth century. The farmers either moved west for better farming soils or headed to the cities for industrial work. Immediately after this farm abandonment, the forest began to take over again. Much of the young forestlands were then cut down to make charcoal that was used in metal blast furnaces and by blacksmiths.

For charcoal making, small young trees were cut into 4' lengths and carried by hand to make a circular pile about 30' wide and 10' high. One pile could contain 30 cords of wood. A ditch was dug around the circumference of the pile, and the soil from the ditch covered the pile to limit the amount of oxygen in the smoldering, slow-burning of the wood. Once the low-oxygen burn was completed in two weeks, the almost pure carbon charcoal was removed for transport to market. Charcoal produces the hot fire needed for metal working.

While this charcoal making process had occurred since settlement, it came to a crescendo between 1880 and 1920. At that time, much of the landscape was cut multiple times, with patches of smoke rising from active charcoal mounds across the hills. By about 1925, less expensive coal ended charcoal making and the forest once again began growing back. The repetitive cutting of young trees for charcoal encouraged the proliferation of oak trees. Of all the tree species, oak responded best to the repetitive cutting. This, along with frequent wildfires, the sudden demise of American chestnut early in the 20th Century due to chestnut blight, and the lack of deer to browse on new growth, helped give rise to the oak dominated forest we see today.

The 1934 map is attached. Please keep in mind that you need to mentally adjust the map because the map scale projection does not exactly match what we use today. To see what ancestral homeland existed on your property before settlement, please visit Native-Land.ca, and type in your address.

FOREST FUTURE

Active forest management can nudge a forest in different directions by manipulating which trees continue to grow and how much the forest floor is exposed to sunlight by creating canopy openings of different sizes and shapes. For example, we can nudge the future forest towards oak by leaving oaks to grow and produce acorns, creating canopy openings of sufficient size to bring in the sunlight young oaks need to grow, and hunting the deer that like to eat young oak trees. Without these manipulations, and without significant natural disturbances (wind, ice, pests); the forest will gradually transition to shade tolerant trees that are not eaten as much by deer (hemlock, beech, black birch and red maple).

Diversity

A healthy forest has a large diversity of native plant species, particularly trees, that supports a diverse array of fungi and wildlife (animals, insects, microbes). A healthy forest also has multiple layers of native vegetation to maximize biodiversity and structural complexity. This means having trees of different ages, diameters, and heights. A healthy forest has both standing dead trees (snags) and dead downed wood as important habitat elements and to hold moisture during droughts. A healthy forest is resilient because it is better able to handle diseases, pests, and extreme weather events. Increasing species and structural diversity of this forest provides multiple pathways of recovery from disturbance.

As part of improving forest landscape diversity, you might want to consider establishing some patches of young forest. With over 89 birds, mammals and reptiles that need young forest habitat, young forest is nature's pantry for wildlife due to its abundance of insects and berries. 80% of young forest/early successional habitat bird species of Connecticut are in decline! Young Forest also provides our mature-woodland wildlife with important food and cover at critical times of the year. Ideally, 5-10% of our landscape should be young forest. Unfortunately, our landscape rarely has this much young forest because we prevent such forest forming naturally via fires and floods, but we can mimic natural disturbances with well-planned forest stewardship activities to create patches of young forest.

Diversity is key to forest resilience.

Invasives/vines

Invasive plants are a forest health threat and a top priority in many of our forests. Invasives directly threaten the establishment and growth of native trees and shrubs, and must be addressed before native forest and habitats can continue to be managed or restored. Invasives are serious to woodland owners because these nonnative plants did not evolve in our ecosystems and often have competitive edges. They tend to spread rapidly in multiple ways and are resistant to control efforts, and have the ability to outcompete native vegetation. Invasive shrubs such as Japanese barberry and winged euonymous (burning bush) can form dense, continuous thickets that allow no seedlings to develop. Over time, as a native forest overstory loses trees, those trees cannot be replaced. So a native canopy of forest is gradually replaced by a low shrub layer of invasives. These plants do not provide the nutrition for wildlife that native plants do, and therefore do not support healthy wildlife populations. Most of our native plant-feeding insects such as moth and butterfly caterpillars can only feed on native plants. Most of our terrestrial birds raise their young on insects, especially caterpillars. When native vegetation is replaced by non-native plants, it disrupts the entire wildlife food web. Birds also feed on berries. Berries from non-native invasive shrubs and vines do not provide the fat content that birds need to survive.

Most funding sources to provide financial assistance to the management efforts of land trusts, however, will require a management plan and will not fund a practice such as just "invasive control". It is not only important to control invasives, but to have a long-term vision of what to replace the invasives with, and to keep it in the context of a larger plan for the entire property. DEEP and the U.S.D.A. Forest Service would like to promote a diversity of enhancements that support a healthier forest, more diverse wildlife habitats, and promote a climate resilient forest throughout.

Control methods include mechanical and chemical methods. In a shady forest, cutting a vine is enough to kill it. Invasive shrubs are not so easy. Pulling the invasives out by the roots can be effective, but extremely difficult and labor intensive. Yearly cutting back of the aboveground stems, during the growing season, will keep the invasives under control, and perhaps kill them after a few years. The most effective control method is to apply an herbicide to the green foliage, and to cut the larger invasive shrubs and treat stumps with a "brush-on" herbicide to prevent resprouting.

Buckthorn Blaster herbicide applicator for vine and invasive shrub eradication

Here also is significant research on white-tailed deer and their damage and manipulation of our forest environments, which is often tied closely to invasive plants: Deer in Northeastern Forests Understanding and Assesssing Impacts (PDF).pdf

Lawns and fields

Fields provide an opportunity to help pollinators and native insects. Insects and pollinators (bees, butterflies, moths, beetles, flies, wasps, hummingbirds), along with the many birds that depend on them, are in severe decline. By delaying annual mowing until after the first hard frost in October and before the beginning of plant growth in the spring, you will allow pollinators to use your fields for food and habitat during the growing season. Another habitat management strategy is to mow one-third to one-half each year on a rotational schedule. This allows some insects to overwinter in the uncut plant stalks and provide birds with much-needed winter food. For this reason, late winter mowing is best. Please keep in mind that healthy meadows store more than double the carbon of a mowed lawn.

There are also many opportunities to create pollinator-friendly habitat/food by adding native plantings, allowing areas of lawn to go natural, and leaving leaves and needles to cover the ground in these areas. Insects will overwinter in leaf litter and uncut plant stalks. Birds will pick through the winter leaves for insects. For more information please visit: Pollinator Pathway (pollinator-pathway.org)

Boundaries

Boundaries need to be well marked to protect the property from trespass and encroachment. Painted blazes are typically used to mark property boundaries. A blaze is a hand-sized shallow scrape in the bark. This scrape will last for decades and does not harm the tree if done properly. When painted, this blaze is quite visible and long lasting. Trees within arm's length of the boundaries are blazed, with the blazes facing the boundary line. Use only paint marks, without blazes, on the neighbor's side of the line. The blazes should be given a new coat of paint at least every 10 years. Custom signs can also be hung about every 100 feet. Understory vegetation and debris can be cleared from boundary lines such that the lines can be easily traversed for inspection. Please consider hiring a forester to locate and mark property boundaries.

Wildlife Habitat

A healthy forest ecosystem includes a layered forest structure, with established tree seedlings and saplings and a low shrubby layer, and preferably with a midstory of stems, and not just "mature" upper canopy trees. While we all enjoy the aesthetics of a "clean" and open understory, this type of environment provides little benefit for most native wildlife. Without ground vegetation for small animal cover and forage opportunities, and downed woody material in varying sizes and states of decay, most of the forest is devoid of wildlife use except in the crowns high above. There are even migratory bird specialists that nest and/or feed at different levels of the forest, including on the ground, and require this vertical diversity. Doing well-planned and strategic forest and habitat management will provide this improvement throughout more of the property. Sometimes simply making canopy openings does wonders. You can benefit many species of wildlife by making varied openings from one tree crown in size to large clearcuts, and all other sizes in between.

Early successional habitat, which is normally composed of young forest, shrubland, old fields, and grassland, is lacking across Connecticut and is well below historic percentages of ground cover. Even before colonization there was typically 10-15% early successional habitat that were produced by natural means, such as hurricane and other wind events, fire, and beaver meadows. Today, this habitat is limited to only about 3%. The 2015 CT DEEP "Wildlife Action Plan" (Connecticut Wildlife Action Plan) identified over 50 wildlife species of "Greatest Conservation Need" that depend on young forest or shrubland. Old fields are sources of special diversity and valued and unique habitats that should be a management priority. Here is a great guide regarding these habitats: Managing Grasslands Shrublands and Young Forest Habitats for Wildlife A Guide for the Northeast (ct.gov) .

Grassy fields that containing some native warm season grasses should be kept as open grassy fields. It will be necessary to stay on top of invasive plants, especially mugwort, and any encroaching woody stems that will be a natural part of succession. Seeding to promote more milkweed in these areas could be beneficial. Milkweed is needed for reproduction and food for monarch caterpillars. Goldenrod is valued as a food source during monarch migration. Mowing of fields should be avoided during bird nesting season, holding off until at least after August 1. Mowing could even be postponed until early spring, as many types of insects such as bee larvae, overwinter in the dead stems of grasses and other plants in fields. Another way to expand usefulness of fields as habitat is to stop routine mowing unless there is a specific reason.

Wildlife value of ponds are increased if mowing stops to the edges of the water on at least 2-3 sides. This may still give opportunity for visitors to enjoy an open pond on one side, while providing desirable habitat on other sides. This should be

considered for any open water ponds.

Standing dead trees ("snags") and any size cavity trees provide important sources of forage and shelter, as does the aforementioned CWM. Snags and downed material provide food for decay insects that, in turn, feed wildlife that seek the insects. Ash snags on the property provide great cover for bats, and brown creepers will nest under the loose bark of these dead ash trees. Cavities for nesting in naturally hollow trees are invaluable for many species of both birds and mammals, including owls, chickadees, titmice, nuthatches, great-crested flycatchers and flying squirrels. Eastern bluebirds will nest in snags that are left standing after a timber harvest. For more information on mast, the value of snags, edge areas, and even how to create brush piles useful for small animal cover, please see the information provided at this DEEP website link: Wildlife Habitat Fact Sheets .

Wildlife and Oak

Your forest, and the State of Connecticut in general, is lucky to have a significant and diverse component of mature oak trees (mature trees have reached maximum height). Oak trees are considered a wildlife keystone species because of the large amount and diversity of life they support – more than any other tree. Acorns provide the most nutritious plant-based protein for almost 90 species of wildlife. Different species of oaks have differently-timed acorn crops. White oaks have the acorns most desired by wildlife, due to the lack of bitter tannins. However, white oak acorns are also available for food a shorter period of time, because they sprout in the fall. Red oak acorns are considered the most important food source because they are much more widespread and do not sprout until spring, so they are available as a food source all winter. But red oak acorns take two years to mature on the tree.

Oaks overwhelmingly host the most species of moth and butterfly caterpillars (over 500), which in turn anchor a biodiverse food web. Oak forests have more bird abundance and diversity compared to other forest types. Oaks also produce the thickest, most ecologically beneficial, and longest lasting leaf litter; that has the most abundant and diverse soil biology. This top-of-the-line leaf litter can keep out invasive exotic stilt grass and jumping worms. It also purifies and holds the most water. For these reasons, it is important to preserve and encourage oak growth and health in your forest.

Ecological Services and Climate Change

Parts of this forest have legacy trees, also known as old field trees or wolf trees. These trees were growing in open pasture, as a source of shade for livestock before the current forest started growing. They are much older than the surrounding forest. Because they used to be open grown, they have large spreading crowns and large branches low on the trunk. When the pastures were abandoned, they became a significant seed source for the present forest. These large old trees are structurally complex, with many cavities, hollows, fat branches, and thick, rough bark. They are also prolific seed producers, including acorns and nuts. This structural complexity and prolific seed production attracts an enormous number and diversity of insects, birds, and mammals. Underground, the old trees are also the hub and source of the complex fungal soil mycorrhizal growth that all trees depend on for water and nutrients. To make them healthier and more vigorous, such legacy trees could be protected and perhaps even given more sunlight by cutting some of the surrounding trees. These agrarian vestiges have become the ecological hubs in your forest. They are also a great source of future large snags and large dead downed wood.

Forests remove carbon dioxide from the atmosphere (called sequestration), create oxygen, and remove many pollutants from the air and water. Forests absorb heavy rains and release that water to streams and underground aquifers during droughts. Your forest contributes to these valuable services with carbon stored in the below-ground roots/soil and in the above ground vegetation, dead wood, and fallen leaves. These services are enhanced by having a diverse mix of native tree species of different sizes and varied arrangements. Sustainable, scientifically based forest management to remove forest products and promote young forests or regeneration of desired species has no long-term negative effect on your forest's ability to provide these vital ecological services. Whether you choose to actively manage your forest or not, your forest does a great service to our planet's health just by being a healthy forest.

Forests store carbon in different pools, and the amount of carbon in these pools changes over time. The pools are the live aboveground (trees, shrubs and other plants), live belowground (roots and fungi), deadwood (standing dead trees [snags] and downed logs, litter (leaves, needles and small branches) and soil organic matter. Sequestration is the process by which forests remove carbon dioxide from the atmosphere, primarily via tree photosynthesis. A younger forest (10-60 years old) stores relatively little carbon, but it is likely at or near its peak sequestration rate. An older more mature forest (60+ years old) stores more carbon, with a gradually slowing sequestration rate. A mix of sequestration and storage found in multi-aged forests create a resilient carbon profile. In New England, our forests are a carbon "sink". When comparing carbon emissions from greenhouse gasses in the region vs. carbon sequestration and storage, our forests offset approximately 14% of annual emissions.

Please keep in mind that using and harvesting local wood is an important part of climate mitigation and an important tool to improve the resiliency of our forests to climate change. The harvest of wood to produce long-term forest products, such as building homes, and use in furniture, flooring, cabinetry, even lower-grade products such as railroad ties, will tie up this carbon for many years to come in the form of the finished products. The carbon footprint is also much lower when using sustainable, locally-sourced wood, which does not have to be harvested and transported long distances from elsewhere in the world.

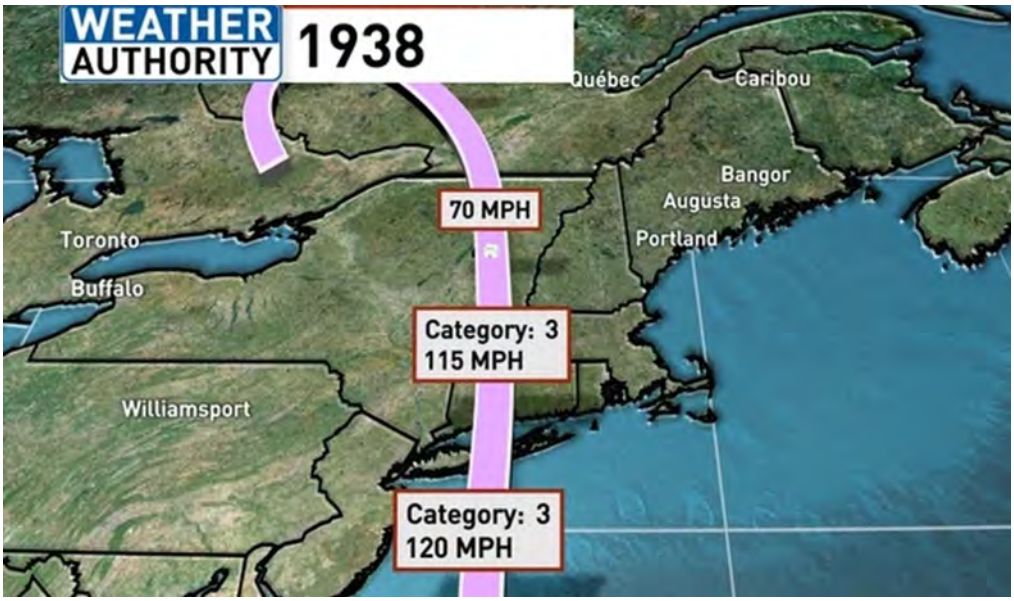
The DEEP website has increasing information on carbon and climate change: Forest Health and Climate Change (ct.gov) For more specific information and publications, you are also invited to visit the following:

- Forest Carbon booklet (UMASS, Univ. of VT): 42306_Magazine.indd (masswoods.org)
- A Guide to Forest Carbon in the Northeast, FORESTCARBON-compressed.pdf (northeastforestcarbon.org)
- Young forest and carbon.pdf

Storms

You may notice recurring themes on these forest health discussions: Climate change is pronouncing impacts from these issues, and the best defense is a more diverse and resilient forest in terms of species and age classes. Storms are no exception. Increasing strong storm events have been predicted, including hurricanes like the Hurricane of 1938, which entered the state as a damaging Category 3 storm. It is also predicted that a storm similar to that in today's forests would be far more damaging, because trees of today average larger and much older, and invasive plants becoming opportunistic on growing sites are far more prevalent today.

Ice storms and wet snow can damage trees, as well. Interestingly, the most damage by hurricanes will be on larger and older trees, but the most damage by winter storms can be on the *younger* trees, using a sapling or pole stand of birch bent over or broken by the weight of ice or snow as an example. Having a mixed forest can mean less loss by any one event or cause. Continually encouraging understory regeneration to develop, in order to replace the forest should most of the canopy be lost to a hurricane, is a key principle in forestry and promoting a healthier and more resilient forest.



Forest Fires

DEEP Forestry understands and recognizes this concern and issue. Hundreds of fires are ignited and reported annually in Connecticut, although most are extinguished or controlled quickly and efficiently due to organization and training, accessibility, and the rapid communications available in the 21st Century. Larger wildfires do occur, usually during the typical early spring fire season, or during summer or fall drought periods as experienced in fall 2024. The world of East Coast fires is

also normally different from the arid western states. Typically, New England provides much higher average humidity and rainfall, and higher fuel moistures as a result, which reduces intensity and severity. Although the statement can be considered simplified for this discussion, green vegetation is usually unavailable for burning, with some rare exceptions such as huckleberry and mountain laurel. In addition, our primary mode of fire spread in Connecticut is *hardwood leaf litter*. Larger woody material may burn if dried out and not advanced in decomposition, but does not contribute to fire spread. Therefore, harvest slash left on the ground, including large woody debris, does not necessarily promote or increase fire dangers as much as the fine fuels such as the leaf litter surrounding it. It is still considered more valuable to wildlife and the ecosystem to leave as much woody material on the ground as possible. In fact, when DEEP administers timber harvests on state forest land, contracts require that loggers leave behind any material under 3" on the ground and no whole-tree harvesting or chipping is permitted. The majority of nutrients in the tree to return to the soil are in those smallest stems and buds in the treetops. Besides nutrient cycling and small animal cover, CWM also helps to protect the soil immediately after a harvest and helps prevent deer from browsing new regeneration that will germinate and grow through this "slash".

An exception in fire concern is in the event of a major insect or disease kill in a forest. When standing trees that are dead outnumber live larger trees of the same size category, this can become a concern during drought periods, which are increasing due to climate change. The perfect example is widespread mortality following consecutive years of spongy moth defoliation. In event of that situation, DEEP Forestry considers it important to salvage dead and dying trees wherever possible to prevent these particularly heavy "jackpots" of standing dead fuels, which can allow a fire to torch vertically or crown, causing more damage and much greater danger to firefighters.

The best preparedness in event of a wildfire in forested property is to have road/trail access available, and good maps of the land showing trails, which may be used for firefighter foot or off-road vehicle access, and serve as firebreaks. Also understand where your best water sources are located, such as the nearest fire hydrants and standing water. Forest management activities can improve accesses that are later used in event of emergencies.

The Hawthorne Drive Fire in Berlin was much-publicized during fall 2024, as one of the larger fires. It was a product of an unusual fall drought that is likely due to climate change. This season provided approximately the 7th notable drought period since 2015. The droughts are becoming more frequent and prolonged. Fire is historically a natural part of some ecosystems and vegetation associates in Connecticut. Fire can make some nutrients more readily available and prepare the site for the germination and development of plants that are disturbance-dependent.

For much more information on wildfires, including a comprehensive analysis of northeastern fire risk from a few years ago, please see the following links:
Forest Fire Prevention Tips (ct.gov)
NFPA - Firewise USA®
NortheastRegionalRiskAnalysisReport11012012.pdf (forestsandrangelands.gov)

Mapping

Attached to this report is a geo-referenced map that the landowner can use with mapping apps. This map shows the landowner where they are on the property. The landowner can also record tracks and waypoints on the property. To get map layers and to view maps, please visit CT ECO Home (cteco.uconn.edu). To get soil maps, and associated soil descriptions, please visit Web Soil Survey - Home (usda.gov) and follow the instructions on the first page of this website. For instruction, please visit Tutorials | Center for Land Use Education and Research (uconn.edu).

Peter Picone, DEEP Wildlife Biologist, peter.picone@ct.gov
Sessions Woods WMA, PO BOX 1550, Burlington, CT 06013
Tel: 860-424-3032

Thicket forming native plants that create predator avoidance cover:

2

Fall Berries

Arrowwood Viburnum (*Viburnum recognitum*)
Nannyberry Viburnum (*Viburnum lentago*)
Gray Dogwood (*Cornus racemosa*)

Winter Persistent Berries

Winterberry (*Ilex verticillata*)
Northern Bayberry (*Myrica pensylvanica*)
Staghorn Sumac (*Rhus typhina*)
Smooth Sumac (*Rhus copallina*)
Pasture Juniper (*Juniperus communis*)
Black Chokeberry (*Aronia melanocarpa*)
Red Chokeberry (*Aronia arbutifolia*)
Swamp Rose (*Rosa palustris*)
Carolina Rose (*Rosa carolina*)
Virginia Rose (*Rosa virginiana*)

NRCS Registry Technical Service Providers

Search Criteria:

State
Connecticut

Selected Practices
"Early Successional Habitat Development/ Management","Forest Management Plan","Forest Management Practice Design","Forest Stand Improvement","Forest Trails and Landings","Herbaceous Weed Treatment","Pollinator Habitat Design","Restoration of Rare or Declining Natural Communities","Riparian Forest Buffer","Riparian Herbaceous Cover","Road/Trail/Landing Closure and Treatment","Tree-Shrub Establishment","Tree-Shrub Site Preparation","Upland Wildlife Habitat Management","Wildlife Habitat Planting"

Type	TSP Name	TSP Id	Email	Phone number	City
Individual	Nathaniel Gosselin	TSP-21-23598	nate.gosselin@mosaicecos.com	(413) 224-8376	Easthampton, MA
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Individual	Christopher Riely	TSP-18-22467	christopher@sweetbirchconsulting.com	(401) 225-6135	Providence, RI
Individual	GREGG J CASSIDY	TSP-05-4655	forestguy@aol.com	(401) 965-7086	Foster, RI
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Individual	Emily Mallory	TSP-21-23773	emily@northerntilth.com	(207) 338-5500	Belfast, ME
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Individual	Jarrod Fowler	TSP-13-9558	j@jarrodfowler.com	(508) 274-1094	Millbury, MA
Individual	John D. Kluthe	TSP-18-22247	johnkluthe@klutheenvironmental.com	(908) 297-2461	Hampton, NJ
Business	KES, LLC	TSP-B-18-9897	johnkluthe@klutheenvironmental.com	(908) 297-2461	Hampton,NJ
Business	Northern Tilth LLC	TSP-B-22-00047	andrew@northerntilth.com	(207) 338-5500	BELFAST,ME

Generated by eNDDB on:
5/5/2025

David Irvin
Towns: Wethersfield
Automated Site Assessment: 154107982

Subject: Great Meadows Conserv. Trust

This is an automated site assessment and not a Natural Diversity Data Base determination. The information provided represents a snapshot that can be used for general planning purposes. **This letter cannot be used to fulfill Endangered Species Act compliance requirements.** Please see information below as well as our FAQs describing the appropriate use and limitations of the automated Site Assessment tool.

Current data maintained by the Natural Diversity Data Base (NDDB) and housed in the DEEP ezFile portal, indicates that populations of the following State Endangered, Threatened, or Special Concern species (RCA Sec. 26-306) have been documented within or in close proximity to the area delineated. **Please see the attached table for detailed species information.**

HOW SITE ASSESSMENT SPECIES LISTS ARE COMPILED
Site assessment species lists include all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, landowners, private conservation groups and the scientific community. New and updated information is incorporated into the Data Base and accessed through the ezFile portal as it becomes available. The species list provided is not necessarily the result of comprehensive or site-specific field investigations.

WHAT PURPOSE DOES THIS SITE ASSESSMENT SERVE?
A site assessment is intended to provide a snapshot of the species that may be in the vicinity of your drawn area. It may be useful in project planning or to gain an understanding of the potential for listed species to utilize the site. The list is computer generated; it was not prepared or reviewed by program staff. Biologist review of your location may result in the addition of species not provided by the automated site assessment.

I'VE REVIEWED MY SITE ASSESSMENT, WHAT DO I DO NEXT?
If you are undertaking an activity that requires a state permit, utilizes state funding, or involves state agency action, you must demonstrate compliance with the CT Endangered Species Act. This is done through the full Natural Diversity Data Base review process. Please return to the DEEP's ezFile Portal and select Natural Diversity Data Base Review to begin this review process. Keep in mind that these detailed reviews may include additional species not identified in the automated site assessment. Program staff consider factors such as habitat characteristics, species life history and other

information to determine appropriate species of concern.

SURVEY WORK MAY BE NECESSARY

Suitable and potentially occupied habitat may extend beyond mapped NDDB areas and unmapped areas may represent potential habitat that has not been adequately surveyed for all taxa. If you are undertaking activities that involve significant ground disturbance, converting natural lands to development, or otherwise fragmenting or disturbing large areas, we recommend conducting comprehensive biological surveys and a full site habitat characterization for areas that have not been assessed through prior biological inventories. Survey work may be required as part of the NDDB review process; completing some or all of this work up front will allow the process to proceed more efficiently.

This survey and habitat characterization should be comprehensive and not strictly limited to species included in the site assessment. Field surveys should be performed by a qualified taxonomic expert with the appropriate scientific collecting permits. Surveys should be conducted at seasonally appropriate times.

A report summarizing the results of such surveys should include:

1. Survey date(s) and duration.
2. Site descriptions and photographs.
3. List of component vascular plant and animal species within the survey area (including scientific binomials).
4. Data regarding population numbers and/or area occupied by State-listed species.
5. Detailed maps of the area surveyed including the survey route and locations of State listed species.
6. Recommendations for management and protection of State-listed species with reference to project activities.
7. Statement/résumé indicating the taxonomic expert's qualifications.

Site survey reports should be sent to the CT DEEP-NDDB Program (deep.nddbrequest@ct.gov) for further review by program biologists.

SENSITIVE SPECIES

Please note that, for purposes of automated site assessments, certain sensitive species are not identified beyond their taxa. Additional information will be provided for those projects that will be conducting survey work in preparation for permitting ground disturbing activities or for other activities that might necessitate survey work. For these projects, please submit a Natural Diversity Data Base Review Request and we will provide information to your taxonomic expert.

ADDITIONAL RESOURCES

The following resources may be helpful when planning survey work

- State Listed plant species and Natural Communities documented within each CT town
- Thirteen of Connecticut's Most Imperiled Ecosystems (1998) - Metzler and Wagner
- The Vegetation of Connecticut - Metzler and Barrett
- Nature's Network identifies opportunities for conserving and connecting intact habitats and ecosystems and supporting imperiled species.
- Connecticut's Critical Habitat map. The Critical Habitat map project contains a subset of

known important natural community types and sites in CT. Refer to Resource Guide for a complete description and limitations of this product.

Additional sites of Critical Habitats and important natural communities exist, some of which are documented by NDDB and some of which have not been identified, or fully mapped or field verified. You may contact NDDB prior to conducting field reviews for more comprehensive information.

This letter is computer generated from our existing records and carries no signature. If however, any clarification/error is noted, or, if you have further questions, please contact the following:

CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Data Base
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3011
deep.nddbrequest@ct.gov

Please include a snapshot of the map, your last name, and the subject area town when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

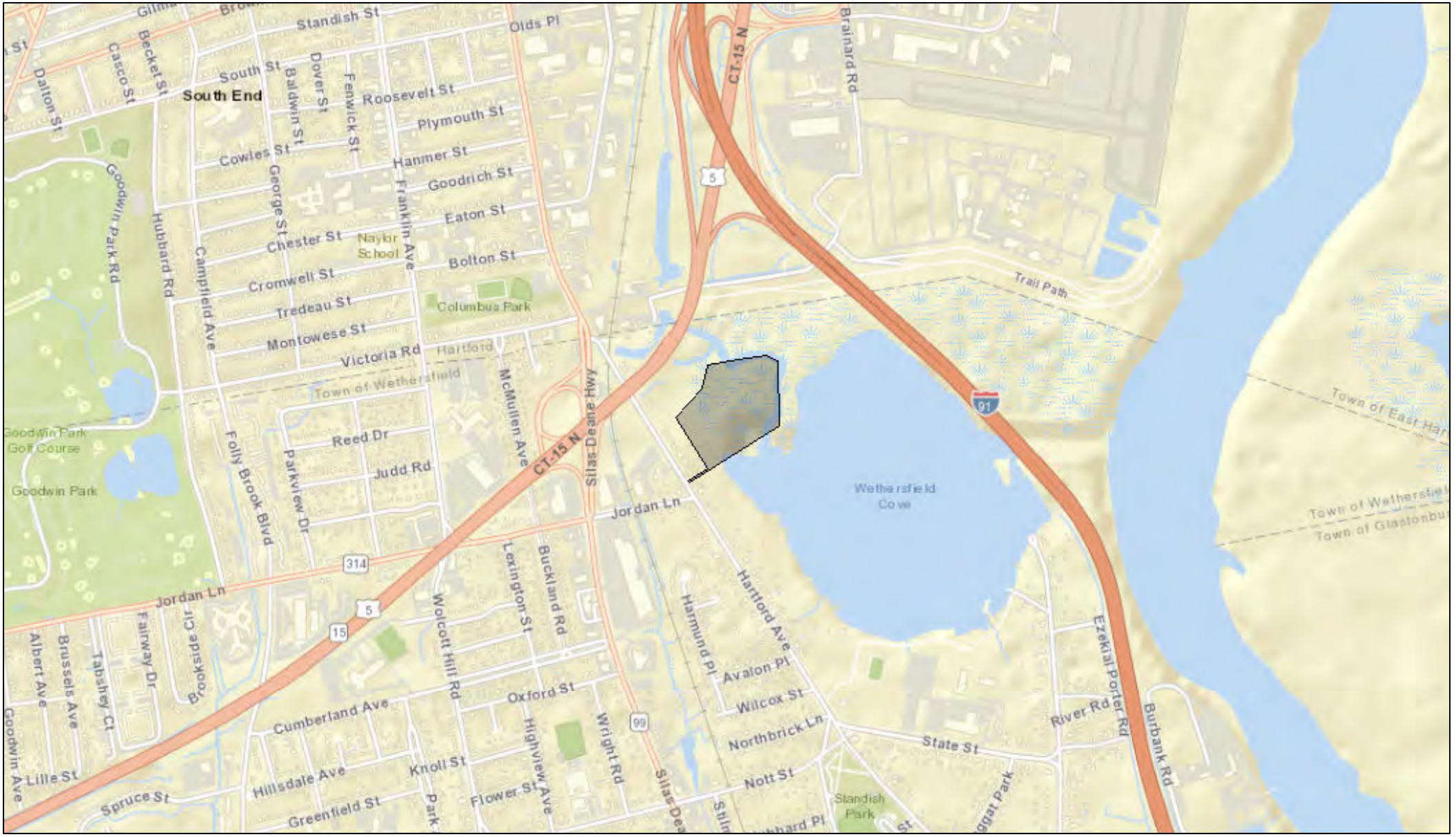
Common Name	Bald eagle
Scientific Name	*Haliaeetus leucocephalus*
Listing Status[1]	T
Taxa	bird
General Ecology	It is illegal pursuant to section 26-93 of the Connecticut General Statutes to disturb Bald eagles. This law prohibits disturbing the birds while they are roosting, feeding, or nesting. The wildlife division recommends a 660’ setback with no public access from a bald eagle nest or critical roosting site. The critical time for nesting eagles is February 1- August 1. The critical time period for winter roosts is December 31- March 1. To determine if nest or roost in your area is active this year contact the DEEP Wildlife Biologist coordinating eagle monitoring (Brian.hess@ct.gov).
Common Name	Yellow lampmussel
Scientific Name	*Lampsilis cariosa*
Listing Status[1]	E
Taxa	invertebrate
General Ecology	Habitat: Larger streams and rivers, typically found in sand and gravel where good current exists. Host Fish: white perch (Morone americana), and yellow perch (Perca flavescens). Potential species: banded killifish (Fundulus diaphanus), chain pickerel (Esox niger), white sucker (Catostomus commersonii), smallmouth bass (Micropterus dolomieu), largemouth bass

	(Micropterus salmoides) and striped bass** (Morone saxatilis).
Common Name	Tidewater mucket
Scientific Name	*Leptodea ochracea*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Slow-moving sections of rivers and canals in a variety of substrates, including silt, sand, gravel, cobble, and occasionally clay. This species, more so than many other species in the Connecticut River, migrates deeper into the sediment in early autumn and becomes difficult to detect without excavation.
Common Name	Eastern pondmussel
Scientific Name	*Ligumia nasuta*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	This freshwater mussel inhabits a wide variety of habitats including small to large rivers and lakes in a variety of substrates, depths, and flow conditions.
Common Name	Northern arrowhead
Scientific Name	*Sagittaria cuneata*
Listing Status[1]	E
Taxa	plant
General Ecology	Habitat: wet alluvial soils of CT River & pond shores,calcareous,muddy shores of lakes & ponds (D&C). Mature fruits: Jun-Sep
Common Name	Cattail sedge
Scientific Name	*Carex typhina*
Listing Status[1]	SC
Taxa	plant
General Ecology	Habitat: Moist or wet woods and marshes (G & C, 1991). Wet alluvium and in meadows (Bulletin #14). Similar habitats, especially on Connecticut River (CT herbarium labels); vernal pools on traprock ridges. Mature fruits: Jun, Jul.
Common Name	Atlantic sturgeon
Scientific Name	*Acipenser oxyrinchus oxyrinchus*
Listing Status[1]	FE
Taxa	fish
General Ecology	This species is both Federally and State listed as Endangered. Contact a DEEP Fisheries Biologist for more information. Do not contact NDDB with questions regarding fish species. The presence of a Federally endangered species, may require consultation with the National Marine Fisheries Service in order to be in compliance with the Federal Endangered Species Act if the proposed project requires federal permits or uses federal funds.
Common Name	Shortnose sturgeon
Scientific Name	*Acipenser brevirostrum*

Listing Status[1]	FE
Taxa	fish
General Ecology	This species is both Federally and State listed as Endangered. Contact a DEEP Fisheries Biologist for more information. Do not contact NDDB with questions regarding fish species. The presence of a Federally endangered species, may require consultation with the National Marine Fisheries Service in order to be in compliance with the Federal Endangered Species Act if the proposed project requires federal permits or uses federal funds.
Common Name	Blueback herring
Scientific Name	*Alosa aestivalis*
Listing Status[1]	SC
Taxa	fish
General Ecology	Contact a DEEP Fisheries Biologist for more information. Do not contact NDDB with questions regarding fish species.

[1]E = State Endangered, T = State Threatened, SC = State Special Concern, FE = Federally Endangered, FT = Federally Threatened, NA = Not applicable.

Great Meadows Conserv. Trust Map



May 5, 2025

1:19,195

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community