3.2 Rare, Threatened, Endangered, and Special Concern Species

The following sections focus on those rare, threatened, and endangered wildlife species that were expected to occur on the 15.5 acre intake site and along the cooling water pipeline route. In addition, the more commonly occurring wildlife species that were either observed or expected to be present based upon published species accounts (DeGraaf & Rudis, 1986) are also discussed.

3.2.1 Cooling Water Pipeline Route

Although the larger patch types along the pipeline alignment (many of which are now occupied by the Lowe's facility) were previously documented to support a number of the rare, threatened, endangered, and special concern species, the thin strip of presently impacted vegetation along the edge of the roadway that the pipeline will occupy is not. As such, only commonly occurring wildlife species are expected to occur along the edge of the roadway and to use this habitat type to any great extent.

Common bird species observed included *Corvus brachyrhynchos* (American crow), while mammals included *Tamias striatus* (eastern chipmunk); *Sciurus carolinensis* (grey squirrel); and *Odocoileus virginianus* (white tailed deer); and *Sylvilagus floridanus* (eastern cottontail). Expected edge-favoring bird species that might be observed along the road edge include *Dumetella carolinensis* (grey catbird); and the brood parasite *Molothrus ater* (brown-headed cowbird). Small mammals that might be expected within the edge communities along the roadway as they move between patch types include the white tailed deer; *Marmota monax* (woodchuck); *Didelphuus virginiana* (Virginia opossum); and *Mephitus mephitus* (striped skunk).

3.2.2 Intake Site

Given the complete absence of grassland habitat on the site, suitable habitat for the savannah sparrow was not deemed to be present. As such, it is not likely that either breeding populations or individual savannah sparrows would use

this site. Although a potentially suitable *Schizachyrium scoaprium* dominated grassland patch is present adjacent to the site within the utility right of way (ROW), it will not be impacted by the proposed project. With respect to the eastern spadefoot toad, given the absence of a combination of loose, sandy soils and ephemeral breeding pools, suitable habitat for the eastern spadefoot toad is not present on the site. For these reasons, this species would also not be expected to be present on the site.

More commonly occurring amphibians and reptiles expected to be associated with the Quinebaug River include the mudpuppy, green frog, and the northern water snake (Table 3-1). Small mammals would also be expected to use the floodplain wetlands on the site and include the short tailed shrew and beaver. With respect to some of the observed wildlife, *Bonasa umbellus* (ruffed grouse) was present in those portions of the mesic forested stand that supported dense shrub cover, while *Ardea herodias* (great blue heron) was observed along the edge of the river on a small cluster of boulders. Evidence of beaver activity is also present including gnawed saplings and heavily worn beaver "trails" along the river banks.

Table 3-1. Summary of observed and expected commonly occurring wildlife on the site.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Amphibians and Reptiles			
Nocturus m. maculosus	mudpuppy		X
Coluber c. contrictor	Northern black racer		X
Thamnophis s. sirtalis	Eastern garter snake		X
Desmognathus f. fuscus	Northern dusky salamander		X
Rana clamitans	Green frog	X	
Carphophis a. amoenus	Eastern worm snake		X
Chrysemys picta	Painted turtle	X (carapace only)	
Nerodia s. sapedon	Northern water snake		X
Birds			
Aix sponsa	Wood duck		X
Pandion haliaetus	Osprey		X
Buteo linaetus	Red-shouldered hawk		X
Otus asio	Eastern screech owl		X
Strix varia	Barred owl		X
Cerycle alcyon	Belted kingfisher		X
Melanerpes carolinus	Red-bellied woodpecker		X
Contopus virens	Eastern wood peewee		X
Empidonax alnorum	Alder flycatcher		X
Tachycineta bicolor	Tree swallow		X
Parus bicolor	Tufted titmouse		X

Catharus fuscescens	Veery		X
Dumetella carolinensis	Gray catbird		X
Dendroica petechia	Yellow warbler		X
Dendroica cerulean	Cerulean warbler		X
Vermivora pinus	Blue winged warbler		X
Pronototharia citrea	Prothonotary warbler		X
Seiurus noveboracensis	Northern waterthrush		X
Seiurus motacilla	Louisiana waterthrush		X
Geothylpis trichas	Common yellowthroat		X
Icteria virens	Yellow-breasted chat		X
Melospiza melodia	Song sparrow		X
Carduelis tristis	American goldfinch		X
Bonasa umbellus	Ruffed Grouse	X	
Ardea herodia	Great blue heron	X	
Scolopax minor	American woodcock		X
Bombycilla cedrorum	Cedar waxwing		X
Carduelis tristis	American goldfinch		X
Mammals			
Marmota monax	Woodchuck		X
Sylvilagus floridanus	Eastern cottontail		X
Peromyscus luecopus	White footed mouse		X
Didelphus virginiana	Virginia opossum		X
Sorex palustris	Water shrew		X
Blarina brevicauda	Short-tailed shrew		X
Myotis lucifugus	Little brown myotis		X
Lasionycteris noctivagans	Silver haired bat		X
Pipistrellus subflavus	Eastern pipistrelle		X
Eptesticus fuscus	Big brown bat		X
Castor canadensis	Beaver	X	
Procyon lotor	Raccoon		X
Mustela ermine	Long tailed weasel		X
Mustela vison	Mink		X
Lutra canadensis	River otter		X

Wildlife observed in the finger-like lobes located off of the intake site included a number of common herptiles, e.g. painted turtle (carapace only) and green frog; and Odonate species, e.g. *Sympetrum internum* (cherry faced meadowhawk).

4.0 IMPACTS

Given the limited impact of the proposed activities on the habitats encountered, it can be stated with some confidence that neither direct nor indirect impacts to rare, threatened, endangered, and special concern species will occur.

4.1 Rare, Threatened, Endangered, and Special Concern Species

Based upon the fact that the cooling water pipeline will be constructed entirely within the disturbed environment of the shoulder of the road, and that all impacts to plant communities associated with the installation of the pipeline will be temporary in nature, adverse impacts to the rare, threatened, and endangered species and associated habitats identified in this report will not occur.

With respect to the intake site, it can be expected that the more commonly occurring herptiles will be habitat generalists without any acute habitat specificity, whereas the eastern spadefoot toad exhibits a high degree of habitat specificity. Specifically, the limiting abiotic factor for the eastern spadefoot toad has been asserted to be soil type, whereby soft, sandy soils are the preferred substrate. When found in conjunction with the more ephemeral vernal pool habitat types, these properties collectively form suitable habitat for this species. In this regard, neither sandy substrate types nor suitable breeding areas for the species, e.g. extremely short lived vernal pools are present on the site. Although the savannah sparrow is a grassland generalist and is typically found in a variety of grassland habitats ranging from heathland to farmland of varying patch size, this habitat type was not encountered on the site. Consequently adverse impacts to the savannah sparrow will not occur.

4.2 Commonly Occurring Wildlife Species

As proposed, the construction activities would include clearing a 50-foot wide path through the riparian forest to accommodate a utility maintenance right-of-way (ROW), the construction of a roadway and a pumphouse for the new cooling water intake. Temporary displacement and avoidance of active construction areas would have a localized effect on commonly occurring wildlife present on the site by causing them to

abandon feeding, breeding (where applicable), and resting activities. These activities would resume however, shortly after the completion of construction activities.

Given the small amount of habitat that will be affected by the project, it seems highly unlikely that the change will result in any population level effects. Furthermore, the proposed activities will have negligible effects on the movement of wildlife species along the Quinebaug River riparian corridor. With respect to the composition of the terrestrial wildlife community, which is largely dominated by habitat generalists, the numbers of predators including *Molothrus ater* (brown headed cowbird) could possibly increase locally within the ROW, in response to the increase in edge habitat. Given the large amount of edge habitat in the surrounding areas however, it seems unlikely that this fractional increase in edge habitat will do anything to affect current trends in the population dynamics of local wildlife populations through increased predation.

5.0 LITERATURE CITED

DeGraaf, R.M. & Rudis, D.D. (1986) New England Wildlife: Habitat, Natural history, and Distribution. Northeast Forest Experiment Station, General Technical Report NE-108.

Tyning, T.F. (1990). Amphibians and Reptiles. Little, Brown and Company.

APPENDIX A

AGENCY CORRESPONDENCE

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FRANKLIN WILDLIFE MANAGEMENT AREA
391 ROUTE 32
NORTH FRANKLIN, CT 06254
TELEPHONE: (860) 642-7239

October 11, 2006

Mr. Herbert J. Bush
Anchor Engineering Services, Inc.
75 Nutmeg Lane
Glastonbury, CT 06033
Fax 860-633-8770

re: Ecological Risk Assessment for Plainfield Renewable Energy, LLC Plainfield and Canterbury

Dear Mr. Bush:

Your request was forwarded to me on 10/4/06 from Dawn McKay of the Department of Environmental Protection (DEP) Natural Diversity Data Base. Their records indicate that a state endangered species, Eastern Spadefoot Toad (*Scaphiopus holbrookii*), a state species of special concern, Savannah sparrow (*Passerculus sandwichensis*) occurs in the vicinity of this property.

Limited information is known about Eastern Spadefoot Toad. They are very secretive and have irregular breeding periods. They are most active from June through August. They are expert burrowers going as deep as 2 meters in sandy well-drained soil. They are very rarely observed outside of the breeding period. Their habitat is described as arid to semi-arid areas, such as fields, farmland, dunes and woodlands with sandy or loose soils. And they breed in temporary bodies of water, flooded fields and forested wetlands.

The Savannah Sparrow is a bird that nests in open, grassy areas. Its breeding season is approximately from May through August and it is during this period that the species is most susceptible to disturbances in its habitat. Minimizing impact to open fields, meadows, marshes, and other grassy areas during this time period will likewise minimize impact to this species. For further information on this species contact Jenny Dickson at the DEP Wildlife Sessions Woods office, 860-675-8130

The Wildlife Division has not been provided with details or a timetable of the work to be done. If this work will be conducted in these species' habitat, the Wildlife Division recommends that an ornithologist and herpetologist familiar with the habitat requirements of these species conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, avian and herptile species list and a statement/resume giving the ornithologist' and herpetologist' qualifications. The DEP doesn't maintain a list of qualified surveyors. A DEP Wildlife Division permit may be required by the surveyors to conduct survey work, you should ask if your surveyor has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. If you have any additional questions, please feel free to contact me at 860-642-7239. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria, Wildlife Biologist
Franklin Swamp Wildlife Management Area
391 Route 32
N. Franklin, CT 06254

cc: NDDB – 14850, (14470)
J. Dickson
B. Gilmore (DEP-IWRD)

Scott's copy

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Natural Resources
Division of Wildlife
79 Elm Street, 6th Floor
Hartford, CT 06106
Natural Diversity Data Base

October 3, 2006

Mr. Herbert J. Bush
Anchor Engineering Services, Inc.
75 Nutmeg Lane
Glastonbury, CT 06033

re: Ecological Risk Assessment for the Plainfield Renewable Energy, LLC Facility Project to Construct a Water Intake Pipe and Discharge Area along the Quinebaug River in Plainfield and Canterbury, Connecticut

Dear Bush:

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed ecological risk assessment for the Plainfield Renewable Energy, LLC Facility Project to construct a water intake pipe and discharge to an area along the Quinebaug River in Plainfield and Canterbury, Connecticut. According to our information, there may be sensitive state-listed wildlife species that occur in the vicinity of this project site. I have sent your letter to Julie Victoria (DEP-Wildlife; 860-642-7239) for further review. Ms. Victoria will write to you directly with her comments.

According to our information, there are no known records of state-listed plants within your project boundaries. However, the proposed impacts to the floodplain of the Quinebaug River are unknown. Please provide additional information to our program ecologist, Mr. Ken Metzler (DEP-Wildlife; 860-424-3585; kenneth.metzler@po.state.ct.us) on this area after a complete a biological and hydrological impact assessment that will result from the withdrawal and the placement of any associated structures. Please direct any questions concerning the biological and hydrological assessment of project impacts to Mr. Metzler.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources 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 substitutes 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 at 424-3592. Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Sincerely,

Dawn M. McKay
Biologist/Environmental Analyst 3

Cc: Julie Victoria, NDDB # 14850, NDDB # 14470 (4/2006)

Connecticut Natural Diversity Data Base Review Request Form

Please complete this form *only* if you have conducted a review which determined that your activity is located in an area of concern.

Name: **Anchor Engineering Services, Inc**

Affiliation: **Consulting Engineer**

Mailing Address: **75 Nutmeg Lane**

City/Town: **Glastonbury** State: **CT** Zip Code: **06033**

Business Phone: **860-633-8770** ext. Fax: **860-633-5971**

Contact Person: **Herbert J. Bush** Title: **Eng. Assistant**

Project or Site Name: **Plainfield Renewable Energy, LLC (PRE)**

Project Location

Town: **Plainfield/Canterbury** USGS Quad: **Plainfield**

Brief Description of Proposed Activities:

30 MW Biomass Gasification Energy Facility (Plainfield) with water intake and discharge area (Canterbury)

Have you conducted a "State and Federal Listed Species and Natural Communities Map" review?

☒ Yes ☐ No Date of Map: **June 2006**

Has a field survey been previously conducted to determine the presence of any endangered, threatened or special concern species? ☒ Yes ☐ No

If yes, provide the following information and submit a copy of the field survey with this form.

Biologists Name: **Jeff Park - Kleinschmidt**

Address: **30 Pratt Street Suite 200, Essex CT**

If the project will require a permit, list type of permit, agency and date or proposed date of application:

See attached

(See reverse side - you must sign the certification on the reverse side of this form)

The Connecticut Natural Diversity Data Base (CT NDDB) information will be used for:

- ☐ permit application
- ☒ environmental assessment (give reasons for assessment):

  See attached

- ☐ other (specify):

"I certify that the information supplied on this form is complete and accurate, and that any material supplied by the CT NDDB will not be published without prior permission."

Signature _____ Date 9/25/06

All requests must include a USGS topographic map with the project boundary clearly delineated.

Return completed form to:

WILDLIFE DIVISION
BUREAU OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM ST, 6TH FLOOR
HARTFORD, CT 06106-5127

* You must submit a copy of this completed form with your registration or permit application.

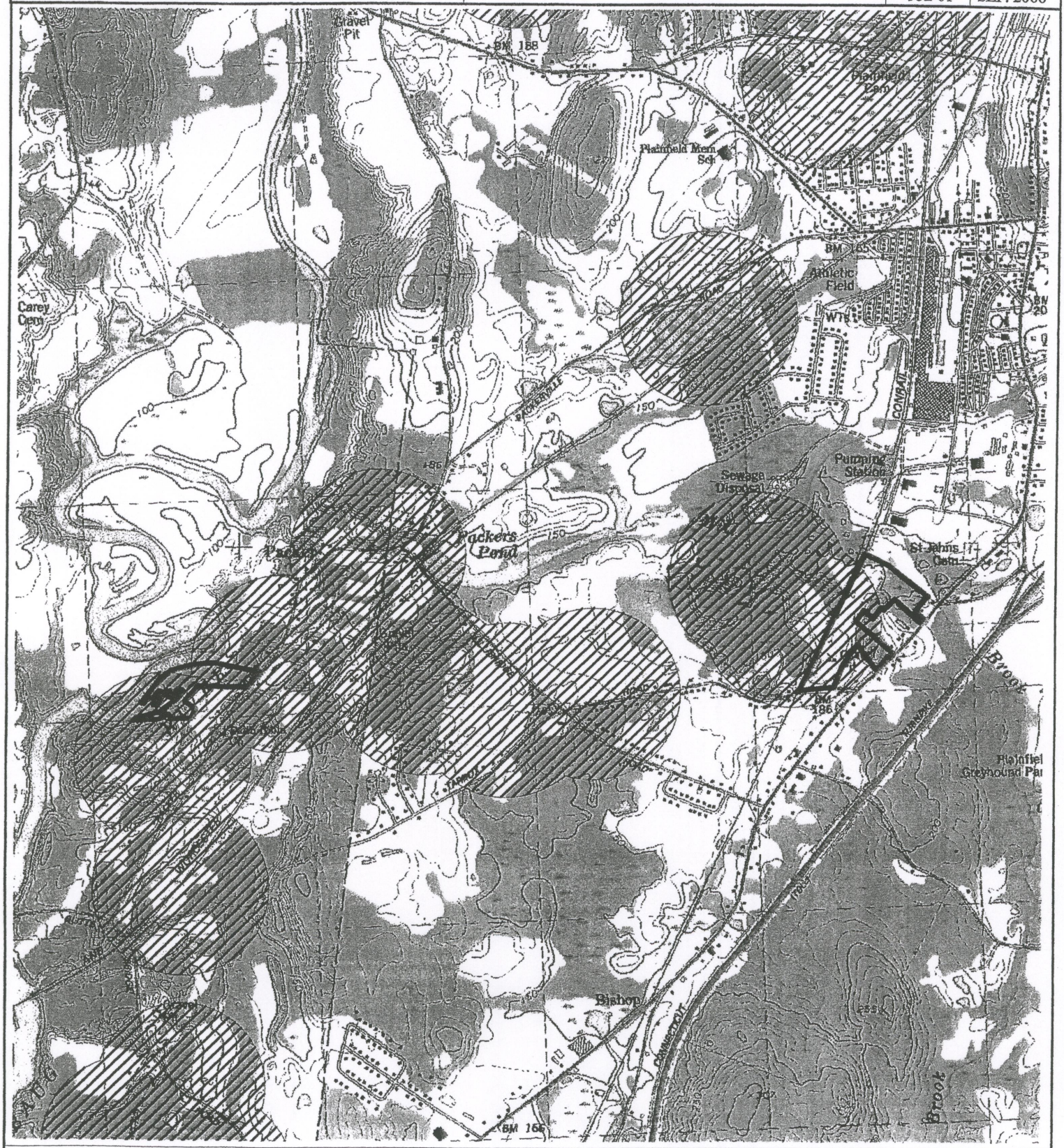
ANCHOR ENGINEERING SERVICES, INC.
75 NUTMEG LANE
GLASTONBURY, CONNECTICUT 06033
860-633-8770 FAX 860-633-5971

NDDB MAPPED AREA

PACKER ROAD SITE

FIGURE 1

PROJECT	DATE
952-01	SEP. 2006



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USGS TOPO QUAD #58
PLAINFIELD, CT

Permit Statement

Facility will require several DEP permits. Preliminary meetings with the associated CTDEP Department Heads, including Air, Inland Water Resources, Water Discharges, and Solid Waste have been held. We have received a Covenant Not to Sue from PERD and have filed a Form IV Property Transfer Act for the proposed 37 MW Biomass Gasification Energy Facility. Air and Solid waste permits have been filed with CTDEpP

Environmental Assessment

A survey has been conducted on the parcel where the 37 MW Biomass Gasification Energy Facility will be located. We are looking for information for all areas between the two sites and the site (in Canterbury) along the Quinebaug River.