

Draft Plan for Ponderlodge (part of Cape Island WMA)

New Jersey Division of Fish and Wildlife
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Introduction

The Cape May Peninsula has gained international recognition for its spectacular concentrations of birds during the spring and fall migrations. Many birding authorities consider this area as one of the most important migratory bird stopover habitats in the country. Because of its unique configuration and geographic location along the Atlantic Flyway, millions of migrating songbirds, raptors, and shorebirds are funneled into the lower 10 km of the Cape May peninsula every year. This area also serves an essential role during the migration of many bat, butterfly, and dragonfly species.

In February 2006, New Jersey's Green Acres Program purchased the "Ponderlodge", a 253-acre golf course located only 7 km from the tip of the Cape May Peninsula (fig. 1). Like most golf courses in New Jersey, the existing habitat on the site has little value to wildlife. The forest patches within the course are small, sparse, and lack sufficient understory vegetation to provide woodland species with food or cover. The open grassy areas of the site (fairways, putting greens, etc.) consist almost exclusively of non-native grass species and have been intensely manicured and cropped low to the ground. In this condition, the suitability of these habitats for grassland birds and other early successional species is greatly limited. Twenty small irrigation ponds exist on the site, but all lack the sort of emergent vegetation and fringe wetlands that would make them highly suitable for amphibians and wading birds. Therefore similar to the rest of the property these ponds have only limited wildlife value in their existing condition.

Despite the current condition of its habitats, the Ponderlodge property is located in such a geographically important area for New Jersey wildlife that it was placed under the management of the Division of Fish and Wildlife as part of the 463-acre Cape Island Wildlife Management Area (WMA). With great vision and an understanding that this property may be the last large parcel of open space available in the lower Cape May Peninsula, the Division willingly takes on the responsibility of restoring wildlife habitat on this property.

This plan outlines the habitat restoration activities that Division of Fish and Wildlife will carry out at the Ponderlodge Golf Course. The plan guides the restoration and enhancement of habitats and will result in the creation/enhancement of 140 acres of forests, 15 acres of wetlands, 22 acres of grasslands, 14 acres of meadow, 6 acres of scrub-shrub habitat and 5 vernal pools on this wildlife management area (WMA) (fig. 3). This plan takes advantage of many of the existing features on the property and adds valuable acres of habitat for migratory birds and other wildlife. The proposed design of this project maximizes use of the site for wildlife, outdoor recreation, wildlife viewing and environmental education and could result in a showcase WMA that receives high visitation.

Habitat Restoration

Grasslands: Twenty-two acres of grassland will be restored by planting a mix of native grasses (fig. 2). Native grasses are preferred because they are low maintenance, do not require fertilization or irrigation, provide erosion control, are drought tolerant, and add color and texture to the landscape. Their upright growth habit provides cover and encourages nesting by small birds and mammals while their seeds serve as a natural food source. NRCS will be consulted to ensure that the best mix is used for the area.

Grasslands are a critical component of the landscape for migrating and breeding birds. Grassland species account for 41% of the State's endangered birds and 29% of the State's threatened birds. It is also estimated that 15 of the 19 species (or 79%) of grassland birds that occur in the northeast have declining populations. Therefore, creating even a small amount of contiguous grassland habitat is valuable.

The smaller patches that will be created at Ponderlodge will not be suitable breeding habitat for species of grassland birds that require large (100 acres or more), continuous grassland habitat for breeding. However, birds that rely on smaller grassland areas throughout the year, such as bobolinks (state threatened), eastern meadowlarks, and savannah sparrows (state threatened) will greatly benefit from the proposed restoration..

Many birds of prey, such as American kestrels, northern harriers, and short-eared owls, rely on grasslands for hunting small mammals. The restored grasslands will function as hunting grounds for these (and other) birds of prey, as well as important stopover sites for migratory grassland birds. This grassland restoration effort will provide food and cover for wildlife in an area where habitat is at a premium.

Grasslands also provide habitat to a variety of other wildlife, including mammals and many butterflies. Small mammals that inhabit fields, such as meadow voles and meadow jumping mice, are an important food source for many birds of prey. Larger mammals, such as white-tailed deer and red foxes, regularly visit grasslands for feeding. Butterflies, such as tiger swallowtails, monarchs, and fritillaries, can be found in fields feeding on wildflower nectar. Warm season grasses serve as host plants for many species of butterfly.

Wildflower Meadow: Wildflower meadows are visually appealing and provide important habitat for butterflies, birds, mammals and other wildlife. A total of 16.4 acres of meadow will be created on this WMA in areas that currently exist as fairways, putting greens, and manicured lawns (fig. 2). This habitat type differs from a grassland in that a meadow contains a greater percentage of forbs and flowering plants. Creation of this habitat type will provide a great benefit to wildlife by providing food, nesting habitat and shelter. Furthermore, by using a mix of native species to seed the meadows on site, no fertilizer or irrigation will be required to maintain this habitat type.

Various native grass and forb species will be used in the seed mix to plant the meadows. NRCS will be consulted on the exact contents of the mix, but milkweed, bee-balm, yarrow, aster, daisy fleabane, black-eye susan, seaside goldenrod, coneflower, and butterfly weed are likely components. Once in bloom, each of these plant species will provide an excellent nectar source for butterfly species in the area and will likely attract monarchs, swallowtails, spring azures, various species of skippers, as well as fritillaries and a number of other species. Other species of pollinating insects, such as honey bees, moths, and beetles, will also benefit from this form of meadow restoration.

Many vertebrate species will also make use of meadow habitats. The eastern cottontail, short-tailed shrew, red fox, meadow vole, and woodchuck are examples of the many mammal species that will use this habitat type. Migratory and resident bat species will also frequent these areas in order to feed on mosquitoes and other night-flying insects. Birds such as the woodcock, northern bobwhite, horned lark, and grasshopper sparrow will use this habitat for nesting and feeding. By placing nest boxes in the meadows breeding locations will be created for eastern bluebirds and many swallow species. As with the grassland habitats that will be created on site, many migratory and resident birds of prey will find foraging opportunities in this habitat.

Scrub/Shrub: Six acres of scrub/shrub habitat will be created by planting native shrubs that will provide food and cover for migratory and nesting birds (fig. 2). Scrub/shrub habitats are another early-successional habitat considered to be on the decline and the species associated with them are also on the decline.

Scrub/shrub is a transitional habitat – a blurring from field to forest – that occurs when grasslands begin to revert to forest. This process takes about 10 years if allowed to progress naturally. Seeds are brought in by wind, water, and animals and species composition is dependent upon local flora.

Scrub/shrub habitats are ephemeral and require active management to maintain them in this interim stage. If not maintained, they will quickly become forests. Planting shrubs instead of letting the area revert through natural processes will hasten succession and encourage colonization by plants that require less frequent maintenance – ones that are prone to shrub-like growth habits. Native shrubs that provide food and cover such as beach plum, bayberry, groundsel, viburnum species, red cedar, and dogwood species will be used in this part of the restoration.

Transitional habitats are used by wildlife as cover for nesting, protection from predators, and for foraging. Some wildlife are generalists and will move back and forth between habitats, but others show a marked preference for scrub/shrub or early successional habitat. These include many species of wildlife such as blue-winged warbler, yellow-breasted chat, common yellow-throat, indigo buntings, eastern cottontail rabbit, and deer mice.

Wading birds often set up nesting colonies on scrub/shrub islands in or near wetlands. It is hoped that converting the island in Flynn's Pond to scrub/shrub habitat will encourage nesting by herons, egrets, and ibis.

Forest: A total of 17.9 acres of forest will be created by planting native tree seedlings and some larger “balled-root” native trees (fig. 2). Many of the existing patches of trees that occur on the golf course are very sparse and lack adequate understory vegetation. These areas will be enhanced and merged with areas of new planting to create larger forest patches that can be used for nesting and feeding of woodland wildlife. Once completed, a total of 140 acres of forest will occur on the site.

Forest habitat is vitally important in this part of New Jersey for both resident and migratory wildlife. Development within New Jersey’s coastal areas has led to an overall reduction and fragmentation of mature forests along the coast. Forest restoration of this site provides a unique opportunity to re-establish the stopover and nesting habitats that once existed at this site. Restoration of forest habitats will also enhance the suitability of the adjacent forests by enhancing the contiguous forest patch that begins at the mouth of Cox Hall Creek in the south and extends north to Route 47. In its restored condition, this forest patch will be greater than 2,000 acres in size.

Forests serve a critical roll in providing stopover and staging habitat for many migratory species of passerines, hawks, and other wildlife. Many owl and raptor species nest in forests, but have minimum patch size requirements. The planned restoration activities will create forests large enough to meet the patch size requirements for many threatened and endangered raptor species, including Cooper’s hawk, barred owl, and red-shouldered hawk. Other woodland bird species, such as nuthatches, woodpeckers, thrushes, and warblers will also use these habitats.

Because there are many small ponds on the property the creation of forests on the site will benefit a number of amphibian species that require forested habitat during the non-breeding portion of the year. These include wood frogs, marbled salamanders and the endangered tiger salamander and endangered southern gray treefrog. Currently, the ponds on site are not being used as breeding habitat for these species because the ponds lack the adjacent forest component that is required to make the ponds suitable for these frog and salamander species.

Frosted Elfin Habitat Creation: The frosted elfin butterfly(*Callophrys irus*) is a state threatened species with a statewide range limited to the southern portion of New Jersey – Cape May and Cumberland counties specifically. Although this species is present along most of the eastern seaboard (excluding Maine where it is presumed extirpated), local populations are often isolated. New Jersey is home to the two largest colonies of this species worldwide and therefore our state has an elevated responsibility for protecting and enhancing frosted elfin habitat.

In New Jersey, much of the existing habitat for the frosted elfin currently occurs on state- and federally-owned lands. Proper management of this habitat is essential for the long-term viability of this species in the state. The New Jersey Division of Fish and Wildlife hopes to increase frosted elfin abundance in the state by better managing existing frosted elfin habitats and by improving the suitability of habitat for this species at other sites.

There is potential to create suitable frosted elfin habitat at Ponderlodge (fig. 2). There is a known colony within 10 miles of this property in Rio Grande, NJ. This makes it likely that a colony could survive at the Ponderlodge.

Frosted elfin are host and habitat specific and require wild indigo (*Baptisia tinctoria*) as their larval food. This plant colonizes dry, sterile, sandy sites that receive full sun. The butterflies pupate in mid-spring and need an early-blooming nectar source located near the host plant. The preferred nectar source is Ericaceous shrubs such as blueberries and huckleberries – plants that also grow well in dry, sterile, sandy soils. Frosted elfin also need bare ground for basking and shade for cooling off. The butterflies are not strong flyers and require all these elements close together and sheltered from the wind.

With the addition of wild indigo, stagger bush, black huckleberry and low bush blueberry, the site identified at Ponderlodge has all the necessary elements to provide good quality habitat for these threatened butterflies.

Freshwater Ponds: There are 9.6 acres of freshwater ponds at Ponderlodge, ranging in size from 0.02 to 8-acres (fig. 3). All of these bodies of water are human-made and vary in their suitability as habitat for aquatic and semi-aquatic species. The smaller ponds currently provide only marginal habitat for wildlife. While none of the smaller ponds are deep, (<4 feet), the banks are vertical and do not provide any gradual access to the water. The ponds are uniformly deep with little or no contouring, nor shallow water areas. While the ponds appear shallow enough to allow vegetation to grow, no vegetation is visible, possibly due to the application of herbicides.

The plan calls for altering most of these ponds to improve their quality for aquatic wildlife. Some ponds will be enlarged and their banks graded to create gradual slopes and shallow water areas. Emergent vegetation can be expected to grow in these newly created wetlands. If necessary, aquatic vegetation will be planted to enhance re-vegetation and assure that native plants colonize the area.

The larger pond, Flynn's Pond, is reported to contain fish and is a favorite spot for local fishermen. It is expected that largemouth bass, sunfish and catfish already populate this body of water. An evaluation of the pond will be conducted by a freshwater fisheries biologist to determine the water quality, contours and structure, fish species present, and suitability of the habitat for the establishment of a recreational fishery.

The banks of this pond are gradually sloped in many locations providing great access for fishing from shore. These gradual slopes also provide access to the water for many species of wildlife and shallow water areas for migratory shorebirds like spotted sandpipers to feed.

Ponds and freshwater wetlands are extremely valuable habitats for wildlife. Birds and mammals come to these areas to drink. Many species of birds, such as herons, egrets, and ibis feed on small fish and frogs. Other birds like American coot and waterfowl feed on the vegetation. Raccoon feed on most everything they can find and muskrat eat the roots and stems of emergent vegetation. Many species of turtle, like red-bellied, painted, and snapping, will utilize these ponds as will frogs and salamanders. The endangered tiger salamander is endemic to Cape May and it is hoped that they may utilize one or more of these ponds for breeding. Waterfowl have been observed using some of the larger ponds during migration and through the winter. Loons and grebes may use the larger pond as well.

Vernal Pools: As part of the restoration project at least five vernal pools will be created. Vernal pools are ephemeral wetlands that fill annually from precipitation, runoff and rising groundwater. In most years they become completely dry, losing water through evaporation and transpiration. The wet-dry cycle prevents fish (a major predator for many amphibians) from becoming established and creates rich habitat for many amphibians and invertebrates.

Vernal pools are essential habitats for many amphibians and some species, such as wood frogs, marbled salamanders and tiger salamanders require vernal pools to complete their life cycles. That is to say, if vernal pools are absent from a particular area certain species will not be able to exist in that area.

The Cape May peninsula is the stronghold for New Jersey's Cope's gray treefrog and tiger salamander populations. Both of these species are listed as "Endangered" in the state and both require a mix of vernal pools and forested habitat to complete their lifecycles. In its current state, the Ponderlodge property is likely not suitable for these species. There is a slight possibility that these species are using the site, but it is certain that the ponds and adjacent habitats can be greatly improved for treefrogs and salamanders.

Modifying the hydrology of some of the existing ponds will create the vernal aquatic habitats that Cope's gray treefrogs and tiger salamanders need. Planting of emergent vegetation along the fringes of the ponds will benefit treefrogs by providing the males with structure to perch on in order to call and attract mates. Other species of amphibians, invertebrates, and even birds will also use these ephemeral habitats.

Wetland Restoration: The majority of the existing ponds on this site currently lack wetland margins. As such, it is obvious that they were originally created with irrigation, rather than wildlife, in mind. To enhance the functionality of the ponds for wildlife, roughly four acres of emergent wetlands will be created along the fringe of 12 ponds and along the freshwater marsh located at the south of the site (fig. 2).

Wetlands serve a critical ecosystem function by providing habitat for plants and wildlife and by purifying surface and ground water. The restored wetlands on this site will benefit many different reptile and amphibian species, such as mud turtles, painted turtles, wood frogs, cricket frogs, chorus frogs, and the endangered Cope's gray treefrog. Many wetland dependant plant species like common cattail, cardinal flower, and various sedges

will thrive in these areas and will provide food and shelter for wildlife using the ponds and adjacent uplands. Since NJDEP has taken a firm position on preventing the destruction of wetlands throughout the state it seem worthwhile to take advantage of any and all opportunities to restore/create wetlands in appropriate locations.

Recreational Opportunities

Birding: Cape May is one of the premier birding locations in the world. Restoring the habitat will attract birds at all times of the year, making Ponderlodge a hot spot for casual and avid bird watchers alike. Strategically located observation blinds and platforms could encourage photographers and artists to capture wildlife on film or canvas.

Fishing: Flynn's Pond is an 8-acre pond which is known to the locals as a good fishing spot. Freshwater fisheries biologists will evaluate the pond and develop a fisheries management plan that will enhance fishing opportunities.

Hiking: There is great potential to provide a variety of passive recreational opportunities. There are 1.8 miles of asphalt trails already in place which can be used for walking, biking, roller-blading, and even by people with perambulatory disabilities or in wheelchairs. A .75-mile natural surface path provides a more natural experience for hikers and bird watchers.

Trails:

Red trail – 1.9 miles

This paved loop trail leaves the lodge, travels through all of the various habitats, and returns to the lodge again (fig. 4). The plan calls for a short spur trail to lead off the red trail to the edge of the marsh and an observation platform.

Purple trail - .75 miles

A longer, unimproved road runs along the eastern boundary of the property, crossing and re-crossing the headwaters of Cox Hall Creek (fig. 4). This road will be mowed and maintained as a hiking trail for people who wish to have a more natural experience and who can walk greater distances.

Blue trail - .4 miles

This short, paved loop will be used as a self-guided interpretive trail incorporating universal design. The loop winds through three different habitats (fig. 4), is short enough to be used by parents with young children and people with various disabilities, will be wheelchair accessible, and when linked with other trails, provides many trail options both in terms of habitat viewing and length of walks. Adding interpretive signs that build on a theme will add interest and understanding to a casual outing.

Green trail - .48 miles

This paved connecting trail offers visitors the opportunity to choose a variety of hiking options while providing access to many additional habitats (fig. 4).

Education/Interpretation

New Jersey is home to more than 8 million people, each having certain needs, wants, and desires. The cumulative affect of poor land use decisions and the rampant use of natural resources have led to environmental degradation. The process of consumption drastically changes the natural landscape, most often to the detriment of other species.

The goal of any environmental education program is to advance the public's understanding of the natural world and their connection to it, and to foster a sense of stewardship. To do this, we must help people create personal connections. Wildlife is the carrot that can help establish those connections.

Ponderlodge offers a tremendous opportunity to reach not just residents of Lower Township or New Jersey, but people from all over the world. As mentioned previously, Cape May is one of the premier birding spots in the world. This is evident by the fact that Cape May Point State Park (located only 5 miles from Ponderlodge) receives an estimated 800,000 visitors every year. Renovating the main lodge that currently exists on site into an education/visitor center is one way that interests of residents and visitors can be fostered and will provide a place where accomplishments of the Division can be highlighted. The creation of a haven for wildlife in this densely populated area through the proposed habitat restoration efforts will ensure that this site receives heavy use by wildlife during the entire year. There will be a diversity of wildlife to see in all seasons and creating a facility that makes it easy for people to view wildlife, up close and personal, will help us reach our goal of creating connections.

Placing interpretive signs along the trails describing the various habitats and their importance to wildlife is just one way to help educate the public. Interpretive signs showing birds, butterflies, and mammals that may be observed can increase public awareness and appreciation of the various habitats. The story of migration is another important theme.

Creating specific viewing areas with well-thought-out, well-constructed viewing structures such as blinds and platforms will help protect wildlife from harassment while providing that close-up and personal look people crave. Sensitive areas can further be protected from human disturbance by placing avoidance barriers (signs and low-key, physical barriers) along the paths and directing visitors to proper viewing locations.

Volunteer programs could be established to help monitor bird populations and build a sense of ownership and responsibility for the site.

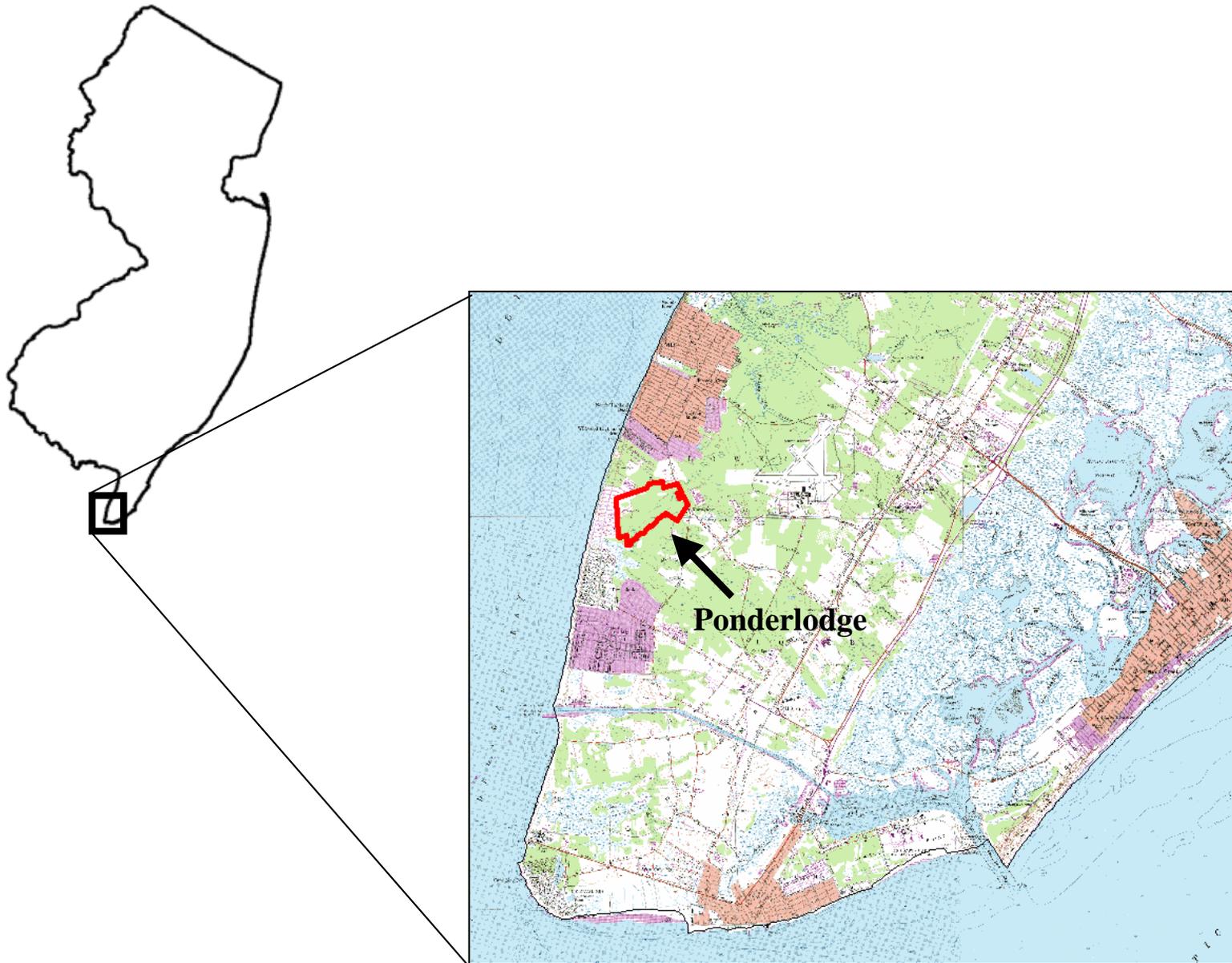


Fig. 1. Geographic location of the Ponderlodge property. This property is 253-acres in size, located in Lower Township, Cape May County, NJ, and is roughly 7 km north of the tip of the Cape May Peninsula.



Fig. 2. Proposed habitat restoration within the existing golf course structure of the Ponderlodge. Direct restoration of the following habitat types will be carried out as part of this plan: forest (17.9 acres), forested elfin habitat(1.0 acre), grassland (22.4 acres), meadow (16.4 acres), scrub-shurb (6.4 acres), and wetlands (3.3 acres).



Fig 3. Conceptual map showing the final habitat configuration following the proposed restoration activities at the Ponderlodge. Final habitat acreages are as follows: forest - 140 acres, forested elfin habitat - 1.0 acre, grassland - 22.4 acres, meadow - 16.4 acres), scrub-shrub - 6.4 acres, wetlands - 14.4 acres, and ponds - 9.6.

-  Grassland
-  Meadow
-  Scrub-shrub
-  Forest
-  Frosted Elfin
-  Wetlands
-  Ponds
-  Red Trail (1.9 mi)
-  Blue Trail (0.4 mi)
-  Green Trail (0.48 mi)
-  Purple Trail (0.7 mi)
-  Viewing Platform

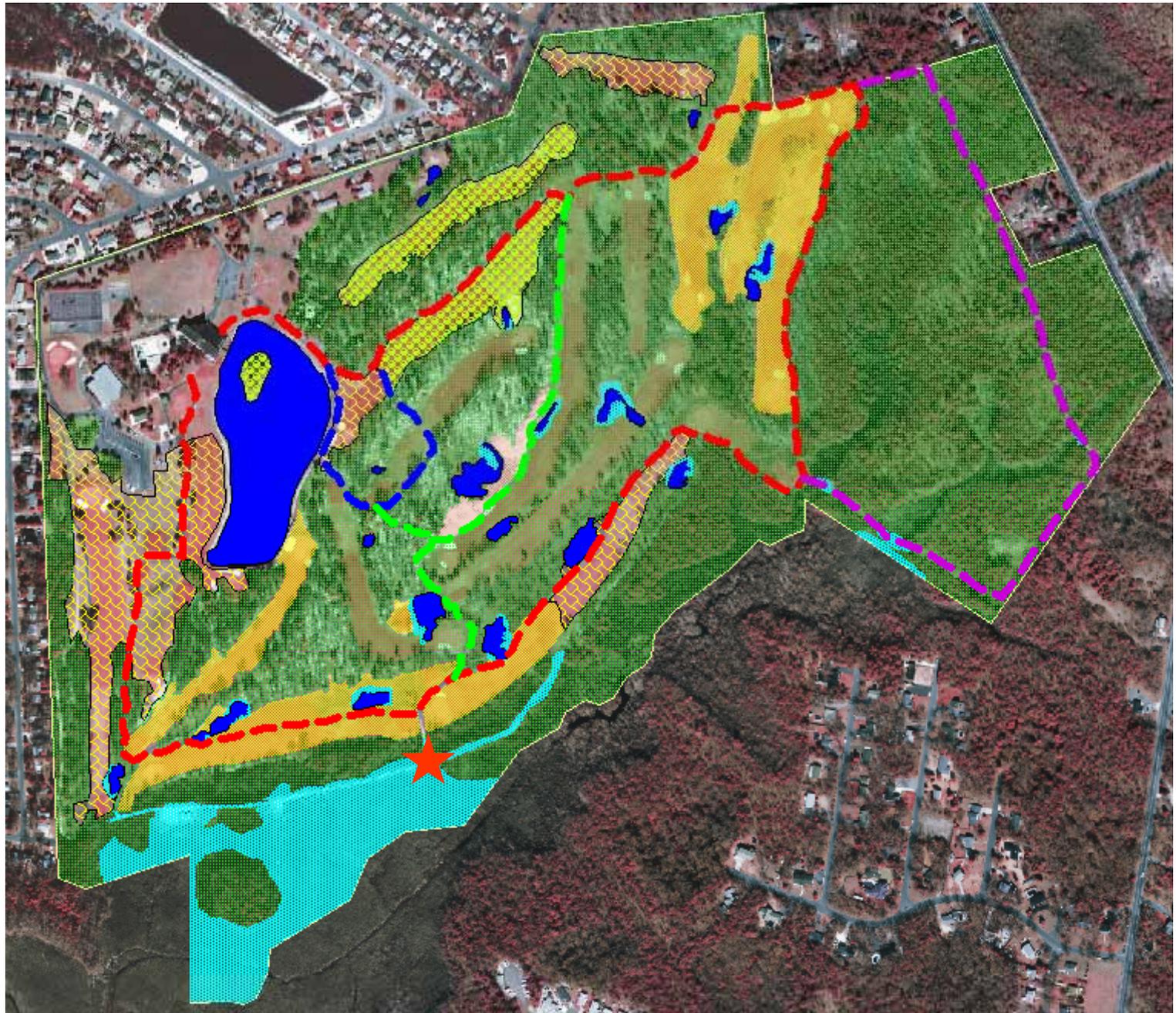


Fig 4. Complete map of the restoration plan for the Ponderloge property showing habitats (restored, enhanced, and existing), wildlife viewing platform and proposed trail system.