

Art Omi Ecological Habitats – A preliminary description and management thoughts

Farmscape Ecology Program

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This brief description is meant to accompany the “Art Omi Trails & Habitats” map prepared by the Farmscape Ecology Program in May of 2007. The scope of the project did not allow for intensive surveys of the plants and animals found in these habitats. Hence, much of the information we cite is based on observations made in similar habitats elsewhere or published in the literature. It may or may not actually apply at Art Omi.

Crop Field

Crop fields are currently fairly extensive on the North Campus of Art Omi. These fields are ploughed and planted to corn by the farmer who is leasing them. Possibly other crops, such as soy beans, have also been planted at times.

Although such areas may provide little habitat for native species, the corn remnants may be an appreciable food source for such animals as Turkeys, Raccoon, Opossum, and Deer.

Incorporation of crop fields into Art Omi could be a challenge. On the one hand, they reflect an important part of the County’s history and provide a potential link to the local farm community. Depending on the crop and context, they can add an interesting regularity to the land’s patterns and serve as a reminder of its heritage. On the other hand, if managed with the use of extensive agricultural chemicals, they might be unappealing, if not unhealthy for visitors. We do not know exactly how the fields are now being managed, and would recommend talking to the current farmer before jumping to conclusions.

In the long term, it may be difficult to find farmers willing to continue using these fields, especially if certain restrictions are put on that use due to visitors and/or in-field structures. There might be the potential to attract a local organic farmer to the land, but that would depend upon such things as the quality of the soil, the availability of farm infrastructure, and the specifics of any tenure arrangement. Establishing an organic vegetable (or fruit) farm requires a substantial investment of time and energy by the farmer, so a relatively long-term lease is usually appreciated. Such farming is generally substantially more management-intensive than conventional corn agriculture. This means more farmer presence during the growing season. If conditions are right and the farmers are enthusiastic about the arrangement, this can be a great public education experience; it can also mean more tractors and traffic. If there’s interest, we could help evaluate the potential for organic farming in more detail.

Developed

This is something of a catch-all. It includes buildings, roadways, parking lots and similar areas that usually have little direct relevance for native organisms.

Hardwood Swamp

This habitat type is composed of the more or less continuously damp areas which are dominated by hardwoods such as Red Maple, Swamp White Oak, and Ashes. Alder, the tantalizingly-scented Spicebush and Winterberry are common in the understory. The North Campus of Art Omi has a beautiful mosaic of Hardwood Swamp and Upland Forest. The Long Pond is margined in part by such swamp and then, south of Rte 22, there is a thick Red Maple swamp. A winter drive by the Red Maple swamp that is across the road from the Visitors’ Center rewards one with a fine frieze of red about 4-12’ off the ground: the red berry clusters of Winterberry, a type of holly. At least one swamp at Art Omi harbored Black Ash, an interesting and somewhat rare tree. The wood of this species has been favored by basket makers from pre-colonial

times through to the present. In spring, many of the Hardwood Swamps at Art Omi are outlined by a ground cover of Skunk Cabbage. Despite its public relations problems, Skunk Cabbage is an intriguing plant. It begins growing very early in the season and actually generates its own heat; it is, one could almost say, a warm-blooded plant.

Hardwood Swamps can, initially, be difficult to love. Hence, they are often drained and “reclaimed”. This is unfortunate, because they are a natural and lively part of our woodlands. For example, somewhat after the Skunk Cabbage makes its appearance, Marsh Marigold blooms in great yellow clusters in much of the swampland. Muskrats were common at Art Omi. Despite their somewhat unappealing name, these are curious little inhabitants of our wetlands. Although they do not make dams like a beaver, they do make small reed huts in flooded areas, where they live somewhat protected by their moat. They are declining throughout much of the Country as swamps get drained. Wood Frogs bred in several Art Omi Swamps. These are handsome brown and grey frogs which spend most of their winter in upland forest. However, in spring, they come together for one brief, reproductive orgy in the wetlands. One usually hears their somewhat soothing, duck-like cackle for little more than a week, then they abandon the water and leave their jelly-like egg clusters to their fate. Again, they are regionally threatened as wetlands decline and as the connection between wetlands and uplands is severed by roads, lawns and other inhospitable habitat.

There are even birds who favor such haunts. We flushed a pair of Wood Ducks on the North Campus. These ornately-colored birds are unique amongst our ducks in that they nest in holes in trees. Few sites are stranger than watching a duck fly up and perch comfortably in a tree! We also came across Rusty Blackbirds in one swampland. These birds appear to be declining due to the decline in their favored habitat – Hardwood Swamp. In the same area, a Woodcock gave us a broken wing display, probably trying to distract us from a nearby nest.

The smaller swamps fill the glens between ridges on the North Campus and add variety to the vegetation. The larger swamps can be more difficult to appreciate because the wet ground makes entry awkward. In the northwest portion of the North Campus, the forest trails fringe a hardwood swamp. We suggest moving these trails to higher ground so that they don’t become a muddy slurry every spring. Sometimes boardwalks are used to give visitors a chance to step into these lands. Walking such boardwalks can introduce one to an important part of our natural landscape that is, unfortunately, known by relatively few. The distinct vegetation and the water below one’s feet can give such visits a unique feel.

Marsh

A marsh has standing water, but, unlike a hardwood swamp, has few trees or shrubs and, instead, is dominated by herbaceous plants, such as reeds, rushes and sedges. At Art Omi the only marsh of any size was found just south of Quinn Lane and north of the South Campus evergreen plantation. A marsh tends to form when water is deeper than that of a wet meadow. Marshes may represent the transition from pond to swamp.

Because marshes weren’t extensive at Art Omi, we won’t discuss them in detail. Ecologically, there are some birds and plants that occur mainly in marshes, although the dense, often tall herb layer and the soggy ground make appreciating these organisms difficult.

Marsh can be a beautiful habitat if the topography presents opportunities to appreciate it as part of a panorama. The tall reeds, rushes and the like can be graceful and flowing in the wind.

Open Water

Open water denotes standing water which is not sheltered by vegetation. At Art Omi, there are three ponds: the one across from the Studio, the central Long Pond, and the lawn pond north of Quinn Lane. We studied all three of these ponds during the summer of 2006. The most diverse pond, the Long Pond, ranked 18th out of 96 ponds in terms of the diversity of native species. The Studio Pond and the Lawn Pond were less diverse, ranking 26th and 49th respectively. The Long Pond has the most natural margins, and it is commendable that this pond has been left in a relatively natural state despite being near the center of the South Campus. The general results of our pond study are mirrored in the above results from Art Omi – the more manipulated the pond margins, the more impoverished the biodiversity.

These ponds are home to a set of species that rarely occur in lakes (because lakes are deeper, have a different shoreline, and tend to have large fish). Ponds are dynamic, evolving habitats. In fact, prior to European colonization, most ponds were probably caused by beaver work and evolved into meadows as dams failed and ponds filled in. Many native species appear to be adapted for just such transitions between pond and wet meadow.

As current landscaping fashion attests, ponds are not difficult to appreciate. However, it can be more difficult to respect a pond's natural evolution and sometimes ragged results. Again, we believe Art Omi has done well with its incorporation of the Long Pond. The presence of several in-water art pieces indicates the allure of the spot. This pond, bounded to the west by some beautiful spring wildflowers and visited in several spots by trails, could serve as one convenient and appealing venue for sharing the ecology of Art Omi land with the public.

Plantation

The Art Omi plantations are Christmas tree or at least conifer plantings. Some of the trees apparently have been dug up for transplantation. All are now beyond household tree size, although cutting their tops might produce acceptable holiday trees. Most of the trees that have been planted are not native species, and plantations tend to be relatively poor in terms of native species. They may, however, provide nesting habitat for some birds and occasional shelter for other animals.

The plantation trees are currently too dense to emulate a natural forest. Careful thinning, with some trees permitted to grow larger and provide shade would provide a more welcoming habitat for human visitors. If this approach were to be considered, then a professional forester should be consulted. Such sites might grow towards an “upland conifer” forest type (see below). Doing nothing except keeping the roads clear might eventually (30 – 50 years?) result in the gradual evolution towards a more diverse and natural forest as the dense conifers collapse and native deciduous species fill in the gaps.

Rock Outcrops

The Art Omi property is scattered with abrupt hillocks, most of which have greater or lesser stretches of exposed rock. These tend to be dry, thin-soiled areas. While such conditions can lead to some impoverishment of the native plant abundance, these outcrops are natural and can be home to relatively specialized species of plants and animals. Our brief visits to these spots during trail mapping have been insufficient to document their diversity, but work by others in the Hudson Valley has highlighted their potential ecological value.

At least a couple of the rock outcrops on the property appear to have vague trails along their crests, and provide an appealing walk. For example, on the North Campus, several outcrops run north/south and are bordered by sheltered wetlands. During one of our first visits, we stood on one of these high, dry slopes and

listened to the Wood Frogs clucking in the wetland below. The small-scale topography of these outcrops adds shape and shadow to the trails through the North Campus woods. If carefully constructed and supplemented by an ecological study to insure that no sensitive species were affected, extensions of trails onto these outcrops could enhance the layout of the pathways. Some landowners in the County strip such outcrops of trees and attempt to create rock gardens of a sort. We would highly discourage this approach – these areas are already dry due to their relative elevation and lack of soil, removing the canopy would make them uninhabitable for many native species.

Upland Conifers

The only extensive stand of “upland conifers” on the Property was on the North Campus and was actually a mature conifer plantation. Ecologists have classified such areas as “upland conifer” forest rather than “plantation” because once they reach maturity the understory and structure of such areas comes to resemble natural conifer stands. Such stands tend not to have many plants at ground level because the year-around shade and acidic soils tend to discourage growth. Certain animals (e.g., Red Squirrels and Pine Siskins) appreciate conifers.

Unlike the areas which we classified as “plantation”, this forest type does not immediately appear unnatural and, as with the mixed conifer forest (see below), can add variety and punctuation to the landscape.

Upland Hardwoods

“Hardwood” trees are, in common usage, the deciduous, non-conifer trees such as the maples, oaks, hickories, etc. They do not include the conifers such as pine, hemlock, cedar and their ilk. The wood of the “hardwoods” tends to be harder than that of the conifers, although there are some exceptions. “Upland” is the opposite of “lowland” and refers to areas that are not regularly flooded.

“Upland Hardwood Forest” refers to forest dominated by non-conifers. Most, but not all, of the County’s upland forests are of this type. At Art Omi, typical woody species in this type of forest probably include such trees and shrubs as Sugar Maple, Red Oak, Black Cherry, Ironwood, and Witch Hazel. However, there is much variation in the plant species found in Upland Hardwood Forest due to variation in soils, exposure and land use history. This can easily be seen by comparing, say, the forests above the central Long Pond and those above Ledig House.

One of the most interesting groups of plants in this forest type are the so-called spring ephemerals. These are herbaceous flowers which appear briefly in spring and then largely disappear. We found Trout Lilly, Blood Root, Red Trillium, Rue Anemone and Hepatica in Art Omi Upland Hardwood Forests, with some of the densest beds being in the forest just west of Long Pond. Another interesting, if less diverse, patch of Upland Hardwood Forest lies south of route 22 on a little spit of land that extends south into the Red Maple swamp across from the studios. We found Spring Beauty and Canada Mayflower in this area. Most of the forested area on the North Campus is Upland Hardwood Forest; Trout Lilly was common in this area and a couple of the other flower species popped up here and there.

This forest type typically is home to many of our woodland animals. We did not survey for animals, but there is a set of birds, mammals, reptiles, amphibians and insects which make their homes here. We did hear, for example, Wood Frog calling from a few different wetlands around the Property. While Wood Frogs breed in lowlands, they spend most of the year living in the surrounding uplands.

If the forest is mature and the understory relatively open, hardwood forests can give a lighter, loftier feeling than conifer forests.

Upland Meadow

Upland meadow refers to grasslands that are not in wet lowlands. At Art Omi, we classified hayfields, lawn and the regularly cut grass lanes in the plantations as upland meadow. Upland meadow can be valuable for nature conservation to the degree that it approximates native prairies or grasslands.

While true prairies were not native to the Northeast, upland grasslands can form on shallow soils in rocky areas or over sand, and certain plants and animals are native to those habitats. Hayfields are perhaps the human-made habitats that most closely approximate natural grasslands in our area. The most valuable hayfields, from a conservation perspective, are those that are cut relatively late in the summer (e.g., after mid-July) and that are not regularly replanted; unfortunately, both these characteristics tend to reduce their value for hay production. Among the native species which can occur on mature, late-cut hayfields are grassland birds such as Bobolink and Meadowlark. These species were probably much more common 100-200 years ago, when grasslands were more extensive in our area and were generally cut much later. During our work elsewhere in the County, we have also found native grasses and even orchids in hayfields or pastures. Upland meadows with blooming wildflowers, often entice some of our most attractive butterflies, such as the Fritillaries and Swallowtails.

Much of what creates the “rural farmland” landscape which is so appealing to many people is the interspersed woodland with such meadows. They provide for an airy feel along pathways and allow for rolling vistas. From a nature conservation perspective, a central question is how to maintain the aesthetic and production benefits of such habitats while leaving room for native species.

Although natural grasslands are rare in the East, one can try to establish self-maintaining collections of native grassland plant species. However, such areas usually do require some form of maintenance such as cutting, burning or selective herbicide use. While native plants often don’t dominate simple hayfields, such fields can still host native animals if managed adequately.

Upland Mixed Forest

The “mixed” in the title of this forest type refers to the fact that both hardwoods and conifers are occurring together. Conifers mixed with hardwoods in small pockets throughout the Art Omi woodlands. The most common native conifers on the property were White Pine, Eastern Hemlock, and Eastern Red Cedar. The latter (which is actually a kind of Juniper) usually comes in where grazed fields slowly revert to forest. Such an area appears to occur in the dry, forested hillside in the extreme southwestern portion of the Property.

Because the conifers generally occurred in a mixture with deciduous trees, we can’t really talk about conifer-specific plants and animals. In winter, some species (e.g., Ruffed Grouse and possibly deer) will seek shelter in the branches of evergreens, and pine cones are certainly important food for animals such as Red Squirrel. During our visit, a flock of warblers was moving through the above-mentioned Cedar stand.

Patches of conifers punctuate hardwood stands. While the Red Cedar stand referred to above appeared somewhat scraggly, the little Hemlock stands found on small hillocks in the forests of the North Campus provided pleasing highlighting and sense of intimacy.

Upland Shrubland

Upland shrubland is an area dominated by bushes such as Dogwood, Raspberry, Rose or Viburnum. Such shrubland is rare on Art Omi property. We only mapped a substantial area of upland shrubland around the Studios although there were smaller clusters scattered throughout the property.

In our area, shrubland is a successional habitat. That means that it is found in areas that are transitioning from grassland to forest, and is usually just a temporary stage. Historically, shrubland grew up after the forest cover was disturbed by fire, wind, or flooding. As humans have controlled these disturbances and as the traces of agriculture disappear, shrubland wanes. Certain species of plants and animals are adapted to such habitat, and are threatened by shrubland's decline.

Due to its transitory nature, lands have to be actively managed in order to maintain them in shrubland. However, shrublands are difficult to appreciate aesthetically. The common names applied to such cover (e.g., "thicket" or "tangle") hint at the problem. While interesting from a landscape perspective, the fate of shrublands is probably not relevant to the immediate future of Art Omi land.

Wet Meadow

Wet meadow refers to open, apparently grassy areas that are regularly wet. Actually, such spots are usually dominated by the grass-like sedges rather than by true grasses. At Art Omi, the largest extent of wet meadow occurs in the western portion of the South Campus.

The natural analogue to the wet meadows that form in hayfields or pastures is the beaver meadow. These are areas that form as beaver ponds fill in and revert to drier land. Wet meadows may also have occurred along wide but shallow and slow-moving creeks. As beaver have been controlled and shallow wetlands ditched and drained, natural wet meadows have disappeared. Regionally, they persist most frequently as seasonally damp areas in pastures or hayfields, or around the margins of low-banked ponds.

Elsewhere in Columbia County, we have found such attractive plants as Cardinal Flower and Turtlehead in such habitats. A set of native plants and, by extension, native insects, appear to favor these areas. Animal residents may include Leopard Frog and Bog Turtle.

Aesthetically, wet meadows add contrast to upland meadows, they tend to have a slightly different color and texture, and so help highlight lower areas and shallow water flows. While also intriguing biologically, they are sometimes seen as more of a nuisance than a pleasure because they periodically make walking and tractor driving difficult. If retaining wet meadows fits into a management scheme then we recommend it because of the biological diversity they add. Periodic (perhaps once per year) mowing can keep them open.

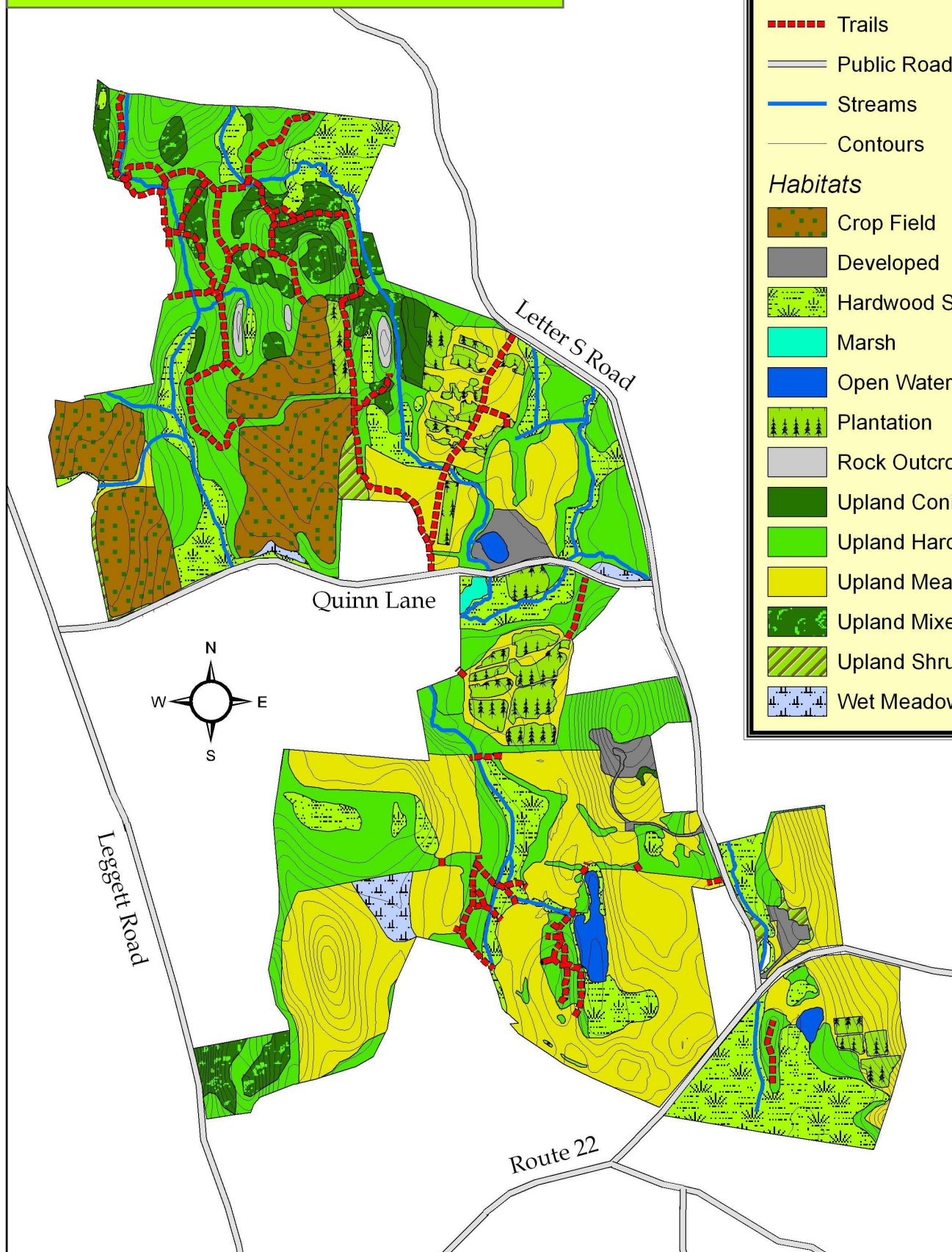
Art Omi - Trails & Habitats

Legend

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Habitats

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0 400 800 1,600 2,400 3,200 Feet

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