

March 13, 2013

Ms. Dawn McKay
CT DEEP
Natural Diversity Data Base
70 Elm Street
Hartford, CT 06423

RE: Walnut Hill Solar Farm, East Lyme, CT
NDDDB #201202394

Dear Ms. McKay:

I am writing to follow up on your recent telephone conversation with Eric Davison of this office, with respect to the referenced matter. A copy of our December 11, 2012 report "Natural Resource Inventory and Impact Assessment, Solar Array Farm, Walnut Hill and Grassy Hill Road, East Lyme, Connecticut," is enclosed for your review. The report includes the information requested in the May 8, 2012 letter from Elaine Hinsch to Mr. Davison.

By way of background, this office has worked at the site since 2006, flagging wetlands, and conducting floral and faunal surveys. Our most recent work was conducted between March – September, 2012 and included targeted surveys for state-listed species. Our report also includes data on amphibian breeding collected March 20 – April 20, 2006. The study area covered the entire property upon which the solar array is proposed, as well as additional land to the east and northwest, and is shown on Figures 1 and 2 of the report. The habitat types we identified and their characteristic vegetation are described in Section 4.0. Figure 3 maps the extent of each of the nine habitat types we described.

No state or U.S.-listed species were identified at the site, as documented in Section 8.1D. I have attached our qualification statement, which includes resumes for James Cowen, our botanist, and Eric Davison, our wildlife biologist. I believe that they are both well known to the Department. We did not engage a lepidopterist because we did not receive your letter until mid-May and the flight period for Henry's Elfin (*Callophrys henrici*) in southern New England is April 15 – June 7. Therefore, the results of a field survey would have been inconclusive, even if we had been able to mobilize immediately. However, within a given region of the range, *Callophrys henrici* is monophagous, usually using only a single food plant. The preferred host plant documented in recent years in southern New England is Buckthorn (*Frangula spp.*). Therefore, a botanical survey targeting the preferred host plant, *Frangula spp.* was considered to be an acceptable alternative. The only species of *Frangula* occurring in Connecticut is Glossy Buckthorn (*Frangula alnus syn. Rhamnus alnifolia*) which is listed as invasive by the Connecticut Invasive Plant Council.¹ Glossy Buckthorn is a tall (10-20'), deciduous, typically multi-stemmed, fruiting shrub (occasionally a small tree) with distinctive bark and leaves. It is generally found

¹ CONNECTICUT INVASIVE PLANT LIST October 2011

http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/announcements/ctinvasiveplantlist2011-commonname.pdf

in open woods, scrub, and hedgerows on moist soils and wetlands. Glossy buckthorn occurs on moist to wet sites in mixed woodlands, thickets, sphagnum bogs, and on roadsides, lake shores, ditches, and stream banks across its range.

American Chaffseed (Schwalbea americana) is a 12"-24" perennial generally found in early successional habitats with moist sandy or peaty soils. Flowering time is June-July and the plant is typically identifiable from mid-July through September.

We conducted surveys for American Chaffseed (*Schwalbea americana*) and Glossy Buckthorn (*Frangula alnus*) throughout the growing season (June 6, June 29, August 1, and September 25, 2012).

Henry's Elfin (*Callophrys henrici*)/Glossy Buckthorn (*Frangula alnus*)

A survey for Glossy Buckthorn was conducted in June in and around the wetlands on and adjacent to the site. The fields and hedgerows were also surveyed during the American Chaffseed (*Schwalbea americana*) survey. No Glossy Buckthorn was observed growing on the site. Therefore, there is a low probability that there is breeding habitat for Henry's Elfin (*Callophrys henrici*) on site.

The proposed project has been sited on uplands well away from wetland resources. Since Glossy Buckthorn has a strong preference for moist and wetland soils, it should be noted that even if this plant established itself on the site, the project would not have an impact on it or the potential for Henry's Elfin (*Callophrys henrici*) to find host plants on the site.

American Chaffseed (*Schwalbea americana*)

Targeted surveys were conducted for American Chaffseed (*Schwalbea americana*) in the fields and forest openings throughout the growing season. The survey effort was coordinated with mowing of the fields to maximize access in areas of dense shrub thickets. The fields are vegetated predominantly by cool season pasture grasses and shrub thickets of Multiflora Rose* and other invasives. These aggressive species allow little opportunity or suitable habitat for American Chaffseed, and it was not found on the site.

In conclusion, despite targeting appropriate habitat for these species, neither plant was found at the site. We also concluded that there is a low probability that there is breeding habitat for Henry's Elfin at the site. If your review requires additional information, please feel free to contact me by phone or email.

Yours truly,



Michael S. Klein, Principal
Soil Scientist
Professional Wetland Scientist

STATEMENT OF QUALIFICATIONS

Environmental Planning Services was formed in 1983 to provide consulting services in the areas of biological, wetland, and soil sciences, environmental impact assessment and mitigation planning to public agencies and private clients; including design professionals, attorneys, site developers, municipalities, and public interest groups. In addition to identification, description, and classification of natural resources, the firm also provides functional evaluation of wetlands and other biological systems, guidelines for mitigation of potential adverse impacts, and permit support through expert testimony and public representation. Services provided revolve around the impact of human activities on terrestrial, wetland, aquatic, and marine resources. The firm specializes in biological and wetland surveys, impact assessment, and mitigation planning. Qualified staff consultants are available in such diverse fields as landscape architecture, computer modeling, and civil engineering.

Michael S. Klein is the founder and principal of Environmental Planning Services. He is a certified Professional Wetland Scientist and a registered Soil Scientist. He has provided environmental consulting services to a wide range of clients throughout the northeast, since 1977. These have included the US EPA, US DOE, US Army Corps of Engineers, FAA, CT DEP, CT DOT, many municipalities, and a variety of private clients. His background in biological and soil sciences includes studies of the impact of development proposals on upland, wetland, estuarine, riverine, and marine ecosystems.

James Cowen is a skilled botanist and wetland/soil scientist. He is also a degreed landscape designer and is responsible for preparing ecologically appropriate planting plans for mitigation areas and stormwater basins for EPS clients. He also have significant experience in oversight of construction of designed wetlands and stormwater basins. He is a certified Professional Wetland Scientist and has been with the firm since 1995.

Eric Davison is a wildlife biologist and wetland/soil scientist. He has significant field experience in vernal pool and amphibian surveys, as well as park/habitat management and geographical information systems (GIS). He is a certified Professional Wetland Scientist and has been with the firm since 1998.

SERVICES

RESEARCH

- Literature review and summary
- Terrestrial and marine sampling
- Regulatory review

RESOURCE IDENTIFICATION AND EVALUATION

- Wetland delineation (CT and Army Corps)
- Rivers and estuaries
- Wildlife habitat
- Threatened and endangered species surveys
- Natural resource mapping and interpretation
- Functional wetland evaluation

RESOURCE MANAGEMENT AND SITE PLANNING

- Environmental impact assessments
- Wetland mitigation
- Sediment and erosion control
- Coastal site plan (CAM) applications

For additional information, including representative projects, please visit us on the web at www.epsct.com

REPRESENTATIVE CLIENTS

Spath-Bjorklund Associates	Konover Development Corp.
LADA, PC	Avonridge, Inc.
Swig, Weiler and Arnow	ERL, Ltd.
Leonard Jackson and Associates	Marin Environmental
Hayes-Kaufman Partnership	Bell Atlantic Mobile NYNEX
Planimetrics	Richter and Cegan
Robinson and Cole	CT DOT
FIP Corporation	RI DOT
Fuss and O'Neill, Inc.	Town of East Granby, CT
Cohen and Wolf, PC	Town of Winchester, CT
Purcell Associates	Town of Groton, CT
F. A. Hesketh and Associates	Town of Westport, CT
Town of Colchester, CT	City of Groton, CT
Town of Ellington, CT	Town of East Windsor, CT
Town of South Windsor, CT	City of Bridgeport, CT
The Lyman Farm, Inc.	Town of Monroe, CT
National Fairways	Town of Avon, CT
T & M Builders	Town of Westbrook, CT
HRP, Inc.	Town of Glastonbury, CT
Town of Windsor, CT	Town of North Stonington, CT

RESUME

MICHAEL STEPHEN KLEIN, CPWS

POSITION Principal

TENURE 1983-Present

DUTIES Prepares site evaluations and impact assessments for EPS projects. Responsibilities include coordinating work of all subcontractors, liaison with regulatory agencies and clients, conducting field surveys, flagging wetland limits, designing mitigation projects, supervising construction, reviewing plans and recommendations for impact minimization. Presents results at public hearings and agency meetings.

PREVIOUS EXPERIENCE Senior Environmental Analyst, MRE, 1978-1983.
Ecologist, COMSIS Corporation, 1977-1978.

EDUCATION BA, Biology, 1973, University of Connecticut.
MS, Marine Environmental Sciences, 1976
State University of New York at Stony Brook, Stony Brook, NY.

CERTIFICATION Registered Soil Scientist
Certified Professional Wetland Scientist

PROFESSIONAL AFFILIATIONS Society of Soil Scientists of Southern New England
Association of Massachusetts Wetland Scientists
Society of Wetland Scientists
Connecticut Association of Wetland Scientists (Charter Member)

PUBLIC SERVICE New Hartford, CT Planning and Zoning Commission
Member, 1987-1995
New Hartford Inland Wetlands and Watercourses Commission
Member, 1986-1995
Vice-Chairman, 1990-1993
Chairman, 1993-1995

RESUME

JAMES COWEN, CPWS

POSITION Senior Wetland Scientist/Landscape Designer

TENURE 1995-Present

DUTIES Prepares biological resource evaluations and impact assessment reports for EPS projects. Responsibilities include conducting field surveys, wetland delineation (for state and federal jurisdictions), identifying and mapping vegetation and wildlife habitat, and monitoring mitigation projects. Prepares landscape restoration plans, wetland and mitigation design. Provides oversight and coordination of wetland planting design implementation. Prepares and oversees implementation of invasive species management plans. Presents results at public hearings as required.

EDUCATION Graduate Studies in Soil Science, University of Massachusetts, Amherst, Massachusetts, 1997-1999

M.A., Landscape Design, Conway School of Landscape Design, Conway, MA, 1995

B.A., Biology, University of California at San Diego, San Diego, CA (with Honors), 1973

PROFESSIONAL AFFILIATIONS Connecticut Association of Wetland Scientists
Connecticut Botanical Society
Society of Soil Scientists of Southern New England
Society of Wetland Scientists
New England Wildflower Society
Connecticut Invasive Plant Species Working Group

REGISTRATION Registered Soil Scientist
Certified Professional Wetland Scientist

PERMITS 2000-present. State of Connecticut, Department of Environmental Protection. *Plant Collection Permit.*

GUEST LECTURER

1995-2005. *Vernal Pool Ecology & Ecological Assessment Field Methodology*. Conway School of Landscape Design, Conway, MA

PUBLIC SERVICE

North Stonington Plan of Conservation and Development Subcommittee, Planning and Zoning Commission, 2001-2003.

Connecticut Botanical Society, Board of Directors, 1996-2002.

North Stonington Citizen's Land Alliance, Board of Directors, 1995-2002.

New England Wildflower Society, Plant Conservation Volunteer, 2001-2003

RESUME

ERIC RICHARD DAVISON

- POSITION** Wildlife Biologist / Wetland Scientist / Soil Scientist
- TENURE** 1998-Present
- DUTIES** Prepares wildlife, fisheries, natural resource inventories, wetland delineations, and impact assessments for EPS projects. Responsibilities include conducting field and literature surveys, identifying fish and wildlife species and sign encountered in the field, and mapping habitat types. Assists in development of habitat loss mitigation strategies. Conducts landscape scale assessments and habitat mapping using GIS technology.
- EDUCATION** B. S., Wildlife Conservation, University of Massachusetts at Amherst, 1998; Soil Science certificate program, University of Massachusetts, Amherst 2000
- CERTIFICATION** Registered Soil Scientist
Certified Professional Wetland Scientist
- PROFESSIONAL AFFILIATIONS** Member, Society of Soil Scientists of Southern New England
Member, Society of Wetland Scientists
Consulting Wildlife Biologist, Northwest Park, 2000-present
Staff Liaison, Conservation Commission, Town of Windsor, 2000-2002