

To: Todd A. Bianco, Coordinator
Energy Facility Siting Board
Rhode Island Public Utilities Commission
89 Jefferson Blvd.
Warwick, RI 02888

From: Richard W. Enser, Consulting Conservation Biologist
Representing, the Rhode Island Natural Heritage Program
722 Curtis Corner Road, South Kingstown, RI 02879

April 5, 2016

RE: Application of Invenegy to construct and operate the Clear River Energy Center,
Wallum Lake Road, Burrillville, RI.

The following letter provides information and commentary in regards to the environmental impacts of the proposed Clear River Energy Center on local, state, and regional biodiversity; i.e., plant and animal species, natural communities, and ecosystems. My expertise in this area is based on more than 37 years experience as a conservation biologist, 28 of those years as Coordinator of the Rhode Island Natural Heritage Program (NHP).

The NHP was an office in the RI Department of Environmental Management (RIDEM) created in 1979 through a joint effort of RIDEM and The Nature Conservancy (TNC), a nonprofit conservation organization which, at that time, was particularly concerned about the decline of natural diversity throughout the nation. With assistance from TNC, Heritage programs were formed in all fifty states, each conducting its own statewide assessment of biodiversity and developing comprehensive databases on the locations of rare and endangered species and the natural communities and ecosystems that supported them. This information provided a basis for prioritizing sites needing protection, and assisted with environmental review activities in order to help reduce unnecessary conflicts between conservation and development interests.

In 1982, the NHP published its first Technical Report with an initial list of 416 rare plants and animals, most of which were known from fewer than 6 sites in the state, and a database of 1400 occurrence records of listed species. As a matter of record, the rare plant list, which was updated in 2015, today includes 388 species (119 more than in 1982, representing about 30% of the state's native flora), with more than 70 of these identified as State Historic, i.e., extirpated from Rhode Island. These statistics reflect the steady degradation of Rhode Island's biodiversity, despite the considerable land protection effort that has already taken place. This continuing decline demands that we scrutinize all development projects and the impacts that could be imposed by them on biodiversity, and this strategy should be applied most stringently to projects that pose significant impacts, for example the placement of a power plant in the midst of an area that has been a high prioritization for conservation for nearly three decades.

The NHP does not merely catalog biodiversity information, but also serves as the interpreter of that information to assist in planning and conservation, and in environmental review for a variety of local, state, and federal agencies. These activities included, but were not limited to, providing information and review for town comprehensive plans, assessments of properties and management plan review for the Open Space grant program (administered by the Natural Heritage Preservation Commission), assessments for the RIDEM Land Acquisition Committee, Forest Legacy Program, Agricultural Land Preservation Commission, and The Nature Conservancy. The NHP also reviewed literally thousands of requests submitted by government agencies, environmental consultants, and private landowners for consultations regarding proposed development projects. In other words, the NHP was the “go-to” agency for biodiversity information, and as such would have been assigned to assess the impacts to biodiversity posed by the Clear River Energy Center, and that review would have been part of an overall RIDEM response.

The NHP was dissolved in 2007, and this circumstance leaves the EFSB with a dilemma - there is no agency in state government whose responsibility is the interpretation of biodiversity information. The Burrillville Land Trust attempted to rectify this dilemma by filing a motion to intervene based on “...an interest which may be directly affected and which is not adequately represented by existing parties...”; however, the BLT motion was denied in part because a determination was made by EFSB member Janet Coit that biodiversity would be handled by the RIDEM Division of Fish and Wildlife.

I object to that decision. The Division of Fish and Wildlife (DFW) is a resource managing agency whose primary responsibility is ensuring sustainable populations of game, fish, and shellfish for the consuming public. DFW staff is principally comprised of resource managers – there are no botanists, entomologists, or ecologists on staff, and therefore the DFW cannot be relied on to provide the complete ecological perspective necessary to assess biodiversity.

Denying intervener status to the Burrillville Land Trust denies them the opportunity to ask specific questions of Invenegy as to how they intend to conduct an adequate assessment of biodiversity impacts. Currently, the only biological information available about the site is contained within the application, but these data are highly deficient. My review of that material is attached to these comments. In order for the EFSB and the public to understand the full impacts to biodiversity there needs to be a considerable amount of field work conducted, and until that work is done comments regarding the impact to individual species are mostly conjectural.

However, there are other sources of information already available that reference the ecological importance of this particular part of the state. As previously mentioned, during the tenure of the NHP we participated in a number of assessment and planning projects, one of which was the Rhode Island Resource Protection Project (RPP) in 1995. This project was part of a New England-wide effort initiated by the Environmental

Protection Agency, the six state environmental regulatory agencies, and the New England Interstate Water Pollution Control Commission. The purpose of this project was to:

“... identify the region’s most ecologically healthy areas. Recognizing that human health and welfare are dependent on healthy, functioning natural ecosystems, and that there is a limited amount of time and money to spend on protecting the natural resources that make up these ecosystems, this process was developed to target the states' most important natural resources for attention.”

A workgroup of diverse Rhode Island interests was convened in 1995, comprised of more than one hundred people representing four Federal agencies, seven State agencies (including 31 DEM staff), the University of Rhode Island, Brown University, and nine NGOs. Following a process developed by the 1994 New Hampshire Pilot Project, the workgroup utilized Geographic Information System (GIS) technology to display a variety of resources in the state, including: habitat, water supply, agriculture, forestry, recreation, and environmental threats. More information about this project is available at <http://www.edc.uri.edu/rirpp/>.

The goals of the RPP are in part:

- Identify areas in Rhode Island that encompass important natural resources and are in good ecological health.
- Facilitate the protection of critical natural resources in the identified Resource Protection Areas by working with all appropriate parties.
- Provide information and input to the New England region-wide Resource Protection Project.
- Provide information for agency/organization internal planning and targeting
- Assist with the coordination and targeting of existing regulatory and non-regulatory programs.

Nine Resource Protection Areas were identified in Rhode Island, one of them being the following:

Moosup River/ Western Blackstone Resource Protection Area: In the communities of Burrillville, Glocester, Foster, Coventry, and West Greenwich; and, the watershed basins of the Chepachet, Clear, and Moosup Rivers. The description of this protection area from the RPP website is as follows:

These watersheds comprise the northern section of Rhode Island's "Western Forest," the largest tract of forest habitat in the state. It is also a significant non-urbanized area in the Washington D.C. to Boston corridor, especially considering its interstate connections with Connecticut and Massachusetts. This area is inhabited by species that require large unfragmented tracts of forest, including neotropical migrant birds (that use these forests for nesting habitat) and wide-ranging mammals such as the bobcat and fisher. The higher elevations and cooler microclimate in this part of the state support natural communities typical of regions north of Rhode Island. The public is able to enjoy the large amounts of

open space that are accessible through significant state holdings and the North/South trail currently under development.

The RPP state habitat map (Figure 1) shows the distribution of the largest remaining portions of unfragmented forest in the Northwest Corner of the state, within which the Clear River Energy Center is proposed to be situated. It is important to understand that this map was created in 1995 – today, after twenty additional years of forest removal and fragmentation throughout the state to support new development, the significance of the unfragmented northwest forest is even greater.

In a related note, the methodology used to conduct the RPP was also employed during this same period to identify potential locations for siting a new landfill in Rhode Island. The primary criterion for this search was a minimum size of 500 acres, and a GIS analysis was used to overlay data of a number of resources to identify areas capable of absorbing the environmental impacts associated with a landfill. In the final analysis, there were no areas identified that could provide that capacity, and the decision was rendered to go with the alternative of expanding the current landfill along with instituting new programs in waste management, especially recycling.

The Clear River Energy Center presents a similar degree of environmental impact, but no GIS siting analysis was conducted to determine the best place to put it. Invenergy did not come to the state and ask: “Where are the possible places in RI for us to site this facility?” Rather, they essentially told the State where it will be, and unfortunately the State did not remember that the place Invenergy selected was in the middle of a highly significant resource area. That knowledge would have at least provided an initial recommendation to Invenergy that they might want to consider alternative sites.

The RPP is not the only plan that has recognized the significant biodiversity and other resource values in the northwest part of the state. Some of these include several State Guide Plans (e.g., Forests, Open Space/Recreation, Greenways), State Wildlife Action Plan, DEM Land Acquisition Plan, The Nature Conservancy’s Conservation Plan for Northwest Rhode Island, and the Biomap Project in neighboring Massachusetts.

Figure 3 shows a section of a GIS map prepared in 2003 that depicted conservation properties in Rhode Island along with DEM priorities for land acquisition in the Northwest Corner of the state. One large target identified on this map is the forested tract between the Buck Hill and George Washington Management Areas which would provide an important connection and wildlife movement corridor; however, construction of the Clear River Energy Center would essentially eliminate this potential.

Figure 4 provides a portion of a brochure prepared by the Rhode Island office of The Nature Conservancy circa 1997 with references to the northwestern corner of the state as a high conservation priority area.

In summary, there is already an accumulated body of evidence citing the natural resource significance of Northwest Rhode Island, and any analysis that might be

performed to locate potential sites for a new power plant would immediately eliminate Northwest Rhode Island as a possible location.

The conclusions drawn from the landfill siting analysis raise another important question - would a similar analysis for siting a power plant have come to the same conclusion, i.e., that there is no place in the state available that did not present a significant environmental impact? If so, shouldn't we finally begin to understand that Rhode Island is truly a small state, that there are certain things we'd like to do, and like to have, but there just isn't enough room any more to support them. More than in many parts of the country, Rhode Island has already paid a significant price in species lost, forests fragmented, and everyone's quality of life eroding as biodiversity slips away. Development pushes ever westward from the urban core, spreading ecological decay into the state's last patches of relatively unscathed landscape, squeezing species out and reducing the resiliency of natural communities.

Biodiversity is only one resource value of note in this region. A considerable part of the Northwest corner has already been conserved as State Management Areas, land trust preserves, and by other conservation actions. It is interesting to note that at the recent Land and Water Conservation Summit, Governor Raimondo touted the recently formed Outdoor Recreation Council chaired by her husband, Andy Moffit. In the press release announcing the creation of the Council, Mr. Moffit was quoted:

"Every day I see the dedication of Rhode Island residents to preserving the state's diverse natural heritage. We can capitalize upon all the state has to offer and showcase Rhode Island as a destination for our families and visitors alike."

I would suggest, placing a gas-fired power plant in the middle of one of Rhode Island's last sizable expanses of forest ecosystem would have devastating consequences to the "diverse natural heritage" of this state, and the quality of life that we all depend on. It would be valuable for the EFSB to request an opinion from the Outdoor Recreation Council, based on their review of the Invenenergy application as well as this communication, as to the impacts to recreation, tourism, and other issues under the purview of that Council.

It is my opinion, and probably one that would be shared by the 100 people who helped craft the RI Resource Protection Plan, that siting the Clear River Energy Center in western Burrillville would present a highly significant environmental impact. This conclusion is already clear based on the plans and studies cited above. However, the NHP will continue to coordinate assessment of biodiversity in and surrounding the project area as we begin the 2016 field season. This work will consist of comprehensive inventories of flora and fauna, and closer scrutiny of populations of rare species identified during inventory efforts. It should be noted that already two species of concern have been identified in the area: the State Threatened Black-throated Blue Warbler (identified by ESS on the project site), and the Wood Turtle (a species proposed for Federal listing).

The NHP will periodically forward results of this work to the EFSB during the coming months. It should be noted that this work would have been conducted as normal operating procedure by the NHP in reviewing projects of this kind; however, with the demise of the NHP this work must be conducted by professional biologists on a volunteer basis. Typically, Invenergy would be responsible for preparing a thorough biodiversity assessment, but in this case they have relied on a private environmental consulting firm which (as outlined in my attached review) is not staffed with the proper personnel to render a thorough biodiversity assessment. As such, I raise the question: In order to insure that the EFSB has a thorough biodiversity assessment for their review, will they request Invenergy to fund work being coordinated by the NHP?

Respectfully submitted,

Richard W. Enser, Coordinator
RI Natural Heritage Program, retired

CC: Burrillville Land Trust

Attachment 1.

Richard W. Enser, Consulting Conservation Biologist
Representing, the Rhode Island Natural Heritage Program
722 Curtis Corner Road, South Kingstown, RI 02879

RE: Application of Invenergy to construct and operate the Clear River Energy Center,
Wallum Lake Road, Burrillville, RI. Comments submitted to Burrillville Land Trust
in support of their motion to intervene.

Paul Roselli, President
Burrillville Land Trust
P.O. Box 506
Harrisville, RI 02830

January 6, 2016

Dear Paul:

I have conducted a preliminary review of the application submitted by Invenergy Thermal Development, Inc. for the construction of the Clear River Energy Center in Burrillville, RI, specifically Sections 6.5 and 6.6, Vegetation and Terrestrial Ecology.

These sections provide data concerning the flora and fauna at, and within the vicinity of, the project site as determined by ESS Group, the environmental consultants for this project. In addition, these sections provide interpretation concerning the impacts to flora and fauna that will result from the construction of this facility.

At the onset, it should be understood that the inventory effort is well below the standards that would be expected when considering the potential impacts to biological resources from the construction and operation of a facility of this magnitude. Moreover, the construction of this facility in one of Rhode Island’s most rural areas with notably high biodiversity values demands that considerably more scrutiny of the impacts to biological resources is warranted.

The poor quality of the inventory effort is reflected in the numbers. For example, according to Table 6.6-1, a total of 25 species of birds were observed at the “proposed project site”. In addition, according to Table 6.6-2 an additional 16 birds could be expected at the site, based on a single literature source, combining for a total potential avifauna of 41 species. However, based on data collected during the Rhode Island Breeding Bird Atlas, as well as long term breeding bird surveys conducted in similar habitats on nearby state wildlife management areas, the number of bird species that should be expected to be documented in this area is approximately 93. This discrepancy (only 27% actually recorded) is clear evidence that considerably more inventory is warranted.

As shown in Table 1 (below) inventory inadequacies are apparent across all faunal groups, with only 45% of the expected number of vertebrate animals reported by ESS (only 22% when considering species actually observed on site by the consultants). Moreover, it is clear that no inventory effort was expended in determining the invertebrate fauna; within this group only three insects are reported by the consultant based on casual observations, and no additional information is provided concerning other insects or any other invertebrate taxa to be expected. In a mature forest ecosystem of this dimension the potential number of invertebrate species would be more than one thousand. The significance of deciduous forests is reflected in the number of insects identified as Species of Greatest Conservation Need (RI Wildlife Action Plan 2015) that inhabit this community type.

Table 1. Index of inventory effort of primary faunal groups at the Invenenergy project site, Burrillville, RI.

Group	Expected No. Species*	ESS Reported+	% Reported	SGCN**
Mammals	40	19	48%	13 (3)
Birds	93	41	45%	40 (9)
Reptiles	17	7	41%	6 (1)
Amphibians	15	7	47%	7 (1)

Total				
Vertebrates	165	74	45%	66 (14)
Invertebrates	?	3	?	65++

* Expected number of species based on inventories conducted by RI Natural Heritage Program, RI Natural History Survey, and other individuals.

+ Number reported by ESS consultants (observed and predicted)

** Species of Greatest Conservation Need as identified in RI Wildlife Action Plan (2015). Numbers in () are SGCN species reported by ESS

++ SGCN invertebrates include those identified for the following habitat types: Beetles, moths, and butterflies of deciduous forests and shrub swamps/open wetlands; odonates of upper perennial rivers; stream organisms; sphinx moths; other beetles.

Poor inventory effort is also reflected in the reported flora at the site. A total of 31 vascular plants are reported, which is at least 75% less than what the expected number would be. A thorough plant inventory is especially necessary at this site because of the number of rare plant occurrences known to exist on surrounding properties where similar habitats are found. The northwestern part of Rhode Island is particularly significant to the preservation of the state's biodiversity because of its geographic position in New England where the relatively unfragmented forest supports many species of plants and animals at the southern limit of their range. Many of these species will be undergoing additional stress in the coming years due to a warming climate and maintaining the current extent of forest in this area will be crucial to the continued survival of these species in Rhode Island. In short, the fragmentation limit has been reached in this corner of the state. The conversion of 67 acres of forest as anticipated by this project will be a significant impact alone; however, based on research widely available in the literature the construction and operation of this facility is likely to be a significant impact to an unknown extent into the surrounding ecosystems, and consequently to state biodiversity.

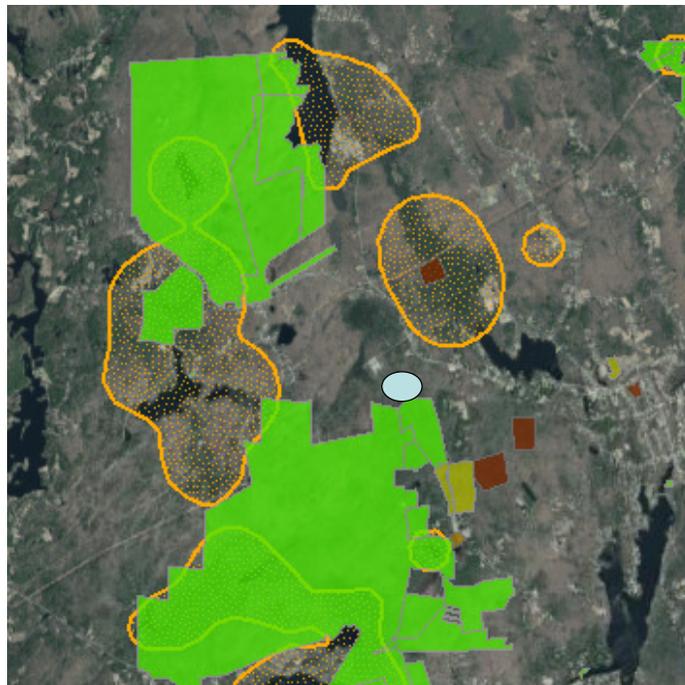
Because of the poor inventory effort, it is difficult to thoroughly examine the impacts of this project to biodiversity both at the site, and more adjacent areas to the site. In order to better assess potential impacts we need consultants who are knowledgeable enough to ask the appropriate questions, but it is clear from this application that ESS did not believe a thorough assessment of biodiversity (species, populations, and communities) was needed. Rather, it appears ESS budgeted just enough time to prepare tables based on casual observations made by field people while conducting unrelated work on site.

Many of the questions that need to be asked (and answered) reflect the overall impact of shrinking a significantly-sized tract of forest and the resulting on-site impacts,

but more importantly the extent of those impacts off-site into the surrounding landscape. As a guide, see Figure 1 which shows the landscape context within which the project site is located, along with identification of conservation lands within a several mile radius, and Natural Heritage areas (identified habitats for Rhode Island rare species).

NOTE: There is no indication that the consultant requested information regarding the presence of rare species on site or within a reasonable distance of the project by consulting the Natural Heritage database, or any other reference. This information has been available for more than 30 years and is commonly accessed by many users. Since the demise of the Natural Heritage Program there is no other entity within DEM available to provide expert opinion on the impact of projects to rare species/biodiversity. However, despite the unavailability of interpretation, information on the presence of rare species on or near sites is readily accessible, as shown in Figure 1 which was prepared from information currently found on the environmental resource maps available on the RIDEM web page.

Figure 1. Site of Clear river Energy Center in relation to conserved lands and Natural Heritage areas.



What are some of the questions to ask?

1. What will be the effects of noise on fauna in the surrounding landscape? We should remember that although 47 decibels may be acceptable for an index of “human comfort”, this relatively rural part of the state has not been previously subjected to this level of noise on a continual basis. A review of the literature will help locate research concerning noise and disturbance to wildlife.
2. Likewise, what will be the impact to migrating birds and bats created by two 200’ stacks? The US Fish and Wildlife Service has determined that collisions with manmade structures is a leading cause of bird and bat mortality, and there is considerable research on this topic.
3. What will be the impact to populations of rare species? The application cites the presence of the Black-throated Blue Warbler at the project site. The breeding range of this threatened species is limited to the northwest corner of the state, and the success of this population is directly related to the amount of unfragmented forest.
4. Another species of conservation concern that is likely present on this site is the wood turtle, a species also dependent on large tracts of forest as well as access to streams and rivers. The Clear River population has been consistently documented by observations over several decades – it may be one of only a few viable populations remaining in southern

New England. Currently, this species is being considered for Federal listing by the US Fish and Wildlife Service. At a minimum, a concerted inventory effort should be made to determine the full extent of the wood turtle population, and especially the importance of the project site to the survival of this population.

Other questions will undoubtedly arise when professional inventories are conducted, and I am available if needed to provide guidance/coordination regarding procedures and protocols that should be used in this effort.

Sincerely,

Richard W. Enser, Coordinator
Rhode Island Natural Heritage program, retired

