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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL AND GEOGRAPHIC INFORMATION CENTER

79 Elm Street, Store Level
Hartford, Connecticut 06106-5127
Natural Diversity Data Base

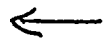


April 23, 2002

Anthony Johnson III
Northeast Utilities System
P.O. Box 270
Hartford, CT 06141-0270

Dear Tony:

Thank you for providing the additional maps for the Waterford and Montville sites. The site in Montville is a regionally significant site for *Scleria triglomerata*. This is the only population in New England that has been observed within the past five years. *Scleria triglomerata* is a State Endangered Species (R.C.S.A. Sec. 26-306). The species grows under the powerlines at this site. This particular population has been declining since 1997. This species apparently requires some regular disturbance of its habitat. Chris Mattrick, New England Wild Flower Society has drafted a "Proposal for Management of *Scleria triglomerata*". This plan puts forth management actions designed to enhance this declining population. (copy attached). I would like to set up a meeting to discuss options for taking actions to enhance this population. Please contact me so we can discuss this matter.



The Waterford site is an area where Yellow breasted chat (*Icteria virens*) was reported in 1986 through 1988. These birds were reported as territorial males singing with at least one female. This species is listed as State Endangered (R.C.S.A. Sec. 26-306). I am sending this request to Jenny Dickson, DEP-Wildlife Division for further evaluation.

Natural Diversity Data Base information includes all information regarding critical biologic resources available to us at the time of the request. This information is a compilation of data collected over the years by the Environmental & Geographic Information Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base 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 into the Data Base as it becomes available.

Please contact me if you have further questions (424-3589). Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Nancy Murray
Nancy Murray
Biologist/Environmental Analyst III

NMM/md

cc: Chris Mattrick, NEWFS
Jenny Dickson, DEP
Attachment

Proposal for Management of *Scleria triglomerata*
Montville, Connecticut
December 19, 2001

Submitted by:

Christopher Mattrick
Senior Conservation Programs Manager
New England Wild Flower Society
180 Hemenway Road
Framingham, MA 01701-2699
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Submitted for the New England Plant Conservation Volunteer Program

Problem:

A state- and regionally-listed plant species occurring in a powerline right-of-way in Montville, CT is undergoing a population decline and is at risk of becoming extirpated at this site. Threats to this population include aggressive growth of native and non-native plant species surrounding the population and use of the powerline right-of-way by all terrain vehicles and dirt bikes. Tall nut sedge, *Scleria triglomerata*, is a species considered endangered in the State of Connecticut. This occurrence represents the only population in the State. The New England Plant Conservation Program (NEPCoP), in its publication *Flora Conservanda: New England*, considers this species division 2 or regionally rare. It is currently known from six populations in the New England region: one in Connecticut, three in Massachusetts - where the plant is considered threatened, and two in Rhode Island - where the plant is endangered.

The Massachusetts populations occur in Attleboro, Northbridge, and Uxbridge, all in the southeast to south central portion of the state. The Northbridge population is presumed to be extirpated. The first and last time this population was observed was in 1986 in dry mixed oak woodland that had been recently burned over. Three to four plants were observed at this time. The occurrence in Uxbridge was observed in 1989, but not located in 2001. This population also occurs under a powerline right-of-way that had been burned a few years prior to the observation in 1989. No population data is available. The Attleboro occurrence was documented only once with specimens and seeds being collected. Approximately 20 plants were located growing on a disturbed site in sandy soil.

The two Rhode Island populations both occur in Charlestown. One is an undocumented report of the species occurring in a coastal National Wildlife Refuge. The second

Charlestown population was first observed in 1979 and again in 1987. The plants were growing in and around the edges of small sandy openings surrounded by low shrubs within a mixed oak pitch pine woodland. Approximately 35 plants were observed. No recent evidence of fire was noted at this site, although the presence of pitch pine gives some indication of a historic fire regime at the site.

The history of the additional populations in New England does not guide the conservation of this species in Connecticut, but does provide some insight into the overall abundance of the species in the region, its habitat preferences, and geographic distribution. All New England Populations occur in a small region extending from just south of Worcester, MA, in the shape of an inverted "V" to the coasts of Rhode Island and Connecticut: Attleboro, MA marking the eastern most point of its distribution and Montville, CT the western most. All populations are small – the largest documented consisting of a mere 35 plants. Overall, fewer than 100 individuals occur in New England. Finally it prefers open dry to somewhat moist, sandy soiled sites and fire seems to be critical to its long-term survival. At least two of the six populations were observed shortly after a fire occurred in the area, and a third occurrence grows in a fire-dependant pitch pine forest.

The population of *Scleria triglomerata* in Montville occurs in a dry, shrubby/grassy powerline right-of-way clearing. The population was first observed by Gordon Tucker in 1989 when several plants were observed, one bearing 30 reproductive culms. The occurrence was not revisited until 1992 when Les Mehrhoff observed several plants. Since 1996 it has been surveyed regularly, and the need for management noted on each occasion. The population has also declined dramatically over this period of time. In 1997, Glenn Dreyer located only 7 culms with feeble vigor and noted that the plants were being overwhelmed by *Solidago rugosa*. In 1998, Bill Moorhead located 12 plants. In 1999, Richard Snarski observed only seven plants, and noted they were being threatened by overgrowth and that management was needed. In 2000, Christopher Mattrick visited the site and could locate only four flowering culms in feeble vigor. There may have been other plants in the vicinity, but the dense nature of the other vegetation prevented their discovery. Additionally an ATV trail passes within four feet of the population.

The powerline right-of-way is colonized by a variety of native and non-native shrubs and forbs including *Solidago rugosa*, *Dennstaedtia punctilobula*, *Apocynum cannabinum*, *Rhododendron viscosum*, *Baptisia tinctoria*, *Spirea latifolia*, *Ilex verticillata*, *Euthamia graminifolia*, *Aster umbellatus*, *Eupatorium maculatum*, and *Rubus hispidus*. A number of non-native shrubs also occur in the general vicinity including *Frangula alnus*, *Lonicera morrowii*, and *Elaeagnus umbellata*. Several of these species are aggressively colonizing the area occupied by the *Scleria*, including primarily, *Rubus hispidus*, *Spirea latifolia*, and *Solidago rugosa*. If left unchecked, any one of these could overrun this population within several years.

The site on which the project is proposed is owned by Northeast Utilities (NEU). It is adjacent to a small stream, but does not appear to be within a wetland and/or wetland buffer zone and therefore does not fall under the jurisdiction of the Wetlands Protection Act. Black Ash Swamp Road is several hundred yards to the north; therefore the site is

easily accessible. A gate bars large vehicular entrance to the site from the paved road, but if a key could be obtained from NEU, vehicles could drive right up to the site during the project. The powerline right-of-way appears to be heavily used by ATV's and these pose a direct threat to the population, this threat may be exacerbated if vegetation is cleared during the project and no effort is made to exclude these vehicles from the population area. The project should not impact any regular maintenance activities conducted by NEU or its maintenance affiliates.

Need:

The Montville population of *Scleria triglomerata*, tall nut sedge is being threatened by the aggressive growth of native and non-native vegetation, a lack of site disturbance, and ATV use of the areas adjacent to the population. If the site is left in its current state, and no efforts to reduce vegetation competition and exclude ATVs are made, it is likely that ... the *Scleria* population will be extirpated from this location and the State of Connecticut. There is a great need to begin a management program to protect the existing plants at this location and foster a condition that will encourage increased reproduction and spread. Management of this site is critical at this time; further delay may render the situation unmanageable, leading to a further decline or loss of the endangered plant population.

Objectives:

Our objectives for this project are as follows:

1. Establish a management area around the existing plants of *Scleria triglomerata*. This area should include the immediate population area and potential recruitment zone. At this time an area measuring 10 feet by 10 feet is suggested. Within this area, vegetation will be managed mechanically or possibly through fire to benefit and encourage the expansion of *Scleria*.
- 2.
3. Evaluate the effectiveness of control efforts and their effect on the rare species population for five years following the initial management action. Follow-up management will be carried out during this period as needed to benefit the target population.
4. Collect seed from the population, for storage in NEPCoP seed bank and possible augmentation efforts.
5. Develop a plan for the long-term management of *Scleria triglomerata* at this site.

Method:

Prior to the inception of this management activity we will seek the permission of the Northeast Utilities, the Town of Montville, the Montville Fire Department, and the Connecticut Natural Diversity Database.

We propose to perform our initial management activity at this site during September 2002. The process will be fairly simple, but may take different forms depending on landowner preferences and restrictions on activities that may take place in a powerline right-of-way. On the chosen day, a group of 10-12 members of the New England Wild Flower Society's Plant Conservation Volunteer Corps and CT NEPCoP Task Force will receive an orientation to the rare plant, the plants to be removed, and the management technique to be implemented. The management will be performed under the direction of Christopher Mattrick, Senior Conservation Programs Manager of the New England Wild Flower Society, who has extensive experience in managing rare species' habitats. Mr. Mattrick is also a licensed pesticide applicator in the State of Connecticut. Photographs of the site will be taken prior to, during, and upon completion of the management activities.

The first step will be the permanent marking of the location of any endangered plant species found within the management area. This will be accomplished with the use of metal stakes to which plastic tags will be affixed at the end of the management action. This will be necessary to allow all volunteers participating to know the location of existing plants to avoid trampling them. Also, if a fire is used as a management strategy, it will be important to know the location of the existing plants prior to the burn and track where they appear following the burn. Regardless of which management strategy is employed, the area will be more open and exposed post management than prior to the action. In essence the management activity while reducing the impact of the competing vegetation, will make the site more vulnerable to ATV abuse. In order to discourage ATV use of the managed area we intend to establish a post fence around the site. Either wooden or metal posts will be driven or dug into the ground surrounding the proposed managed area. We may even be able to obtain posts from NEU itself, in the form of old telephone poles. The posts will have to be at least two inches in diameter if they are metal, and six inches in diameter if they are wooden. These posts will be spaced approximately two to three feet apart. This type of fencing will allow the free flow of water, plant propagules, wildlife, and humans through the site, while restricting the passage of dirt bikes, and ATVs. The proposed managed area and fence are located away from any of the existing roads established in the area to facilitate right-of-way management, so pose no hindrance to that activity.

At this time a choice between two management strategies will be made. This decision will be based largely on what is allowed to take place in a powerline right-of-way by the landowner. The suggested method of management would involve a small-scale controlled burn of the 10-foot by 10-foot management area. All the large-scale vegetation (primarily shrub species) would be removed by hand cutting to just above ground and the resulting brush be laid on the ground within the management area. Although a prescribed burn of this size is unlikely to generate enough heat to ignite surrounding vegetation outside the management area, a fire break consisting of a five foot swath around the exterior of the management area will be cleared of vegetation prior to the burn. The burn will be conducted on a windless day, and sufficient water supplies will be on hand to extinguish any escaping cinders. The Montville Fire Department will also be notified of the activity and encouraged to be on-site during the activity. The management area will be burned

using a hand held blowtorch – the area will be walked through by a single member of the volunteer team igniting the vegetation within the area. Other volunteer team members will be stationed in the firebreak outside the management zone watching for non-target fires. The prescribed burn will take place in the morning and the volunteer crew will stay on site for the entire day and not leave until the fire is completely extinguished. This method of management is preferred because *Scleria triglomerata* appears to be a fire dependant species, often appearing following a fire, and disappearing as vegetation and site conditions change.

A second option for management is available, but will undoubtedly not be as effective as a prescribed burn, and is much more labor intensive. This method would involve the hand removal of selected vegetation within the management area. In this scenario, volunteers would remove the vegetation that is over-topping and out-competing the *Scleria*, the other vegetation considered more benign would be left in place. Target species for hand removal would be *Rubus hispidus*, *Solidago* species, and several shrub species, especially *Spiraea latifolia*. The removed plant material would be disposed of in another location away from this site in the right-of-way. This process is fairly simple and straightforward, but would need to be repeated on an annual basis for at least three years and possibly longer. The use of fire to remove the vegetation may occur only once every five to ten years, depending on the response of the *Scleria* and other vegetation to the fire.

The use of herbicide to control the unwanted vegetation within the managed area is not considered necessary at this time. Further, there may be a degree of root grafting among the plants growing within the management area, including grafting with *Scleria triglomerata*. Over time, if fire is not an option, and mechanical removal does not appear to be working, some targeted use of herbicide in a cut stem application may be considered. If this is the case, an addendum to this plan describing that process will be written.

Evaluation:

Mr. Chris Mattrick and/or members of the Plant Conservation Volunteer Corps will monitor the site annually for five years following the project. The monitoring will include a survey of the *Scleria triglomerata* located within the project boundary and surrounding area, observations on the re-growth of competing vegetation and their location at the site, and photo monitoring of the management site from established points. This monitoring will take place during August of each year. If management is deemed necessary during the annual monitoring, a date will be established in September or October to perform the follow-up management. Permission will be sought for this activity each time it is necessary. The success of management at this site will be measured by the increases in the viability and size of the *Scleria triglomerata* population.

The monitoring will continue for five years under the auspices of the New England Plant Conservation Program. Each year a report will be created detailing the results of the monitoring trips and any further management performed. The reports will contain copies of photographs taken of the site each year. These reports will be provided to the Town of

Montville, the Connecticut Natural Diversity Database, and Northeast Utilities. A final project report and management plan will be written at the end of the five-year monitoring period. This report will recap the entire project, including a review of follow-up monitoring and future management if needed.