

Wildlife Management Report and Recommendations for: Native Meadows Preserve New Milford, Connecticut

Submitted by: Amanda Stott & Michael Morin, October 2012

Submitted to: Michael Morin, NMP project manager, Northwest Conservation District

Introduction:

The Native Meadows Preserve is a parcel of land, approximately 25 acres in size, situated along the Housatonic River in New Milford, Connecticut. In August 2010, the Northwest Conservation District (NCD) was awarded a grant/cooperative agreement from the U.S. Department of the Interior, Fish & Wildlife Service. This award allowed NCD to purchase the 25 acre parcel with the goal of bringing the land back to a more natural condition.

In June of 2011, the Northwest Conservation District received a Wildlife Habitat Incentive Program (WHIP) grant through the U.S. Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS) to assist with invasive plant control, riparian buffer planting and pollinator planting. Work supported by this grant began in the fall of 2011 and will continue into 2014 when the current WHIP grant expires.

Kathleen Johnson, USDA, NRCS District Conservationist in the Torrington, CT office provided the Conservation Plan to the Northwest Conservation District (NCD) with an outline of tasks and objectives for separate compartments

of the land within the 25 acres. The sections are categorized into conservation cover, riparian forest buffer, upland wildlife habitat and/or wetland wildlife habitat and pollinator planting. The 25 acre parcel of land is split into eight compartments or fields.



According to the Conservation Plan outline provided by the NRCS, the NCD will establish permanent vegetative cover on land removed from agricultural production to provide upland wildlife food and cover in the area of field 3 for the contract period. This will be attained by planting at least three different species of native pollinator plants, with one early, one late and one mid-season flowering. The Riparian Forest buffer in field 8 is to be established and maintained along the riverbank. The Upland Wildlife Habitat is to be created/enhanced and maintained to provide upland wildlife food and cover, such as cutting a young Eastern Cottonwood (*Populus deltoides*) grove in field 4 once every 20 years to increase sprouts. Wetland Wildlife Habitat

Management is outlined for fields 1,3,5,6 and 7. In these sections medium density successional vegetation and/or invasive plants including perennial weeds, hardwood trees and shrubs should be managed by chemical treatment and/or mechanical treatment.

Partial funding for this report is supported by a grant/cooperative agreement from the U.S. Department of the Interior, Fish & Wildlife Service, on behalf of the Natural Resource Damage Assessment and Restoration programs of the U.S. Fish & Wildlife Service, the National Oceanic and Atmospheric Administration, and the Connecticut Department of Energy and Environmental Protection.



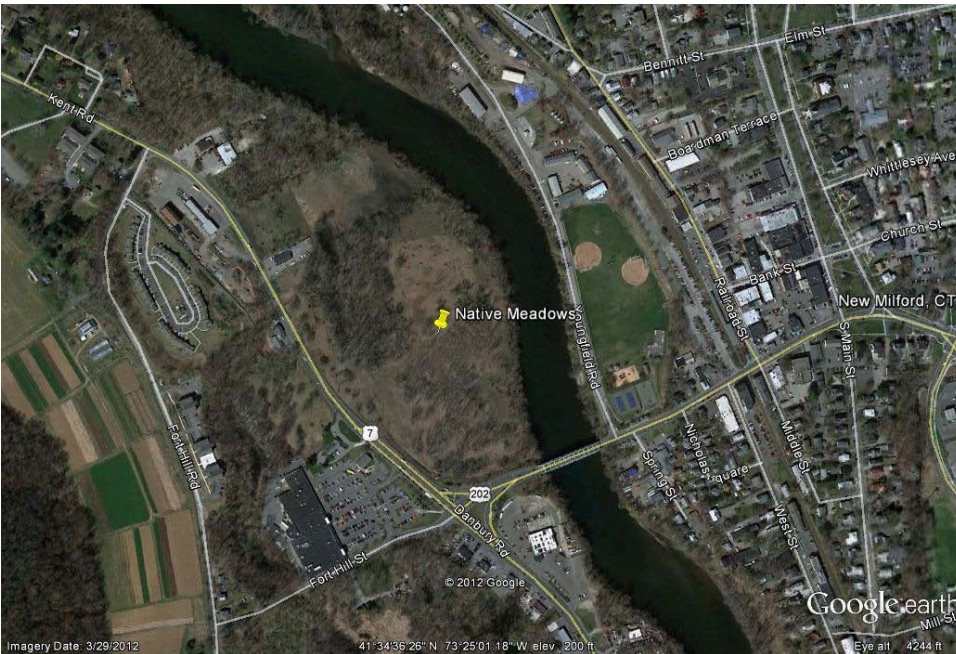
(see Appendix: NRCS Conservation Plan and Map)

Through the Northwest Conservation District, various studies have been conducted on the land which was properly named *Native Meadows Preserve*. The studies have included various bird surveys, along with native and non-native plant species surveys to conclude what avian species are utilizing the area. This study is ongoing throughout the length of the contract with the WHIP grant.



In June of 2012, I was asked to review studies conducted on this property and visit the property. In doing so I concluded not only what avian species are using the area but what mammals, amphibians, and reptiles are present or may inhabit the property. Observations on the property were conducted three times throughout the summer. They were conducted once with Michael Morin (NCD staff & project manager), once by Amanda Stott (report co-author) and once by Andrew Grech.

This report contains what techniques are being used to control invasive species and encourage native vegetation, what animals have been found on the property and why they reside there, and also what other management practices can be recommended to help in populating this area with native species.



Aerial photo of Native Meadows in New Milford, CT provided by Google Earth

Study Area:

The Native Meadows property is located in the Northwest Corner of Connecticut, in the town of New Milford (Fig 1). It is bordered by Route 7 and 202, private property to the north, and the Housatonic River makes up its eastern most boundary; making it a flood plane for the town of New Milford. The latitude/longitude for this property is 41° 34'36.04" N and 73° 25'4.28"W. The elevation of the property is 220ft along U.S. Route 7 and tapers too approximately 190ft along the Housatonic River shoreline.



Invasive Plant Management Methods:

In June of 2011, consulting biologist Elizabeth E. Corrigan, took an inventory of the non-native vegetation on the property and determined the best way to eradicate each species. Some techniques that were suggested include hand-pulling, mowing then treating with herbicides, burning, biological control (beetles), and cutting & painting stems with herbicide. Corrigan also concluded the presence of a rare sedge known as hairy-fruit sedge (*Carex trichocarpa*) is present on the property. This is listed as a plant of Special Concern according to the Connecticut Natural Diversity Data Base (NDDDB). As of the spring/summer season of 2012 the plant could not be relocated. However, the area where the plant was originally spotted is no longer being mowed nor is it being treated with herbicide.

(see Appendix: Recommendations for the Eradication of Non-native Invasive Plants)

Since the summer of 2011, the staff at NCD has biochemically and manually controlled the population of non-native plants at the property according to the recommendations of NRCS District Conservationist, Kathleen Johnson and Biologist, Elizabeth E. Corrigan. Common Reed (*Phragmites australis*), Reed Canary Grass (*Phalaris arudinacea*), Autumn Olive (*Elaeagnus umbellate*), Tree-of-Heaven (*Ailanthus altissima*) and Purple Loosestrife (*Lythrum salicaria*) are some of the invasive plants that have been targeted.

Mowing with a brush hog and then following with the use of herbicides on the fresh cut stems is a method used in an attempt to control Common Reed. In July of 2011 *Greenwoods Inc.*, a land management company in Litchfield, Connecticut, completed the first attempt at mowing sections of Common Reed. In October of 2011 *Northeast Tree Pond and Turf Service Inc.* applied imazapyr, a non-selective herbicide as a foliar/stem spray to approximately 7 acres of the invasive plant species, Common Reed. According to Michael Morin, NCD project manager, the results of the 2011 treatment was a success and the hope is that similar management techniques in subsequent years will assist at minimizing the impact of Common Reed (*Phragmites australis*).



In summer of 2012, *Greenwoods Inc.* has mowed some 7.7 acres of invasive plants including boom mowing the roadside along U.S 7, clearing the land of invasive vegetation along the forest edges and along the riparian buffer of the Housatonic River. At the time of this report, invasive shrubs and thick brush along the riverbank is being managed along with the cutting of approximately 70 Tree-of-Heaven (*Ailanthus altissima*). This task is due to be concluded by mid-October of 2012. These methods have aided in suppressing the growth of the invasive plants on the property. NCD and the contracted companies will continue to treat affected areas for the remainder of the contract.



Audubon Sharon's Bird Survey:

Audubon Sharon's spring/summer 2011 bird survey picked five points in the center of 50m plots that were located in various locations on the property. The goal was to record all birds within 50m of the designated survey point in a 10 minute period without double counting birds and without "pishing" (mimicking alarm calls of birds) or performing any other method of attracting birds. The site was visited three times for surveys between sunrise and 10:00AM. Information collected at each point included the identification of individuals of each species observed in the 50m survey circle, the survey minute that individual bird was first observed, the behavior of the individual (singing, female, evidence of breeding, etc) and the weather. Surveys were not conducted in conditions where the wind was over 10mph or if there was heavy fog or rain as these will hamper calling patterns and/or detectability of birds (Heth E. S. 2011).

(see Appendix: Audubon Sharon Summary Report or Bird Surveys)

In January of 2012, NCD staff and volunteers managed approximately 1.3 acres of upland wildlife habitat area for Eastern Cottonwood (*Populus deltoides*). Under this management strategy, the cottonwood trees were cut at approximated 6-12" from the ground to encourage sucker spouting. After the trees were cut and limbed they were placed into a series of 10 brush piles to offer habitat to a variety of wildlife species. This technique will overtime increase the wildlife habitat potential of this area, providing shelter for small mammals and feeding areas for various birds and raptors.



Bird Survey Results:

Audubon Sharon's bird survey conducted on Native Meadows concluded that a wide diversity of birds utilize this area due to its location and habitat diversity. Below, the avian species are listed as well as their importance to the Connecticut's Comprehensive Wildlife Conservation Strategy (CWCS). (Provided by Scott E. Heth, Director of Audubon Sharon)

Great-blue Heron (Listed as *important* in Connecticut's CWCS)

Green Heron (Listed as *very important* in Connecticut's CWCS)

Canada Goose

Mallard (male and female with young)

Wood Duck (male and female with young)

Turkey Vulture (overhead)

Black Vulture (overhead)

Red-tailed Hawk

Bald Eagle (perched along river) (State Endangered)(Listed as *very important* in Connecticut's CWCS)

Mourning Dove

Ruby-throated Hummingbird (Listed as *important* in Connecticut's CWCS)

Belted Kingfisher (Listed as *important* in Connecticut's CWCS)

Red-bellied Woodpecker

Northern Flicker (Listed as *important* in Connecticut's CWCS)

Yellow-bellied Sapsucker

Downy woodpecker

Eastern Phoebe

Least Flycatcher (Listed as *very important* in Connecticut's CWCS)(Partners in Flight Tier IIA designation in NW CT- High Regional Concern)

Tree Swallow

Barn Swallow

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Blue Jay

American Crow

Black-capped Chickadee

Gray Catbird (Listed as *important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in NW CT- High Regional Concern)

American Robin

Warbling Vireo (Listed as *important* in Connecticut's CWCS)

Yellow Warbler (at nest)

Common Yellowthroat (at nest)

American Redstart (Listed as *important* in Connecticut's CWCS)

Chestnut-sided Warbler (*very important* CT CWCS)(Partners in Flight Tier IA designation in NW CT High Continental Priority - High Regional Responsibility)

Red-winged Blackbird (at nest)

Baltimore Oriole (at nest) (Listed as *important* in Connecticut's CWCS) (Partners in Flight Tier IA designation in Southern New England- High Continental Priority - High Regional Responsibility)

Common Grackle

Brown-headed Cowbird

Scarlet Tanager (Listed as *important* in Connecticut's CWCS)(Partners in Flight Tier IA designation in Southern New England- High Continental Priority - High Regional Responsibility)

Northern Cardinal

Rose-breasted Grosbeak (Listed as *very important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in NW CT and southern New England- High Regional Concern)

American Goldfinch

Eastern Towhee (Listed as *very important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in Southern New England- High Regional Concern)

Savannah Sparrow (one occasion at point 5) (Listed as *very important* in Connecticut's CWCS)

Chipping Sparrow

Swamp Sparrow

Song Sparrow

Discussion of four major habitat types:

Observing the property during the summer of 2012 it was noticed that due to the mowing and herbicide treatments the Common Reed populations had been reduced and were making room for native species, such as Milkweed (*Asclepias spp.*) and Cattails (*Typha spp.*). Milkweed is important to butterflies, particularly monarch butterflies, as the adults feed on the nectar of its flower clusters and breed only in areas where milkweed plants are found (USFS, 2011). Cattails are important to resident game and furbearers because they provide cover in the winter months and provide a nesting substrate to waterfowl and marsh birds.

Additionally, while observing the property, tracks of a Raccoon (*Procyon lotor*) were located around the pool/pond area, most likely utilizing the water source. Throughout the forested and meadow areas game trails were located. Tracks and bedding areas for Whitetail deer (*Odocoileus virginianus*) were sited along the game trails and in assorted locations.



(see Appendix: Map of Native Meadows Preserve Habitat Types and tree species)

Vernal Pool:

In the northwest corner of the property there is a small pond surrounded and shaded by red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), American ash (*Fraxinus americana*), various willows (*Salix spp.*) and eastern cottonwood. This area can be classified as a wetland due to the vegetation types present. A



perennial wetland is a vital area to keep protected in a suburban setting because a variety of animals will utilize it not only for a water source but for mating and breeding as well. This area on the Native Meadows property can be classed as a vernal pool, a small body of standing fresh water found in the spring of the year that is usually temporary.

According to the Connecticut Department of Energy & Environmental Protection (DEEP) a vernal pool must be a source of water and an enclosed basin that traps the water for some period of time. The depressions may be natural or of human origin, and they dry out most years. Because of its periodic drying, vernal pools do not support breeding populations of fish and because the pool does not support fish, the reproduction success rate of amphibians and reptiles is higher due to the lack of predation. In Connecticut the unique species dependent upon vernal pools includes spotted, Jefferson's, mole and marbled salamanders. Wood frogs, eastern spadefoot toads, and fairy shrimp also depend upon vernal pools. These species can be classified as obligate and/or facultative. Obligate species in Connecticut are fairy shrimp, mole salamander, and the wood frog. They rely on vernal pools for all or portions of their lifecycle and are unable to successfully complete their lifecycle without. Facultative species are those organisms that can use vernal pools for all or portions of their lifecycle, but are able to successfully complete their lifecycles in other water bodies.

Recommendations:

- Placing duck boxes in the perennial wetland area will possibly aid in populating the area with waterfowl mainly, wood ducks, so they will have a location to nest in the spring.
- Monitor to see if the area could be considered a migratory stop over.
- A spring monitoring survey should be conducted to observe what amphibians and reptiles are utilizing the vernal pool area.

Mixed Grasses:

The Native Meadows Preserve consists of scattered sections of grassland areas throughout the property. In these sections there is an abundance of native grasses, sedges, and rush species (list below). Various avian species utilize these areas for nesting and feeding. Butterflies and other insects have also been viewed in the area utilizing the milkweed and other flowering plants.

Assorted Sedges- *Carex spp.*

Milkweed

Assorted Goldenrods- *Solidago spp*

Soft rush- *Juncas effusus*

Wool grass- *Scirpus cyperinus*

Rough-horsetail- *Equisetum hyemale*

Ostrich fern- *Matteuccia struthiopteris*

Rice-cut grass- *Leersia oryzoides*

Large populations of Common Reed are found in this area along with small populations of the invasive Reed Canary Grass. These stands are scattered throughout the

grassland areas. Northwest Conservation District, through the assistance of contracted services, is utilizing chemical and mechanical methods to control the stands of Common Reed and Canary Grass.



Recommendations:

- Continue using chemical treatments to control Common Reed and Reed Canary Grass. It's important to control because it will out-compete native species and create a monotypic habitat with low wildlife value.
- Plant at least three different species of native pollinator plants.



Mixed Forest / Shrubland:

A significant amount of land is classified as mixed forest and/or shrub land on the Native Meadows property. The Forest areas contain a mixture of mature silver maple, cottonwoods, and red maple, with an understory consisting of native fern species. This type of habitat is excellent for ground nesting birds such as American Woodcock (*Scolopax minor*), which was observed during their breeding season utilizing this area.

The Shrubland area located at the forests edge contains invasive or non native shrubs such as Autumn Olive and Japanese Honeysuckle. These plants have been minimally controlled by cutting them at the base. The

large stand of young Eastern Cottonwoods that thrive within the moist soils create habitat for birds. The buds are often browsed by Whitetail Deer while the canopy provides shade and cover to the habitat below. Cottonwoods also provide habitat for game birds such as Ruffed Grouse (*Bonasa umbellus*) and Ring-neck Pheasants (*Phasianus colchicus*).

The cutting of the Eastern Cottonwoods to force sucker sprouting in January of 2011 will aid in the regeneration of a thicker stand of cottonwoods which suffered in the snow storm of October of 2011. The brush piles made with the limbs will produce quality habitat to eastern cottontails (*Sylvilagus floridanus*), snowshoe hares (*Lepus americanus*), New England cottontails (*Sylvilagus transitionalis*), other rodents, game birds and a wide variety of songbirds. These piles provide shelter in foraging areas from predators such as raptors, coyotes, and fox.

Recommendations:

- Further controlling of Autumn Olive and Japanese Honeysuckle
- Construction and maintenance of Blue-bird boxes

Riparian Buffer:

The mixed forest area alongside the Housatonic River is known as the Riparian Buffer. This area is mainly made up of mature trees such as cottonwoods, red maples, willows, and American sycamores (*Platanus occidentalis*). The dead limbs that hang into the river provide cover for macro-invertebrates, fish, and waterfowl while also providing an area for turtles to bask. Also, overhanging branches of trees and shrubs provide allochthonous organic matter to the river below. The allochthonous process is when nutrients in the form of insects and/or the fruit of trees fall into the water below and decompose ultimately providing forage for bacteria and aquatic fauna. The tree roots/vegetation



provides bank stability, minimize erosion and river siltation.

Recommendations:

- Maintain the current condition, and control any invasive plants that may propagate in this area

Summary:

Like any flood zone or riverine area, *Native Meadows Preserve* consists of a wide diversity of hydrophytic vegetation making up a unique ecosystem that will be constantly prone to the re-generation of non-native species. Whenever the Housatonic River floods, seeds and herbaceous material from invasive plants upstream will be deposited and germinate once the water has receded. The property will need constant maintenance to control these invasive plants and to ensure that native ecosystems prosper.

However the abundance of habitat diversity make this property an extremely valuable “safe-haven” for wildlife in an area that has been subjected to urban sprawl along the Housatonic River. The area is crucial for migratory birds and migrating waterfowl that use the Housatonic River Valley as an annual migratory bi-way. Amphibians and wading birds use the intermittent pool for food as well as a nesting and breeding area. The interior meadow area is occupied by various populations of butterflies, rodents, and avian species that use the vegetation for many stages of their life cycle.

This property, under the management of The Northwest Conservation District while utilizing cost sharing programs such as the USDA-NRCS Wildlife Habitat Incentive Program has the potential to a sanctuary to the wildlife in the area. The methods that have been established to manage this property should be continued to ensure a stable habitat for the resident wildlife.



Citations:

Corrigan, E. (2011, June 23) Native Meadows Restoration Project, New Milford Recommendations for the Eradication of Non-Native Invasive Plants. Recommendations given to Northwest Conservation District. Torrington, Connecticut.

Heth, E.S. (2011, December 15) Summary Report of Bird Surveys and Management Recommendations for the "Native Meadows" property in New Milford, CT. *Audubon Sharon.* 1-9.

Johnson, K. (2011 February 8). Manage land for Wildlife. Natural Resource Conservation Service. Given to the Northwest Conservation District. Torrington, Connecticut. 1-4.

Milkweed and Nectar Sources. Habitat needs. (Aug 30 2011). Retrieved October 2, 2012. From United States Department of Agriculture Web site:
<http://www.fs.fed.us/wildflowers/pollinators/monarchbutterfly/habitat/index.shtml>

Vernal Pools. (2012). Retrieved September 18th 2012 from Department of Energy and Environmental Protection Web Site: http://www.ct.gov/dep/cwp/view.asp?a=2720&q=325676&depNav_GID=1654

Appendix:

- 1) NRCS Conservation Plan and Map
- 2) Recommendations for the Eradication of Non-native Invasive Plants
- 3) Audubon Sharon Summary Report or Bird Surveys
- 4) Map of Native Meadows Preserve Habitat Types and tree species
- 5) Map of invasive plant management and mowing
- 6) Map of potential trails and viewing platforms





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KATHLEEN JOHNSON
 DISTRICT CONSERVATIONIST

Conservation Plan

NORTHWEST CONSERVATION DISTRICT
 1185 NEW LITCHFIELD ST
 TORRINGTON, CT 06790

OBJECTIVE(S)

Manage land for wildlife

Wildlife

Tract: 658

Conservation Cover

Establish permanent vegetative cover on land removed from agricultural production to provide upland wildlife food and cover for the contract period. The permanent vegetative cover shall not be harvested or grazed by domestic livestock for the life of the contract.

Operation and Management - Plant at least 3 different species of native pollinator plants, with one early, one late and one mid-season flowering. Check annually for invasive plant growth and weed as needed. Cut once per year after Sept 30.

Field	Planned Amount	Month	Year	Applied Amount	Date
3	2.1 ac	5	2014		
Total:	2.1 ac				

Riparian Forest Buffer

A riparian forest buffer will be [established/maintained] where shown on the plan map. A "Riparian Forest Buffer Planting Plan" will be provided that outline the species to plant, time and method of planting, and spacing.

Operation and Maintenance:
 Inspect the riparian forest buffer periodically and protect from adverse impacts such as excessive vehicular and pedestrian traffic, pest infestations, concentrated flows, pesticides, livestock or wildlife damage and fire.

Replace dead trees or shrubs, and control of undesirable vegetative competition will be continued until the buffer is, or will progress to, a fully functional condition.

Field	Planned Amount	Month	Year	Applied Amount	Date
8	3.3 ac	5	2012		
Total:	3.3 ac				

Upland Wildlife Habitat Management

Create, maintain or enhance area(s) to provide upland wildlife food and cover. Cut aspen grove once every 20 years to increase sprouts in each clone.

Operation and Management - Cut one third of the grove at a time. Allow sprouts to re-grow.

Field	Planned Amount	Month	Year	Applied Amount	Date
4	0.7 ac	3	2011		
Total:	0.7 ac				

Wetland Wildlife Habitat Management

Management of Seral Stage Vegetation & Invasives – Chemical Control

Managing medium density successional vegetation and/or invasive plants including perennial weeds, volunteer hardwood trees and shrubs by chemical treatment alone or combined with mechanical treatment. Follow labeled recommendations and all safety precautions provided by the manufacturer. If a license is required for application of chemicals, by a licensed applicator, license must be available before practice is implemented. Timing of chemical application will be determined based upon the specie(s) to be controlled

Field	Planned Amount	Month	Year	Applied Amount	Date
1	1.6 ac	12	2011		
1	1.6 ac	12	2012		
1	1.6 ac	12	2013		
3	2.1 ac	12	2011		
3	2.1 ac	12	2012		
3	2.1 ac	12	2013		
5	2.2 ac	12	2011		
5	2.2 ac	12	2012		
5	2.2 ac	12	2013		
Total:	5.9 ac				

Wetland Wildlife Habitat Management

Management of Seral Stage Vegetation & Invasives – Chemical Control

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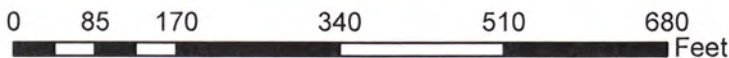
Field	Planned Amount	Month	Year	Applied Amount	Date
6	0.7 ac	12	2011		
6	0.7 ac	12	2012		
6	0.7 ac	12	2013		
Total:	2.1 ac				

Wetland Wildlife Habitat Management

Management of Seral Stage Vegetation & Invasives – Chemical Control

Managing medium density successional vegetation and/or invasive plants including perennial weeds, volunteer hardwood trees and shrubs by chemical treatment alone or combined with mechanical treatment. Follow labeled recommendations and all safety precautions provided by the manufacturer. If a license is required for application of chemicals, by a licensed applicator, license must be available before practice is implemented. Timing of chemical application will be determined based upon the specie(s) to be controlled

Field	Planned Amount	Month	Year	Applied Amount	Date
7	1.2 ac	12	2011		
7	1.2 ac	12	2012		
7	1.2 ac	12	2013		
Total:	1.2 ac				



Indian Fields Preserve

Elizabeth E. Corrigan
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Northwest Conservation District
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25 June, 2011

Re: Native Meadows Restoration Project New Milford, CT

Dear Michael,

As we discussed, the most important goal in restoring the property is to eliminate and/or control the invasives that are most detrimental to the ecology of the site. One must also consider protection of the rare sedge *Carex trichocarpa*, which, according to the Connecticut Natural Diversity Data Base (NDDB) is listed as Special Concern. The sedge located near the northeastern end of the pond, extends into the meadow. The colony is quite large, and consists of thousands of stems. Should NCD use herbicides for invasives control, extra consideration must be taken to avoid negative impacts to the sedge. The NDDB must be contacted for advice and recommendations.

I have included some general control methods for the invasives listed in the attachment to provide a general idea of the work that may be involved to help you plan and obtain the necessary resources. Additional information will be needed from contractors and type(s) of herbicides best suited for the target species, should NCD decide to take that route. Please note that the species in bold-face include those that should be a priority to eradicate, based on efficacy of control methods*, limited area(s) of infestation, and/or rate of spread.

If you have any questions, please don't hesitate to contact me.

Sincerely,



Native Meadows Restoration Project, New Milford Recommendations for the Eradication of Non-Native Invasive Plants

TREES *general control method is to cut/saw tree and treat stems*

Tree-of Heaven (*Ailanthus altissima*)- according to the Alien Plant Working Group (www.nps.gov): the most effective method of *Ailanthus* control is application of herbicides to leaves, basal bark or to the cut stump. Hacking the bark and applying herbicide via squirt treatment to wounds might be more effective and efficient because cutting down the entire tree triggers suckering. The suckers, in turn will also require treatment. (It is relatively easy to kill the above ground portion of *Ailanthus* trees.) Note: use caution when working with this species: flowers and leaves can cause dermatitis.

European Alder (*Alnus glutinosa*)- control information availability is limited. Cut and paint stump w/herbicide. Few trees with limited distribution.

River Birch (*Betula nigra*)- trees at site are small: cut and paint stump with herbicide. Few trees with limited distribution.

Northern Catalpa (*Catalpa speciosa*)- control information availability is limited. Small caliper trees, if any on site can be cut and stumps painted with herbicide. Need to determine if large trees will re-sprout when cut. If so, then try same treatment as for *Ailanthus*. Otherwise, apply herbicide to cut stump. Few trees with limited distribution; rate of spread is slow.

SHRUBS and VINES

In general, small plants can be pulled out by hand. Large shrubs can be mowed (depending on location) with resulting crown re-growth regularly burned with a weed flamer or systemic herbicide can be applied later in season. Flaming is particularly effective for barberry control. Best methods are indicated for each plant.

Japanese Barberry (*Berberis thunbergii*)- cut and immediately flame cut stems until glowing red. May need two treatments. Shrubs are not that numerous & control method is very effective.

Autumn Olive (*Elaeagnus umbellifera*)- cut and paint stem. Limited in distribution; control method is effective.

Burning Bush (*Euonymus alatus*)- cut and paint stem. Limited in distribution; control method is effective.

Privet (*Ligustrum* sp.)- cut and paint stem. Limited in distribution; control method is effective.

Multiflora Rose (*Rosa multiflora*)- mow regularly to deplete energy reserves and/or treat/burn new growth. Limited in distribution; control method is effective.

Siebold's Viburnum (*Viburnum sieboldii*)- cut and paint. Only a couple of plants are present.

Wine Raspberry (*Rubus phoenicolasius*)- mow regularly to deplete energy reserves. Stem may pull out. Distribution appears limited to near riverbank.

Oriental Bittersweet (*Celastrus orbiculatus*)- mow or treat larger, cut stems. Burning ineffective: may promote new growth. Most plants are near riverbank and other edge areas.

Japanese Hops (*Humulus japonicus*)- mow regularly or treat w/systemic herbicide. Few colonies.

HERBS

Garlic Mustard (*Alliaria petiolata*)- according to Cornell researcher, Bernd Blossey, this species will eventually burn itself out. I don't feel comfortable in waiting for this as seeds can move out of infested areas only to colonize other areas of the property. Instead, plants should be cut when in flower.

Creeping Thistle (*Cirsium arvense*)- mow. One large colony near east edge of floodplain forest. Plants may also be sparsely scattered though out property.

Yellow Iris (*Iris pseudoacorus*)- pull. Primarily in pond.
Note: use caution when working with this species: rhizomes can cause dermatitis.

Creeping Jenny (*Lysimachia nummularia*)- this plant hugs the ground so mowing is ineffective. Try to control with systemic herbicide or burn with a flamer after site had been mowed (plants will be more visible then.) This is a good opportunity for experimentation. Huge areas of herbaceous layer are infested. Difficult to determine are covered due to concealment by over story vegetation.

Purple Loosestrife (*Lythrum salicaria*)- biocontrol beetles (*Galerucella* sp.) are already present at site. Further treatment/control is not recommended at this time. Plants need to be monitored though, to determine if same level of beetle damage is maintained.

Japanese Stiltgrass (*Microstegium vimineum*)- mowing when plants are going into flower is most effective. Timing is critical. This is an extremely fast spreader. Weed flamers can also be used to burn new growth after site is mowed, as this grass is a shallow-rooted annual. Plants are located in floodplain forest, extending into meadow and into *Carex trichocarpa* colony. Infestation is quite extensive. Exact area covered is difficult to determine due to dense vegetation.

Reed Canary Grass (*Phalaris arudinacea*)- mow and treat crowns as grass re-emerges. This approach, though intensive, has been very effective at Steep Rock's Macricostas Preserve where the infestation covers many acres.

Common Reed (*Phragmites australis*)- mow and treat new growth. High priority due to fast rate of spread; will eventually dominate entire habitat.

Information on control method obtained from personal experience and the following sources:
<http://www.nature.nps.gov/biology/invasivespecies/>, <http://www.hort.uconn.edu/cipwg/>,
<http://nbii-nin.ciesin.columbia.edu/ipane/>

Summary Report of Bird Surveys and Management Recommendations for the “Native Meadows” property in New Milford, CT

Submitted to:
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Northwest Conservation District
Final Document 12/15/11



Submitted by:
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Introduction

In March of 2011, Audubon Sharon was asked to conduct a bird survey on a property recently acquired by the Northwest Conservation District in New Milford at the corner of Route 7 and Route 202. The property, *Native Meadows*, is situated in a floodplain bounded by private property to the north, the Housatonic River to the east, Route 202 to the south and Route 7 to the west. It consists of approximately 25 acres of diverse habitat including old fields, shrubs, riparian habitat, cottonwood stands, a small perennial pond and forest. Much of the property is flooded each spring. Though a vegetation survey was not done as part of this study, the property contains several invasive plant species, some in significant quantity. These include but are not limited to Common Reed, Reed Canary Grass, Autumn Olive and Japanese Barberry.

The purpose of the bird survey is to document the use of the property by birds for breeding, foraging and for migratory stopover in order to inform management plans. It is suggested that monitoring continue over time, both during the breeding and migratory seasons as the first year survey is only a snapshot of the importance of *Native Meadows* for birds. Ongoing monitoring will help determine the effectiveness of land management activities specific to birds.

This report consists of a description of the bird monitoring methods used, the results of the survey, a comprehensive list of birds encountered and habitat management recommendations.

Methods

Five points in the center of 50m plots were located on the property (Map 1). The goal was to record all birds within 50m from the designated survey point in a 10 minute period without double counting birds and without “pishing” (mimicking alarm calls of birds) or any other way of attracting birds. The site was visited three times for surveys between sunrise and 10:00AM. Information collected at each point included the identification of individuals of each species observed in the 50m survey circle, the survey minute that individual bird was first observed, the behavior of the individual (singing, female, evidence of breeding, etc) and the weather (Figure 1). Surveys were not conducted in conditions where the wind was over 10mph or if there was heavy fog or rain as these will hamper calling patterns and/or detectability of birds.

The site was also visited three additional times; an introductory visit with Michael Morin and Hunter Brawley, a visit to locate survey points and a visit to assess habitat.

Survey Date	Start time	Wind speed	Temperature	Survey order
5/31/11	8:00 am	0-5 mph	61F	Point 1-2-3-4-5
6/15/11	6:00 am	0-5 mph	50F	Point 5-4-3-2-1
6/22/11	6:35 am	0-5 mph	55F	Point 1-2-3-4-5

Figure 1

Native Meadows



Map 1

Datum: NAD83, Projection: CT State Plane 0600ft, Map by C. Folsom-O'Keefe, 5/14/11

Results

Though the surveys did not identify any rare or endangered bird species (with the exception of Savannah Sparrow- see Grassland Section), they did exemplify the importance of the property for a wide diversity of birds due to the varied habitats present at the site. Several of the birds are listed as conservation priorities by Connecticut's *Comprehensive Wildlife Conservation Strategy* (CWCS) and *Partners in Flight*. 43 species of birds were identified on the property as listed below:

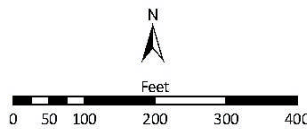
Great-blue Heron (Listed as *important* in Connecticut's CWCS)
Green Heron (Listed as *very important* in Connecticut's CWCS)
Canada Goose
Mallard (male and female with young)
Wood Duck (male and female with young)
Turkey Vulture (overhead)
Black Vulture (overhead)
Red-tailed Hawk
Bald Eagle (perched along river) (State Endangered)(Listed as *very important* in Connecticut's CWCS)
Mourning Dove
Ruby-throated Hummingbird (Listed as *important* in Connecticut's CWCS)
Belted Kingfisher (Listed as *important* in Connecticut's CWCS)
Red-bellied Woodpecker
Northern Flicker (Listed as *important* in Connecticut's CWCS)
Yellow-bellied Sapsucker
Downy woodpecker
Eastern Phoebe
Least Flycatcher (Listed as *very important* in Connecticut's CWCS)(Partners in Flight Tier IIA designation in NW CT- High Regional Concern)
Tree Swallow
Barn Swallow
Blue Jay
American Crow
Black-capped Chickadee
Gray Catbird (Listed as *important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in NW CT- High Regional Concern)
American Robin
Warbling Vireo (Listed as *important* in Connecticut's CWCS)
Yellow Warbler (at nest)
Common Yellowthroat (at nest)
American Redstart (Listed as *important* in Connecticut's CWCS)
Chestnut-sided Warbler (*very important* CT CWCS)(Partners in Flight Tier IA designation in NW CT- High Continental Priority - High Regional Responsibility)
Red-winged Blackbird (at nest)
Baltimore Oriole (at nest) (Listed as *important* in Connecticut's CWCS) (Partners in Flight Tier IA designation in Southern New England- High Continental Priority - High Regional Responsibility)
Common Grackle
Brown-headed Cowbird
Scarlet Tanager (Listed as *important* in Connecticut's CWCS)(Partners in Flight Tier IA designation in Southern New England- High Continental Priority - High Regional Responsibility)
Northern Cardinal
Rose-breasted Grosbeak (Listed as *very important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in NW CT and southern New England- High Regional Concern)
American Goldfinch
Eastern Towhee (Listed as *very important* in Connecticut's CWCS) (Partners in Flight Tier IIA designation in Southern New England- High Regional Concern)
Savannah Sparrow (one occasion at point 5) (Listed as *very important* in Connecticut's CWCS)
Chipping Sparrow
Swamp Sparrow
Song Sparrow

Select Habitat Types and Management Recommendations

The following section describes four major habitat types identified on the property, a summary of the birds that were identified in them and management recommendations for each specifically (Map 2).



Native Meadows Preserve
New Milford, CT
Project Map 2011



NCD
Northwest Conservation District
Herbicide Application Areas
— approx. TrailROW
— approx. phragmites
(±/- 7.2 Ac)

NCD GIS Center, October 2011

Map 2, Habitat Types at Native Meadows

Perennial Pond Habitat

A small protected pond is located in the northwest corner of the property. It is surrounded by trees and shrubs and almost fully enclosed by the forest canopy. Primary tree species include red maple, American white ash, willow spp. and eastern cottonwood. Some trees are quite large. Though this pond is more like a wetland and it is likely that it dries out on occasion, it was full of water during the survey period and consistently supported a wide variety of birds. Both Mallards and Wood Ducks were observed with young. A Belted Kingfisher was observed in the same area each of the three survey visits. A Green Heron was observed two out of the three visits. Green Herons are listed as *Very Important* in the list of species of

Greatest Conservation Need in CT DEP's Comprehensive Wildlife Conservation Strategy. Common Yellowthroats were observed singing on the branches overhanging the pond and Phoebes, Tree Swallows, Barn Swallows and Least Flycatchers were observed feeding in the area. Least Flycatchers are also listed as *Very Important* in the list of species of *Greatest Conservation Need* in CT DEP's Comprehensive Wildlife Conservation Strategy. Three species of woodpeckers, Downy, Red-bellied and Yellow-bellied Sapsucker were seen gleaning insects from dead snags in and around the water.

A Blue-winged Teal was observed during the introductory visit in the spring. It is likely that this protected wet area is used by waterfowl during migration. As birds travel along the Housatonic River, they seek the refuge of protected wetland areas. Breeding populations of Blue-winged Teal are listed as *threatened* in the state of Connecticut.

Recommendations

1. Continue bird monitoring to determine the importance of this habitat as a migratory stopover area.
2. Improve water quality by controlling siltation, nutrient loading, litter and other pollution
3. Maintain snags for food sources for woodpeckers and other birds and for cavities for cavity nesting birds including Wood Ducks.
4. Consider installing a Wood Duck box
5. Maintain a shrubby buffer between the grassland and mature trees surrounding the wet area.

Grassland Habitat



A large portion of the property consists of a combination of meadow, shrub and early successional habitat. In terms of the meadow or grassland areas, it was striking to see a wide variety herbaceous plant species including milkweed and several species of goldenrod. This plant diversity supports many species of butterflies and other insects. Though there was one sighting of a single Savannah Sparrow, a *Species of Special Concern* in Connecticut that generally indicates high quality grassland habitat, there was no indication that this bird was breeding and the grassland areas are thought to be too small to support grassland-obligate birds such as Savannah Sparrow, Bobolink and Eastern Meadowlark. The

common birds identified in the grass included Song Sparrow, Common Yellowthroat and Red-winged Blackbird. Yellow Warblers were also observed perching on the taller goldenrod and mullein. We feel that the value of this habitat type for birds lies in its combination with the older vegetation, shrubs and young trees which together produces a mosaic of early successional habitat which is declining in Connecticut. As mentioned above, this habitat is likely important to a wide variety of butterflies for nectar and for host plants.

There are small populations of the invasive Reed Canary Grass (*Phalaris arundinacea*) scattered throughout the grassland areas which should be controlled to maintain plant diversity before the populations get too large. Reed Canary Grass is a wetland grass species that prefers disturbed areas, and over time forms large, monotypic stands that harbor few other plant species and are subsequently of little use to wildlife. The difficulty of selective control makes reed canary grass invasion of particular concern. Mechanical control is recommended but difficult. If herbicide is used, care should be taken to prevent contact with non-target

species. Any control technique to reduce or eliminate reed canary grass should be followed by planting native species adapted to the site.

There is also a significant population of Common Reed (*Phragmites australis*). Managers are aware of this invasive plant and control methods are underway. The only bird species actively using the large stand of *Phragmites* were Red-winged Blackbirds and several active nests were observed. However, since management is usually done after breeding season and other habitat is available for Red-winged Blackbirds, control of *Phragmites* is certainly warranted. Smaller individual stands of *Phragmites* should be identified and treated with a “cut and drip” herbicide method before the stands get too big. The ideal time for treatment is in the fall when the plant’s energy is being directed to the roots and before the first killing frost.

Recommendations

1. Conduct a vegetation survey to determine the diversity of grass and forbs species and to identify populations of Reed Canary Grass and other invasive plants.
2. Control small stands of *Phragmites* and Reed Canary Grass before they get unmanageable.
3. Continue *Phragmites* control.
4. Conduct a butterfly survey.
5. Mow sections every 2-3 years to allow for varying vegetation heights and levels of maturity rather than mowing the entire meadow habitat every year.
6. Continue bird monitoring to document any reoccurrence of Savannah Sparrow.

Shrubby, Early Successional and Forest Habitat

A significant amount of shrubby/early successional habitat is present at Native Meadows. Even within more open areas, individual shrubs are present. This provides excellent nesting opportunities for birds. Yellow Warbler and Common Yellowthroat were observed nesting in this habitat. Eastern Towhee and Chestnut-sided Warbler were also observed and are both listed as very important in Connecticut’s Comprehensive Wildlife Conservation Strategy.



Though not observed during the 2011 field season, it is possible that *Native Meadows* could support birds of conservation concern such as the Prairie Warbler and Blue-winged Warbler with management techniques geared to maintaining open shrubland habitat. Breeding habitat requirements for Prairie Warbler include large openings surrounding or containing clumps of shrubs. Throughout its range, Prairie Warbler populations have declined significantly in the past four decades, which has led to its "Yellow" designation on the Audubon WatchList. Additionally, it is listed as a species of Continental Concern by Partners in Flight in Bird Conservation Regions (BCR) 13, 28, and 30, and as a species of Regional Concern in BCRs 28 and 30. Native Meadows is located in BCR 30. The Blue-winged Warbler, like the Prairie Warbler, is showing population declines across its range because of loss of shrubby, second growth habitat.

Though there is a significant amount of invasive or non native shrubs present such as Autumn Olive and Japanese Honeysuckle, birds were seen using these shrubs for perching, feeding and breeding. Though these invasive shrubs should be removed, consideration should be given to replacing them with native species.



The significant presence of Eastern Cottonwood (*Populus deltoides*) deserves special mention. Much of the area that would be considered forested is made up primarily of young cottonwood trees with a diameter of 4-6 inches. The flooding that occurs at this site helps to promote cottonwood regeneration by creating areas of bare moist soils conducive to early root growth and by helping to disperse seeds. The Eastern Cottonwood is a foliar host for many butterflies, the seeds are eaten by songbirds, while the foliage of young seedlings is occasionally browsed by deer. The down of the seeds is often used by birds as an insulating liner for their nests and the canopy often provides shade and cooling to riparian habitats, allowing for the spawning of fish and aquatic insects. Older trees

provide sources of insects and cavities used by Northern Flicker and Yellow-bellied Sapsucker and Yellow Warbler, Warbling Vireo and several species of flycatchers have an association with cottonwoods for foraging. In addition, Ruffed Grouse, not observed during the 2011 field season, have been known to use young cottonwood stands for cover and as a food source, especially in the winter. Cottonwood is a favorite food source for beaver whose cuttings promote bushy regeneration.

Many of the larger trees on the property suffered some damage due to the October, 2011 snow storm due to the fact that ash, cottonwood, sycamore, and to a certain extent red maple, are susceptible to excessive snow load and wind. If some cleanup of fallen branches are deemed necessary, brush piles provide good habitat for a whole host of birds and other wildlife for nesting, den sites and foraging.

Recommendations

1. Replace invasive shrubs with native shrubs
2. Spot spray, cut and paint or mechanically remove individual invasive shrubs so as not to affect surrounding native vegetation where possible.
3. Maintain shrubby patches within the open grassland areas
4. Promote the growth of young cottonwood stands
5. Maintain and promote old-growth cottonwood stands
6. Create brush piles

Riparian Habitat

A significant portion of *Native Meadows* is bordered by the Housatonic River. This riparian corridor is made up mostly of fairly mature trees, including cottonwood, sycamore, willow and red maple, adjacent to old field habitat. The maturity of the trees provides for perch options for foraging birds such as Bald Eagle and Belted Kingfisher (both observed) in addition to flycatchers, warblers and vireos. An active Baltimore Oriole nest was present in this area. Dead snags from large cottonwoods and other trees that fall into the river provide cover for macro invertebrates, fish, ducks and other birds in addition to providing basking opportunities for turtles. Live vegetation in this area is also extremely important to control bank erosion and river siltation as well as for providing shade and cover for a wide variety of animals.

This area can be enhanced by encouraging a corridor of shrubby habitat between the old field and the mature trees. This “feathering” of vegetation height from low to high helps to enhance the diversity of birds and other wildlife using this area.

A significant amount of Oriental Bittersweet vine was observed in the trees along the river. This should be controlled as soon as possible. Having volunteers cut the bittersweet near the ground as well as 5-6 feet up any time before the next growing season will go far to stop the advance of the vines. Following through in the spring and painting the re-sprouting stumps with herbicide is a good permanent control method.

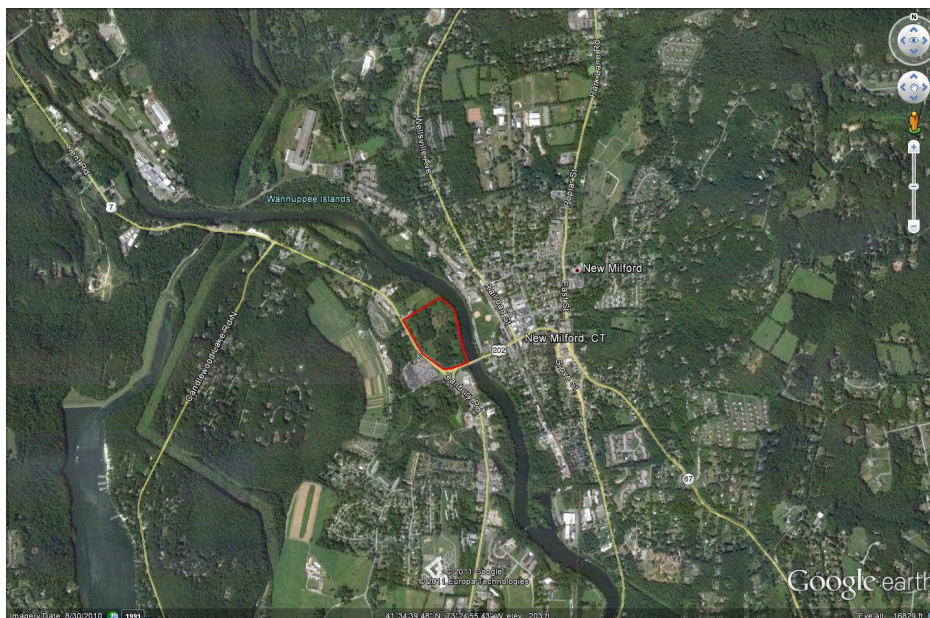
Recommendations

1. Minimize mowing directly adjacent to the stand of mature trees along the river to encourage a shrubby buffer between the old field and tree lined river corridor.
2. Encourage cottonwood regeneration.
3. Control Bittersweet
4. Maintain vegetation on river bank to control erosion

Summary

The *Native Meadows* Property consists of a good mix of habitat types and supports a diversity of birds. Its proximity to a highly developed area and to the Housatonic River, makes it important as an “urban oasis” for birds and other wildlife. When planning management activities, it will be important to look at land use and habitat at the landscape scale in addition to the specific site. The overall recommendations would be to promote a mosaic of old field, shrubland and forest habitat. Consideration should be given to enhance shrubby habitat in favor of Blue-winged Warbler and possibly Prairie Warbler. Consideration should also be given to protect and maintain the small perennial pond that can be especially productive for birds as described above.

Audubon would be happy to assist in anyway possible and we would suggest a field visit with key managers and stakeholders to brainstorm specific management options. As always, continued monitoring would be recommended, not only for birds but for other species as well. In particular, learning the importance of the property as a migratory bird stopover point would be beneficial. Audubon’s *Habitat Oasis* program might be able to provide services in this area. Feel free to contact me with any questions you may have and thank you for the opportunity to assist with the management of this property.

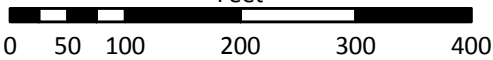




**Native Meadows Preserve
New Milford, CT
Project Map 2011**



Feet



Northwest Conservation District
Herbicide Application Areas

 approx. TrailROW

 approx. phragmites

Native Meadows Preserve Tree List:

Maples: red, silver, boxelder, Norway*

Elms: American, slippery

Oaks: swamp white

Cottonwood: eastern

Sycamore: eastern

Ash: white

Birch: grey, white, river

Willow: black, weeping, pussy

Catalpa: northern

Alanthus: tree of heaven*

Alder: speckled

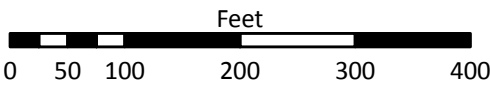
Cedar: red

Apple: common

Amelanchier: shadbush



**Native Meadows Preserve
New Milford, CT
mowing plan 2012
herbicide plan 2012**



- field mowing areas (+/- 8 Ac)
- reach area
- no mowing - leave phragmites (+/- 6 Ac)

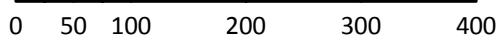


Native Meadows Preserve
New Milford, CT
herbicide plan 2012
updated

NCD GIS Center, July 2012
 mtmprojectMap2012_spray.pdf



Feet



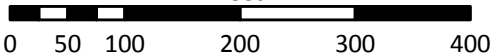
- field mowing areas (+/- 8 Ac)
 - reach area
 - no mowing - leave phragmites (+/- 6 Ac)
 - barberry plant
 - ▲ wood chip piles
- **updated areas







**Native Meadows Preserve
New Milford, CT
Potential Trails**



Feet



Northwest Conservation District

-  Proposed Viewing Area
-  Proposed Trail
-  approx. TrailROW - mowed
-  approx. phragmites (+/- 7.2 Ac)