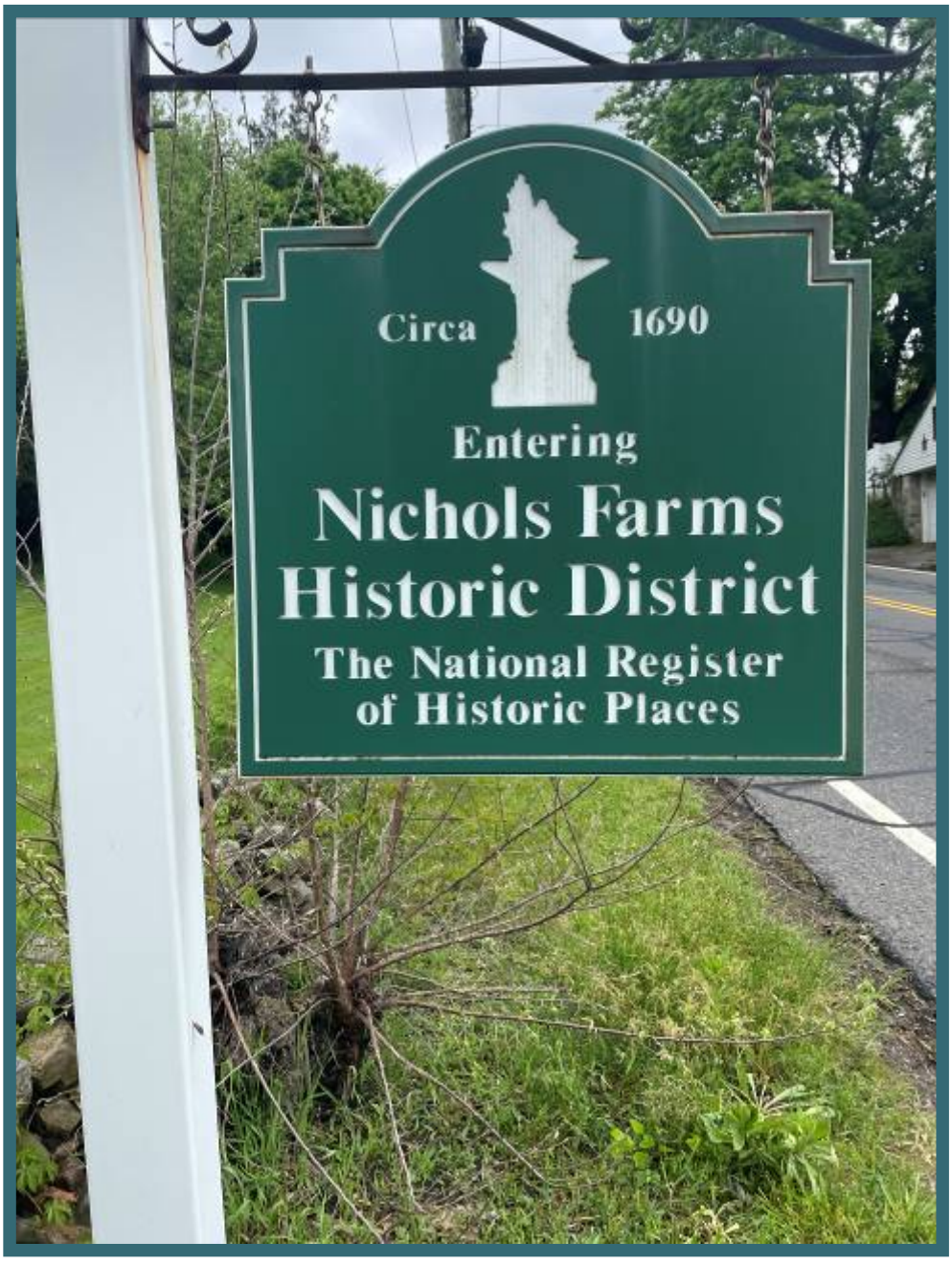
NICHOLS IMPROVEMENT ASSOCIATION
MANAGEMENT PLAN



1773 Huntington Turnpike
Trumbull, CT 06611

Date of Completion:
May 31, 2024

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REGIONAL SETTING:

The Nichols Improvement Association's 42-acre property is located in the hamlet of Nichols. The hamlet is located in southeastern section of Trumbull (see Location Map page 20), which is located in Fairfield County, Connecticut. The hamlet also includes the Nichols Farms Historic District which is 104 acres in size. The Nichols Improvement Association (NIA) was formed in 1889 to maintain local roads, sidewalks and lighting and to preserve the neighborhood's unique history and character. It continues to do so today, sponsoring family oriented events throughout the year at the Starkweather House, Five Pennies Playground, Moore Ball Fields, Frog Pond and the Nichols Green.

This management plan is part of the NIA Beautification Program which includes planting native oaks, red buds, American holly, viburnum, witch hazel and mountain laurel.

HISTORY:

Colonists first settled the area 1639. In 1662 the land that is now Nichols was deeded from the Paugusset tribe who occupied the area. The Golden Hill Paugussett today are a state-recognized Native American tribe with a reservation in Nichols which includes a Paugusset burial ground.

The hamlet is named for the Nichols family which built the first house in the area in 1690. From a small farming village the hamlet grew with the local carriage and saddle-making industry which by 1850 employed up to 500 people. The area's population surged again with the opening of the Merritt Parkway in 1940 and today the majority of Trumbull is a suburb made up of single family residences, businesses, schools and roads. The 42- acre Nichols Improvement Association land, located by the intersection of Unity Road and the Huntington Turnpike, is a tranquil oasis amidst the densely developed town (see Surrounding Land Use Map page 21).

PROPERTY DESCRIPTION:

Approximately 2/3rds of the 42-acre property is wooded and consists of mature oak-hickory trees in the higher elevation center of the property and red maple swamp in the lower and wetter western section of the property and around the pond (Frog Pond) (see Ecological Communities Map page 23). The property's eastern 10 acres are landscaped with lawn, a playground and numerous ornamental trees around the Starkweather Community Center and along Huntington Turnpike.

. The property has two crests of 280 feet in elevation at the land's northeast boundary and in the center. The terrain slopes down from these points to a low point of 260 feet at Frog Pond, 250 feet along the southeast boundary and a low point of 190 feet at the stream and wetland running along the western boundary (see Elevations Map page 24). A wetland and stream flow from north of the property south into Frog Pond and then along the western boundary where water eventually flows into nearby Thrush Wood Lake (see Environmental Features Map page 23). A small stream flows out of a culvert and into a small wetland along Unity Road in the southeastern section of the property.

Old stone walls run through the center of the land, most likely built in the past to keep livestock out of the pond and wetlands. Historic aerial photographs from 1965 reveal that the land was much more open then with just a scattering of mature trees running along what most likely were hedgerows separating crop and hay fields. Today these are very large black oak trees. (see 1965 Aerial Photograph Map page 22).

CONSERVATION VALUES:

The property has natural habitat for plants and wildlife and contains several watercourses and wetlands, a pond and two unique habitats: a meadow and a young sapling-shrubland stand. The woods and wetlands on the property serve as a buffer for the water flowing into Frog Pond and Thrush Wood Lake and eventually into the Pequonnock River located 1.75 miles to the west. The property, surrounded by dense development, supports a high level of biodiversity, acts as a migratory bird nesting and stopover site (see Breeding Bird List page 30), supports plant and animal metapopulation sources and facilitates plant pollination-particularly at the meadow. The property's

woods, streams, wetlands and pond provide ecological services including: oxygen, carbon and nutrient cycling, carbon storage, water purification and groundwater recharge, drought and temperature moderation, storm water regulation, flood abatement and erosion control and soil stabilization. The property has scenic value from adjacent roads and neighborhoods. The property has over one mile of hiking trails that provide recreational opportunities and opportunities for nature study (see Hiking Trails Map page 27).

ECOLOGICAL COMMUNITIES:

Ecological communities are groups of plants and animals that interact and share a common environment and tend to have the same suite of plants and animals wherever they are located across a region. Identifying and mapping vegetation according to ecological communities is a useful way to organize, represent and share the plant and wildlife patterns, conservation values and management recommendations of a particular preserve.

The type of ecological community that exists in a particular space is determined by many factors including: geology (bedrock and soil conditions), hydrology (moist or dry conditions), aspect (exposure to sunlight and wind), topography (hilltop, mid-slope or bottomlands), microclimate (local variation in temperature and humidity), time (early, mid or late-stage plant succession), previous usage (farmland, timberland, residential) and wildlife impact, (in this area, deer browse). Because of these relationships, communities can tell us much about existing conditions of a property.

The NIA has the following ecological communities (see Ecological Communities Map page 25):

Oak-Hickory Stand:	11 acres
Red Maple Swamp:	10 acres
Sapling-Shrubland	3 acres
Pond	2 acres
Meadow	1 acre
Lawn/Ornamental Trees	7 acres
Ballfields	6 acres
Parking/Playground	2 acres
`	42 acres

OAK-HICKORY STAND-11 acres:

The oak hickory stand is found on the higher and therefore drier central portions of the property east, west and south of Frog Pond. Black oaks are most common and they are several large black oaks measuring 18 inches in diameter. Red oaks also grow here. A grove of locust trees grows just west of the large rock outcrop. Other trees include several medium sized white pines and many dead and dying red cedars. Red cedars begin to grow in sun-lit fields after farming is abandoned and have done so here but as shade tolerant oaks begin to shade them out, the red cedars begin to die naturally. The understory trees include black cherries and black birches.

Large rock outcrop along blue trail

Native holly shrubs along with non native burning bush and autumn olive shrubs make up the shrub layer along with some native maple-leaf viburnums. The invasive shrubs are not numerous, perhaps because this forest stand is fairly mature and undisturbed, making it more difficult for invasive shrubs to become established. Since they are scattered the non-native shrubs can easily be removed by cutting and treating, if allowed, or by annual cutting to prevent their regrowth. The ground layer is thick with native greenbrier, grape and Virginia creeper vines along with some non-native and invasive bittersweet vines. Native Pennsylvania sedge, hay-scented fern, Canada mayflower, New York fern, wintergreen, ground pine jump seed and shinleaf also grow in the ground layer.

Invasive burning bush along trails

GROUNDLAYER PLANTS OF THE OAK-HICKORY FOREST:

Maple-leaf viburnum shrub

Greenbrier vines

Princess pines

New York fern and Canada mayflower

Spotted wintergreen

RED MAPLE SWAMP-10 acres:

As the property's elevation drops heading west and around Frog Pond, red maple trees dominate along with red cedar, black cherry and beech trees. Red maples can grow in many types of soil but are most common in wetlands soils such as these. A few beech trees grow here also and show signs of beech leaf disease which is caused by a non-native nematode. An experimental treatment of beech with PolyPhosphite-30 fertilizer shows signs of preventing the disease and may help these beeches. The large copper beach tree in the landscaped eastern area does not show signs yet of this disease. The shrub layer has wetland soil species including native spicebush but closer to the wetland and stream very thick non-native barberry and multi-flora rose dominate. These are too well established to remove, in most cases. Skunk cabbage and Jack in the pulpit grow along the streamside.

Native skunk cabbage in wetland along stream at west boundary

Another, smaller wetland is found along the south boundary along Unity Road where a stream has been piped, discharging water into the wetland. The canopy has medium sized red maples, a few larger tulip and sycamores trees, red oaks with smaller black cherry trees along with a few locust trees—a much more extensive grove of locust trees grows just to the west and just south of the large rock outcropping. The wetland's shrub layer has many non-native, invasive shrubs including multi-flora rose, autumn olive and honeysuckle shrubs. Several native elderberry shrubs grow in the swales along Unity Road. The ground layer includes skunk cabbage, jewelweed, cinnamon fern, Virginia creeper, poison ivy and greenbrier vines along with non-native garlic mustard and non-native climbing euonymus and swallowwort vines.

Small wetland by Unity Road

SAPLING SHRUBLAND-3 acres:

This community just west of the large meadow was field in the 1960's (see 1965 Aerial Photograph Map page 22). Since then it has been colonized by small to medium sized black cherries along with red and white oak, hickory and sassafras saplings. Shrubland such as this is valuable wildlife habitat. Because of development and the natural regrowth of forests in our area, shrubland is becoming a very rare habitat in the region. Shrubland is critical habitat for a number of declining birds and small mammals. Many shrubland bird species including rufous-sided towhees, yellow warblers , catbirds and blue-winged warblers can successfully breed in shrub openings as small as one to two acres and were all observed here in May, 2024. This shrubland habitat can be maintained by randomly removing saplings every few years to prevent the stand from reaching maturity.

Shubland habitat

POND-2 acres:

Frog Pond is surrounded by thick native shrubs and trees which provide important shelter and cover for a variety of birds and other wildlife including wood ducks (observed with young in May, 2024) and red shouldered hawks (also observed here and in the adjacent wooded wetlands in May, 2024). Both species have experienced populations declines in the past. The many native shrubs surrounding the lake include clethra (sweet pepperbush), button bush, azalea and blueberry shrubs while red maple and tulip trees grow in the canopy and flowering dogwoods grow in the understory. Although many people like to clear the edges of ponds for access and viewing, this important buffering vegetation, mostly native, should not be cleared or disturbed due to its high wildlife value.

Frog Pond with buttonbush and sedges along edge

Azaleas and flowering dogwoods along Frog Pond

MEADOW-1 acre:

Meadows such as this provide an important ecosystem service by attracting a great diversity of plant and animal life in addition to creating an appealing landscape for visitors. The meadow's variety of native wildflowers and grasses triggers an increase in insect diversity, including butterfly and bee species and other pollinators, which in turn leads to an increase in diversity of birds and other wildlife This meadow is filled with grape and greenbrier vines, goldenrods, milkweed, dogbane, clovers, asters, thistles, Queen Anne's lace, wintercress and various grasses including orchard, fescue, deer-tongue and bluegrass.

Meadow with goldenrod and milkweed

By brush hogging the meadow each year or two, the meadow habitat will be maintained and encroaching invasive species can be controlled. Brush hogging is best done towards the end of the winter season, in the months of February and March and should never be done during the nesting seasons of April to August in order to prevent bird, reptile and amphibian death from mowing equipment. This maintenance schedule also allows wildflowers and grasses to go to seed, thereby maintaining a stable and diverse plant population, allows migrating monarch butterflies to feed on and lay eggs on milkweed late in the summer and fall and gives food and shelter to insects, birds and other wildlife all through the winter. Where invasive autumn olive, multi-flora rose and honeysuckle do appear they can be weed whacked several times during the growing seasons or, if permitted, cut and treated with an herbicide. Garlic mustard can be weed wacked in April before it goes to seed and stilt grass can be weed wacked before it goes to seed in September.

A path through the meadow or around the edges can be mowed regularly during the growing season to allow hikers access to the meadow without having to worry about contact with poison ivy (a native, beneficial plant for birds provided people do not contact it) or ticks (normally found in higher vegetation).

One bluebird house needs repair. A second or third bluebird house can be added to the field. In addition to bluebirds, these can also provide nesting space for swallows, wrens, chickadees and titmice, all bird species that can help control insects and add interest to birders and hikers. Some birds will over winter in the bird houses so delaying cleaning and repairing the boxes until March is recommended.

Adding more bluebird houses can attract tree swallows as well as bluebirds

Once the meadow is re-established, wildflowers including bergamot (monarda, bee balm), purple coneflower, black eyed Susan, meadowsweet, orange milkweed, (butterfly weed), common milkweed, swamp milkweed, ironweed, St. John's wort, blue vervain, phlox, New York aster, New England aster, boneset and Joe-Pye weed can be planted for butterflies, hummingbirds, pollinators, birds and beauty.

LAWN/ORNAMENTAL TREES-7 acres:

The large lawn area holds several options. Areas of the lawn that are not used for recreation can be allowed to go unmowed through May to let grasses, clovers, violets and other flowers to grow. Such an area can be mowed once every two weeks through the summer, or mowed once a year in winter to let grasses, forbs and wildflowers grow—all of which are beneficial to insects, butterflies, bees, other pollinators and birds and small mammals as long as herbicides are not used. This can also lead to lower maintenance costs and lower noise and fossil fuel pollution. Another option is to plant a small orchard of apple and other fruit trees, similar to the Abraham Nichols Park orchard just to the northeast. An orchard can be attractive, educational and historic since nearly all homes in the past had some fruit trees for food and cider.

White egg cases are signs of hemlock wooly adelgid disease

Along the west side of Five Pennies Playground a hemlock is infested with wooly adelgid aphids (see Landscaped Area Map page xx). This new non-native pest is killing hemlocks across the northeast. In a highly visited park such as this it is safest to not use any pesticides, whether on trees or as lawn treatments. Hemlocks can be treated with horticultural oil or insecticidal soap applied by a licensed pesticide applicator between February and April (when eggs hatch). A small beetle (*Sasajiscymnus tsugae*) is being released in Connecticut by the CT Ag Extension with some success. The systemic insecticide imidacloprid and dinotefuran are most effective but both are neonicotinoids and so are also harmful to beneficial insects. Widespread use of it is more harmful while spot treatment to save one or several hemlocks may be an option. An impressive 30" scarlet oak grows just north of the hemlock and is covered with bittersweet vines that can be cut to prevent the vine from shading and killing the tree. Bittersweet vines are also covering several medium sized black cherry and crabapple trees just to the north and can be cut. The large autumn olive growing next to the scarlet oak could be cut and treated, if permitted. Further to the north, a native butternut tree appears to be suffering from butternut canker disease and may have to be removed to prevent the fungus from spreading to the healthy butternut just to the north but only after inspection by a certified arborist. Non-native wineberry shrubs grow just north of the playground and can be cut, allowing the native hay-scented ferns to expand. A large hedge grows

along the lawn's northwest boundary (see Ecological Communities Map page 25 and Landscaped Area Map page 26). Removing the non-native forsythia, autumn olive, honeysuckle and multi-flora rose may not be worthwhile given the extent of the hedge and the foliage does provide cover for wildlife but the non-native shrubs should at least be contained by mowing or brush hogging the perimeter of the hedge to prevent them from spreading into the nearby woods which is now mostly devoid of invasive plants.

A rare, healthy butternut tree

Butternut tree possibly infected

Cutting non-native wineberry allows hay-scented ferns to spread

Cut bittersweet vines choking trees and shrubs

Non-native forsythias, autumn olive, honeysuckle and multi-flora rose hedge should be controlled to prevent spreading

ORNAMENTAL TREES:

Ornamental trees line Huntington Turnpike and include ginko, cherry and kousa dogwoods. Removing healthy ornamental trees is never recommended, however, future plantings should emphasize native trees which are more beneficial to wildlife and the new NIA Beautification Program recommends planting several native plant species including oaks, red buds and other native shrubs. Trees and shrubs growing close to the corner of Unity Road and Huntington Turnpike include several small to medium sized hemlocks and two or more native northern white cedar trees (see Landscaped Area Map page 26). Two medium sized non-native Norway maples shade the cedars and hemlocks and could be removed. Vines smothering the cedars and hemlocks can be removed. A small non-native and extremely invasive Bradford pear can be removed to prevent spreading. Branches shading three attractive azaleas can be pruned to allow the azaleas to grow.

Vines and Norway maples are smothering native cedars, hemlocks and azaleas.

THREATS:

DISEASES:

Tree diseases including emerald ash borer, oak wilts, woolly adelgid infestations on hemlocks, beech leaf disease, butternut canker, black birch nectria and sponge moth (gypsy moth) are infecting trees on the property. Beech leaf disease may be treated with PolyPhosphite-30 fertilizer; hemlocks can be treated with oil, beetles or imidacloprid and dinotefuran (though these are systemic insecticides). Currently there are no options to deal with these other tree diseases other than by keeping the forest healthy by limiting fragmentation and disturbances.

Over one mile of hiking trails thread through the property, providing educational, recreational and contemplative opportunities. Care should be taken when maintaining the trails so that invasive plants are not accidentally introduced. Tires and even tools used elsewhere can introduce mugwort and stilt grass so where practical, tires and tools should be rinsed before use. Excessive wear, from hiking or from bicycles, if allowed, can also allow invasive plants to take hold where soil has been disturbed while also causing soil erosion—no instances of this are occurring now. To encourage hiking, trail blazes and footbridges should be maintained. Adding a trail map and brochure and a kiosk would also encourage use of the trails.

INVASIVE PLANTS:

Non-native invasive plants including: barberry, burning bush, honeysuckle, multi-flora rose, autumn olive, wineberry, bittersweet vines, Norway maples, Bradford pears, forsythia, mugwort, garlic mustard and stilt grass are found on the property. Birds, insects and other wildlife have evolved with and depend on native plants for food, nectar, shelter and breeding sites. Most non-native plants do not provide these services to native fauna. To counteract this, invasive plants can be removed either mechanically or with the selective use of herbicides, where permitted. Enough native seedlings are found on the property to allow natural regeneration to occur if they are protected from deer browse with wire caging (see Methods to Protect Plants, page 28). Once established, the native plants can be kept clear of returning invasives by hand pulling and weed whacking the invasive plants. This method of 'letting nature do the work' not only saves labor, time and money, but also reduces disturbance to soil and existing plants caused by digging and planting and prevents the

introduction of genotypes that are not native to this particularly ecosystem. Planting other native plants can supplement this as time and resources permit.

DEER BROWSE:

The oak-hickory and red maple woods are unfragmented, intact and mature and this has prevented invasive plants from taking hold there. Deer however have limited some natural regeneration by feeding on native seedlings. To allow the understory to recover, where young native seedlings and saplings of trees and shrubs are found, they can be protected from deer browse, as mentioned, by surrounding them with chicken wire or where taller, with wire weld fencing (see Methods to Protect Plants, page 28).

CLIMATE CHANGE:

As temperatures warm in the northeast, trees native to northern areas such as sugar maple and beech will be more susceptible to disease, and this is occurring now. Conversely, plants native to this area and the southern United States such as oaks, hickories, tulip trees, dogwoods and redbuds, among others, should be accustomed to higher temperatures. Where choices can be made in plantings, these more southern trees and shrubs should be used.

Maintaining a healthy forest such as the woods here will help mitigate climate change by absorbing and storing carbon dioxide. The woods will also reduce the harmful effects of higher temperatures by creating an island of shading and cooling vegetation in an otherwise developed landscape.

RECOMMENDATIONS:

OAK-HICKORY STAND

- Remove non-native shrubs by cutting and treating, if allowed, or by annual cutting to prevent their regrowth.
- Consider treating beech trees, if showing signs of beech leaf disease, with PolyPhosphite-30 fertilizer that seems to act as against the invading nematode.
- Hemlocks that are suffering from woolly adelgids can be treated with imidacloprid and dinotefuran.

SAPLING SHRUBLAND

- Randomly remove saplings every few years to maintain shrubland by preventing the stand from reaching maturity.

POND

- Maintain and do not remove the important buffering vegetation due to its wildlife value, temperature cooling and silt and pollution filtering effects.

MEADOW

- Brushhog the meadow each year or two during winter months to maintain meadow habitat and control encroaching invasive species.
- Weed whack invasive autumn olive, multi-flora rose and honeysuckle several times during the growing seasons or, if permitted, cut and treated with an herbicide.
- Weed wack garlic mustard in April, stilt grass in September.
- Regularly mow a path through the meadow or around the edges for hikers.
- Repair and add bluebird houses.
- Plant native wildflowers in the meadow for butterflies, hummingbirds, pollinators, birds and beauty.

LAWN

- Allow some areas of the lawn that are not used for recreation to go unmowed through May or longer to let grasses, clovers, violets and other wild flowers to grow.

- Refrain from using insecticides, pesticides, herbicides, rodenticides or fertilizer except as necessay since this area is used often by children, pets and adults.
- Plant a small orchard of apple and other fruit trees for educational and historical value.
- The hemlock by Five Pennies Playground can be treated with horticultural oil before eggs hatch in April, by the release of aphid-eating beetles or by insecticides imidacloprid and dinotefuran if necessary to prevent wooly adelgid aphids from killing it.
- Cut bittersweet vines from the large scarlet oak and from the several medium sized black cherry and crabapple trees just north of the hemlock.
- Cut and treat, if permitted, the large autumn olive growing next to the scarlet oak.
- Cut the non-native wineberry shrubs growing just north of the playground, allowing the native hay-scented ferns to expand.
- Contain the non-native hedge growing along the lawn's northwest boundary by mowing or brush hogging the perimeter of the hedge.

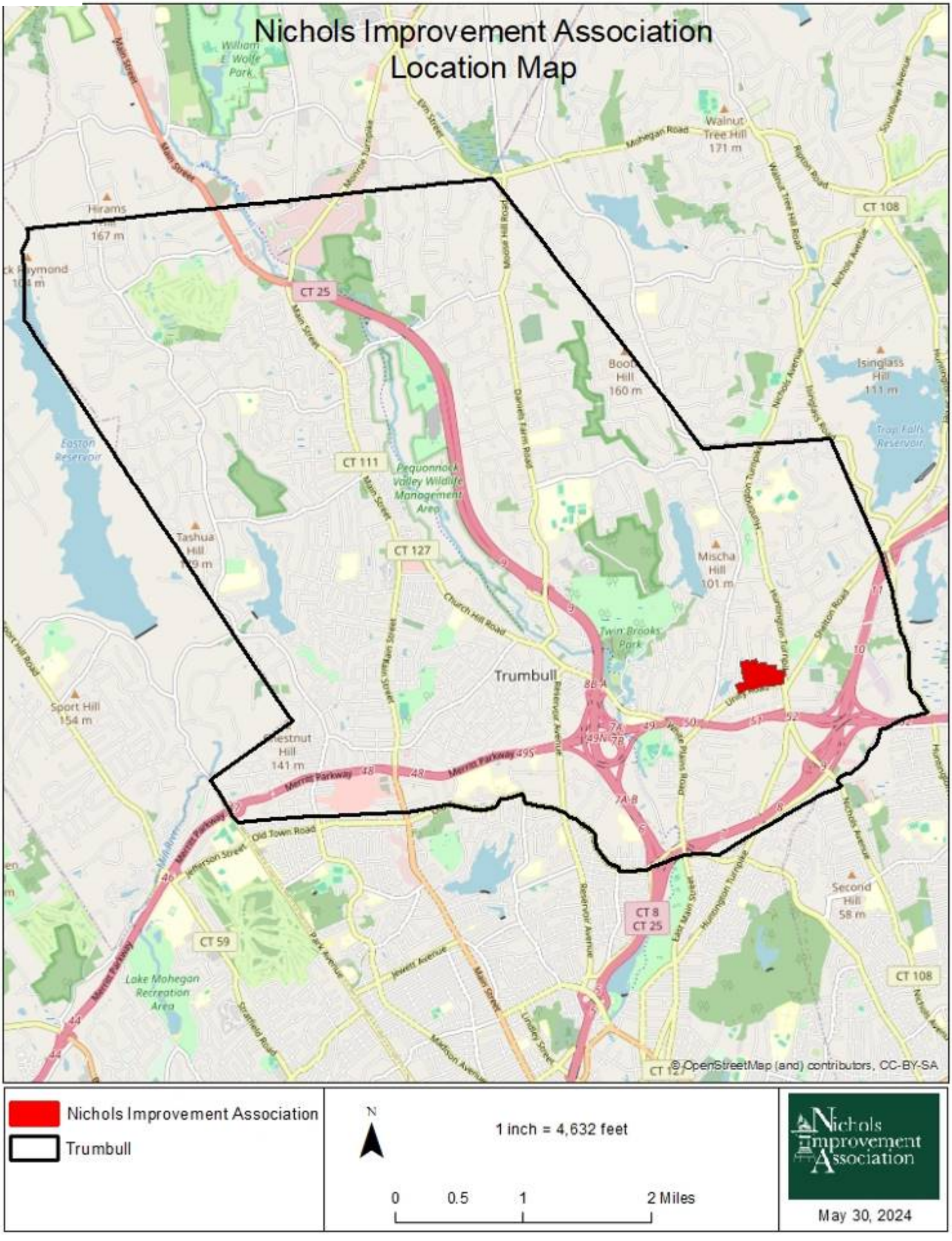
ORNAMENTAL TREES

- Plant native trees and shrubs, as the new NIA Beautification Program recommends.
- Remove the two medium sized non-native Norway maples and bittersweet vines that are shading the cedars and hemlocks along Unity Road.
- Remove the small non-native and extremely invasive Bradford pear tree growing by Unity Road.
- Prune the branches shading three attractive azaleas growing by Unity Road.
- Consider treating the copper beach, if it shows signs of beech leaf disease, with PolyPhosphite-30 fertilizer that seems to act against the invading nematode.
- Carefully maintain the hiking trails by rinsing tires and tools so that invasive plants are not accidentally introduced.

PROPERTY-WIDE

- To encourage hiking, trail maps, brochures, blazes, kiosks and footbridges should be created and maintained.
- Protect from deer with chicken wire or wire weld fencing young native seedlings and saplings before winter to allow the understory to recover.

MAPS:


Nichols Improvement Association
Location Map
Trumbull
CT 25
CT 111
CT 127
CT 108
CT 8
CT 59
Merritt Parkway
Pequonnock Valley Wildlife Management Area
Lake Mohegan Recreation Area
Twin Brooks Park
Tashua Hill 169 m
Sport Hill 154 m
Chestnut Hill 141 m
Mischa Hill 101 m
Second Hill 58 m
Walnut Tree Hill 171 m
Hiram's Hill 167 m
Isinglass Hill 111 m
Easton Reservoir
Trop Falls Reservoir
© OpenStreetMap (and) contributors, CC-BY-SA
Nichols Improvement Association
Trumbull
N
1 inch = 4,632 feet
0 0.5 1 2 Miles
Nichols Improvement Association
May 30, 2024


Nichols Improvement Association
Surrounding Land Use Map
Nichols Improvement Association
Tax Parcels
N
1 inch = 411 feet
0
250
500
1,000 Feet
Nichols Improvement Association
March 12, 2024

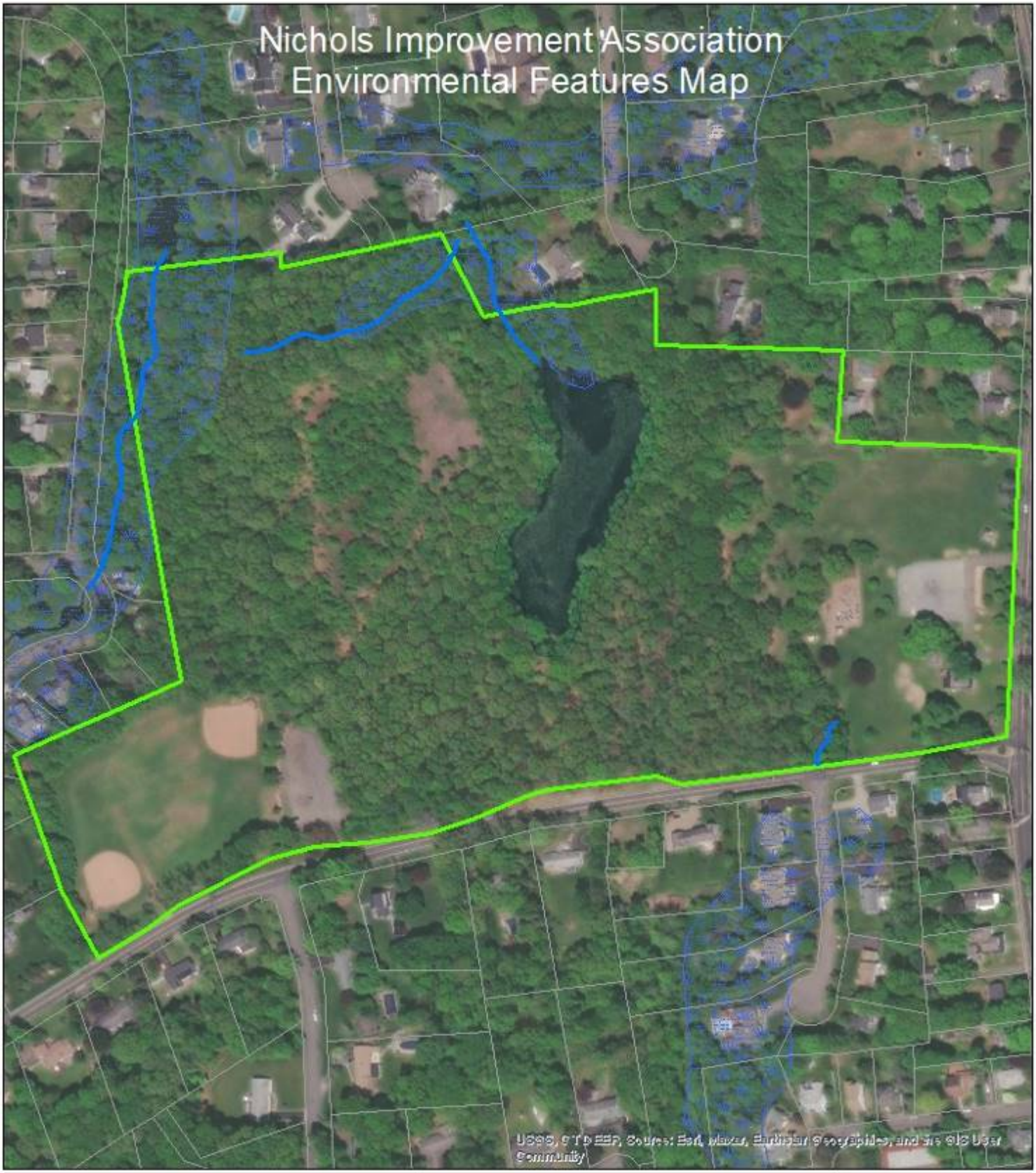
Nichols Improvement Association
1965 Aerial Photograph Map

Nichols Improvement Association

N

Nichols Improvement Association

May 30, 2024


Nichols Improvement Association
Environmental Features Map
Nichols Improvement Association
Wetland Soils
Streams
Tax Parcels
N
1 inch = 250 feet
0
0.025
0.05
0.1 Miles
Nichols Improvement Association
May 30, 2024


Nichols Improvement Association
Elevations Map
Nichols Improvement Association
Elevations-100 ft
N
1 inch = 255 feet
0 125 250 500 Feet
Nichols Improvement Association
May 30, 2024


Nichols Improvement Association
Ecological Communities Map
Nichols Improvement Assoc
Wetland Soils
Streams & Tributaries
Frog Pond
Oak-Hickory Forest
Red Maple Swamp
Saplings
Meadow
White Pine Grove
Aspen Grove
Locust Grove
Invasive Hedges
Rock Outcrop
Parking Lots
N
1 inch = 255 feet
0
125
250
500 Feet
Nichols Improvement Association
May 15, 2024


Nichols Improvement Association
Landscaped Area Map
Large Sugar Maple
5 Kousa Dogwoods
Flowering Dogwood
Multi-flora Rose Honeysuckle Hedge
Large Catalpas
Cherry Trees
Flowering Dogwood
2 Large Butternuts
Large Magnolia
Large Scarlet Oak
Ginko
2 Crabapple Shrubs
2 Kousa Dogwoods
Cherry Trees
Butternuts
Large White Oak
Large Scarlet Oak
Sugar Maple
Large Magnolia
Hemlock
Large Sugar Maple
Red Norway Maple
Large Norway Maple
Kousa Dogwood
Large Copper Beech
Cherry Trees
Northern White Cedars
Large Norway Maple
Ginko
Large Norway Maple
Azalea Shrubs
Nichols Improvement Association
Large Trees & Shrubs
Wetland Soils
Streams
N
1 inch = 78 feet
0
50
100
200 Feet
Nichols Improvement Association
May 28, 2024


Nichols Improvement Association
Hiking Trails Map
B
R
B
R
R
RB
B
Source: U.S. Geological Survey (USGS)
Nichols Improvement Assoc
Trail Entrances
Hiking Trails
Streams & Tributaries
N
1 inch = 255 feet
0
125
250
500 Feet
Nichols Improvement Association
May 15, 2024

METHODS TO PROTECT SHRUBS AND TREES FROM DEER:

Use temporary fencing until plants grow above deer browse line of 5 feet.

Chicken wire fencing for seedlings

Plastic tubes for narrow saplings

Welded wire fencing for larger saplings

PLACES TO BUY NATIVE TREES, SHRUBS AND FLOWERS:

This is a partial list from "Connecticut Native Tree and Shrub Availability List" published by the Connecticut Department of Environmental Protection.

Earth Tones LLC
212 Grassy Hill Rd
Woodbury, CT, 06798
PHONE (203) 263 - 6626
www.earthtonesnatives.com

Broken Arrow Nursery
13 Broken Arrow Road
Hamden, CT 06518
203-288-1026
brokenarrow@snet.net
www.brokenarrownursery.com

Ali's Nursery
421 Buckland St.
Plantsville, CT 06479
860-621-6506
www.alisnursery.com

Hollandia Nurseries
103 Old Hawleyville Rd.
Bethel, CT 06801
203-743-0267
www.ctgrown.com/

WILDLIFE: BIRDS:

BIRDS OBSERVED IN TRUMBULL	Nichols May 2024	Breeding Bird Atlas Nichols 2002 Block 109B	Twin Brooks eBird May 2024	Breeding Bird Atlas 1994 Pequonnock Watershed
Great Blue Heron				x
Great Egret		x		
Canada Goose				x
Mallard		x		x
Wood Duck	x	x		
Turkey Vulture				x
Red-shouldered Hawk	x	x		x
Sharp-shinned Hawk				
Cooper's Hawk		x		
Red-tailed Hawk		x		x
Wild Turkey	x	x		
Killdeer				x
Mourning Dove				x
Barred Owl		x		
Chimney Swift				x
Belted Kingfisher				x
Red-bellied Woodpecker	x	x		x
Downy Woodpecker		x		x
Hairy Woodpecker		x		x
Northern Flicker		x		x
Pileated Woodpecker		x		
Eastern Wood-Pewee		x		x
Eastern Phoebe		x		x
Great Crested Flycatcher		x	x	x
Eastern Kingbird				x
Tree Swallow				x
Northern Rough-winged Swallow			x	x
Barn Swallow				x
Blue Jay	x			x
American Crow	x			x
Fish Crow				x
Black-capped Chickadee	x			x
Tufted Titmouse	x			x
White-breasted Nuthatch	x			x
Carolina Wren	x			x
House Wren				x
Blue-gray Gnatcatcher				x
Eastern Bluebird	x			x

BIRDS OBSERVED IN TRUMBULL	Nichols May 2024	Breeding Bird Atlas Nichols 2002 Block 109B	Twin Brooks eBird May 2024	Breeding Bird Atlas 1994 Pequonnock Watershed
Veery				x
Wood Thrush		x	x	x
American Robin	x			x
Gray Catbird	x	x		x
Northern Mockingbird				x
Brown Thrasher		x		
Cedar Waxwing				x
European Starling				x
Yellow-throated Vireo				x
Red-eyed Vireo	x	x	x	x
Warbling Vireo		x	x	
Yellow-rumped Warbler		x		
Blue-winged Warbler	x			x
Yellow Warbler	x	x	x	x
Chestnut-sided Warbler				x
Black-and-white Warbler				x
American Redstart			x	x
Worm-eating Warbler				x
Ovenbird		x		x
Louisiana Waterthrush				x
Common Yellowthroat				x
Scarlet Tanager				x
Northern Cardinal	x			x
Rose-breasted Grosbeak				x
Indigo Bunting				x
Rufous-sided Towhee	x	x		x
Chipping Sparrow	x	x		x
Song Sparrow	x	x		x
White-throated Sparrow				x
Dark-eyed Junco				x
Red-winged Blackbird	x			x
Common Grackle				x
Brown-headed Cowbird				x
Northern Oriole		x	x	x
House Finch				x
American Goldfinch	x	x		x

The breeding bird list on the previous page notes that the NIA has many species of birds that are no longer very common in the area. These NIA birds include: bluebirds, catbirds, blue-winged warblers, yellow warblers, eastern towhees, wood duck, red-shouldered hawk, and red eyed vireos all observed in three visits in May, 2024. It is likely that future observations will discover that the NIA woods, wetlands and fields also include the following birds that have been observed in the broader area: kingfisher, pileated woodpecker, pewee, phoebe, great crested flycatcher, kingbird, tree swallow, wood thrush, redstart, common yellowthroat, rose-breasted grosbeak, indigo bunting, scarlet tanager, ovenbird, veery and Lousiana waterthrush among others and observers should be on the look out for these to add to the NIA's list of birds.

WILDLIFE: AMPHIBIANS & REPTILES:

The Connecticut Department of Energy and Environmental Protection maintains a list of wildlife species in peril. The 'Special Concern' designation applies to a species that has a restricted range or habitat in Connecticut and is at population levels that are so low that they are detrimental to its conservation. The Pequonnock River Watershed, of which the western portion of the NIA is part of, harbors several Connecticut state-listed amphibian and reptile Species of Special Concern including[i]

Box turtle
Wood turtle
Spotted turtle
Jefferson salamander

Eastern box turtle
a species of Special Concern occurring in Trumbull

Wood turtle, requiring clear streams and rivers, spotted turtle, requiring vernal pools and Jefferson salamander, also requiring vernal pools for breeding are most likely not breeding in the NIA streams and wetlands. Box turtle, however, is likely found in the NIA. The box turtle has experienced populations declines of up to 75% due to habitat loss. The box turtle requires a variety of

habitats including moist forests, wetlands and riparian areas and grasslands. Few areas have such variety of habitats due to development but the NIA does have this mosaic of habitats and the required range of between four to seventeen. This remarkable animal can live for up to 100 years and the protection of the NIA and areas like it in the Pequonnock River Valley Watershed appears to be essential for it's survival.

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[i] Baseline Watershed Assessment, Pequonnock River Watershed. Fuss & O'Neill, 2010
M. Klemens, 1993
Bulletin of the Peabody Museum of Natural History, 2006