

November 15, 2021

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NDDB DETERMINATION NUMBER: 202111473

Project: Forest management plan including timber harvest; DANIEL & KAREN JACKSON, 3 & 35 HARTFORD PIKE, KILLINGLY, CT

Expiration: November 15, 2023

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the project. According to our records, there are State-listed species (RCSA Sec. 26-306) documented within or nearby the proposed area.

- **Frosted elfin (*Callophrys irus*)** – State threatened
- **Pink star moth (*Derrima stellata*)** – State special concern
- **Eastern box turtle (*Terrapene carolina carolina*)** – State special concern
- **Wood turtle (*Glyptemys insculpta*)** – State special concern

Frosted elfin (*Callophrys irus*)

Populations of frosted elfin (*Callophrys irus*) are declining nationally. The frosted elfin holds the distinction of being the non-federally listed butterfly with the greatest number of state level listings. Its major threats are urban development or agricultural development, vegetation management that results in declines in hostplant populations, and pesticide use. This butterfly in Connecticut is primarily associated with the plant species wild indigo (*Baptisia tinctoria*), and secondarily, wild blue lupine (*Lupinus perennis*). The host plant, *Baptisia tinctoria*, prefers at least 6 hours of direct sun, and well-drained soil. The butterfly lays a single egg on the hostplant, and the caterpillars eat the leaves of the host plant. The butterfly hibernates in a loose cocoon in litter beneath the plant. It is important to retain areas of leaf litter around host plants for overwintering and provide other flowering plants to provide nectar nearby.

- Do not use pesticides directed at gypsy moth in your project area.
- Maintaining and creating connectivity of colonies is important and is likely to be critical for long term persistence of frosted elfin populations. If suitable habitat exists on your site, you should manage for host plants.
- If supplementing habitat, do not supplement with nursery stocks. Instead, gather seed and spread on soil.

Pink star moth (*Derrima stellata*)

Habitat: Very sandy open, often disturbed sites, especially sand fields, sandplains, barrens, and quarries.

You can benefit this species by seeking help from an invertebrate biologist create a management plan to enhance habitat where opportunities exist. Keep the following recommendations in mind as you manage your habitat:

- Minimize ground impact to sensitive habitat, and do not import other types of permanent fill.
- To the extent practicable, conduct construction activities in winter months when plants are dormant and ground may be frozen.
- If sensitive habitats are disturbed, it is best to allow them to revegetate naturally or propagate only locally collected seed. Avoid commercially available seed mixes. They include plant species which are not considered native to Connecticut. Even mixes marketed as 'New England' or 'Northeast' mixes include high percentages of species not native to the Connecticut or the region. Additionally, commercially available seed mixes include plants that are listed as invasive in CT or which include non-local genotypes.
- Minimize the use of pesticides and herbicides in general and consider alternatives. Take precautions that species are not impacted by chemical use including using spot treatment techniques.

Eastern box turtle (*Terrapene carolina carolina*)

In Connecticut, these turtles are found in well-drained forest bottomlands and a matrix of open deciduous forests, early successional habitat, fields, gravel pits, and or powerlines. Turtles are dormant between November 1 and April 1 and hibernate in only a few inches from the surface in forested habitat. The greatest threat to this species is habitat loss, fragmentation, and degradation due to development. This species is very sensitive to adult mortality because of late maturity (10 years old) and long life span (50-100years). Vehicular traffic, heavy equipment used for farming, and ATV use in natural areas are implicated specifically in adult mortality through collisions. Illegal collection by the pet trade and unknowing public for home pets exacerbates mortality rates and removes important individuals from the population. Predation rates are also unnaturally high because of increased predator populations (e.g. skunks, foxes, raccoons, and crows) that surround developed areas.

Maintaining forested habitat is essential for the conservation of Eastern Box Turtles. The impacts of timber harvesting are recognized as having significantly fewer lasting effects as compared to other permanent changes in land use, such as residential and commercial development. However, certain precautions should be taken during timber harvesting in order to maintain the long-term viability of Eastern Box Turtle populations within forested areas. The primary concern about forestry practices within Eastern Box Turtle habitat is the direct mortality of adults due to crushing by motorized vehicles during harvesting and scarification. This could occur at any time during the Eastern Box Turtle activity season since they are primarily terrestrial and it could even occur during the winter since the turtles overwinter in upland forests, usually within a few inches of the soil surface. Habitat alterations that are of concern include suppression of plant growth from wood chips since these turtles forage on the forest floor. Disturbance of fallen trees and removal of snags that serve as future sources of large woody debris are also concerns, because these turtles will overwinter beneath fallen trees, often in the pit created by the root mound. Also, fallen trees are used for cover during the active season.

Wood turtle (*Glyptemys insculpta*)

Individuals of this species are riverine and riparian obligates, overwintering and mating in clear, cold, primarily sand-gravel and rock bottomed streams and foraging in riparian zones, fields and upland forests during the late spring and summer. They hibernate in the banks of the river in submerged tree roots between November 1 and March 31. Their summer habitat focuses within 90m (300ft of rivers) and they regularly travel 300m (0.2 mile) from rivers during this time. During summer they seek out early successional habitat: pastures, old fields, woodlands, powerline cuts and railroad beds bordering or adjacent to streams and rivers. Their habitat in

Connecticut is already severely threatened by fragmentation of riverine, instream, riparian, and upland habitats, but is exacerbated by heavy adult mortality from machinery, cars, and collection. This is compounded by the species late maturity, low reproductive potential, and high nest and hatchling depredation rates.

Consult this Technical Assistance Booklet for more information on how to manage your property to benefit wood turtle:

- http://www.northeastturtles.org/uploads/3/0/4/3/30433006/glin_booklet_9618.pdf

The Wood Turtle has been determined by the USFWS to have substantial findings for which a status review is being initiated for Federal Listing (ecos.fws.gov/ecp0/profile/speciesProfile?slid=6997). Because of this status, "Under Review", Wood Turtle would be considered with any required federal Section 7 consultation process. As part of the process to avoid federal listing, the region has been delineating a Conservation Area Network where Wood Turtle should be managed. This specific area has been delineated as part of the Northeast Wood Turtle Conservation Area Network as a "Management Opportunity Area", and it is important that you consult with a biologist to develop an effective protection plan for this area.

Your project mentions recreational activity as part of your planning process. Recreational activities may increase incidental collection and impact nesting behavior, which both contribute to local turtle population decline. Most often turtles collected are adult females traveling to and from nesting. These turtles of reproductive age are the most valuable individuals in the population to maintain population persistence. Due to slow maturity and low reproductive success, even infrequent collection poses a long-term conservation problem.

- To avoid collection by the public, do not post signs alerting the public to the presence of this species.
- Litter from recreation can pose a choking hazard. Ensure there is a plan for how garbage will be managed.
- Work with biologists to plan your recreational area so that it minimizes the effect on this species.

Other GCN resources:

This area is included in a Connector Block in the HUC6 Terrestrial Core-Connector Network (McGarigal et al 2017). These areas were designated as part of the Nature's Network project. You can access the report and spatial data for Nature's Network here:

<https://nalcc.databasin.org/maps/522735111d19494a83b0a3badc710319>
<http://www.naturesnetwork.org/>

Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Bureau of Natural Resources and cooperating units of DEEP, independent conservation groups, and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated in the NDDB as it becomes available.

Please contact me if you have any questions (shannon.kearney@ct.gov). Thank you for consulting with the Natural Diversity Data Base and continuing to work with us to protect State-listed species.

Sincerely,

/s/ Shannon B. Kearney
Wildlife Biologist