Watershed Forest Management Plan
Oblong Land Conservancy

Scudiere Preserve

Owner:	Oblong Land Conservancy
Address:	PO Box 601
	Pawling, NY 12564
Phone:	(845) 855-5993
Property Location:	Dutcher Avenue and South Street
Town:	Pawling, NY
County:	Dutchess
Tax Map Number:	134001-6956-08-970798-0000
	134001-6956-12-970685-0000
	134089-6956-00-952587-0000
Total Acreage:	23 acres plus 3.7 riparian acres
Managed Acres:	23 acres
Forested:	23 acres
Watershed:	Croton River Basin

Forester Information:

Company Name:	JN Land Trust Services
Foresters Name:	Jim Nordgren
Company Address:	38 Bouton Road, South Salem, NY 10590
Phone Number:	914 763 5740
Date Prepared:	June 17, 2014

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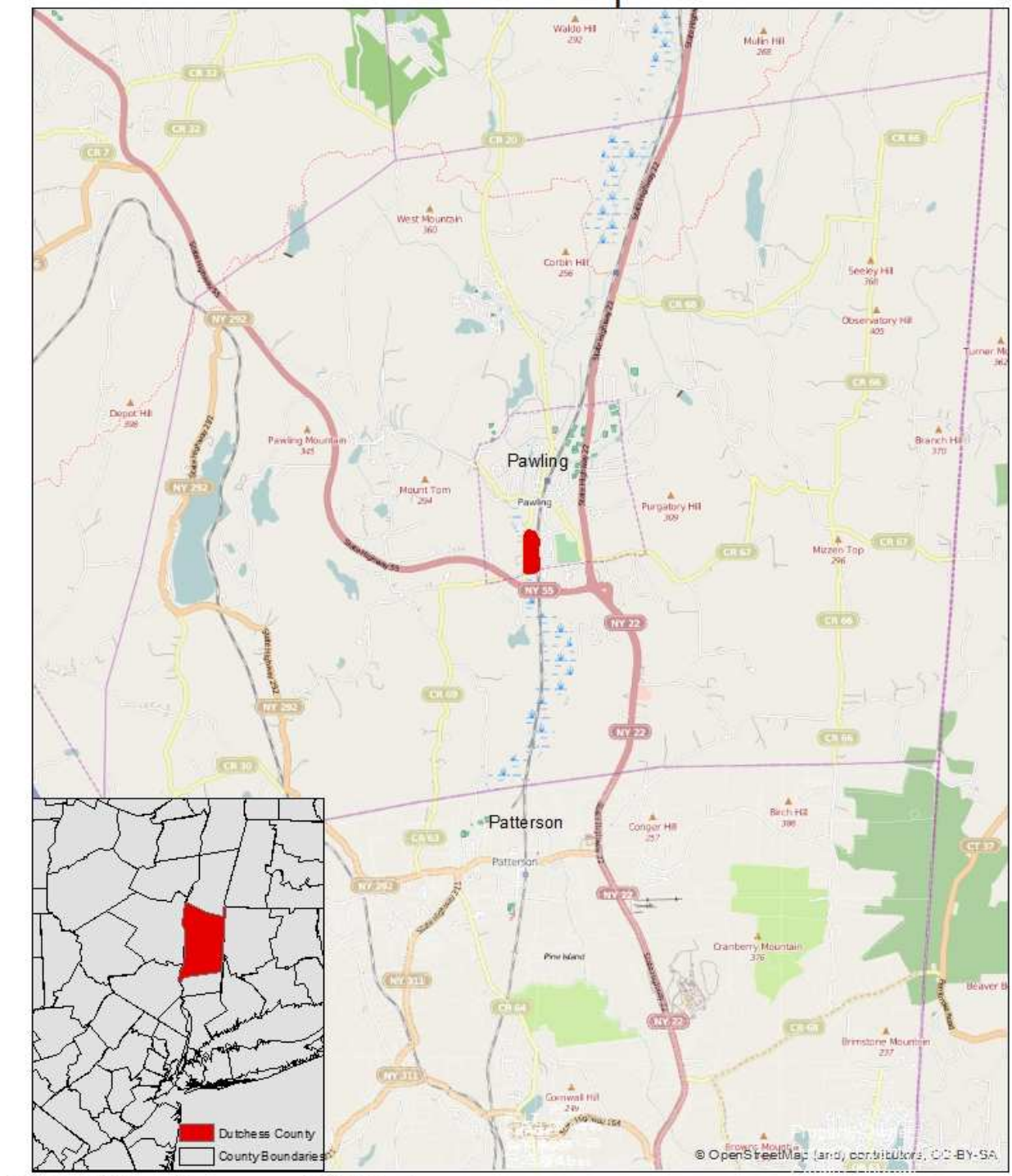
Location Map



9,750 4,875 0 9,750 Feet

1 inch = 8,333 feet

N

Property Owner: Oblong Land Conservancy
Date: June 12, 2014
Author: Jim Nordgren

Scudiere Preserve
Tax Lot Map

530 265 0 530 Feet

1 inch = 429 feet

N

Property Owner:	Oblong Land Conservancy
Total Acres:	23.3 Acres
County:	Dutchess County
Town:	Pawling
Date:	March 11, 2014
Author:	Jim Nordgren

INTRODUCTION:

A. Oblong Land Conservancy

The Oblong Land Conservancy (OLC) is a non profit organization incorporated in 1990 with the belief that open spaces are vital to the well being of communities. OLC's mission is, through engagement with the community, to maintain the natural resources of the Harlem Valley, including wildlife habitats, water quality, agricultural lands and scenic vistas. The Conservancy works with landowners, developers and local government to preserve open spaces in Southeast Dutchess County. OLC has helped protect over 1000 acres through a combination of easements (932 acres) and preserves (157 acres).

B. Village's Commitment to Open Space Preservation

The Village of Pawling is also committed to maintaining its natural resources. The Village's Comprehensive Plan states as goals and objectives, the preservation of environmentally sensitive lands and valuable landscapes, the protection of ridges, vistas, scenic resources, wildlife and plant habitats and streams, wetlands and floodplains.[1]

REGIONAL HISTORY

The area around Pawling Lake was settled around 1750 by Dutch settlers who came to the area in the early 1600's. The Society of Friends erected a meeting house in 1764 at Quaker Hill. The Town of Pawling was created in 1807 and by 1900 a community of 800 people had settled around the Harlem Railroad depot. The Village of Pawling was incorporated in 1893. The dominant industry in the area was agricultural and by 1800 most of the original forests had been replaced by farms. By the mid-1800's, farms were being abandoned with the advent of competition from goods imported via the Erie Canal, opened in 1835, and the transcontinental railroad, completed in 1869. The Great Depression of the 1930's dealt another blow to farming. Mining was also an important industry in the area. From the mid-1800s to the early 1900s iron ore was very actively exploited, with approximately 40 iron mines in operation in the Hudson Highlands and Harlem Valley. Quarries also supplied, and continue to today, high quality aggregate for the construction industry. Advances in technology in the late 1800's, however, encouraged the exploitation of lower grade ores in Minnesota and the abandonment of the mines in Dutchess County and the vicinity. With the abandonment of farms and mines, the forests began to regrow and today, 70% of New York and New England (51 million acres) are reforested. The environmentalist Bill McKibben refers to this as 'the great environmental story of the United States'[2]. These relatively new forests provide a myriad of environmental services including: recreational and educational opportunities, water filtration, groundwater recharge, stormwater regulation, flood control, erosion prevention, air pollutant absorption, carbon sequestration, temperature modulation, nutrient cycling, fuel sources, and habitat for other plants and wildlife.

[1] Village of Pawling, NY Comprehensive Plan. Adopted December, 1994.
[2] An Explosion of Green. B. Mckibben. Atlantic Monthly 275 (April 1995): 61-83.

REGIONAL SETTING

The Village of Pawling is a scenic, rural and historic community—primarily residential in character—located in the southeast corner of Dutchess County, New York. The Village is a compact two square miles and had a population of 2,347 in 2010. Pawling and Dover are nestled amid the Hudson Highlands, recognized as a "landscape of national significance" by the US Forest Service. The Taconic Ridge on the eastern border with Connecticut and the western highlands, known as Pawling Mountain, Depot Hill and West Mountain are listed in the State's Open Space Plan.

The dominant environmental feature of the region is the Great Swamp. As mapped by the New York DEC, the Great Swamp includes 4,900 acres of wetland. The Nature Conservancy has delineated a larger, 6,768 acres of wetland included in the Great Swamp. The Great Swamp provides critical habitat for rare and endangered species of plants and animals, water filtration and flood control, and recreation and scenic views for paddlers along its fourteen miles of navigable waters. According to DEC, beaver, muskrat, mink, bobcat, black bear and even occasional moose, are all found in the Great Swamp. The following designations attest to the regional and national importance of the Great Swamp:

- US Fish and Wildlife Priority Wetland
- National Historic Landmark-Department of Interior
- Highlands Conservation Focal Area—USDA Forest Service
- Important Bird Area—National Audubon
- Priority Site for Biodiversity- New York State Natural Heritage Program
- Priority Conservation Project--*NewYork State Open Space Conservation Plan*
- Critical Environmental Area--Dutchess and Putnam Counties

PHYSICAL AND NATURAL CHARACTERISTICS

A. Geology & Hydrology

Understanding the geology of a site is important to a forest management plan. A site's geology affects the quality and quantity of groundwater resources, the migration of pollutants, water drainage and soil characteristics, all of which have a significant impact on a site's plants and therefore a site's wildlife.

The Scudiere Preserve, located in the Harlem Valley, is part of the geographic region known as the Hudson Highlands. The bedrock of the Harlem Valley consists of schists and soft carbonate bedrock. The Scudiere Preserve itself is underlain by Stockbridge marble, a carbonate rock formed from calcium and magnesium carbonate. Carbonate rocks form valleys such as this, since marble is softer and more susceptible to erosion than the surrounding, harder metamorphic rocks.[3] Stockbridge marble, as it erodes, creates a calcareous soil condition that is richer in nutrients and less acidic than other soils. Because of these more hospitable conditions, calcareous soils tend to support a greater variety of plants, amphibians and reptiles than do surrounding granitic areas.

[3] Budnik, Roy T., J. Walker, K. Menking. "Geology and Topography of Duchess County, NY." May 2010.

The Scudiere Preserve marsh, as the headwaters of the East Branch of the Croton River and part of the Croton watershed, is a source of drinking water for 9 million people in the New York City area.

B. Vegetative Communities

90% of the Scudiere Preserve can be classified as marsh habitat. Marsh habitat is the rarest plant community in the Great Swamp and the Scudiere Preserve is the largest contiguous marsh in the Great Swamp.[4] During the 19th and 20th centuries, the Scudiere Preserve was a wet meadow where hay was grown and harvested as part of Henry B. Dutcher's Farm. A man-made ditch, still evident, was dug in the center of the Preserve in order to make the marsh dry enough for haying. In recent years, in an attempt to further develop the property, fill was dumped into part of the marsh, which allowed invasive phragmites to become established. A 1997 survey done by the Wildlife Conservation Society noted that the continued spread of phragmites constituted a threat to the marsh. Currently phragmites grows in approximately 30% of the marsh, chiefly along the western third of the Preserve, while high quality cattails and sedge make up 60% of the marsh with the remainder of the marsh, 10%, consisting of shrub/swamp habitat. As mentioned above, the Preserve is underlain by Stockbridge marble bedrock which, as it erodes, creates a calcareous soil condition that is richer in nutrients and less acidic than other soils, resulting in a greater variety of plants, amphibians and reptiles. An inventory of flora found during field investigations in June, 2014, can be found on pages 29-34 along with an inventory done in 2000 by Dr. Patrick L. Cooney.

C. Wildlife

Though only 26 acres in size (including the four acres of contiguous marsh beneath the NYSEG power lines) the Scudiere Preserve is part of the much larger New York State DEC wetland DP-22 and part of the 4,900 acre Great Swamp. Approximately 500 acres of contiguous wetland lie directly the south of the Preserve, while an unfragmented block of woodland totaling approximately 300 acres lies to the west between the Preserve and Mt. Tom. This surrounding landscape accounts for the variety of bird, amphibian, reptiles and mammals found at the Preserve and in the immediate vicinity. Mammals include river otter, mink, muskrat and beaver. Reptile species include spotted, wood, box and musk turtles. Bird species include several that depend on marsh habitat including Virginia rail and sora, least and American bittern, great blue and green-backed herons and swamp sparrows. The marsh is an important stop over area for many other species of birds.

BENEFITS OF HEALTHY FORESTS

As a forestland owner and a land steward, the Oblong Land Conservancy plays a very important role in protecting the health and well-being of Pawling, the region and to some extent, the entire planet. This Watershed Forest Management Plan attempts to address some of the issues concerning the management of the Scudiere Preserve.

The benefits of trees and other plants are numerous. Whether people in Dutchess County get drinking water from reservoirs or wells, all depend on trees to filter and purify their water. Trees also absorb stormwater, preventing flooding, a growing problem in more

[4] Sybyll Gilbert. "Scudiere Property Description, Open Space Prospect Report".

developed areas. Trees reduce the amount of silt, sediments and other pollutants that would otherwise flow into our streams, rivers, lakes and reservoirs. By absorbing and then transpiring water back into the atmosphere, they moderate droughts. Trees also protect our soil from erosion and, over time, rebuild our soil by adding decomposed woody material and by fixing nitrogen from the air. Trees absorb carbon dioxide, lessening greenhouse gases; they store carbon in their trunks and roots and they absorb other air pollutants while returning clean oxygen for us to breathe.

Hiking and riding trails in Dutchess County provide recreational opportunities. Hunters use the forests to provide food for themselves and their families. Others gather ramps and mushrooms and make maple syrup from our sugar maples. Witch hazel is still used to make lotion while other plant products are used for painkillers and heart medicines, with new medicines waiting to be discovered.

Forests also provide habitat for animals. All our birds and wildlife, including the insects that pollinate our food crops, depend on intact, diverse and healthy forests.

Forests also provide opportunities to educate children, students, adults and others about nature. And trees store genetic information—the chestnut, elm, dogwood and hemlock trees that are still growing in this area may one day produce disease-resistant seedlings.

On a more economic level, trees provide us with wood products, including firewood. Trees shelter us and our homes from sun, heat and wind--reducing heating costs in the winter and air conditioning costs in the summer. Mature trees can add as much as 5% to 10% to the value of our homes.

Finally, the scenic beauty of forests is known to all and walks in the woods or just passing views of trees are proven to reduce our stress levels and make us happier to live where we do.

MEASURING FOREST HEALTH

A forest that has a diversity of tree species, ages and sizes is able to resist diseases, invasive plants and rising temperatures better than can an even-aged forest made up of just a few species of trees. Quantitative tools can be used to gauge forest health by measuring and comparing the condition, diameter, height, age structure and density of trees and soil conditions. The following measurements and classifications help us to determine the best ways to manage your plants and trees:

A. Basal Area is the cross-sectional area of all trees in a stand. It is used to estimate timber growth rates. Forest growth typically slows when basal areas are greater than 100 square feet/acre, depending on the tree species. At this point, thinning of diseased or lower quality trees will maintain growth rates and forest health.

B. Stocking Levels measure how crowded a forest stand is. It is a function of the types of trees and the sizes of trees. Forest health decreases when trees are too crowded, which

corresponds to a stocking level of 100%. At this point, tree thinning can improve forest health.

C. Size Class describes the diameter of the trees in a stand. A healthy forest has a diversity of trees size classes, ranging from mature trees to mid-sized trees to saplings, also referred to as vertical diversity. This ensures that the forest can regenerate whenever there is a disturbance caused by storms, disease, logging or natural maturation. Diversity of tree ages and sizes also promotes a diversity of other plants and wildlife. Deer predation of saplings restricts vertical diversity. By protecting naturally occurring saplings from deer browse, the forest can regenerate.

D. Soil Site Class is a measure of soil productivity. Most soils in Dutchess County are classified as II (average productivity) and are slightly acidic and relatively shallow due to the nature of the underlying bedrock and the scouring caused by glaciers. Very dry, shallow soils and very wet soils may be classified as III (poor productivity). Other soils overlying Inwood marble are alkaline and calcareous, which support a variety of rare and unusual plant and animal species. Most upland, forested soils in this area have developed out of glacial till (soils created and mixed by glaciers as they advanced and retreated over our region). These soils are stony, fine-textured soils on top of bedrock. Where glaciers left behind deposits on lake bottoms and from floods, the soils tend to be silt loam soils and are ideal for agricultural use. Soil characteristics influence the types of plants that grow there. Upper slopes and ridge tops typically have shallow, excessively drained, (dry), nutrient-poor soils. These areas tend to be forested with short, slow growing drought resistant trees. Mid slope soils are moderately well drained and moderately nutrient rich. Lower slopes tend to be moist and nutrient rich, sites that support the best tree growth.

E. Riparian Areas are the transition zones between streams, lakes, wetlands and other water bodies and the adjacent upland (dry) areas. Riparian areas provide important ecological functions including: filtering pollutants and sediments, absorbing and slowly releasing stormwater, regulating water temperature, stabilizing stream banks, enhancing aquatic habitats and providing habitat and travel corridors for wildlife. Transition zones, also called ecotones, also have greater biodiversity due to the overlapping nature of their habitats. Because of this, disturbance to the natural vegetative cover in riparian areas should be avoided or limited. Where natural vegetation does not occur, planting and protecting shrubs and trees that are able to survive in wet conditions will improve water quality.

FOREST STANDS/VEGETATIVE COMMUNITIES INVENTORY

This management plan inventories the Scudiere Preserve's plants and wildlife according to the New York State Ecological Communities classification system (Reschke, 1990)[5]. Forest stands, which can also be referred to as ecological communities, or vegetative communities, are groups of plants and animals that interact and share a common environment. Forest stands tend to have the same suite of plants and animals wherever

[5] Reschke, C. "Ecological Communities of New York State", (New York Natural Heritage Program, New York State Department of Environmental Conservation, 1990).

they are located across a region. An oak-hickory forest, for example, will typically have similar canopy, understory and groundcover plants wherever it is located. Identifying and mapping vegetation according to forest stands 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 forest stand 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 predation). Because of these relationships, forest stands can tell us much about existing conditions without having to conduct more exhaustive studies. The presence of a red cedar stand, for example, reveals that the land was formerly pastureland. A basswood tree tells us that the soil is moist and alkaline while a blueberry shrub suggests more acidic soil. Chestnut oaks indicate shallow, dry soil while elm trees indicate wetter conditions. Low-bush blueberry and little bluestem grass point to impoverished soil. Hemlocks grow in shady, moist ravines while hop hornbeams are only found mid-slope. Similarly, insects, birds and other wildlife tend to be associated with specific vegetative communities.

SILVACULTURE RECOMMENDATIONS

A. Birds and Wildlife

Healthy forests made up of native plants of a variety of ages, sizes and species also support a wider variety of birds and other wildlife. Whether forests are thinned for commercial purposes, to remove invasive plants, or to promote biodiversity, tree growth and wildlife habitat can be improved by:

- Releasing (thinning surrounding trees) to prevent crowding and shading of desirable mast trees such as black walnut, oak, black cherry, apple, mulberry and crabapple.
- Releasing to prevent crowding and shading of native shrubs that provide food and cover for birds including elderberry, arrowwood and nannyberry viburnam, sumac, silky dogwood, red osier and gray dogwood.
- Releasing and/or planting evergreens such as red cedar that provide winter cover and shelter.
- Releasing desirable seed trees for regeneration and wildlife food such as ash and elm.
- Leaving some dead trees standing (snags) for cavity dwelling birds and mammals.
- Leaving some brush stacked in piles for wildlife cover near water.

B. Native Plants

Non-native invasive plants are crowding out native plants in many parts of the Scudiere Preserve. 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. Once invasive plants are removed either mechanically or with the selective use of herbicides, where permitted, enough native seedlings and seed beds typically remain to allow natural regeneration to occur. By protecting young native

seedlings and saplings from deer browse and keeping the plants clear of returning invasives by hand pulling and weed whacking, nature will see to it that the right native plants grow in just the right areas to thrive. 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.

LANDOWNER GOALS:

Goals and objectives, including water quality protection measures, are:

- Maintain the Scudiere Preserve's marsh, trees, shrubs, streams and wetlands for wildlife habitat, water protection and passive recreation including nature study, wildlife observation, environmental education and other forms of passive recreation.
- Protect the water quality of wetlands, streams, and riparian buffer areas.
- Remove invasive shrubs, vines and trees, particularly phragmites, for the benefit of native plants and wildlife.
- Add wildlife viewing areas.
- Add educational signs.
- Build a trail/boardwalk to connect the preserve to other parts of the Village.

PRIORITIZED, NEAR-TERM RECOMMENDATIONS (2014-2015):

(See pages 38-39 for 15 year work schedule)

- Begin to remove phragmites from Scudiere Preserve along Dutcher Avenue.
- Remove the small patch of phragmites along Dutcher Avenue at the 1 acre preserve.
- Concentrate efforts first on 'releasing' desirable native shrubs and trees from phragmites.
- Protect released plants with wire or chicken wire cages or with plastic tree tubes.
- Experiment with several phragmites removal techniques:
  - Cut in late July just before seeds are produced.
  - Cut stems and apply one drop of glyphosate (Roundup/Rodeo) later in the summer (July-September).
- Foliar spray large areas of phragmites with glyphosate. Cut paths into the phragmites patches so that spray is able to reach all phragmites plants.
- Follow-up treatments to totally eliminate phragmites.
- Work with NYSEG to remove large thickets of multi-flora rose and autumn olive located near the power lines by the railroad tracks.
- Protect some of the 40 planted trees have wire cages that are too low to prevent deer browse or have no protection at all.
- Remove tubes around trees that are growing out of the top of the tube; wrap first four feet of exposed trunk with flexible plastic nursery tape to protect from deer rub.
- Plant more native trees along the eastern edge of the 1.1 acre preserve.
- Conduct outreach to neighbors to educate them about the value of the preserves and about potential conservation easement and fee donations on their land.

PROPERTY-WIDE DESCRIPTION:

Scudiere Preserve: 22 Acres (not including 4 NYSEG acres between the two Scudiere parcels). The 22 acre Scudiere Preserve is owned by the Oblong Conservancy and has long been considered a high priority for preservation, both ecologically for its marsh habitat and aesthetically for its location as a major entrance into Pawling Village. The Preserve lies entirely within New York State DEC wetland DP-22 which in turn is part of the 4,900 acre Great Swamp. Man-made channels bisect the marsh, one running north to south down the center of the Preserve, another funning east-west also in the center of the Preserve. At one time these were sufficient to drain the marsh enough so that haying could be done. With more impervious surfaces surrounding the marsh from road and housing

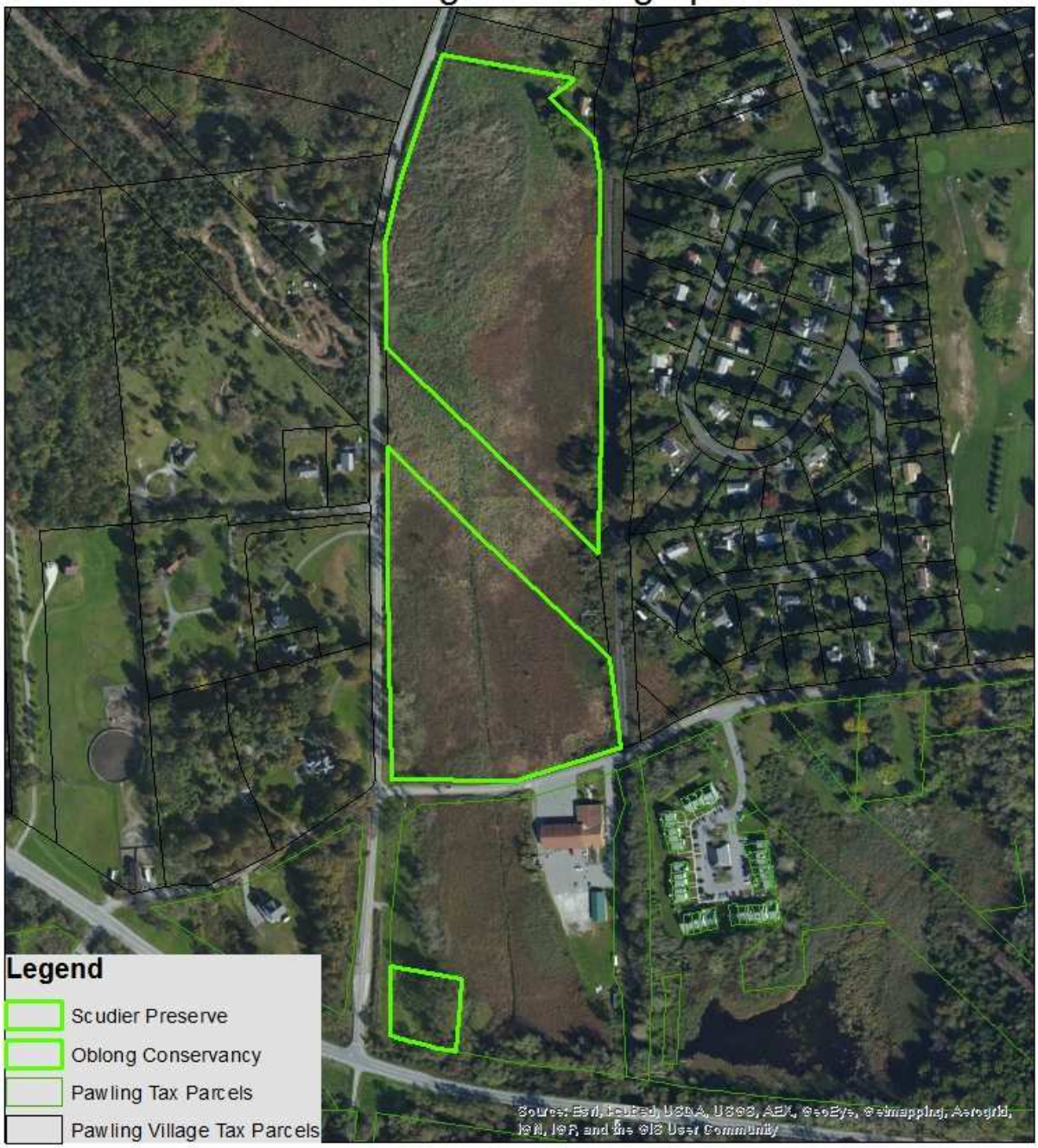
Entrance sign along Dutcher Avenue

Drainage ditch at South Street

Drainage ditch at route 55

developments, stormwater runoff has increased and the marsh has standing water throughout the year. The wetlands and man-made channels drain south into the East Branch of the Croton River. The Preserve is 90% open marsh habitat with scattered small elm and ash trees. Shrub thickets and a copse of trees grow along the eastern edge of the Preserve. The marsh is uniformly flat with a high elevation of 440 feet above sea level along the roads and railroad tracks on the perimeter of the Preserve to 430 feet in elevation across most of the Preserve. The Preserve is bounded by paved roads to the south and west, a gravel driveway to the north and railroad tracks to the east. Residential neighborhoods lie to the north and east, but the west and south are undeveloped (though not protected) woodland and wetland respectively. Parking is along Dutcher Avenue. A preserve sign and a bench are located at the southwest corner of the Preserve.

Scudiere Preserve
Orthological Photograph



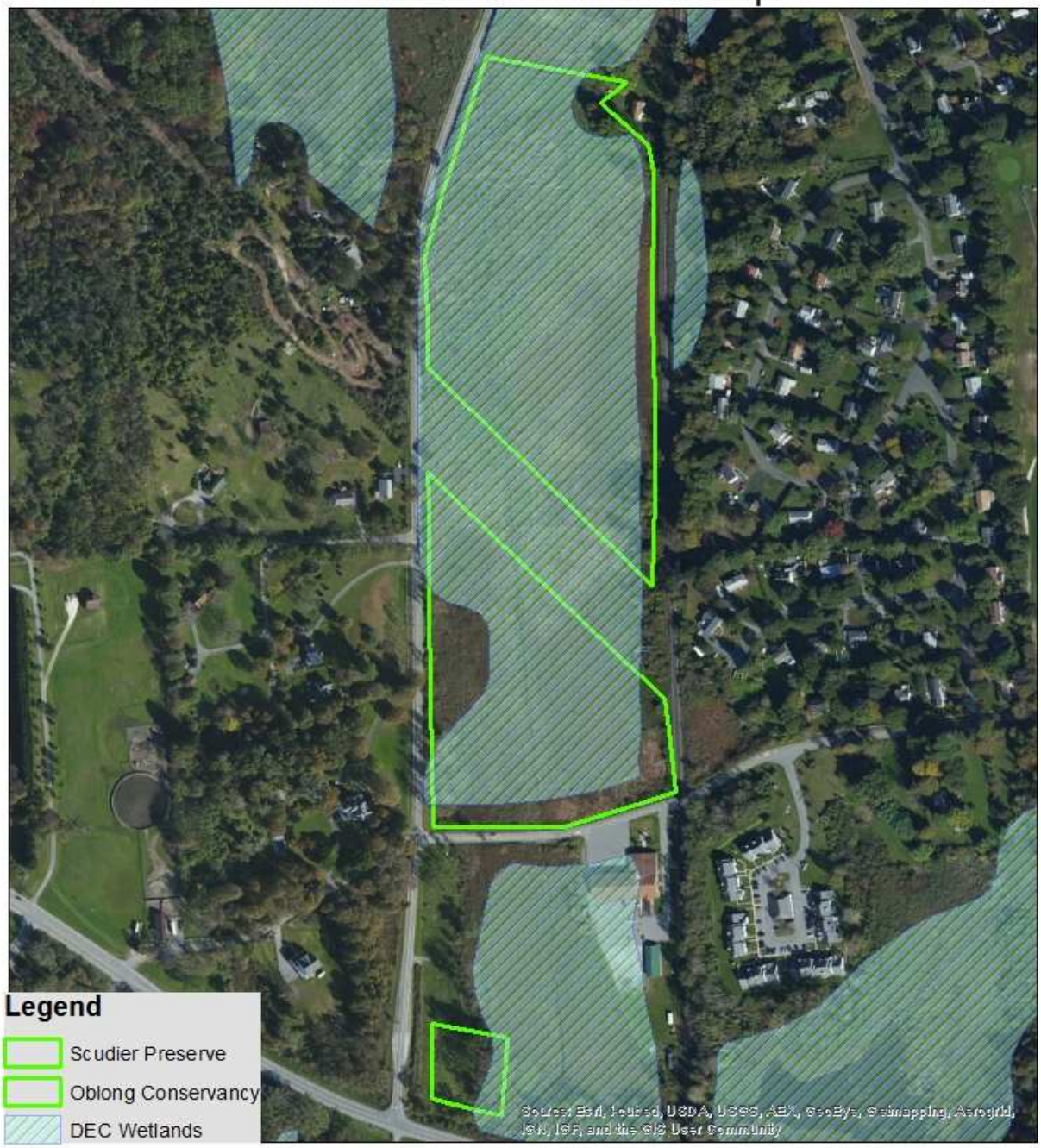
Property Owner: Oblong Land Conservancy
Date: March 20, 2014
Author: Jim Nordgren

620 310 0 620 Feet

1 inch = 500 feet

N

Scudiere Preserve
Environmental Features Map



Property Owner: Oblong Land Conservancy
Date: June 12, 2014
Author: Jim Nordgren

580 290 0 580 Feet

1 inch = 471 feet

N

Scudiere Preserve
Stands/Vegetative Communities Map

Stand 1
Forest Type: Deep Emergent Marsh-Cattails
Acres: 15

Cattails from Dutcher Ave looking northeast

Cattails from Dutcher Ave looking souththeast

Species Composition: This is the largest, contiguous cattail and sedge habitat cover found in the Great Swamp. In addition to the cattail stands found in deep emergent marsh habitat, an acre of shallow emergent marsh is found in two areas along the Preserve's eastern boundary. Low growing patches of sensitive and cinnamon fern, Joe-Pye-weed and blue flag are found here. Another patch of red osier and elderberry is found growing among the cattails along South Street. Native shrubs are occasionally found growing with cattails including nannyberry and arrowwood viburnums, red osier, silky dogwood and elderberry shrubs along with some swamp milkweed, goldenrod, pokeweed, nettles and royal, sensitive and cinnamon ferns. Flowers include many Canada anemones in bloom along with meadow rue and jewelweed.
Average Height: Scattered elm, willow and ash trees are less than 30 feet in height.
Basal Area: Not applicable
Stocking Level: Not applicable
Size Class: Sapling (2 inch to 6 inch in diameter) with a few Pole timber size (6 inch to 12 inch in diameter) trees.
Soil Site Class: III. These 15 acres of marsh are made up of Wayland series soil. This is a very deep, poorly drained and very poorly drained, nearly level soil formed in recent alluvium. Wayland soils are on nearly level or depressed parts of flood plains of streams receiving runoff from uplands that contain some calcareous drift. These areas are subject to flooding. Native vegetation typically includes red maple, alder, willow and elm, all of which are found here. Some areas that have Wayland soils have been cleared and drained, as this area was, for use in growing pasture or crops.

Shallow emergent marsh from tracks looking west

Recommendations and Work Schedule: The best way to maintain this important native habitat is by preventing the spread of, and then removing, the non-native, invasive

phragmites and canary reed grass in the western portion of the Preserve that threaten to overtake the cattails.

Riparian Areas: The shallow emergent marsh habitat found in two parts of the eastern section of the Preserve and at the southern border along South Street form a natural, vegetated buffer that will continue to filter pollutants and sediments, regulate water temperature, stabilize stream banks and enhance aquatic habitats, so no management recommendations are suggested for riparian areas other than preventing the spread of phragmites.

Access System: Dutcher Avenue, South Street and the dirt driveway are adequate to get equipment to the site.

Wildlife Habitat: The Scudiere Preserve is part of the much larger New York State DEC wetland DP-22 and part of the 4,900 acre Great Swamp. Approximately 500 acres of contiguous wetland lie directly the south of the Preserve, while an unfragmented block of woodland totaling approximately 300 acres lies to the west. This surrounding landscape accounts for the variety of bird, amphibian, reptiles and mammals found at the Preserve and in the immediate vicinity. The Scudiere Preserve itself is a calcareous marsh, making it richer in nutrients and less acidic than other habitats. Because of these more hospitable conditions, calcareous soils tend to support a greater variety of plants, amphibians and reptiles than do surrounding granitic areas. Mammals found at the Preserve include river otter, mink, muskrat and beaver. Reptile species include spotted, wood, box and musk turtles. Bird species include several that depend on marsh habitat including Virginia rail and sora, least and American bittern, great blue and green-backed herons and swamp sparrows. The marsh provides roosting sites for blackbird species throughout the year, provides roosting areas for upland species during winter nights and provides critical resting sites for migratory birds, including rusty blackbirds.

Fisheries Habitat: The cattail stands are found along both sides of the main channel and help to filter pollutants and sediments, regulate water temperature, stabilize the channel's banks and enhance the aquatic habitats. Removing phragmites will keep the cattail stand healthy.

Management Implications: Phragmites removal from around this stand should not be done during nesting season (April-July).

Recreation and Aesthetics: This stand, running along Dutcher Avenue and South Street, is highly visible to the public. Keeping it free from phragmites will preserve these dramatic vistas. If a trail and boardwalk are eventually built along this marsh, this stands great native plant diversity will add to the educational experience that the boardwalk hopes to foster.

Forest Health, Invasive Species: This healthy, intact habitat has so far resisted invasion by phramites.

Stand 2
Forest Type: Deep Emergent Marsh-Phragmites
Acres: 8
Species Composition: Nearly 100% of this stand is covered with invasive phragmites. Invasvie canary reed grass grows along with phragmites along the Preserve's northern border. Most of this stand is in standing water where only scattered small elms and ash can grow. Trees grow along the higher ground along the western border at Dutcher Avenue. 30 medium sized cottonwoods grow by the bench in the southwestern corner of the Preserve. At least six other trees have been planted there and are in protective tubing. Many young black walnuts also grow along the western border. These are native wetland trees, but they most likely came from walnuts produced by the row of planted black walnuts growing on the western side of Dutcher Avenue. In any case, they are a good addition to the flora. Other small trees include box elder, cottonwoods, black cherries, crabapples, catalpas and a few red cedars and mulberry trees. Several impressive native shrubs also grow here amongst the phragmites including nannyberry and arrowwood viburnums, red osier, silky dogwood, gray stemmed dogwood, sumac and elderberry. In drier areas, swamp milkweed, goldenrod, pokeweed, nettles, hawkweed, horsetail, vetch, bindweed and royal, sensitive and cinnamon fern grow in the ground cover and would benefit greatly from the removal of the shading phragmites. In most other areas the groundcover is dominated by tussock sedge and cabbage where sunlight is able to penetrate the thick phragmites. Flowers include many Canada anemones in bloom, meadow rue, campion, chervil, jewelweed, violets and lady's thumb. Invasive multi-flora rose is plentiful but only small amounts of honeysuckle and autumn olive grow here.


Invasive Canary reed grass and phragmites

Average Height: Scattered elm, willow and ash trees are less than 30 feet in height.
Basal Area: Not applicable
Stocking Level: Not applicable
Size Class: Sapling (2 inch to 6 inch in diameter) with a few Pole timber (6 inch to 12 inch in diameter) trees.
Soil Site Class: II and III. The soil in the far western section of this stand consists of Galway-Farmington complex, rolling and rocky. This unit consists of moderately deep, well drained and moderately well drained Galway soils and shallow, well drained and somewhat excessively drained Farmington soils that formed in glacial till deposits. The soils are moderate to moderately high in productivity. They are underlain by folded limestone bedrock and are calcareous in some part. The majority of the stand has Wayland soil. This is a very deep, poorly drained and very poorly drained, nearly level soil formed in recent alluvium. Wayland soils are on nearly level or depressed parts of flood plains of streams receiving runoff from uplands that contain some calcareous drift. These area are subject to flooding. Native vegetation is red maple, alder, willow, elm and other trees tolerant of wet sites. Some areas have been cleared and drained, as this area was, for use in growing pasture or crops.
Recommendations and Work Schedule: Phragmites is crowding out desirable native plants, particularly along Dutcher Avenue, and should be removed to allow native plants

to recover. The most practical way to begin removing phragmites from this large, 8 acre patch is to concentrate efforts first on 'releasing' desirable native shrubs and trees from phragmites. This involves cutting the phragmites that is crowding, shading and out-competing native plants. Once native plants are released, they can be more vulnerable to deer browse, so isolated plants should be protected with wire or chicken wire cages or, where size permits, with plastic tree tubes.

Phragmites should not be removed during the nesting season (April-July). Phragmites can be removed either by repeated cutting or by applying glyphosate, if permitted. The specifics of the site determine which treatment will be most effective. By experimenting with several techniques, the most effective method can be determined and then applied to other stands of phragmites. Cutting can be done with either a hedge trimmer or a weed whacker with a circular blade. Cutting done at the wrong time of year may actually increase growth, so cutting should be done in late July, just before seeds are produced. By cutting instead of using herbicides, native plants are not harmed and native plants are exposed to sunlight, giving them an advantage over the cut phragmites. This technique may eliminate a colony if it is carried out annually for several years, though some studies have shown that even after six years of cutting, phragmites resumed growing once cutting ceased. Herbicides are effective on phagmites, if permitted and since most of this area is within a New York State DEC wetland, permits from the DEC are needed. 90% eradication can be achieved by cutting the stems and applying one drop of glyphosate (Roundup/Rodeo) into the cut stem. Rodeo is approved for use in wetlands in New York State but can only be applied by a licensed applicator. Follow-up treatments the next year can totally eliminate phragmites. Glyphosate is more effective when used later in the summer (July-September). The cut and drip technique is useful where native plants are nearby since it concentrates the herbicide into the stem and not to surrounding areas. This labor intensive technique may not be practical over a large area of phragmites. For large areas, foliar spraying of glyphosate is effective. Paths must be cut into the phragmites patches so that spray is able to reach all phragmites plants. Foliar spraying, however, results in drift of the herbicide which introduces more herbicide into the environment. Drift of herbicide can kill other plants and spread to water and both, of course, should be avoided. Imazapyr (Arsenal®, Habitat®, Chopper®, and Stalker®) is used when glyphosate is not effective on phragmites. Imazapyr remains available longer and so can negatively effect other plants and water resources. Check local and state wetland regulations regarding the use of herbicides in wetland and wetland buffers.

Riparian Areas: Part of the phragmites patch south of the power line is considered a riparian area. Removing invasive phragmites and allowing native shrubs to grow will improve the health of this riparian area.

Access System: Equipment can be brought in along Dutcher Avenue, along South Street and along the dirt driveway at the northern border.

Wildlife Habitat: Phragmites has little value to wildlife because it is non-native and because it creates a monoculture of just one type of plant. Phragmites and cattails do act as roosting sites for blackbird species throughout the year. Phragmites and cattails also provide roosting areas for upland species during winter nights. Phragmites and cattails also provide critical resting sites for migratory birds, including rusty blackbirds.

Fisheries Habitat: Removing invasive phragmites and allowing native shrubs to grow will improve the fisheries habitat.

Management Implications: Care should be taken to be sure that no herbicide drifts onto native plants and that target plants are not soaked with herbicide to the point that herbicide runs off to the ground. No activities should be done during nesting season (April-July).
Recreation and Aesthetics: This stand, running along Dutcher Avenue, is highly visible to the public. Removing invasive phragmites and allowing a variety of flowering native shrubs to grow will make this viewshed more interesting and attractive. If a trail and boardwalk are eventually built along this marsh, removing invasives and promoting greater native plant diversity will add to the educational experience that the boardwalk hopes to foster.
Forest Health, Invasive Species: Invasive phragmites currently occupies less than 30% of the Preseve, yet it threatens the entire Preserve. Removing phragmites will prevent it's spread and will allow native plants to regrow.

Stand 3 This stand consists of four copses of deciduous trees and shrubs growing along the railroad tracks at the Preserve's eastern border.
Forest Type: Mixed deciduous trees and invasive shrubs
Acres: 3
Species Composition: Trees include several large quaking aspen, several black walnuts and black cherry, red maple and ash trees. Shrubs include multi-flora rose and autumn olive under the power line and native sumac in the Preserve's southeastern corner.
Average Height: 80 to 100 feet
Basal Area: Approximately 100 square feet per acre
Stocking Level: 50%
Size Class: Pole timber (6" to 12" diameter) and Saw timber (12" diameter and greater)
Soil Site Class: II. Soils in a small area of the Preserve in the central eastern section are classified as Copake-Urban land complex soils. This is typically found in urban and suburban developments, in this case the development of the railroad bed. Copake soils are very deep and well drained soils that formed in glacial outwash deposits on valley floors. The rest of this stand is made up of Weyland silt loam, a wetland soil. The altered Copake-Urban soil allows these clusters of trees and shrubs to grow in what is otherwise a marsh where trees cannot become established.
Recommendations and Work Schedule: Large thickets of multi-flora rose and autumn olive located near the power lines by the railroad tracks should be monitored to be sure they do not spread to the more pristine areas of the marsh. Some of the invasive shrubs are located between the Preserve's two parcels on NYSEG property and so can only be managed by NYSEG. The clumps of deciduous trees are in open sunlight with adequate moisture and are at low stocking rates so no management is required. The sumac clump in the Preserve's southeast corner should be allowed to spread by removing competing non-native, invasive shrubs that surround the sumac.
Riparian Areas: The perimeter of the marsh is considered a riparian area. Management of the vegetation along the entire eastern border is the responsibility of the railroad, which appears to periodically apply herbicides to prevent vegetation from growing near the tracks. The natural vegetation growing elsewhere around the marsh will continue to filter pollutants and sediments, regulate water temperature, stabilize stream banks and enhance

aquatic habitats, so no management recommendations are suggested.

Access System: The clump of tree in the northeast corner of the Preserve can be accessed by the dirt driveway which runs along the Preserve's northern border. The sumac clump can be accessed by South Street.
Wildlife Habitat: Tree copses provide food, shelter and roosting areas for birds. Sumac berries are an excellent food source for birds. Multi-flora rose and autumn olive have little value to wildlife, although birds do eat autumn olive fruit, which contributes to the spread of this invasive plant.
Fisheries Habitat: None
Management Implications: None
Recreation and Aesthetics: These copses are located at the most remote areas of the Preserve and so have little impact on aesthetics.
Forest Health, Invasive Species: Multi-flora rose and autumn olive can shade out native plants. The very wet conditions surrounding the thickets will probably prevent these invasives from spreading.

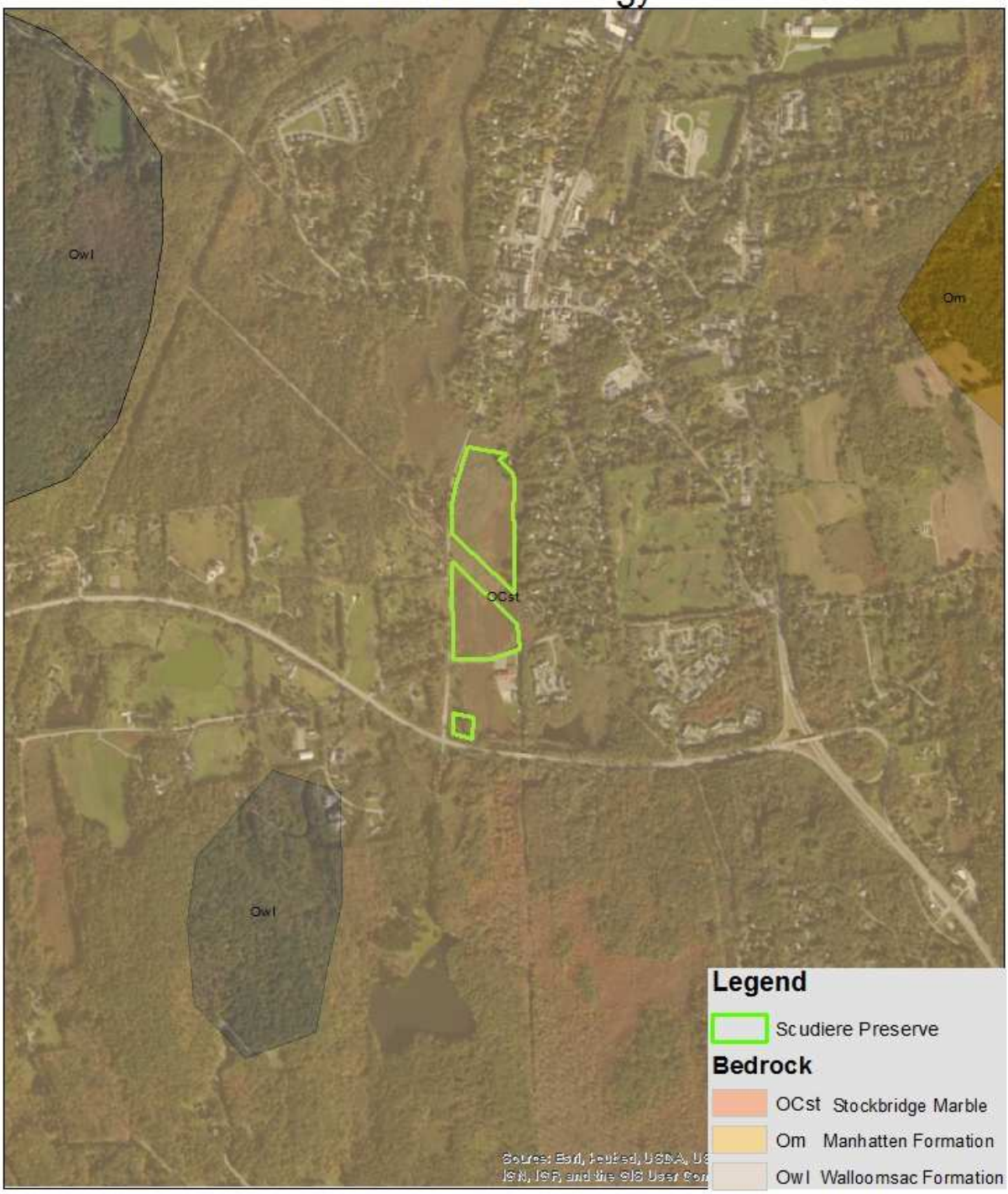
Stand 4 This separate parcel is owned by the Oblong Conservancy and is located .1 miles south of the Scudiere Preserve.
Forest Type: Lawn with trees on perimeter
Acres: 1.1
Species Composition: This stand consists of .5 acres of mown lawn, approximately 10,000 square feet of phragmites on western border along Dutcher Avenue, and mature trees growing along the eastern and southern boundaries. Trees consist of 50% medium sized locust, 25% large black cherries, 15% cottonwood and 10% black willow trees. Since the trees are growing in a row, the canopy is completely open. Nearly 40 additional trees have been planted on the west, south and east sides of the lawn area including 8 red maples, 4 tulips, 3 swamp white oaks, 3 alder, 3 river birch, 2 sycamore, 2 box elder, 1 silver maple, 1 basswood, 1 flowering dogwood and 1 willow. Most are protected with tubes or wire cages which should be maintained each year. A few volunteer ash and elm saplings also grow here.


Phragmites along Dutcher Avenue

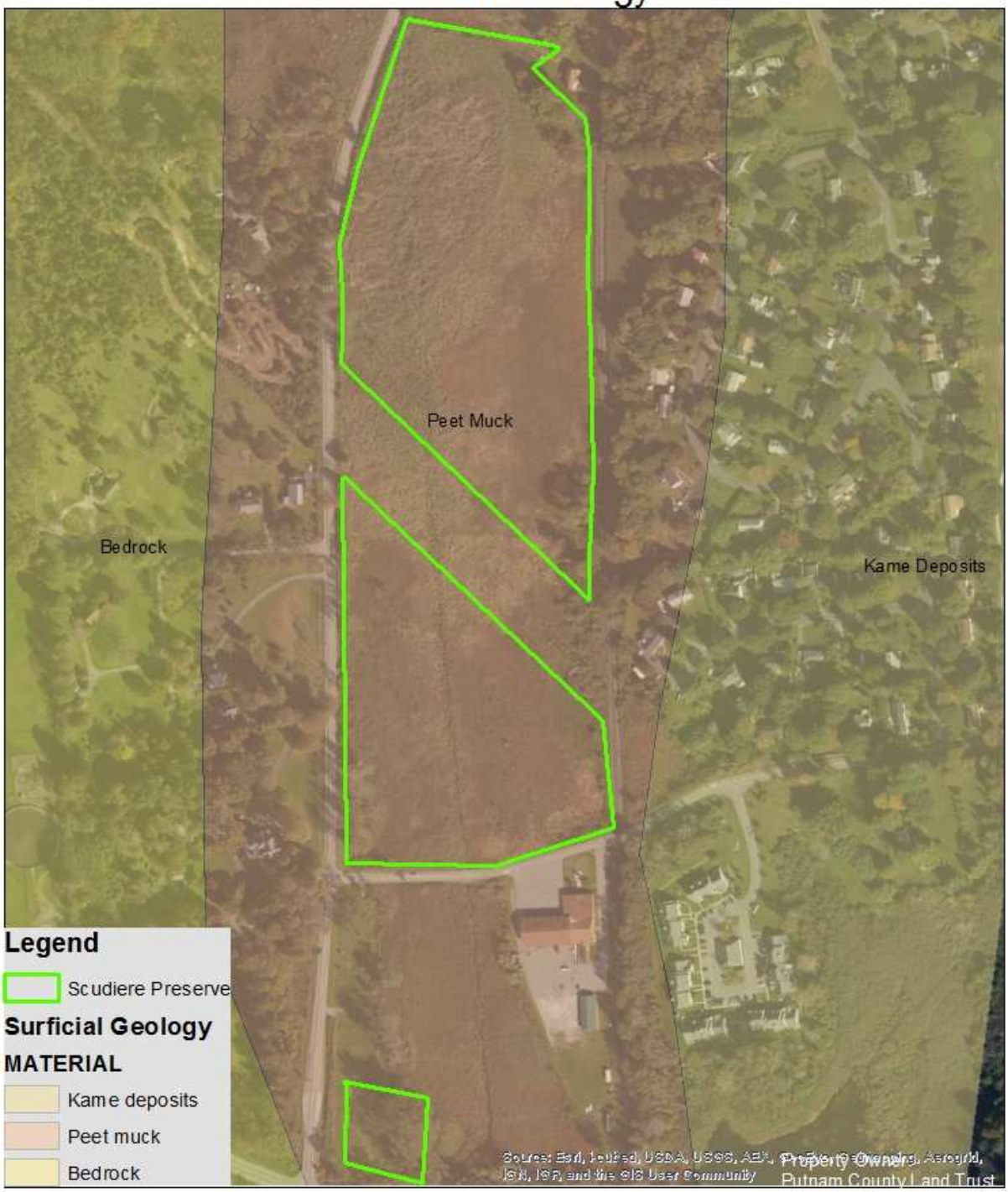
Average Height: 80 feet
Basal Area: 92 square feet per acre
Stocking Level: 70%
Size Class: Pole timber (6" to 12" diameter) and Saw timber (12" diameter and greater)
Soil Site Class: II. Soils in the western .5 acres are made up of Galway-Farmington complex, rolling and rocky. This unit consists of moderately deep, well drained and moderately well drained Galway soils and shallow, well drained and somewhat excessively drained Farmington soils, both of which formed in glacial till deposits. The soils are moderate to moderately high in productivity. The soil in the moister eastern .5 acres is Wayland soil. This is a very deep, poorly drained and very poorly drained, nearly

level soil formed in recent alluvium. Some areas have been cleared and drained, as this area was, for use in growing pasture or crops.
Recommendations and Work Schedule: The approximately .25 acres of phragmites should be removed along Dutcher Avenue according to methods mentioned above. Some of the 40 planted trees have either wire cages that are too low to prevent deer browse or have no protection at all and should be protected. The trees growing out of the tubes can have the tubes removed. Flexible plastic nursery tape can be wrapped along the first four feet of the exposed trunks to protect from deer rub. Additional plantings along the eastern edge of the preserve will improve the water quality in the channel. The area of lawn should not be expanded.
Riparian Areas: The western and southern sections of this preserve are riparian areas. The lawn area should not be expanded; doing so will cause more stormwater to enter the wetlands and channel. The nearly 40 trees that have recently been planted in this riparian area will greatly improve the functioning of this buffer area by absorbing pollutants, sediments and stormwater.
Access System: Equipment can be brought in along Dutcher Avenue.
Wildlife Habitat: As 1.1 acres of parkland, wildlife habitat is poor but as the 40 native trees grow and as phragmites is removed, wildlife habitat will improve substantially.
Fisheries Habitat: The eastern edge of this stand is close to the man-made channel that has at least six species of fish in it. The lawn area should not be expanded; doing so will cause more stormwater to enter the channel. The natural herbaceous vegetation now along the channel serves to protect this fish habitat. Extending the plantings of native trees to the eastern border of the preserve and closer to the channel, will improve fish habitat.
Management Implications: Care should be taken to be sure that no herbicide drifts onto native plants and that target plants are not soaked with herbicide to the point that herbicide runs off to the ground.
Recreation and Aesthetics: This is a gateway to the Village of Pawling. Currently, phragmites along the road is blocking the view of the landscaped area, the rows of trees and the marsh itself. Removing phragmites will improve the viewshed.
Forest Health, Invasive Species: The trees are very healthy, receiving plenty of sun and moisture. Phragmites is the major invasive at this stand.

Scudiere Preserve
Bedrock Geology



Scudiere Preserve
Surficial Geology



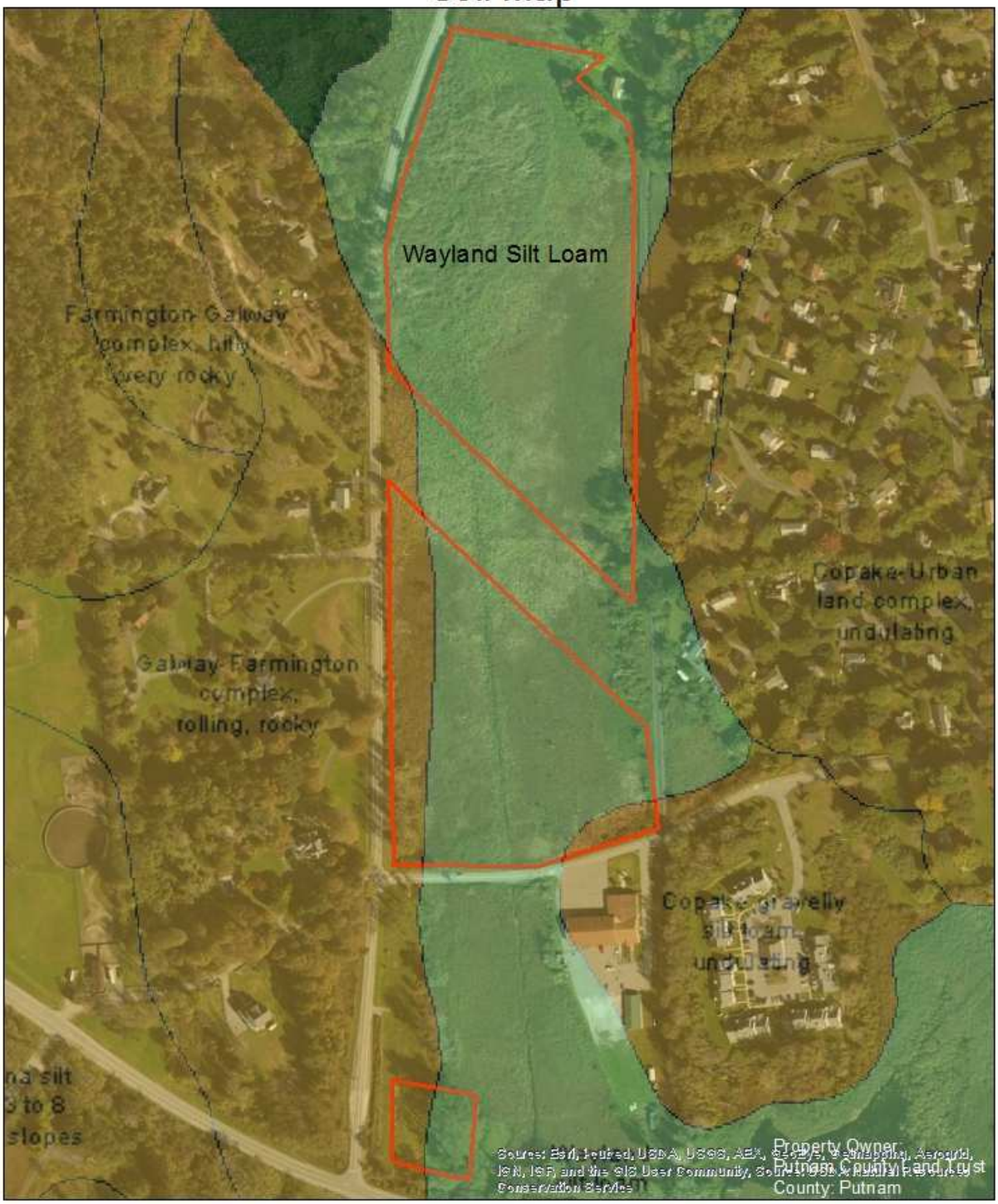
520 260 0 520 Feet

1 inch = 417 feet

N

Property Owner: Oblong Land Conservancy
Date: June 11, 2014
Author: Jim Nordgren

Scudiere Preserve
Soil Map



520 260 0 520 Feet

1 inch = 417 feet

N

Property Owner: Oblong Land Conservancy
Date: June 11, 2014
Author: Jim Nordgren

Scudiere Preserve
10 Foot Contours Map

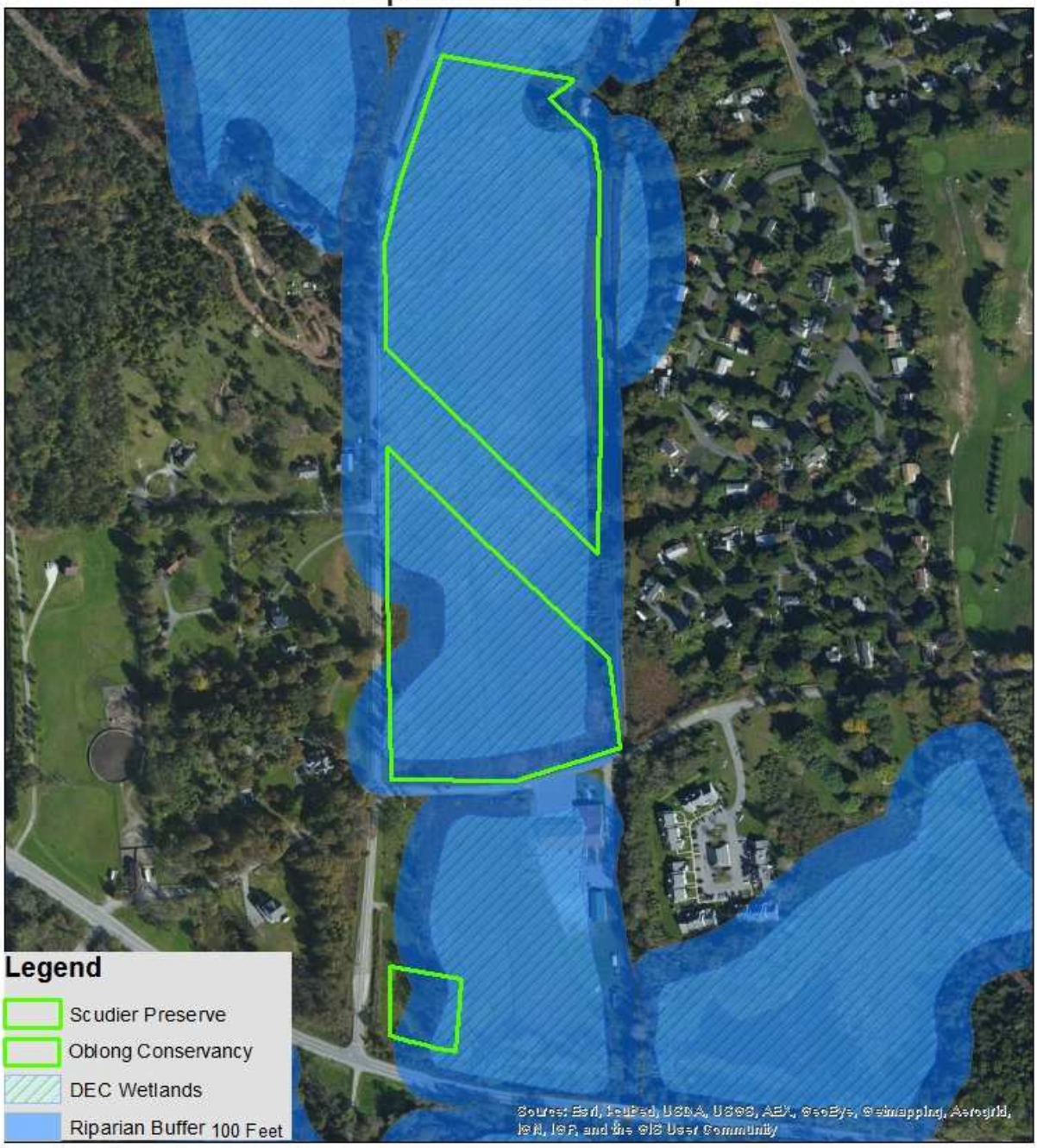
Property Owner: Oblong Land Conservancy
Date: March 20, 2014
Author: Jim Nordgren

620 310 0 620 Feet

1 inch = 500 feet

N

Scudiere Preserve
Riparian Buffer Map



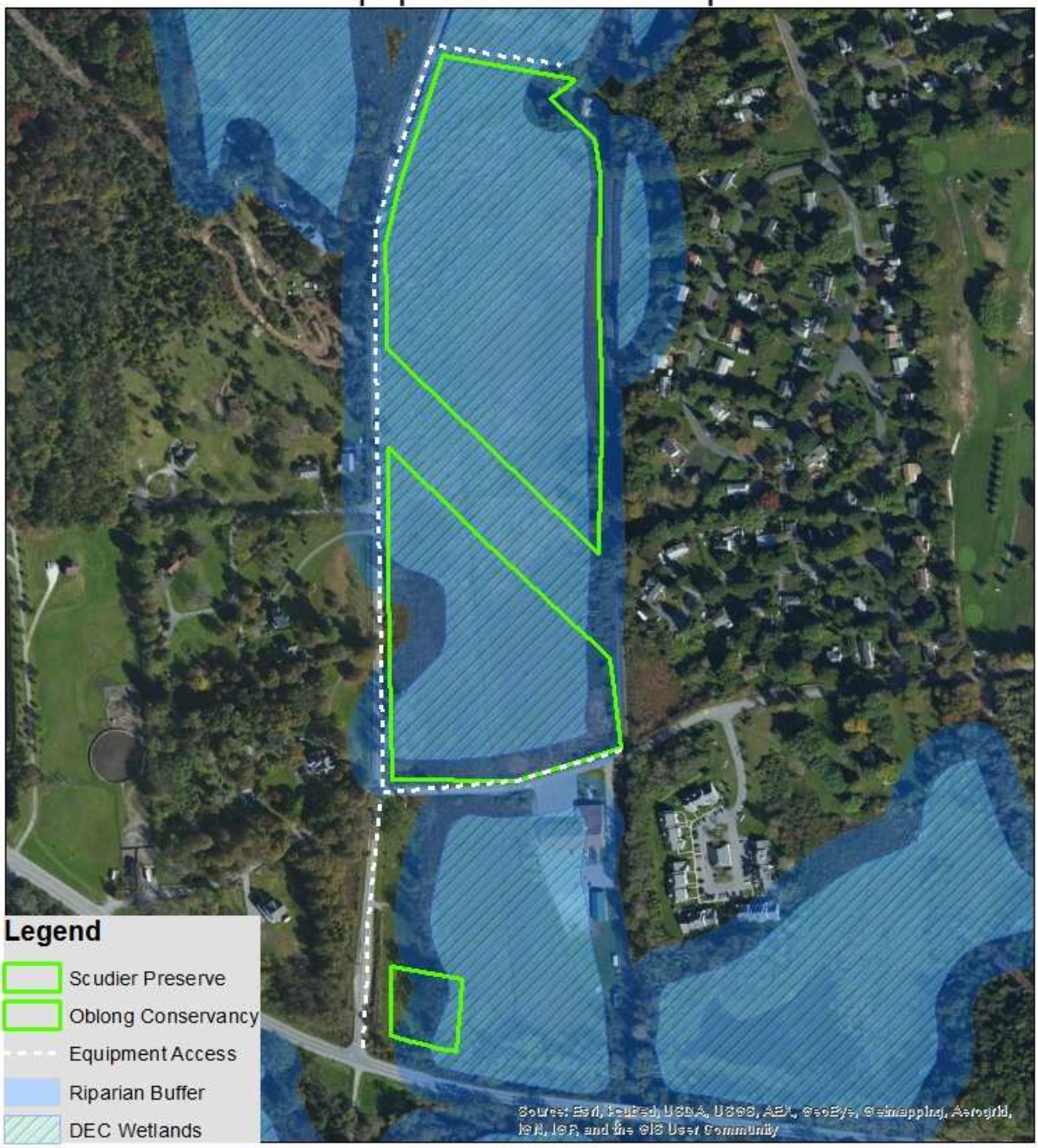
Property Owner: Oblong Land Conservancy
Date: June 12, 2014
Author: Jim Nordgren

620 310 0 620 Feet

1 inch = 500 feet

N

Scudiere Preserve
Equipment Access Map



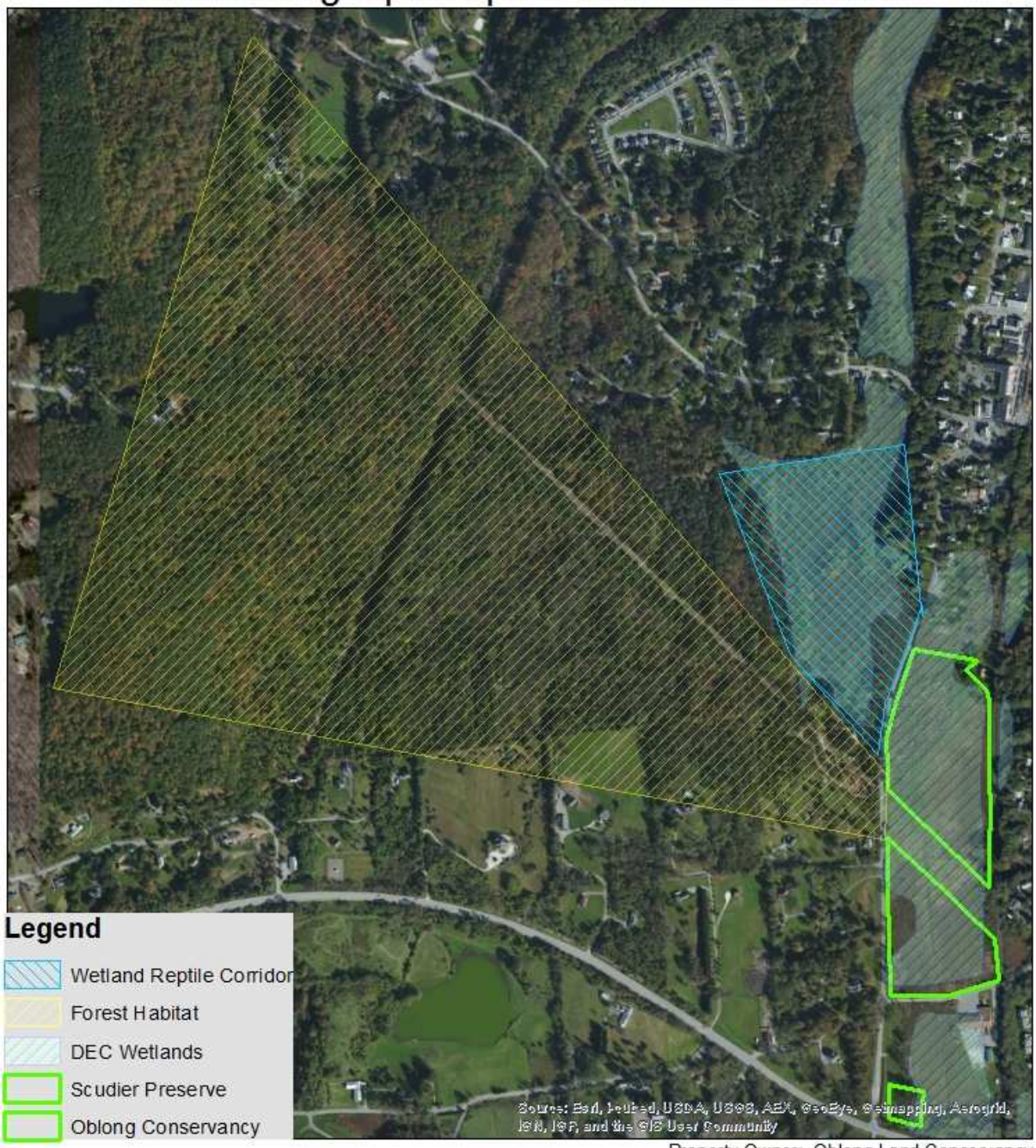
Property Owner: Oblong Land Conservancy
Date: June 12, 2014
Author: Jim Nordgren

620 310 0 620 Feet

1 inch = 500 feet

N

Scudiere Preserve
Surrounding Open Space & Wildlife Corridors



Property Owner: Oblong Land Conservancy
Date: June 3, 2014
Author: Jim Nordgren

1,200 600 0 1,200 Feet

N

1 inch = 1,042 feet

INVENTORY OF FLORA & FAUNA 2014

Trees:

Acer platanoides (Norway maple)
Acer rubrum (red maple)
Acer saccharum (sugar maple)
Ailanthus altissima (tree of heaven)
Amelanchier arborea (serviceberry)
Betula alleghaniensis (yellow birch)
Betula lenta (black birch)
Betula populifolia (gray birch)
Carpinus caroliniana (ironwood)
Carya cordiformis (bitternut hickory)
Carya glabra (pignut hickory)
Carya ovata (shagbark hickory)
Carya tomentosa (mockernut hickory)
Cornus florida (flowering dogwood)
Fagus grandifolia (American beech)
Fraxinus americana (white ash)
Fraxinus pennsylvanica (green ash)
Juglans nigra (black walnut)
Juniperus virginiana (red cedar)
Liriodendron tulipifera (tulip tree)
Nyssa sylvatica (tupelo)
Ostrya virginiana (hophornbeam)
Picea abies (Norway spruce)
Pinus strobus (white pine)
Platanus occidentalis (American sycamore)
Populus deltoids (cottonwood)
Populus tremuloides (quaking aspen)
Prunus serotina (black cherry)
Pyrus Malus (apple)
Quercus alba (white oak)
Quercus rubra (red oak)
Quercus velutina (black oak)
Robinia pseudoacacia (black locust)
Salix spp. (willow)
Sassafras albidum (sassafras)
Tsuga canadensis (eastern hemlock)
Ulmus americana (American elm)

Shrubs:

Berberis thunbergii (Japanese barberry)
Clethra alnifolia (pepperbush)
Cornus alternifolia (alternate leaf dogwood)
Cornus oblique (silky dogwood)
Cornus racemosa (gray stemmed dogwood)
Elaeagnus umbellata (autumn olive)
Euonymus alatus (winged euonymus)
Gaultheria procumbens (wintergreen)
Hamamelis virginiana (witch hazel)
Ilex verticillata (winterberry)

Lindera benzoin (spicebush)
Lonicera tatarica (Tatarian honeysuckle)
Rhamnus spp. (buckthorn)
Rosa multiflora (multiflora rose)
Rubus phoenicolasius (wineberry)
Rubus spp. (blackberry)
Vaccinium angustifolium (low-bush blueberry)
Vaccinium corymbosum (high-bush blueberry)
Viburnum dendatum (arrowwood viburnum)
Viburnum lentago (nannyberry viburnum)

Vines:

Calystegia sepium (hedge bindweed)
Celastrus orbiculatus (Asiatic bittersweet)
Lonicera japonica (Japanese honeysuckle)
Mitchella repens (partridge berry)
Parthenocissus quinquefolia (Virginia creeper)
Toxicodendron radicans (poison ivy)
Vitis sp. (grape)

Herbs:

Achillea millefolium (yarrow)
Actaea pachypoda (white baneberry)
Alliaria petiolata (garlic mustard)
Angelica atropurpurea (angelica, Alexanders)
Arisaema triphyllum (Jack-in-the-pulpit)
Artemisia vulgaris (common mugwort)
Arctium minus (burdock)
Asclepias incarnata (swamp milkweed)
Ascelepias syriaca (common milkweed)
Aster divaricatus (white wood aster)
Bidens frondosa (common beggarticks)
Boehmeria cylindrical, (false nettle)
Caltha palustris (marsh marigold)
Chelidonium majus (celandine)
Coronilla varia (crown vetch)
Daucus carota (Queen Anne’s lace)
Erechtites hieracifolia (pilewort)
Erigeron annuus (daisy fleabane)
Erythronium americanum (trout lily)
Galium asprellum (bedstraw)
Geranium maculatum (wild geranium)
Glechoma hederacea (gill-over-the-ground)
Hackelia virginiana (stickseed)
Hesperis matronalis (dame's rocket)
Hieracium lachenalii (hawkweed)
Hypericum perforatum (common St. Johnswort)
Impatiens capensis (orange jewelweed)
Laportea canadensis (wood nettle)
Liaria vulgaris (butter and eggs)
Lotus corniculatus (bird's-foot trefoil)

Lychnis flos-cuculi (ragged robin)
Maianthemum canadense (Canada mayflower)
Oxalis stricta (yellow wood sorrel)
Packera aurea (golden ragwort)
Pachysandra terminalis (pachysandra)
Peltandra virginica (arrow arum)
Phytolacca americana (pokeweed)
Pilea pumila (clearweed)
Plantago major (plantain)
Polygonatum biflorum (true Solomon's seal)
Polygonum pensylvanicum (smartweed)
Polygonum persicaria (lady's thumb)
Polygonum virginianum (Virginia knotweed)
Potentilla indica (Indian strawberry)
Pycnanthemum virginium (mountain mint)
Ranunculus abortivus (kidneyleaf buttercup)
Ranunculus recurvatus (hooked crowfoot)
Rubus phoenicolasius (wineberry)
Rubus spp. (raspberry)
Rumex acetosella (sheep sorrel)
Rumex spp. (dock)
Sagittaria spp. (arrowhead)
Smilacina racemosa (false Solomon's seal)
Solanum carolinense (horse nettle)
Solidago Canadensis (Canada goldenrod)
Solidago speciosa (showy goldenrod)
Solidago graminifolia (flat-topped goldenrod)
Symplocarpus foetidus (skunk cabbage)
Taraxacum officinale (dandelion)
Thalictrum pubescens (tall meadow rue)
Thalictrum thalictroides (rue anemone)
Trifolium aureum (hop clover)
Trifolium pretense (red clover)
Trifolium repens (white clover)
Typha latifolia (cattail)
Urtica dioica (stinging nettle)
Varatrum viride (false hellebore)
Verbascum thapsus (common mullein)
Vicia americana (purple vetch)
Viola sp. (violet)

Sedges:

Carex pensylvanica (Pennsylvania sedge)
Carex stricta (tussock sedge)
Juncus tenuis (path rush)

Grasses:

Bromus inermis (brome grass)
Dactylis glomerata (orchard grass)
Microstegium vimineum (stilt grass)
Panicum clandestinum (deer-tongue grass)

Phragmites australis (giant reed grass)
Phleum pretense (timothy)
Poa annua (annual bluegrass)
Poa pratensis (Kentucky bluegrass)

Ferns and allies:

Athyrium filix-femina (lady fern)
Dennstaedtia punctilobula (hay-scented fern)
Dryopteris marginalis (marginal wood fern)
Equisetum arvense (horsetail)
Matteuccia struthiopteris (ostrich fern)
Onoclea sensibilis (sensitive fern)
Osmunda cinnamomea (cinnamon fern)
Osmunda claytoniana (interrupted fern)
Osmunda regalis (royal fern)
Polystichum acrostichoides (Christmas fern)
Thelypteris noveboracensis (New York fern)
Thelypteris simulate (Massachusetts fern)
Thelypteris palustris (marsh fern)

Moss and lichens:

Caloplaca flavescens (crustose lichen)
Hypogymnia physodes (foliose lichen)
Leucobryum glaucum (pin cushion moss)
Polytrichum spp. (hair cap moss)
Sphagnum spp. (sphagnum moss)

Mammals-expected to be observed:

Peromyscus leucopus (white-footed mouse)
Myotis lucifugis (brown bat)
Tamias striatus (eastern chipmunk)
Sciurus carolinensis (gray squirrel)
Glaucomys volans (flying squirrel)
Procyon lotor (raccoon)
Didelphis virginiana (opossum)
Mephitis mephitis (skunk)
Mustela erminea (short tailed weasel)
Mustela frenata (long tailed weasel)
Ondatra zibethicus (muskrat)
Martes pennanti (fisher)
Vulpes vulpes (red fox)
Urocyon cinereoargenteus (gray fox)
Lynx rufus (bobcat)
Canis latrans (eastern coyote)
Odocoileus virginianus (white-tailed deer)

Birds-observed[6]:

Botaurus lentignosus (American bittern)
Ixobrychus exilis (least bittern)

[6] 1997, 1998 survey Dr. James Utter, William Wallace, Jr. Annual Spring Bird Census, Ralph T. Waterman Bird Club and Christmas Bird Counts.

Ardea herodias (great blue heron)
Butorides virescens (green heron)
Corogyps atratus (black vulture)
Cathartes aura (turkey vulture)
Branta Canadensis (Canada goose)
Anas platyrhynchos (mallard)
Anas rubripes (black duck)
Aix sponsa (wood duck)
Buteo jamaicensis (red-tailed hawk)
Meleagris gallopavo (wild turkey)
Rollus limicola (Virginia rail)
Porzona Carolina (sora)
Tringa solitaria (solitary sandpiper)
Gallinago gallinago (common snipe)
Chaetura pelagica (chimney swift)-observed June 2014
Columba livia (rock dove)
Zenaida malnoura (mourning dove)
Chordeiles minor (common nighthawk)
Megaceryle alcyon (belted kingfisher)-observed June 2014
Melanerpes carolinus (red-bellied woodpecker)
Colaptes auratus (yellow-shafted flicker)
Picoides pubescens (downy woodpecker)
Picoides villosus (hairy woodpecker)
Tyrannus tyrannus (eastern kingbird)-observed June 2014
Empidonax minimus (least flycatcher)
Empidonax traillii (willow flycatcher)-observed June 2014
Sayornis phoebe (eastern phoebe)
Tachycineta bicolor (tree swallow)
Hirundo rustica (barn swallow)
Progne subid (purple martin)
Stelgidopteryz semipennis (N. rough-winged swallow)
Petrochelidon pyrrhonota (cliff swallow)
Riparia riparia (bank swallow)
Cyanocitta cristata (blue jay)
Corvus brachyrhynchos (American crow)
Parus atricapillus (black-capped chickadee)
Parus bicolor (tufted titmouse)
Sitta carolinensis (white-breasted nuthatch)
Cistothorus Palustris (marsh wren)
Troglodytes aedon (house wren)
Troglodytes hiemalis (winter wren)
Thryothorus ludovicianus (Carolina wren)
Dumetella carolinensis (gray catbird)
Mimus polyglottos (northern mockingbird)
Sturnus vulgaris (European starling)
Turdus migratorius (American robin)
Sialia sialis (eastern bluebird)
Bombycilla cedrorum (cedar waxwing)
Vireo olivaceus (red-eyed vireo)
Vireo flavifrons (yellow-throated vireo)
Vireo gilvus (warbling vireo)
Dendroica petechia (yellow warbler)-observed June 2014
Geothlypis trichas (common yellowthroat)

Sturnus vulgaris (European starling)
Agelaius phoeniceus (red-winged blackbird)
Euphobus carolinus (rusty blackbird)
Quiscalus quiscula (common grackle)
Molothrus ater (cowbird)
Icterus galbula (Northern oriole)
Piranga olivacea (scarlet tanager)
Cardinalis cardinalis (northern cardinal)
Passerina cyanea (indigo bunting)
Pheucticus ludovicianus (rose-breasted grosbeak)
Haemorhous purpureus (purple finch)
Carpodacus mexicanus (house finch)
Cardeulis tristis (American goldfinch)
Pipilo erythrophthalmus (rufous-sided towhee)
Junco hyemalis (slate colored junco)
Carpodacus mexicanus (house finch)
Passer domesticus (house sparrow)
Spizella arborea (tree sparrow)
Spizella passerina (chipping sparrow)
Passerculus sandwichensis (Savanah sparrow)
Melospiza melodia (song sparrow)
Melospiza georgiana (swamp sparrow)
Zonotrichia albicollis (white throated sparrow)

Amphibians and Reptiles-observed[7]:

Bufo americanus (American toad)
Clemmys guttata (spotted turtle)
Chrysemys picta (painted turtle)
Eurycea bislineata (northern two-lined salamander)
Glyptemys insculpta (wood turtle)
Hyla versicolor (gray tree frog)
Hyla crucifer (spring peeper)
Notophthalmus v. viridescens (red-spotted newt)
Plethodon cinereus (redback salamander)
Rana clamitans (green frog)
Sternotherus odoratus (musk turtle)
Terrapene carolina carolina (eastern box turtle)
Thamnophis sirtalis (Eastern garter snake)

Fish- observed[8]:

Esox americanus (pickerel)
Catostomus commersoni (white sucker)
Lepomis gibbosus (pumpkin seed)
Lepomis macrochirus (bluegill)
Micropterus salmoides (largemouth bass)
Notemigonus crysoleucas (golden shiner)

[7] Wildlife Conservation Society 1997 Great Swamp Inventory-Scudiere Site.
[8] Wildlife Conservation Society 1997 Great Swamp Inventory-Scudiere Site.

Watershed Forestry Program
33195 State Highway 10
Walton, NY 13856
(607) 865-7790

Watershed Management Plan Summary Page

(to be included with each Forestry Plan submitted)

Landowners Name: OBLONG LAND CONSERVANCY

Mailing Address: P.O. BOX 601
PAWLING NY 12564

Phone Number: (845) 855-5993

Property Location

Road/address: 55 DUTCHER AVENUE, PAWLING
77 DUTCHER AVENUE, PAWLING
DUTCHER AVENUE, PAWLING

Township PAWLING **County** DUTCHESS

Property Information 134001-6956-08-970798-0000
134001-6956-12-970685-0000

Tax Map Number (S.B.L.) 134089-6956-00-952587-0000 **Total Acreage:** 23

Watershed Forest Managed/forested acre- 23 ***SIP/FIP Acreage:**

***Forest Tax Law Acreage:** 23 ***Riparian Area Acreage:** 3.7

Forester Information:

Company name: JN LAND TRUST SERVICES

Foresters name: JIM NORDGREN

Company mailing address: 38 BOOTON RD., SOUTH SALEM, NY 10590

Phone Numbers: 914 763-5740 **Fax:**

Car/pager: **e-mail:** JIM@JNLANDTRUSTSERVICES.COM

WFP office use only

Application received:

Application approved:

Est. funding amount $

Actual funded amount $

WAC received plan:

Plan submitted to DEC:

First evaluation returned:

Second evaluation returned:

Plan approved by:

Overview of Watershed Agricultural Council Cost-Share Programs for Landowners, January 2011

You have received your management plan, but how will you take the next step and implement its recommendations? The Watershed Agricultural Council's Forestry Program can work with you in implementing your plan and achieving your ownership objectives by providing technical assistance and cost-sharing programs that provide funding for a wide range of management activities. Below is a summary of the Forestry Program's landowner assistance programs for your reference.

Management Assistance Program (MAP)

This program provides funding for:

• Tree Planting
• Timber Stand Improvement (TSI) / precommercial thinning
• Riparian Area and Forest Wetland Improvement
• Wildlife Habitat Improvement including
-- Wild crop tree/fruit tree release and pruning
-- Seep protection and enhancement
-- Snag and cavity tree development
-- Creation of forest openings for wildlife
-- Establishment of wildlife seeding in forest openings
• Invasive Plant Control

Two grant rounds are held per year, with deadlines of February 15 and July 15. Participants may receive up to $2,575 ($2,652 in 2013) of MAP funding per round and up to $5,304 of MAP funding per year. Only practices specifically recommended in your forest management plan are eligible for funding.

Best Management Practice (BMP) Program

This program loans portable, temporary bridges, arch culverts, and rubber tire mats to loggers for use in stream crossings during timber harvests. Free samples of BMP materials required for your project are available such as: silt fencing with stakes, pipe culverts, grass seed, hay bales, biodegradable bar and chain oil, erosion control blankets and straw wattles.

This program also provides cost-share funding for installing BMPs such as water bars, both as part of active timber harvests and to address existing erosion problems on your property.

Want to learn more about management?

The Watershed Agricultural Council's Forestry Program supports numerous landowner workshops annually, often at low or no cost to participants. Topics for these workshops include forest taxation, forest health, forest road remediation, wildlife management and the production of non-timber products in woodlots.

For a firsthand look at management in action, visit one of the Forestry Program's **model forests**. These outdoor classrooms allow you to see real timber harvests, BMPs and other management tools in practice. All model forests feature free admission. The Forestry Program currently partners with three locations:

1. Lennox Model Forest – Back River Road, Delhi, NY

This model forest is across the street from the 4-H Camp Shankitunk and is open to the public daily from dawn to dusk. The forest is owned by Delaware County and managed by Cornell Cooperative Extension of Delaware County.

2. Frost Valley YMCA Model Forest – Frost Valley Road, Claryville, NY

Located on the campus of the Frost Valley YMCA Camp, this forest is open to the public but requires all visitors to check in at the Camp's Administration Desk before entering the model forest.

For more information, please contact Frost Valley at (845) 985-2291 or visit their website at www.frostvalley.org/environmental-science/watershed-model-forest.html.

3. Siuslaw Model Forest – Route 23, Acra, NY

Located across the street from the Agro forestry Resource Center (ARC), this forest is owned and managed by Cornell Cooperative Extension of Greene County. The ARC also hosts a wide variety of free and low-cost workshops for the public. For more information, please contact the ARC at (518) 622-9820 or visit their website at www.agroforestrycenter.org.

For more information on any of these programs and to obtain grant applications, please contact:

Watershed Agricultural Council Forestry Program
33195 State Highway 10
Walton, NY 13856
(607) 865-7790
www.nycwatershed.org

WORK SCHEDULE 2016-2019:

2016:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites
- Plant more native trees along the eastern edge of the 1.1 acre preserve.
- Weed, maintain deer protection on new shrubs and trees

2017:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites
- Plant more native trees along the eastern edge of the 1.1 acre preserve.
- Weed, maintain deer protection on shrubs and trees
- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2018:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites
- Weed, maintain deer protection on shrubs and trees

2019:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites
- Weed, maintain deer protection on shrubs and trees
- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2020:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites

2021:

- Continue to remove phragmites in increments from 8 acre stand
- Re-treat any resprouting phragmites
- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2022:

- Monitor for any invasives

2023:

- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2024:

- Update 2014 Management Plan.

2025:

- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2026:

- Monitor for any invasives

2027:

- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

2028:

- Monitor for any invasives

2029:

- Continue outreach to neighbors to educate them about the value of the Preserves and about potential conservation easement and fee donations on their land.

Signature Clause:

As owner, I have reviewed this management plan with our forester and I understand the contents and agree that it reflects our goals and intentions for the management of this property.

Christopher Wood
Co-Chair
Oblong Conservancy
Pawling, NY
June 18, 2014

DEFINITION OF TERMS:

Basal area – The cross-sectional area of all trees in a stand as measured at breast height (4.5 feet from the ground) and expressed per unit of land area.
Brushhog: A mower attached to a tractor that can cut through dense plant growth
Canopoy: The continuous cover of tree branches and leaves formed by the tops of adjacent trees.
Clearcut: Complete removal of all trees from an area.
Corduroy: Logs placed close together perpendicular to the direction of travel to protect the integrity of the underlying soils.
Crown Cover: The ground area covered by the crowns of trees or woody vegetation expressed as a percent of total ground area.
Calcareous bedrock: Bedrock producing alkaline soils containing calcium carbonate from underlying limestone.
Conservation easement: A legal agreement between a landowner and land trust or unit of government that limits, for conservation purposes, the type or amount of development on the property.
Crop tree release: Removing smaller, diseased or less desirable trees that are crowding or shading more desirable trees used by wildlife.
Forbs: Herbaceous flowering plants that are distinguished from grasses, shrubs and trees.
Girdling: Completely encircling the trunk of a tree with a cut in order to kill a tree without felling it.
High-grading: Harvesting only the high value trees for short term economic gain to the detriment of forest health.
Hydric soils: Wetland soils formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions (conditions without oxygen).
Hydrophytic vegetation: An assemblage of one or more plant species growing in a common aquatic environment or on a substrate that is at least partially deficient in oxygen as a result of excessive water content.
Invasive plants: Plants, sometimes nonnative, that thrive and spread due to the lack of insects, diseases, or foraging animals that naturally keep their growth in check.
Loam soils: Soils composed of equal concentrations of sand, silt and clay that contain more nutrients, moisture and humus than sandy soils, have better drainage and infiltration of water and air than silty soils, and are easier to till than clay soils.
Mast: Nuts of trees such as oak, walnut and hickory that serve as food for many wildlife species.
Pole timber: A tree with diameter at breast height (d.b.h.) of between 6 to 12 inches.
Riparian area: The transitional area between wetlands, streams or rivers and uplands. Riparian areas are plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic (flowing) and lentic (relatively still) water bodies (rivers, streams, lakes, or drainage ways).
Saw timber: A tree with diameter at breast height (d.b.h.) greater than 12 inches.
Shrubland: A plant community characterized by vegetation dominated by shrubs, often also including grasses and forbs.
Snag: A standing dead tree useful to wildlife that has lost most of its leaves and branches.
Stocking levels: A description of the number of trees, basal area, or volume per acre in a forest stand compared with a desired level for balanced health and growth.
Stream bank – The land area immediately adjacent to and which slopes toward the bed of a watercourse and which is necessary to maintain the integrity of the watercourse.
Timber stand improvement: Cutting or thinning of trees to reduce tree density and composition in order to concentrate the growth on fewer, higher quality trees.

Vernal pools: Relatively open areas of surface water formed in depressions within uplands that are inundated to a minimum depth of six inches for three to four months during the growing season (usually March through June) and that are devoid of fish and contain amphibians (adults, egg masses or larval stages) during the growing season. Vernal pools are the exclusive breeding habitats of several amphibians that are becoming increasingly rare throughout the northeast, notably: Eastern wood frog (Rana sylvatica), Jefferson salamander (Ambystoma jeffersonianum; NYSDEC listed special
concern); marbled salamander (Ambystoma opacum; NYSDEC listed special concern), blue spotted salamander (Ambystoma laterale; NYSDEC listed special concern), and spotted salamander (Ambystoma maculatum).

Water Bars – A drainage structure made of logs or other material used to manage stormwater on roads trails.

Wetland – All areas that comprise hydric soils and/or are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation.

Joe Martens
Commissioner

New York State Department of Environmental Conservation
Barbara Lucas-Wilson, Senior Forester
New Paltz Office
21 South Putt Cors. Rd New Paltz, NY 12561
Phone: (845) 256-3078 • **Fax:** (845) 255-1701
Email: bjlucasw@gw.dec.state.ny.us
Website: www.dec.ny.gov

Endangered and Threatened Species Report

Includes NYS Wetlands, Classified Streams, and Federal Wetlands

Owner Name: Oblong Land Conservancy - Pawling
Town and County: Pawling, Dutchess County

Reason for Review:
___ RPTL 480-A application
___ RPTL 480-A 5 year update
___ Stand analysis
_X__ Other purposes(Forest Stewardship Plan)

The above named property was checked for the presence of threatened and endangered plants and animals using the New York State Natural Heritage maps on GIS. Results are noted below. This is a listing of known historical or recent sightings and is not necessarily meant to be a definitive listing. Rare species may occur on a property and not be listed on the Natural Heritage maps.

- Species and location will not be divulged except to the landowner.

NYS wetlands and streams are based on DEC maps within the DEC GIS database. COE wetlands are based on maps within the DEC GIS database.

Review of Natural Heritage/Significant Habitat Database:

Endangered/Threatened Species: Bog turtle – Glptemys muhlenbergii (immediately adjacent east side of property)

NYS Protected Wetlands: DP-22

NYS Classified Streams: Class C(T)

Federal Wetlands: PEM1E.

Reviewed by: *Barbara J. Lucas-Wilson* Title:Senior Forester Date: 6/19/2014

SOURCES:

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Calhoun, A. J. K. and M. W. Klemens. (2002). Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York. http://www.umaine.edu/vernalpools/PDFs/Best%20Development%20Practices%20%20-%20%20Conserving%20Pool-breeding%20Amph.pdf.

Cooney, P. (2004). *NY-NJ-CT Botany Online*. http://www.bing.com/search?q=old+field+botany&qs=n&form=QBRE&pq=old+field+botany&sc=0-13&sp=-1&sk=.

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McGill, D. W. and R. Rogers, A. J. Martin, and J. S. Johnson**.** (1961). Measuring Stocking in Northern Red Oak Stands in Wisconsin. *Northern Journal of Applied Forestry* 16(3):144-150.

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Reschke, C. (1990). Ecological Communities of New York State. Latham, New York: New York Natural Heritage Program, New York State Department of Environmental Conservation.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Official Soil Series Descriptions*. https://soilseries.sc.egov.usda.gov/OSD_Docs/P/PAXTON.html

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USDA Forest Service. (November, 2011). *New York City Watershed Forest Management Plan.* http://www.nyc.gov/html/dep/pdf/watershed_protection/dep_forest_management_plan_2011.pdf

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