

**Wetland Functions and Values Assessment**  
**Tax Map 47 Lot 7**  
**Epping Road**  
**Exeter, NH**

## **1.0 Introduction**

The following assessment of the Functions and Values of the wetlands on this site was conducted in support of conceptual development plans for the property. This evaluation is limited to approximately 15 acres located in the easternmost portion of the site with frontage on Epping Road.

The analysis was conducted using the US Army Corps of Engineers' Highway Methodology Workbook Supplement (NAEEP-360-1-30a, September 1999). Functions and values are identified as "principal" if they are determined to be a significant physical feature of the wetland system, as compared to other functions and values. According to the USACE, the function/value qualifier as "principal" does not mean that the function or value identified is exceptional, but that the particular function/value is demonstrated more than any other function or value in the Highway Methodology Workbook. Though this report was prepared by GES in December of 2016, the analysis draws on a long history of involvement on this site involving wetland delineation, vernal pool studies and subsequent related field visits. The evaluation forms, representative photographs, and a map of the evaluation area are attached.

## **2.0 Site Description and Wetlands Context**

The property is composed of one parcel totaling approximately 62 acres and identified by the Town of Exeter Tax Assessor's Office as Tax Map 47, Lot 7. The property is situated roughly between Continental Drive to the south, Epping Road to the east, and Route 101 to the north. Several large tracts of conserved land lie to the west of the property including the Little River Conservation Area and the Conner Farm Wildlife Management Area. The property is relatively flat overall but contains some prominent small hills, ledge areas, and depressions. Drainage is to the west towards Bloody Brook and Little River.

The evaluation area consists of approximately 15 acres situated adjacent to Epping Road at the eastern end of this 62 acre parcel. The area is undeveloped woodland, though logging completed in 2014 has left the site in an early state of recovery with a largely open canopy. Uplands are dominated by oak-pine-beech forest which is among the most common type of forest in New Hampshire and also present in the surrounding areas.

Wetlands are predominantly red maple swamp (PFO1) with an understory of highbush blueberry and winterberry. These areas exist as a complex pattern of small fingers and pockets between ledge, small topographical variations, and larger areas of upland. Other

than a single area in the northeast corner which has been observed with standing water during most site visits, the wetlands lack significant surface hydrology except in the spring. The southern finger has very marginal hydrology with no surface water being observed even in the spring. No streams are present in the evaluation area. The wetlands appear natural and, appear relatively undisturbed other than the logging disturbance. The one exception is the small pocket directly adjacent to Epping Road and partially off the property. This is clearly an excavated area which has developed wetland characteristics. For the location of the different features discussed in this section please refer to the attached figure.

Vernal Pool investigations were conducted on this property in 2015. Vernal pools were identified on other portions of the property but not within the evaluation area. The wetlands on this portion of the property are very shallow and do not have are not able to pond water sufficient to support vernal pool breeding habitat. The exception is the wettest area nearest Epping Road that is depicted in Photo #1. This does appear to have the proper morphology but no egg masses were observed in this pool. The relative permanence of this ponded area suggests that predator species such as green frogs or bullfrogs may be abundant and responsible for degrading the suitability of the pool for breeding and egg development. Another contributing factor may be proximity to the road.

### **3.0 Function and Value Assessment**

These wetlands were evaluated together since they lie within a relatively small area and are all very similar. The most prominent feature of the evaluation area and the wetlands is their post logging condition. This is of course temporary but significant, especially when considering habitat. The functions and values identified in the wetlands are discussed in the following sections.

***Wildlife Habitat***— A very moderate level of wildlife habitat is present in these wetlands. In a fully forested condition the wildlife habitat value would be greater though still degraded by the proximity to the road and adjacent development. The current habitat value of the wetlands in this area is likely only suitable for small mammals, insects, and songbirds which may use the wetlands for foraging and are able to tolerate the close proximity of the road. Except in the small aforementioned ponded area, which likely supports amphibian species, the habitat value is in not much different than that of the adjacent uplands. The areas of the property outside the evaluation area, particularly closer to the preserved land to the west, are of far greater value.

***Production Export*** – This the primary value identified in these wetland areas. Since direct wildlife use of the wetland is likely limited as described above, the production value of the wetland is also limited. Though not exemplary in the region, this value does stand out as the most significant function of the wetlands in the evaluation area. The early successional species currently present in the wetland areas combined with the

remaining mast producing trees produce an abundant source of berries, nuts, seeds, and pollen bearing flowers. This likely provides a substantial source of food for wildlife. Export is limited, however, by its small size and lack of association with a well-defined waterway, other significant avenue of export, or protected corridor to these wetlands. This value is also supported in equally in the upland areas of the site.

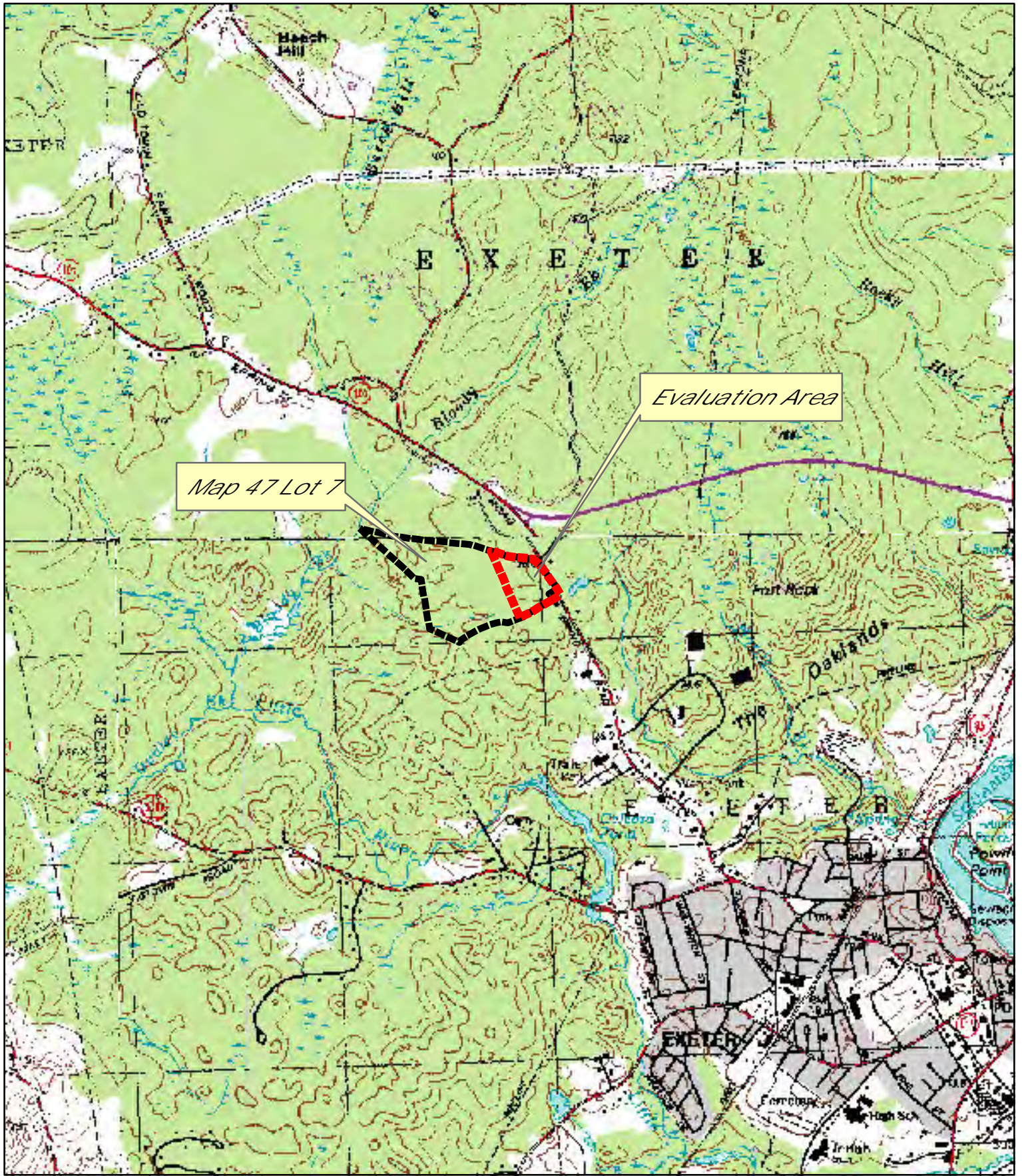
***Sediment/Toxicant Retention & Nutrient Removal*** – Due to its proximity to the roadway these wetlands may serve some moderate water quality function. These wetlands are likely to receive development runoff destined for Bloody Brook and Little River. The convoluted drainage pattern would provide opportunity for treatment long before reaching more defined flow paths. The lack of nay obvious drainage inputs and the lack of densely vegetated emergent wetland components mitigate the importance of these wetlands for these functions.

## **4.0 Conclusion**

The wetlands in the evaluation area marginally wet forested wetlands common to this area. The lack of significant wetland features such as vernal pool habitat, streams, or expansive size makes them somewhat below average in comparison to other wetlands in nearby areas and even on the property itself. Their position close to the road and current logged condition further detract from their overall quality. The principle value identified in these wetlands is as a source of food for wildlife, partially due to the early successional species currently present on the site. This value is not unique to the wetlands and is also supported in the upland areas. Very modest wetland specific habitat and water quality function are also present in this wetlands.



**Evaluation Area Figures**



1 inch = 2,000 feet

## Locus Map

Map 47 LOT 7  
Epping Road  
Exeter NH



Evaluation Area  
15 acres +/-

MAP 47 LOT 7

Ponded Area  
referenced in text

Excavated Area  
Referenced in text

Southern Finger  
Referenced in text

- Wetlands Delineated 2014
- ▨ Vernal Pools Surveyed 2015



Map 47 Lot 7  
Epping Road  
Exeter, NH

Function & Value  
Assesment Area

Figure  
2

**Photographs**



**PHOTOGRAPHS**  
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Photo 1 &2: Wetland near Epping Road (Mobil in background)



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Photo 3: Excavated area directly adjacent to Epping Road



Photo 4: Representative photo

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Photo 5: Wetland (foreground) with slightly higher upland in background



Photo 6: Panoramic taken approximately center of evaluation area looking east

**Function & Value Assessment Form**

# Wetland Function-Value Evaluation Form

Total area of wetland: 24 ac. Human made? NO Is wetland part of a wildlife corridor? NO or a 'habitat island'? NO  
 Adjacent land use Woodlot / Road / Commercial Distance to nearest roadway or other development 30-150'  
 Dominant wetland systems present PFO1 Contiguous undeveloped buffer zone present NO  
 Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? high  
 How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland ID: 15 ac. Part of 42-7  
 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Prepared by: BSQ Date \_\_\_\_\_  
 Wetland Impact: ?  
 Type \_\_\_\_\_ Area \_\_\_\_\_  
 Evaluation based on:  
 Office  Field   
 Corps manual wetland delineation completed?  Y  N

Function/Value	Occurrence Y/N	Rationale (Reference #)*	Principal Function/Value(s)	Comments
Groundwater Recharge/Discharge	N			dense till soil
Floodflow Alteration	N			little storage, NO significant input
Fish and Shellfish Habitat	N			NO suitable water body or stream
Sediment/Toxicant Retention	Y	7, 5, 4, 3, 1		Moderate function for Bloody Brook - little flow
Nutrient Removal	Y	3, 4, 5, 7, 8, 9		↓ same
Production Export	Y	1, 3, 4	*	Moss, berries, seeds, flowers, limited by lack of habitat
Sediment/Shoreline Stabilization	N			NO waterbody
Wildlife Habitat	Y	7, 8		current logged state and proximity to Rd.
Recreation	N			Private, common woodland
Educational/Scientific Value	N			common forest type
Uniqueness/Heritage	N			common forest type
Visual Quality/Aesthetics	N			common forest type, not diverse
Endangered Species Habitat	N			none identified
Other				

Notes:

\*Refer to backup list of numbered considerations.