



Inland Wetlands & Watercourse Commission
63 Main St. PO Box 385
Sharon, CT 06069

June 8, 2023

James D. Krissel
Chairman
63 Main St. PO Box 385
Sharon, CT 06069

Re: 64 Hilltop Road – Sharon Center School - Solar Facility

Dear Chairman Krissel:

It has come to my attention that a solar facility has been proposed at Sharon Center School at 80 Hilltop Road immediately adjacent to an extensive calcareous wetland system downslope to the east. This wetland, located between Hilltop Road and Still Meadow Road, flows southward through Hatch Pond to Mill Brook, where it makes a direct hydrological connection to Connecticut's most important bog turtle (*Glyptemys muhlenbergii*) population.

The bog turtle is a habitat specialist, restricted to open- canopy, groundwater-fed wet meadow fens that form atop calcareous bedrock in Connecticut's Marble Valley in western Connecticut (Klemens et al. 2021). Despite the circumneutral nature of the bedrock, the constant seepage of water through these fens results in hummocks that exhibit vegetation often found in more acidic bog habitats, most notably insectivorous plants (i.e., sundews and pitcher plants). Calcareous fens also have a variety of plants that indicate suitable habitat for bog turtles, such as, shrubby cinquefoil (*Dasiphora floribunda*), slender cottongrass (*Eriophorum gracile*), and northern *grass-of-Parnassus* (*Parnassia palustris*). The delicate balance of hydrology and vegetative structure is highly vulnerable to alteration by surrounding land use practices, rendering the bog turtle as the most vulnerable turtle species in the United States. Connecticut is home to only three known extant populations of this rare turtle species rendering its listing status as Endangered in Connecticut and Federally Threatened under the U.S. Endangered Species Act.

Over the past two years my company, Quinn Ecological, LLC in cooperation with the Connecticut Department of Energy and Environmental Protection have conducted Phase 1 and Phase 2 habitat assessments on the wetland between Hilltop Road and Still Meadow Road in accordance with the U.S. Fish and Wildlife Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan (USFWS 2001). These surveys have identified suitable vegetative structure and a variety of indicator plants for bog turtle habitat, such as shrubby cinquefoil, slender cottongrass, and northern *grass-of-Parnassus*. Additionally, suitable soils and hydrological conditions have been identified, including the presence of

rivulets which are used by bog turtles as travel routes within wetlands. Although no bog turtles have been observed to date, the characteristics of this wetland system are suitable and may support a population of bog turtles. Continued surveys are underway during this field season and will continue over the next few years in an attempt to identify this elusive turtle species within this system. Of note, during our surveys, the spotted turtle (*Clemmys guttata*), a state listed species of special concern was observed, both hatchling and adult individuals.

Meeting Connecticut's energy needs is an important goal, however, it should not come at the expense of other important State goals, such as the protection of wetlands, and the conservation of endangered species. Selecting projects and/or sites that pit important State mandates at cross-purposes is a losing proposition. Attempts at balancing competing land use goals when large scale projects are planned in conservation sensitive areas rarely achieve the perceived balance. All too often, the results are a gradual erosion of habitat quality leading to long-term population declines for many conservation-sensitive species of animals and plants.

I would encourage the Sharon Inland Wetlands Commission to critically review this application and request a full environmental impact review of this project including surveys from botanical, ornithological, entomological, and hydrological experts to evaluate potential impacts to this important wetland system. Additionally, I would highly recommend a review of all prudent alternatives to the proposed solar facility including, but not limited to the feasibility of a rooftop installation of the proposed solar facility to reduce potential impacts to wetland hydrology through altered groundwater discharge.

Sincerely,



Dennis P. Quinn
Owner/Herpetologist

Recognized Qualified Bog Turtle Surveyor - HHRU - United States Fish & Wildlife Service

Quinn Ecological, LLC
40 Pine Street
Plantsville, CT 06479

Part-time Faculty
Department of Biology
Central Connecticut State University

Literature Cited:

Klemens, M.W., H.J. Gruner, D.P. Quinn and E. R. Davidson. 2021. *Conservation of Amphibians and Reptiles in Connecticut*. State Geological and Natural History Survey of Connecticut Bulletin.

U.S. Fish and Wildlife Service. 2001. Bog Turtle (*Clemmys muhlenbergii*), Northern Population, Recovery Plan. Hadley, Massachusetts. 103 pp.

Dennis P. Quinn

40 Pine Street
Plantsville, CT 06479
Phone: (203) 430-7830
E-mail: dennis@quinnecological.com
www.QuinnEcological.com

EDUCATION

University of Massachusetts, Amherst, MA.

- New England Regional Soil Science Certificate Program. (2014)

Central Connecticut State University (CCSU), New Britain, CT.

- Masters in Ecology and Environmental Science. Thesis research: Radio-telemetry of eastern box turtles to determine home-range, habitat use and hibernacula selection in CT. (2008)
- Bachelors in Biology with a concentration in Ecology, Biodiversity and Evolutionary Biology. (2002)

United States Fish & Wildlife Service - Recognized Qualified Bog Turtle Surveyor - Housatonic/Hudson Recovery Unit

PADI Certified Scuba Diver. (1999)

EMPLOYMENT

Owner – Quinn Ecological, LLC. Plantsville, CT. (2007 – present)

Quinn Ecological, LLC was founded as CTherpConsultant, LLC in 2007 to facilitate the pursuit and passion I have for amphibian and reptile research, conservation and preservation. A wide variety of ecological services are offered at Quinn Ecological, LLC, ranging from general wildlife and habitat characterization surveys, to detailed environmental impact assessments complete with land use planning, mitigation design and monitoring. I have worked directly with a variety of listed species, ranging from the State Endangered diploid blue-spotted salamander and eastern spadefoot, to the Federally Threatened bog turtle. I currently serve as the consulting herpetologist for the Connecticut Department of Energy and Environmental Protection under contract with the Wildlife Management Institute, where I coordinate state and northeast regional amphibian and reptile research and conservation projects associated with both the Regional Conservation Needs and State Wildlife Grant programs.

Creator and maintainer of www.ctherpetology.com: A photographic atlas to the amphibians and reptiles of Connecticut and all Social Media Platforms associated with this page to raise awareness of amphibian and reptile conservation in New England.

Wildlife Photographer – photographs can be viewed at www.dennisquinnphotography.com

Associate Scientist, Parsons Corporation East Berlin, CT. (2005 - 2007)

- Radio-telemetric study of eastern box turtles and eastern hog-nosed snakes for ConnDOT CT Route 7 Bypass. Responsible for data collection, terrestrial mitigation design, assist with culvert design and placement, data analysis, and report preparation.
- Northern slimy salamander presence/absence survey for ConnDOT CT Route 7 Bypass. Responsibilities included field surveys and assist in report preparation.

Environmental Scientist, Maguire Group Inc. New Britain, CT. (2005)

- Field surveys for proposed Route 11 corridor and assisted in preparation of the environmental impact statement.
- Impact Assessment for emergency by-pass pipeline, data analysis, technical writing and mitigation planning.

Herpetological Field Surveyor, Farmington River Watershed and Wildlife Conservation Society (2002)

- Surveyed local reptile and amphibian populations throughout the Farmington River Valley. Identification, data collection, photography.

EMPLOYMENT IN EDUCATION

Part-time Faculty, Central Connecticut State University, New Britain, CT. (2021 – present)

Bio 490/590 – Herpetology

Bio 390 – Biology Research Experience II

Bio 391 - Internship in Biology

- Serve as a technical research advisor to undergraduate and graduate students working on research in the field of herpetology.
- Graduate Thesis Committee – serve as an expert committee member for herpetological theses.

Technical Advisor, CCSU New Britain, CT. (2011 - present)

Adjunct Instructor, Naugatuck Valley Community College Waterbury, CT. (2004 - present)

Courses Taught:

Bio 105 Introductory Biology - Lec/Lab
Bio 171 Field Biology - Lec/Lab

Bio 145 General Zoology - Lec/Lab

Environmental Science Instructor, Post University Waterbury, CT. (2006)

Courses Taught:

Bio 134 General Biology - Lab
Bio 200 Ecology - Lec

Env 200 Sustainable Development - Lec
Env 230 Environmental Policy - Lec

Received honors for outstanding service to students in environmental science instruction.

Graduate Teaching Assistant, CCSU New Britain, CT. (2003)

Courses Taught:

Bio 121 General Biology I - Lab

Bio 202 Principles of Ecology and Evolution - Lab

PUBLICATIONS

- Klemens, M.W., H.J. Gruner, D.P. Quinn and E. R. Davidson. 2021. *Conservation of Amphibians and Reptiles in Connecticut*. State Geological and Natural History Survey of Connecticut Bulletin.
- Barbara J. Nicholson, Quinn D. P., Rivadeneyra M.A. 2020. Post-natal Movement, Habitat Use, and Hibernacula Selection of Eastern Box Turtles (*Terrapene carolina carolina*) in Southern New England. *Northeastern Naturalist*. 27(2):358-380.
- Licitra, D., D. Quinn, J. Reeder, T. Gavitt, J. Dickson, B. Hess, B. Mangold, A. Tuttle, A. Rosas-Rosas, S. Frasca, and S. Szczepanek. 2019. "Snake Fungal Disease in Colubridae Snakes in Connecticut, 2015-2017." *J Wildl Dis.* 55, no. 3 (July): 658-662.
- Schlesinger MD, Feinberg JA, Nazdrowicz NH, Kleopfer J, Beane JC, Bunnell JF, et al. (2018) Follow-up ecological studies for cryptic species discoveries: Decrypting the leopard frogs of the eastern U.S. *PLoS ONE* 13(11): e0205805. <https://doi.org/10.1371/journal.pone.0205805>
- Schlesinger, M.D., J.A. Feinberg, N.H. Nazdrowicz, J.D. Kleopfer, J. Beane, J.F. Bunnell, J. Burger, E. Corey, K. Gipe, J.W. Jaycox, E. Kiviat, J. Kubel, D. Quinn, C. Raithe, S. Wenner, E.L. White, B. Zarate, and H.B. Shaffer. 2017. Distribution, identification, landscape setting, and conservation of *Rana kauffeldi* in the northeastern U.S. Report to the Wildlife Management Institute for Regional Conservation Needs grant RCN 2013-03. Available from New York Natural Heritage Program, Albany, NY.
- Quinn, D., H. Gruner, and S. Cronkite. 2017. Eastern box turtle and eastern hog-nosed snake final monitoring report 2011. Parsons Transportation Group. Project 18-113/129. U.S. Route 7 Bypass, Brookfield, Connecticut. Connecticut Department of Transportation
- Quinn, D. 2016. *Macrophotography: Capture Larger-Than-Life Photographs of Nature's Smallest Subjects*. Amherst Media, Inc. Buffalo, NY.
- Gruner, H. and Quinn, D. 2012. Project 18-113/129 U.S. Route 7 Bypass Brookfield, Connecticut, Slimy Salamander (*Plethodon glutinosus*) Ridge-wide Habitat Study, Kent to Bethel, Connecticut. Connecticut Department of Transportation, Newington, CT.
- Quinn, D. 2011. The Timber Rattlesnake: A Modern Day Legend. *Connecticut Wildlife*. Volume 31, No. 1, Jan/Feb 2011.
- Quinn, D., H. Gruner, and S. Cronkite. 2010. Eastern box turtle and eastern hog-nosed snake final monitoring report 2011. Parsons Transportation Group. Project 18-113/129. U.S. Route 7 Bypass, Brookfield, Connecticut. Connecticut Department of Transportation
- Quinn, D. 2009. Project 131-190 Removal of Bridge No. 00518 and Intersection Improvements Route 10 and Route 322 Southington, Connecticut: Eastern Box Turtle and Wood Turtle Presence/Absence Surveys and Report. Connecticut Department of Transportation, Newington, CT.
- Quinn, D. 2008. A radio-telemetric study of the Eastern Box Turtle (*Terrapene carolina carolina*) home range, habitat use, and hibernacula selection in Connecticut. M. Sc Thesis. Central Connecticut State University, New Britain, CT. 84 pp.

PRESENTATIONS, RADIO and VOLUNTEER WORK

Seminars:

Quinn Ecological, LLC conducts 5 volunteer presentation on a first come first serve basis every year.

- WNPR Where We Live hosted by Lucy Nalpathanchil It's migration season; listen for the peepers (2022)
- Mystic Aquarium. CT Amphibians and Reptiles and their Conservation Challenges. (2015)

- WNPR Where We Live hosted by John Dankosky Everything You Want to Know About Turtles. (2014)
- WNPR An Atlas to Track Connecticut Critters that Slither, Hop and Crawl. (2014)
- UCONN Department of Pathobiology and Veterinary Science Seminar Series. CT Amphibians and Reptiles and their Conservation Challenges. (2014)
- CT Department of Energy and Environmental Protection. CT Salamanders and their Conservation Challenges. (2014)
- CT Department of Energy and Environmental Protection. *Natural History of the Northern Copperhead*. (2013)
- CT Department of Energy and Environmental Protection. *Natural History of the Hog-nosed Snake*. (2013)
- Simsbury Land Trust 25th Anniversary Celebration. *Connecticut Reptiles and Amphibians*. (2006)
- Biological Sciences Seminar Series. CCSU. *Land Management and Conservation Strategies for the Reptiles and Amphibians of the Farmington River Valley* (2002)

Volunteer:

Consulting Herpetologist – Steep Rock Association (2018 – present)

Consulting Herpetologist – Eight Mile River Wild and Scenic (2019 – present)

Nutmeg Big Brothers Big Sisters. Big Brother Mentor. (2007 – 2010)

Regional Water Authority. A Walk with Connecticut's Reptiles and Amphibians. Pine Hill Recreational Area. (2010)

Connecticut Bio Blitz.

- Keney Park and Goodwin College. Hartford, CT. (2009)
- Wilbert Snow School. Middletown, CT. (2007)
- Two Rivers Magnet School. East Hartford, CT. (2005)

Wethersfield Nature Center. Reptile Day. Gave interactive talk with school children on reptiles and amphibians. (2005)

Simsbury Land Trust. Educational walk on vernal pools and the fauna that depend on them for survival. (2003, 2004 & 2005)

COMPUTER EXPERIENCE

Microsoft Office: Word, Excel, Access, Power Point; PC-ORD, ArcGIS, Graphical Analysis, Sigma Plot, Adobe Photoshop.

AWARDS and HONORS

Leeds M. Carluccio Award: For outstanding student service and leadership in Biological Sciences (2002)

Member Tri-beta National Honor Society (2002)

REFERENCES

Dr. Michael Klemens. Research Associate in Herpetology. American Museum of Natural History. fenbois@aol.com. (203) 448-8068.

Mr. Hank Gruner, Vice President of Programs (Retired). Connecticut Science Center, Hartford, CT. grunerhank@gmail.com (860) 712-1308.

Ms. Jenny Dickson, Division Director. Connecticut Department of Energy and Environmental Protection Wildlife Division Hartford, CT. jenny.dickson@ct.gov (860) 424-3114