

Final Turtle Protection Plan (August 2, 2021) and NHESP Approval (August 13, 2021)

Marc Bergeron

From: Glorioso, Lauren (FWE) <lauren.glorioso@state.ma.us>
Sent: Friday, August 13, 2021 7:37 PM
To: Egan, Scott
Cc: Bartone, Denise M; John Vieira; Kimball, Vivian; Marc Bergeron
Subject: RE: Sudbury to Hudson - Turtle Protection Plan

Categories: 6225 - Sud to Hud Construction Oversight

Scott – Thank you for your email. The updated Turtle Protection Plan is very thorough, descriptive and bridges the separation between the survey biologist and the EI's very well. **By way of this email, the Turtle Protection Plan Sudbury-Hudson Transmission Reliability Project, dated August 2 2021, is approved for implementation.**

Sincerely,

Lauren Glorioso (she/her)

Endangered Species Review Biologist
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Important: Our offices are currently closed and all non-essential state employees, including Environmental Review staff, are working remotely. We will respond to your inquiry as quickly as possible. Thank you for your patience. Please visit our website (www.mass.gov/nhesp) for updates.

From: Egan, Scott <Scott.Egan@aecom.com>
Sent: Monday, August 2, 2021 2:54 PM
To: Glorioso, Lauren (FWE) <lauren.glorioso@mass.gov>
Cc: Bartone, Denise M <denise.bartone@eversource.com>; John Vieira <toolgarden@outlook.com>; Kimball, Vivian <vkimball@vhb.com>; Marc Bergeron <MBergeron@epsilonassociates.com>
Subject: Sudbury to Hudson - Turtle Protection Plan

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Good afternoon Lauren,
Hope you are doing well and had a great vacation! Please find attached the updated SHTRP Turtle Protection Plan for your review. Let us know if you have any questions or comments.

Thanks and have a great day!
Scott

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Turtle Protection Plan
Sudbury-Hudson Transmission Reliability Project
NHESP File No. 15-34327
August 2, 2021

Project Overview/Background

The Massachusetts Department of Conservation and Recreation (“DCR”) and NSTAR Electric Company d/b/a Eversource Energy (“Eversource”) will be constructing a portion of the Massachusetts Central Rail Trail (“MCRT”) and installing an underground electric transmission line within an inactive Massachusetts Bay Transportation Authority (“MBTA”) railroad right-of-way (“ROW”) within the limits of the towns of Sudbury, Marlborough, Stow, and Hudson, Massachusetts. As proposed, the MCRT and the underground electric transmission line, referred to as “the Sudbury-Hudson Transmission Reliability Project” is a joint project (the “Project”) to be constructed in a two-phased approach. Phase 1 of the Project will be under the control and responsibility of Eversource and will include vegetation removal, all major earthwork, bridge reconstruction, installation of the underground electric transmission line, upgrades at the existing Sudbury substation, installation of stormwater management features, creation of a gravel-based access road to be used for installation of the MCRT, and revegetation of disturbed areas. Phase 2 of the Project will be under the control of DCR and will include installation of facilities at road crossings, paving the MCRT and final restoration.

Both phases of this Project are associated with NHESP File No. 15-34327, however, each phase of the Project was issued a separate No Take Determination letter from the Natural Heritage & Endangered Species Program (“NHESP”) of the Massachusetts Division of Fisheries & Wildlife (the “Division”). Eversource received a No Take Determination letter for the Sudbury-Hudson Transmission Reliability Project on October 19, 2018. DCR received a No Take Determination letter for the MCRT on May 17, 2019.

Condition 1 of the No Take Determination letter for the Sudbury-Hudson Transmission Reliability Project identified that the Eastern Box Turtle Protection Plan (“TPP”), dated 5/31/2018 must be implemented as proposed. The 2018 TPP was developed to protect both Eastern Box Turtle (EBT: *Terrapene Carolina*) and Wood Turtle (WT: *Glyptemys insculpta*) and was based upon field data collected through 2018.

Since the approval of the 2018 TPP, Eversource has continued to collect field data related to the presence and movement of EBT and WT and has developed specific contractor training and responsibilities throughout the permitting phase for the Project. Eversource is submitting this updated TPP to NHESP for their review and approval. This updated TPP contains all the same elements approved in the 2018 TPP, but, is updated with the most current field data and expectations for Contractor Training and environmental monitor oversight during the construction of Phase 1 of the Project.

EBT and WT are listed and protected by the NHESP as “Species of Special Concern”. Both EBT and WT are known to occur in Priority Habitat 1040 / Estimated Habitat 1440 (PH 1040 / EH 1440) in Hudson, Marlborough, and Sudbury generally located between Dutton Road in Sudbury and White Pond Road in Hudson. Since 2017 and up to the present, an ongoing field survey for EBT and WT has been completed on the MBTA corridor in Sudbury, Marlborough and Hudson and lands adjacent to it within the mapped

Priority Habitat. As part of this survey, a number of EBT and one WT have been captured and fitted with radio transmitters. Using radio telemetry techniques, the movements of these animals have been closely followed during their active periods. Based on the observations made during this survey, it is now known that there are turtle movements beyond the mapped Priority Habitat. **Based on survey efforts, the TPP applies to areas along and within the construction corridor between Dutton Road in Sudbury, west to Parmenter Road in Hudson.**

The TPP consists of rigorous measures that will be taken to protect turtles from unintentional injury or death during the construction of Eversource's portion of the Project (Phase 1). The TPP also describes measures that are intended to protect their nests and overwintering locations. DCR will develop a TPP specific to Phase 2 of the project through discussions with the NHESP.

Following construction, rare turtle protective measures will be implemented by Eversource as part of their yearly Operation and Maintenance Plan (OMP) for maintenance and operational work on electric transmission line rights-of-way (ROW). Similarly, DCR will follow their trail Guidelines and Best Management Practices Manual.

The TPP consists of several important components that will work effectively to protect EBT, WT, and other turtle species that may be encountered during construction both within Priority Habitat and elsewhere on the project corridor.

It is the intent that this TPP not be a static document. As construction and on-going turtle survey efforts proceed beyond the construction corridor, changes may be made to the TPP. These changes will be made should new information regarding turtle movements and / or behavior indicate necessary changes to protect turtles during construction activities.

Protective measures that Eversource will follow during construction are as follows:

Pre-Construction

Contractor Education and Awareness Program

Prior to construction, Project construction plans will be developed clearly identifying the locations of sensitive rare turtle habitats. These plans will clearly and concisely identify rare turtle work restrictions and requirements that will be implemented while working within rare turtle habitat.

Prior to construction, all workers who will be working on the Project will be required to attend a rare turtle training session. The session will be conducted by a qualified biologist knowledgeable with EBT and WT biology and behavior. The session will include discussions on rare turtle identification, biology, habitat preferences, natural history, and mandatory work requirements and practices within designated rare turtle habitats. The session will make use of a PowerPoint presentation and handout materials that workers can refer to while working on the Project Site. All attendees of the training session will be required to sign an attendance sheet. **Following completion on the training session, all workers in attendance will be provided a hard hat sticker. While working on the Project Site, workers will be required to display this sticker on their hard hats to clearly identify trained workers while on site. Workers not trained or trained workers not displaying a sticker on their hard hats will not be allowed on the Project ROW in areas identified as turtle habitat in this TPP (i.e., from Dutton Road to Parmenter Road).** Additional training sessions will be given as new contractors or crews are added to the workforce.

Refresher training sessions will be given on as need basis should non-compliance activities occur on the Project site.

Environmental Inspectors

Qualified Environmental Inspectors (EI) assigned to the section of the construction corridor where the TPP applies, should be familiar with the biology, behavior and radio telemetry tracking of rare turtles and the measures that are necessary to protect them during construction. The EI(s) shall also be required to either obtain a Scientific Collection or be listed as a subpermittees on such a permit obtained for the Project by a qualified individual.

During Construction

Construction Inspections and Treatment of Animals

Prior to daily work activities within rare turtle habitat between April 1 and October 31, a qualified EI will visibly search (sweep) access roads, work areas in the construction corridor and occasionally in areas adjacent to the construction corridor on the MBTA corridor for rare turtles. Additionally, radio telemetry scans will be made from the construction corridor to locate turtles previously fitted with radio transmitters (as part of ongoing rare turtle survey efforts) near work areas. Pinpoint locations of turtles fitted with radio transmitters outside of the MBTA corridor is not needed, but daily telemetry will be used to determine if their general location(s) are near or within the construction corridor. **Both visible searches and telemetry scans are required. While a number of turtles have been fitted with radio transmitters it must be assumed that all rare turtles in the area of the Project may not have been captured and fitted with transmitters.**

Any rare turtles without previously fitted radio transmitters that are encountered will be fitted with radio transmitters (to make it easier to relocate them during subsequent work excursions into the area). Turtles captured within the Limits of Work will be relocated greater than 500 horizontal feet from their capture points. Attempts will be made to relocate turtles in their perceived direction of travel, avoiding areas of private/no-access properties. In some circumstances it may be necessary to temporarily detain captured turtles and relocate them at the end of the workday. **Should any rare turtle be located within the construction corridor or the MBTA ROW, proper handling, care, and relocation must follow the "Rare Turtle Capture and Handling Protocol" provided in Attachment A.**

While work is occurring, the area surrounding the work area will also be inspected periodically to ensure that any turtle(s) that may wander into the area will be located and properly moved from harm. If a contractor employee locates a rare turtle in the absence of an EI, he or she will be required to notify the EI as soon as possible for directions on how to proceed.

Rare turtle sweeps and construction oversight for rare turtles will not be required during the dormant season, between November 1 and March 31, when turtles are presumed to be hibernating in locations away from the work area (see particular circumstances described below in "Protection of Turtle Hibernacula" for exceptions to this). However, other wildlife time of year restrictions may apply.

Coordination with Ongoing Turtle Survey

Since 2017, a rare turtle survey has been ongoing in areas that include the MBTA corridor located in Priority Habitat and some of the lands adjacent to it. Because the EI will be responsible for implementing the TPP on the construction corridor only, the inspector will be responsible for direct communications with the biologists completing that study. Information that will be provided to the EI shall include an update on turtle movements of those turtles previously fitted with radio transmitters near the construction corridor. The EI will also be responsible for reporting all rare turtle observations to the survey biologists made during construction and any rare turtles fitted with a radio transmitter (including radio frequency of the transmitter).

The tentative schedule for tracking efforts by the survey biologists is as follows.

- April 15th to May 15, every 10 days.
- Every 7 days during nesting season (May 15 to July 1).
- July to August, every 10 days.
- September to October 15 every 7 days.
- One day at the end of October.
- Hibernacula confirmation in December.

Protection of Turtle Hibernacula

Based on the current data for known hibernacula, since 2017 no tracked rare turtle has hibernated within 100 feet of the Project Site. If, based on ongoing studies, a hibernaculum is identified within 50 feet of the Project Limit of Work for any Project related activities (e.g., tree clearing and/or trenching), NHESP will be contacted to schedule a site visit. During the site visit, potential risks to the hibernaculum and turtle will be determined and if necessary protective measures to be followed during construction will be established. If a hibernaculum is located between 30 and 50 feet of the Limits of Work and Project activities are allowed to continue following NHESP site walk, regular radio checks for turtle movements beyond the hibernaculum will be required especially during periods of unusually warm weather during the typical overwintering period (October 31 through April 1). Special attention needs to be paid to hibernacula relatively close to the construction Limit of Work during the month of March. If a hibernaculum is located closer than 30 feet from the Construction Limit of Work during the overwintering period, construction activity may be limited to only of driving equipment along the construction corridor. If this situation occurs, special attention must be paid to monitoring possible turtle movements from their hibernaculum. If a turtle is found overwintering within 30 feet of the Construction Limits of Work, under limited and rare circumstances, it may be relocated from its hibernaculum but only with direct input from NHESP.

Protection of Turtle Nests

Rare turtles typically nest within well-drained, open areas during evening hours typically between May 25 and July 5. Turtle nests incubate through the summer and hatchlings typically emerge and migrate away from the nest by early October. Based on rare turtle survey efforts completed to date, there have been no turtle nesting areas identified within the project construction corridor. If, based on the ongoing rare turtle survey, work will occur within potential nesting habitat in June through early July, the following protection measures will be implemented.

Survey biologists will conduct evening surveys as part of ongoing turtle tracking studies independent of construction oversight. If there appears to be a rare turtle nesting conflict during construction, the EI will be notified. Searches will be completed within the identified potential nesting habitat areas between May 25 and July 5 to locate females in search of suitable nest locations. Observed state-listed female turtles will be watched from a distance or tracked using thread bobbins to identify nest locations. After females have completed nesting, the nest locations will be flagged for avoidance to prevent destruction of incubating eggs. Efforts will be made to pinpoint the precise nest location.

If nest avoidance is not possible during construction, nests may be excavated by the survey biologists and relocated to a suitable incubation area beyond the limits of work. The biologist will confer with NHESP prior to relocating state-listed turtle nests. All identified state-listed turtle nests will be equipped with predator excluding hardware cloth and treated with cayenne pepper. The nest enclosures will be removed during early September to allow unhindered hatchling egress unless directed otherwise by NHESP.

Other Protective Measures

Erosion control barriers and soil erosion blankets containing plastic or wire mesh can ensnare turtles and other animals resulting in mortality. Therefore, erosion control and stabilization measures containing such mesh (straw wattles, mesh-backed silt fence, and open mesh blankets) will be prohibited within mapped rare turtle habitat. As such, syncoated erosion control barriers and other erosion control devices that will be used within Priority Habitat areas as shown on Project plans and designed to allow for the passage certain wildlife species across the corridor, will not contain plastic or wire mesh as part of their installation. Any area containing erosion control protective measures or syncoated barriers should be inspected regularly for any turtle that may have entered the construction corridor and detained within it. Any turtle found in any such area should be relocated or handled as prescribed in the "Rare Turtle Capture and Handling Protocol" provided in Attachment A. Materials used for erosion barriers or soil erosion blankets within turtle habitat areas must be approved by the EI. Any such measure that is employed within mapped rare turtle habitat will be removed as soon as site stabilization has occurred.

EIs will coordinate with contractors in the field to effectively prevent turtles from falling into open trenches or newly excavated areas. The EI will be responsible for approving and inspecting protective measures designed to prevent turtles from falling into them during non-work hours. During the rare turtle active season (April 1 through October 31), protective measures that may be applied daily may include surrounding open trenches with barriers at the end of each day or covering them with iron plates. Other measures may be acceptable if approved by the EI. At the end of each workday any open trench that is protected in such a manner will be inspected for approval by the EI.

Within the area covered by this TPP, signs shall be placed in strategic locations notifying contractors that the area they are entering and/or working in is subject to special requirements designed to protect wildlife. Any such sign shall meet the requirements of the NHESP.

Post Construction

Following construction of the Eversource underground transmission line, DCR will construct the MCRT. Rare turtle protection measures that will be implemented as part of that construction will follow a TPP specifically developed for work that will be completed by DCR.

As is typical with other Eversource ROW facilities, the company will submit to NHESP an Operations and Maintenance Plan (OMP) on an annual basis for review and approval under the utility maintenance exemption section of the Massachusetts Endangered Species Act (MESA) implementing regulations (321 CMR 10.14 (11)). Rare turtle protective measures that will be adhered to shall follow those typically included in the Company's annual OMP.

Alteration of Turtle Protection Plan Elements

The TPP detailed above is designed to avoid direct mortality to any turtles that are known to use the work area or by chance are found during construction activities. Because work plans may change or weather conditions may necessitate changes in schedules, the TPP offers a certain amount of flexibility to accommodate any such schedule or program change. It is the intention of the TPP to respond to any such change to assure that resident turtles in the planned work area will not be directly harmed by construction equipment or activities. If it is necessary to modify the protective approaches detailed herein, NHESP Staff will be consulted in the development of a modified protective approach.

Data Recording and Reporting

All rare turtle observations will be reported online using the NHESP's Heritage Hub reporting portal. An annual summary report will be submitted to NHESP at the end of each year during construction. The report will include sections on turtle demographics, morphometric data, locational data, movement data and the results of mortality avoidance measures. Additionally, a separate report will be submitted to NHESP detailing rare turtle survey efforts and observations as part of the ongoing rare turtle survey beyond the limits of the Eversource underground transmission line / MCRT construction corridor. That report will include a summary of turtle observation made by the EI for completeness of annual rare turtle observations as part of the overall survey.

Attachment A
Rare Turtle Handling Procedures

Rare turtle Capture and Handling Protocol

Purpose

Eastern Box Turtle (EBT) (*Terrapene carolina*) and the Wood Turtle (WT) (*Glyptemys insculpta*) are state listed in Massachusetts as Species Special Concern. As such, they are protected against direct harm to the individual and protected against destruction or disturbance of their habitats. The purpose of this document is to provide construction personnel with important information that will help reduce the potential for direct harm to individual turtles should they be encountered during construction activities. This document includes information about general habitat use, proper turtle handling procedures, relocation information, contact information of qualified Environmental Inspectors (EI) / Biologists, and representative photographs of both species to assist in proper identification.

General Overview of Eastern Box Turtle Habitat Use

EBTs in the northeast use a variety of habitats over the course of the year based on seasonal availability of food items, life cycle requirements (e.g., nesting and hibernating) and body temperature regulation. A generalized breakdown of this seasonal habitat use is provided below to give contractors an idea of where chance encounters are most likely given the time of year.

- *April through June.* EBTs are typically observed in open fields, early successional scrub-shrub/sapling areas and forest-field edges but may be observed in forested habitats as well. In June, female box turtle may be in open sandy areas with sparse vegetation for nesting.
- *July through September.* EBTs are typically observed in forested uplands and forested wetlands but will sometimes use forest-field edges or dense shrubby areas.
- *October through March.* EBTs use forested habitats almost exclusively but are difficult or impossible to find because they are buried under root/duff layer of the forest floor.

General Overview of Wood Turtle Habitat Use

WT preferred habitat is riparian areas that include slow moving mid-sized streams with sandy bottoms and densely vegetated banks. When not located in riparian habitats they can be found in forests, early successional fields and/or hayfields sometimes great distances from streams.

- *April through June.* WT are found either within slow moving stream or within several hundred meters of them in dense vegetation. They are sometimes found basking in sunlight on stream banks or in areas nearby. In June, female WT may be in open sandy areas with sparse vegetation for nesting.
- *June through early to mid-September.* WT move from riparian habitats into forests, early successional fields and/or hayfields to feed.
- *Mid-September to March.* WT move back into streams or stream banks where they will overwinter.

Methods

Below is a step-by-step process that shall be followed in the event of a rare turtle observation.

- 1) If an EBT or WT is observed, first determine if the individual is within harm's way. If the individual is observed outside of the exclusion zones (i.e., outside of the work area), then it should not be

handled to minimize disturbance and prevent altering their behavior. Report the observation to the EI as soon as possible. If the EI is not immediately available report the observation to a Biologist.

- 2) When an EBT or WT is determined to be within harm’s way, it should be captured and temporarily detained until the designated EI, or Biologist has been notified and can arrive onsite to perform standard data collection and turtle relocation. Contact the EI or as soon as possible. If the EI is not immediately available report the observation to a Biologist.
- 3) To properly detain a turtle, place the turtle into a plastic tub. Turtles can easily die from overheating. Therefore, this tub **MUST** be placed in a cool shaded area out of direct sunlight, indoors or out. Outdoor shaded areas must be persistent, that is, make sure that the tub is not in an area that will BECOME sunny later in the day. In addition, fresh vegetation (e.g., leaves, tall grass cuttings) and water **SHALL** be placed into the tub for cover and hydration.
- 4) When handling an EBT or WT grasp it firmly by the sides of the carapace (top shell). These turtles are typically very shy and will usually retract their head and legs into the shell. If the turtle does not retreat into its shell, be cautious of the turtle’s head, mouth, and feet. Although these turtles typically do not bite, they are certainly capable of doing so. In addition, they have very sharp claws and powerful legs for digging, which can scratch the skin.
- 5) As soon as possible and no greater than one (1) hour of either observing or capturing an EBT or WT, contact the EI for direction. If the EI is not present, contact one of the qualified biologists listed below. Turtles shall not be detained for more than four hours at any time.
- 6) If an injured EBT or WT is seen or captured, contact the EI or a Biologist as soon as possible. If it is possible to detain the injured turtle, detain it as described in item 3 above.

Contact Information for Environmental Inspectors

Name:	TBI	Name:	TBI
Cell No:	TBI	Cell No:	TBI
Email:	TBI	Email:	TBI

Contact Information for Qualified Biologists

Name:	TBI	Name:	TBI
Cell No:	TBI	Cell No:	TBI
Email:	TBI	Email:	TBI

Eastern Box Turtle Photographs



Plastron of female



Plastron of male



Variation in turtle carapace patterns



Turtle under old hay bale



Partially buried turtle in forested area



2-year old juvenile

Wood Turtle Photographs



Wood Turtle Plastron (bottom shell)



Wood Turtle Carapace (top shell)



Wood Turtle Front View (note bright orange limbs)