
To:	EverPower NYSDEC	From:	Stantec Consulting Services Inc. 30 Park Drive Topsham, ME
File:	195600883	Date:	February 11, 2014

Reference: Cassadaga Wind Project – Habitat Assessment**INTRODUCTION**

Following the work plan for pre-construction avian and bat surveys at the Cassadaga Wind Project (Project) dated June 2013 REV July 2013¹, Stantec conducted a habitat assessment at each eagle point count location in the Project area. This memo summarizes results of the habitat assessment and informs the New York State Department of Environmental Conservation (NYSDEC) of the presence of habitat in the Project area (as depicted in Figure 1) with potential to support listed avian species.

The New York Natural Heritage Program (NYNHP) provided a list of rare birds documented within 10 miles of the Project (as originally depicted; Figure 2) on 13 August 2012. State-listed threatened bird species identified by NYNHP included bald eagle (*Haliaeetus leucocephalus*), Henslow's sparrow (*Ammodramus henslowii*), northern harrier (*Circus cyaneus*), and sedge wren (*Cistothorus platensis*). In addition, NYNHP included one Special Concern Species, common loon (*Gavia immer*) and one protected bird, great blue heron (*Ardea herodias*).

METHODS

Stantec described and photographed the cover types and estimated percent canopy cover of forests within an approximately 800-meter radius circle (~500 acres) around each eagle survey point (Figure 1). Stantec used aerial imagery (Google Earth Pro, March 2012, imagery) National Wetland Inventory (NWI) public GIS data to characterize additional cover types present when the view of the survey circle was obstructed. If Stantec identified habitat with potential to support federally or New York State-listed avian species, more detailed notes and photographs were taken. Also, while traveling between survey points in the Project area, Stantec recorded using a handheld GPS, noted, and photographed locations of habitat with potential to support such species.

RESULTS**HABITAT TYPES**

Stantec conducted the habitat assessment on 30 and 31 July 2013 and 1 and 7 August 2013. Generally, the Project area contains a mixture of hardwood forest, mixed (hardwood and softwood) forest, and agricultural land. Table 1 describes habitat type at each eagle point count (PC) location.

¹ A draft version of this work plan (June 2013) was presented to biologists at the New York Regional Field Office of the USFWS in Cortland, NY on 18 June 2013 and to NYSDEC via conference call on 27 June 2013. The work plan was revised based on recommendations made by USFWS and NYSDEC and was submitted to the agencies on 18 July 2013.

Table 1. Habitat and Percent Canopy at Eagle Point Count Locations at the Cassadaga Wind Project.

Point #	Longitude	Latitude	Cover Types	% Canopy Cover in Forest
1	-79.1606	42.3465	Crop field to N. Mowed agricultural field to S. Hardwood forest to E and SW.	60
2	-79.2521	42.3435	Crop field to W. Fallow field to E. Hardwood forest to N and SE. Mixed forest to SW.	60
3	-79.1954	42.3388	Recently plowed field at point. Fallow field to W. Hardwood forest to N, and S. Mixed forest to E.	70
4	-79.2121	42.3330	Mowed agricultural field to E and W. Shrubs to E. Hardwood forest surrounding.	80
5	-79.2319	42.3264	Fallow field with scattered shrubs and trees at point. Mixed forest throughout.	70
6	-79.1778	42.3215	Open shrubland to E with scattered trees. Mixed forest throughout.	60
7	-79.2009	42.3082	Fallow field with scattered shrubs at point. Hardwood forest to N and E.	60
8	-79.2220	42.3052	Residential lawn at point. Shrubland to W. Mixed forest to N, NW and E.	60
9	-79.2764	42.2997	Residential lawn to W. Mowed field to E. Mixed forest to N and W.	70
10	-79.2354	42.2772	Fallow field to W. Residential lawn with shrubs to E. Corn field to N. Hardwood forest to W. Mixed forest to E.	70
11	-79.1735	42.2766	Corn field to NE and S. Shrubby hedgerow and crop field to W. Hardwood forest to N. Mixed forest to E.	80
12	-79.1966	42.2669	Short mowed and/or grazed agricultural field to W. Corn field to E. Small crop to S. Hardwood forest to N.	70
13	-79.1371	42.2633	Fallow field with scattered shrubs at point. Hardwood trees and pines to N. Hardwood forest throughout.	60
14	-79.1750	42.2608	Short crop field at point. Mowed agricultural field. Shrubby area to S. Hardwood forest to E.	80

HABITAT FOR LISTED SPECIES

Stantec did not identify habitat within the Project area with potential to support federally listed avian species, State-listed species bald eagle, Special Concern species common loon, or the protected great blue heron. (Table 2). There are no large water bodies in the Project area with potential to support bald eagle or common loon, which nest on lakes greater than 25 acres in size (NYSDEC 2013a). There are no wooded freshwater swamps or water bodies with islands where great blue heron typically establish rookeries (NYSDEC 2013b).

Table 2. Potential for Breeding Habitat for Listed Species at the Cassadaga Wind Project.

Species	Preferred Breeding Habitat	Preferred Breeding Habitat Present in General Project Area?	Proposed Turbine Locations within Potential Breeding Habitat?
bald eagle	large waterbodies with fish	N	N
common loon	marshes with dense stands of emergent vegetation near open water	N	N
great blue heron	wooded freshwater swamps or water bodies with islands	N	N
northern harrier	wet, undisturbed areas surrounded by extensive open habitat	Y	N
sedge wren	wet meadows or hayfields dominated by sedges	Y	N
Henslow's sparrow	fallow fields and wet meadows	Y	Y

Northern Harrier and Sedge Wren

Breeding habitat for northern harrier includes extensive open wetlands, freshwater marshes, wet, lightly grazed pastures, fallow grasslands, meadows and cultivated fields (Smith et al. 2011). Using aerial photography and NWI data, Stantec identified a freshwater emergent wetland complex with associated shrub wetlands in the northeast portion of the Project area (Figure 1; Photo 13). These wetlands could be suitable breeding habitat for northern harrier². Similarly, sedge wren nest in predominately wet meadows or hayfields dominated by sedges (NYSDEC 2013c); wet meadows could occur in and surrounding the single marsh. Stantec did not identify hayfields dominated by sedges at the point count locations. Stantec did not observe northern harrier or sedge wren during late summer and fall surveys conducted at the Project³, however sedge wren are difficult to detect outside the breeding season. There are no proposed turbine locations in this marsh.

Henslow's Sparrow

In New York, Henslow's sparrow occurs in a variety of habitat, most generally in fallow fields and meadows, which often are moist. These areas have tall grass and herbaceous vegetation with well-developed litter, but Henslow's sparrow also will use lightly grazed areas. Habitat includes grass fields, weedy hayfields, pastures without shrubs, wet meadows, and hillsides with sedges (NYSDEC 2013d). Henslow's sparrow breed in relatively large fields ≥ 30 hectares (74 acres) (Zimmerman 1988; Mazur 1996 as cited in Herkert 2003).

At the Project, Stantec identified potential Henslow's sparrow habitat in 13 locations (Table 3; Appendix A Photos 1–13). These areas are fallow fields with dense cover of grass species and forbs estimated to be 2–4 ft in height with some standing dead herbaceous vegetation for perching.

² Note that Stantec has not surveyed this area from the ground.

³ For details regarding the late summer and fall surveys Stantec conducted at the Project, refer to the work plan dated June 2013 REV July 2013.

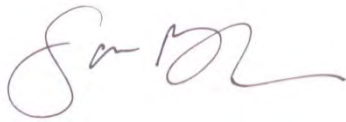
Table 3. Habitat Characteristics of Potential Henslow's Sparrow Habitat at the Cassadaga Wind Project.

Point #	Longitude	Latitude	Habitat	Dominated by Grasses with Scattered Forbs	Vegetation 2 – 4 ft in Height	Standing Dead Herbaceous Vegetation	Sparse or No Woody Vegetation	Large Field (≥ 70 acres)
PC 2	-79.252	42.343	Fallow field with grass species (Timothy grass [<i>Phleum pratense</i>]) and forbs (Canada goldenrod [<i>Solidago canadensis</i>]). Short crop fields (oats [<i>Avena sativa</i>] and corn [<i>Zea mays</i>]).	X	X	X	X	X
PC 3	-79.195	42.339	Fallow field with grass species (Reed canary grass [<i>Schizachne purpurascens</i>]) and forbs (Canada goldenrod). Recently plowed crop field.	X	X	X	X	X
PC 5	-79.232	42.326	Fallow field with forbs (Canada goldenrod) and grass species. Scattered shrubs and deciduous trees.		X	X	X	
PC 7	-79.201	42.308	Fallow field with forbs (Queen Anne's lace [<i>Daucus carota</i>] and Canada goldenrod) and grass species. Scattered shrubs.		X	X	X	X
HS1	-79.238	42.345	Fallow field with grass species (Reed canary grass) and forbs (Canada goldenrod). Adjacent hayfield.	X	X	X	X	X
HS2	-79.266	42.341	Fallow field with grass species (Timothy grass and red fescue [<i>Festuca rubra</i>]) and forbs (Queen Anne's lace).	X	X	X	X	
HS3	-79.269	42.322	Fallow field with grass species (Reed canary grass) and forbs (Canada goldenrod). Scattered shrubs.	X	X	X		
HS4	-79.274	42.296	Fallow field with grass species (Reed canary grass) and forbs (Canada goldenrod).	X	X	X	X	X
HS5	-79.217	42.342	Fallow field with grass species (reed canary grass and Timothy grass) and forbs (Canada goldenrod).	X	X	X	X	X
HS6	-79.198	42.304	Fallow field with grass species (red fescue) and forbs (Queen Anne's lace).	X	X	X	X	
HS7	-79.161	42.27	Fallow field with grass species (reed canary grass) and forbs (Canada goldenrod). Shrubby hedgerow.	X	X	X		
HS8	-79.147	42.287	Fallow field with grass species (red fescue) and forbs (Canada goldenrod).	X	X	X	X	
HS9	-79.164	42.326	Fallow field with grass species (reed canary grass) and forbs (Canada goldenrod).	X	X	X	X	X

Based on known characteristics of Henslow's sparrow breeding habitat in New York, 6 areas have been identified as having greatest potential to support the species: PC 2, PC 3, HS 1, HS 4, HS 5, and HS 9. No Henslow's sparrow were seen or heard during late summer and fall field surveys conducted at the Project.

As detailed in the work plan, at the Project Stantec will continue conducting eagle point count surveys every 3 weeks until July 2014, and will conduct raptor migration and breeding bird surveys in spring 2014; data collected during these surveys will supplement results of this habitat assessment. Please let us know if you have any questions.

Respectfully,



Sarah Boucher, Project Manager
sarah.boucher@stantec.com

References:

- Herkert, J.R. 2003. Effects of management practices on grassland birds: Henslow's Sparrow. Northern Prairie Wildlife Research Center, Jamestown, ND. Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/literatr/grasbird/hesp/hesp.htm> (Version 12DEC2003). Accessed November 2013.
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- NYSDEC 2013b. Sedge Wren Fact Sheet. <http://www.dec.ny.gov/animals/59556.html>. Accessed November 2013.
- NYSDEC 2013c. Great Blue Heron Fact Sheet. <http://www.dec.ny.gov/animals/61491.html>. Accessed November 2013.
- NYSDEC 2013d. Henslow's Sparrow Fact Sheet. <http://www.dec.ny.gov/animals/59554.html>. Accessed November 2013.
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- Zimmerman, J. L. 1988. Breeding season habitat selection by the Henslow's sparrow (*Ammodramus henslowii*) in Kansas. *Wilson Bulletin* 100(1): 17-24.

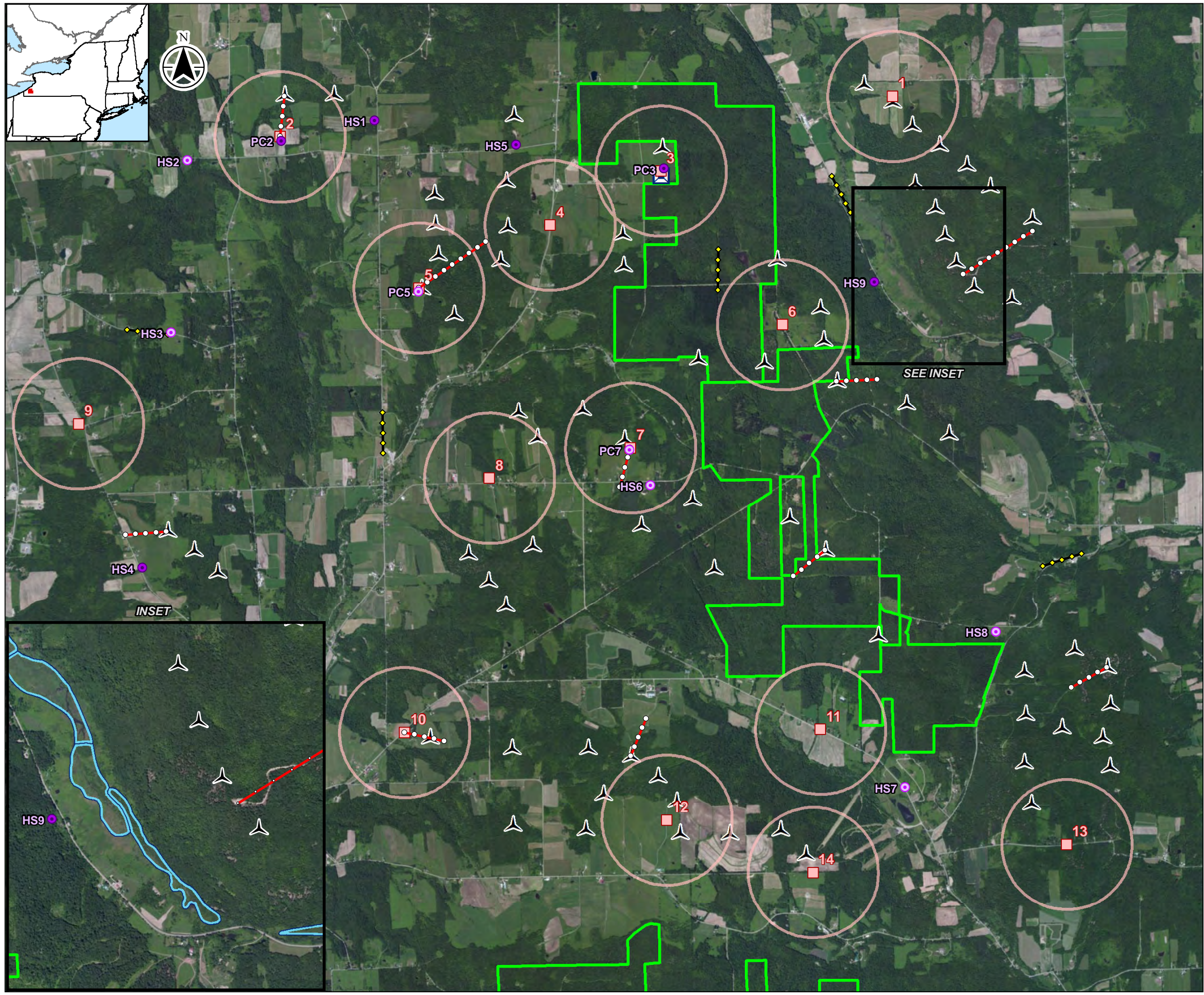


Figure No.
1

Title
Habitat Survey Locations

Client/Project
EverPower Wind Holdings, Inc.
Cassadaga Wind Project

Project Location: Chautauqua County, New York
Prepared by: EMK on 2013-11-05

195600883

0 1,000 2,000 metres
1:50,000 (At Original document size of 11x17)

- Legend
- Eagle Point Count Location and September Migratory Stopover Survey
 - Habitat Survey Area
 - Proposed Breeding Bird Survey Location Point
 - ◆ Proposed Breeding Bird Survey Control Point
 - Proposed Breeding Bird Survey Transect
 - Proposed Breeding Bird Survey Control Transect
 - ▲ Proposed Turbine Layout
 - Existing MET Tower
 - New York State Forest
 - NWI (See Inset)
- Henslow's Sparrow (HESP) Habitat
- HESP potential
 - HESP most potential

Notes
Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



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FIGURE 2

Figure 3-6: Bald Eagle Nesting Sites within a 10-Mile Radius of the Cassadaga Project

Cassadaga Wind Project



Figure provided by NYSDEC

APPENDIX A**PHOTOS 1-13**



Photo 1. Habitat at PC 2.



Photo 4. Habitat at PC 7.



Photo 2. Habitat at PC 3.



Photo 5. Habitat at HS1.



Photo 3. Habitat at PC 5.



Photo 6. Habitat at HS2.



Photo 7. Habitat at HS 3.



Photo 10. Habitat at HS 6.



Photo 8. Habitat at HS 4.



Photo 11. Habitat at HS 7.



Photo 9. Habitat at HS 5.



Photo 12. Habitat at HS 8.



Photo 13. Habitat at HS 9.