

# WETLAND FUNCTIONS AND VALUES ASSESSMENT

## EIGHT POINT WIND ENERGY CENTER

STEUBEN COUNTY, NEW YORK

DATE: NOVEMBER 2017

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## 1.0 INTRODUCTION AND PURPOSE

This report has been prepared by TRC Environmental Corporation, Inc. (TRC) on behalf of Eight Point Wind, LLC (a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC [NextEra]), and provides a functional assessment of the freshwater wetland resources, which may or may not be impacted by construction and/or operation of a proposed wind farm with associated infrastructure located in the Towns of Greenwood and West Union in Steuben County, New York (the Project).

The boundaries of wetlands that are deemed Waters of the United States are federally regulated by the United States Army Corps of Engineers (USACE) under the Clean Water Act of 1972 (Section 404, CWA). Originating in 1987, *The Highway Methodology Workbook* (the Workbook), was created by the USACE New England District and was intended to provide a useful way to integrate highway planning, design, and development with the requirements of USACE permit regulations, the National Environmental Policy Act (NEPA), and the Federal Highway Administration (FHWA) funding approvals (USACE, 1993). More specifically, a joint memorandum of agreement conducted between the Environmental Protection Agency (EPA) and USACE dated February 7, 1990 was appended to the workbook and recognized a stepwise process of avoidance, minimization, and compensation of adverse impacts to an established set of functions and values of wetlands. Subsequently, *Wetlands Functions and Values: A Descriptive Approach*, was created by the USACE New England District and acts as a supplement to the Workbook (the Supplement). Within the Supplement, a “Descriptive Approach” was presented as a method that any project, outside of the scope of highway development, could adopt in order to characterize wetland resources necessary for Section 404 permit requirements.

Recognizing the limitations of wetland assessment in only the aspect of numerical weightings and averages, stresses the need for a qualitative description of the physical, chemical, biological, and geological characteristics of wetlands in order to identify and measure exhibited functions and values. In the past, efforts to utilize best professional judgments to interpret functions and values would often be unorganized, unpredictable, and legally difficult to defend and document (USACE, 1999). In response, the USACE developed a format in the Supplement to collect and display this information and describe the functions and values assessment of wetlands in a measurable and un-biased perspective. It is for these reasons that TRC elects to specifically follow the USACE Highway Methodology and processes outlined in the Supplement.

Eight Point Wind, LLC hired TRC to survey, identify, and document all wetlands at a minimum distance from predetermined limits of disturbances (LOD) placed onto facility infrastructure. This boundary is referred to as the Study Area in the Wetland Delineation Report and will also be adopted and referred to by the same nomenclature within this Functions and Values Assessment. There are approximately 3,629 acres of leased private lands within the Study Area. TRC delineated a total of 159 freshwater wetlands within the Study Area, totaling approximately 120.14 acres. Permanent and temporary wetland impacts are proposed to occur as a result of the construction and operations phase of the Project. This Functions

and Values Assessment is intended to aid in determining the wetland functions and values that may be impacted and/or altered as a result of the Project's construction and operation.

The functions and values of wetlands are the favorable roles that a wetland provides to its surrounding environment and also towards the benefit of human society. Functions and values are a result of specific biological, chemical, and physical characteristics within the wetland and many complex relationships maintained by the wetland within its watershed, local environment, and also with the general public. The assessment of the functions and values for wetlands have been used to categorize wetland features based on their level of significance, which might ensure that wetlands with higher functions or values receive proper vindication.

The 13 functions and values that are considered by the Supplement and by the USACE are listed further on (Sections 3.0 and 4.0). The list includes eight functions and five values. It should be noted that these functions and values are not the only wetland functions and values possible. However, these functions and values do represent the current working suite of descriptors provided by the USACE, which will be used to provide an objective representation of the wetland resources associated with the Project.

## **2.0 ASSESSMENT METHODOLOGY**

This functional assessment was conducted in accordance with the *Wetlands Functions and Values: A Descriptive Approach*, described in the supplement to *The Highway Methodology Workbook* (the Supplement) by the New England Division of the USACE (1999). The method was designed to provide a flexible approach that incorporates wetland science obtained through data collection of wetland characteristics in the field to support a functions analysis, along with professional judgment and application regarding the assignment of a more subjective value measurement for each delineated wetland. As part of this method, the evaluator took into account a number of predetermined "Qualifiers" that would be utilized as indicators or descriptors of particular functions and values. Based on the descriptions outlined in this Supplement, TRC developed a spreadsheet that displays several qualifiers, which when attributed, and in some instances combined with other qualifiers, identified the primary functions and values that could potentially be provided by the wetland. This data was tabulated and titled as the Qualifier Assignment Table (Table 1). These considerations included observed vegetation conditions, hydrologic conditions, size, adjacent area conditions, and the availability of public access, among other characteristics. These specific conditions within each of these consideration areas were strategically defined to allow each wetland's functions and values to be evaluated based on data collected during field surveys.

Functions and values were then evaluated for all wetlands that were observed during the growing seasons of 2016 and 2017. Data on qualifiers of functions and values were documented at each wetland where vegetation, soils, hydrological data, location, and geographic nature were also collected as part of a formal delineation. A total of 159 wetlands delineated within the Study Area were entered into the spreadsheet and the various wetland qualifiers identified at each wetland. Based on the entered data, the primary

functions and values provided by each wetland were determined and documented based off of cross-references to the predetermined Qualifier Assignment Table (Table 2).

Wetlands functions and values recognized under Article 24 of the Environmental Conservation Law (ECL) and Regulations are similar to those described by the Supplement, and include:

1. Flood and storm control by the hydrologic absorption and storage capacity of freshwater wetlands
2. Wildlife habitat by providing breeding, nesting, and feeding grounds and cover for many forms of wildlife, wildfowl, and shorebirds, including migratory wildfowl and species such as the bald eagle and osprey
3. Protection of subsurface water resources and provision for valuable watersheds and recharging ground water supplies
4. Recreation by providing areas for hunting, fishing, boating, hiking, bird watching, photography, camping and other uses
5. Pollution treatment by serving as biological and chemical oxidation basins
6. Erosion control by serving as sedimentation areas and filtering basins, absorbing silt and organic matter, and protecting channels and harbors
7. Education and scientific research by providing readily accessible outdoor bio-physical laboratories, living classrooms, and vast training and education resources
8. Open space and aesthetic appreciation by providing often the only remaining open areas along crowded river fronts and coastal Great Lakes regions
9. Sources of nutrients in freshwater food cycles and nursery grounds and sanctuaries for freshwater fish

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the ECL) gives the New York State Department of Environmental Conservation (NYSDEC) jurisdiction over state-protected wetlands and adjacent areas (100-foot upland buffer). The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands to allow landowners and other interested parties a means of determining where state jurisdictional wetlands exist. To implement the policy established by this Act, regulations were promulgated by the state under 6 NYCRR Parts 663 and 664. Part 664 of the regulations designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest. Consideration of the classifications assigned by the NYSDEC are included in this functional assessment where NYSDEC jurisdiction was pertinent.

### **3.0 WETLAND FUNCTIONS**

Wetland functions are the properties or processes of a wetland ecosystem that aid in promoting a homeostatic natural environment while in the absence of human interference. A wetland's specific function results from both organic and inorganic components including physical, geologic, hydrologic, chemical, and biological systems. These components include all processes necessary for the self-maintenance of the wetland ecosystem such as, but not limited to, groundwater recharge, primary

production, nutrient cycling, and sediment retention. Wetland functions relate to the ecological significance of wetland properties without regard to subjective human values. The eight functions defined by the Supplement, including short descriptions defining each function, are as follows:

1. **Flood-flow Alteration** - This function applies to the effectiveness of the wetland in reducing flood damage by containing an enhanced ability to store floodwaters for an extended period of time following heavy precipitation events.
2. **Groundwater Recharge/Discharge** - This function defines the potential for a wetland to act as a source of groundwater recharge and/or discharge. Recharge describes the potential for the wetland to contribute water to an underlying aquifer. Discharge relates to the potential for the wetland to act as a source of groundwater transfer to the surface (i.e., springs and hillside seeps).
3. **Sediment/Pollutant Retention** - This function describes the ability of a wetland to hinder the degradation of water qualities downstream. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens based off of its geomorphic position, connectivity, soil thickness, and other physical characteristics.
4. **Fish and Shellfish Habitat** - This function defines a wetland's ability to contain or influence suitable habitats for fish and shellfish species.
5. **Sediment/Shoreline Stabilization** - This function defines a wetland's ability to effectively stabilize streambanks and shorelines against future erosion events.
6. **Production (Nutrient) Export** - This function relates to a wetland's ability to produce food or usable products for organisms, including humans, within the trophic levels associated with the watershed.
7. **Nutrient Removal/Retention/Transformation** - This function relates to the wetland containing the ability to prevent excess nutrients from entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.
8. **Wildlife Habitat** - This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and their periphery. Resident and migrating species are considered along with the potential for any state or federally listed species occurring within the target wetland.

#### 4.0 WETLAND VALUES

Values are the societal benefits that occur as a result from one or more of the aforementioned functions and can also include other physical characteristics associated with a wetland that benefit society. Most wetlands have corresponding public value to an assessable degree. The value of a particular wetland function, or a combination of functions, is based on the interpretative judgment of the significance attributed to the wetlands through the various functions it provides. The judgment of value was based on the opinion of recognized staff members whose views will be ultimately weighed and considered by the presiding agencies for the Project. The five values defined by the Supplement and adopted for use in this assessment, including short descriptions defining each value, are documented below.

1. **Recreation** - This value indicates if the wetland is effective in providing, or assisting in the establishment of, recreational opportunities such as boating, fishing, hunting, and other leisurely pursuits. Recreation in this capacity includes both consumptive and non-consumptive activities. Consumptive activities consume or diminish the plants, animals, or other resources that are naturally located in the wetland, whereas non-consumptive activities do not.
2. **Education/Scientific Value** - This value considers the effectiveness of the wetland as a site for public education or as a location for scientific research.
3. **Uniqueness/Heritage** - This value applies to wetlands and associated waterbodies that contain a singular or rare quality. Special qualities may include the wetland's history and the presence of archaeological sites; an unusual aesthetic quality; historical events, which may have taken place at the wetland; or unique plants, animals, or geologic features located within, or supported by, the wetland feature.
4. **Visual Quality/Aesthetics** - This value relates to the visual and aesthetic qualities of the wetland.
5. **Threatened or Endangered Species Habitat** - This value relates to the effectiveness of the wetland or associated waterbodies to specifically support threatened or endangered species.

## 5.0 RESULTS

The assignment of qualifiers, which when attributed, and in some instances combined with other qualifiers, identified the primary functions and values that could potentially be provided by the wetlands identified within the Study Area (Table 1). The primary functions and values of each delineated wetland were based off of observed qualifiers (Table 2).



**Table1. Qualifier Assignment Table**

Qualifiers	Wetland Functions								Wetland Values				
	Groundwater Recharge or Discharge	Flood Flow Alteration	Fish or Shellfish Habitat	Sediment, Toxicant, Pathogen Retention	Nutrient Removal, Retention, Transformation	Production Export	Sediment, Shoreline Stabilization	Wildlife Habitat	Recreation	Educational or Scientific Value	Uniqueness and Heritage	Visual Quality and Aesthetics	Threatened or Endangered Species Habitat
Associated with Watercourse	X	X	X	X	X	X	X	X	X	X	X	X	
Signs of Springs/Seeps	X										X		
Concave Landform or Gentle Gradient		X		X	X		X						
Deep Surface Soil Layer (16"+)		X		X	X	X							
Dense Vegetative Coverage		X	X	X	X	X	X	X					
Sizeable Wetland		X	X		X	X	X		X	X	X	X	
Deep Open Water Area	X	X	X	X	X	X					X	X	
Fish/Shellfish Present			X			X		X				X	
Ecologically Rich						X		X	X	X	X		
Fine-grained or Organic Soils Present	X	X		X	X								
No to Low Wetland Fragmentation						X	X	X			X		X
Publicly Accessible									X	X		X	
Threatened/Endangered Present or Habitat Present										X	X		X
Multiple Cover Types					X	X		X	X		X	X	
Rare/Unique Features									X	X	X	X	

**Table 2. Functions and Values of Delineated Wetlands**

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-01	Yes	No	Yes	No	High	Small	No	Yes	Yes	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat
AS-W-02	Yes	Yes	Yes	No	High	Small	No	Yes	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat, Threatened and Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-03	Yes	No	Yes	No	High	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge / Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat
AS-W-04	Yes	No	Yes	No	Medium	Small	No	Yes	Yes	No	Low	No	Yes	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Production Export, Wildlife Habitat, Threatened/Endangered Species Habitat
AS-W-05	Yes	Yes	No	No	Medium	Small	No	Yes	No	No	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Production Export Wildlife Habitat
AS-W-06	No	No	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-07	No	Yes	Yes	Yes	Medium	Medium	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/ Toxicant/ Pathogen Retention, Threatened/Endangered Species Habitat
AS-W-08	No	No	Yes	Yes	Low	Small	Yes	No	No	No	Low	No	No	No	No	Groundwater Recharge/ Discharge, Sediment/Toxicant/ Pathogen Retention, Wildlife Habitat
AS-W-09	No	No	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
AS-W-10	No	No	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	Yes	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Wildlife Habitat
AS-W-11	No	Yes	Yes	No	High	Small	No	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
AS-W-12	No	No	Yes	No	Low	Small	No	No	No	Yes	Low	Yes	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Nutrient Removal/Retention/ Transformation, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-13	No	No	Yes	Yes	High	Large	No	No	No	Yes	High	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Wildlife Habitat
AS-W-14	Yes	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species Habitat
AS-W-15	Yes	Yes	Yes	No	High	Small	No	No	Yes	No	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Production Export, Wildlife Habitat
AS-W-16	No	Yes	No	No	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Production Export, Wildlife Habitat
AS-W-17	No	Yes	No	Yes	Medium	Small	No	No	Yes	No	Low	No	No	No	No	Groundwater Recharge /Discharge, Production Export, Wildlife Habitat
AS-W-18	No	Yes	No	No	High	Small	No	No	Yes	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-19	No	Yes	No	Yes	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Production Export, Wildlife Habitat
AS-W-20	No	Yes	No	Yes	Low	Large	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge /Discharge, Production Export, Wildlife Habitat, Threatened and Endangered Species Habitat
AS-W-A	No	Yes	Yes	Yes	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
AS-W-B	Yes	No	Yes	Yes	Low	Small	Yes	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/ Toxicant/Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Wildlife Habitat
AS-W-C	No	Yes	Yes	No	Medium	Small	No	No	Yes	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat, Threatened and Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
AS-W-D	No	Yes	No	No	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat
AS-W-E	No	Yes	No	No	High	Small	No	No	Yes	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Production Export, Wildlife Habitat
AS-W-F	Yes	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Toxicant/Pathogen Retention, Sediment/Shoreline Stabilization, Wildlife Habitat
CL-W-01	No	Yes	Yes	Yes	Low	Small	Yes	No	No	No	Low	No	No	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation
CL-W-02	Yes	Yes	Yes	No	Medium	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-03	No	No	Yes	No	Low	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-04	Yes	Yes	Yes	No	High	Large	No	Yes	Yes	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Production Export, Threatened/Endangered Species Habitat, Uniqueness/ Heritage

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-05	No	No	Yes	No	High	Medium	No	No	Yes	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/Transformation, Production Export, Threatened/Endangered Species Habitat
CL-W-06	No	Yes	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/ Pathogen Retention
CL-W-07	Yes	Yes	Yes	Yes	Medium	Large	No	Yes	Yes	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Threatened/Endangered Species Habitat
CL-W-08	No	Yes	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation



Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-09	Yes	Yes	Yes	No	High	Medium	No	Yes	Yes	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Production Export, Threatened/Endangered Species Habitat
CL-W-10	Yes	Yes	Yes	No	Medium	Medium	No	No	No	No	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Production Export
CL-W-12	No	Yes	Yes	No	Medium	Medium	Yes	No	No	No	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation, Production Export
CL-W-13	No	Yes	Yes	Yes	Low	Medium	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation
CL-W-14	No	Yes	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/Pathogen Retention, Nutrient Removal/Retention/Transformation

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-15	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Threatened/Endangered Species Habitat
CL-W-16	No	No	Yes	Yes	Low	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-17	Yes	Yes	Yes	No	Medium	Medium	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Production Export
CL-W-18	Yes	Yes	Yes	Yes	Low	Large	Yes	No	No	No	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Threatened/Endangered Species Habitat
CL-W-19	Yes	Yes	Yes	Yes	Medium	Medium	No	No	Yes	No	Low	No	No	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Nutrient Removal/Retention/ Transformation, Production Export, Uniqueness/ Heritage

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-20	Yes	Yes	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation
CL-W-21	No	Yes	Yes	No	Medium	Medium	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-22	Yes	Yes	Yes	Yes	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export
CL-W-23	Yes	No	Yes	No	Medium	Small	No	Yes	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Sediment/Shoreline Stabilization, Threatened/Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-24	Yes	No	Yes	No	Medium	Small	No	Yes	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Sediment/Shoreline Stabilization, Threatened/Endangered Species Habitat
CL-W-25	Yes	Yes	Yes	No	Medium	Small	No	No	Yes	Yes	Low	No	No	Yes	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Nutrient Removal/Retention/ Transformation, Sediment/Shoreline Stabilization
CL-W-26	No	Yes	Yes	No	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation
CL-W-27	No	Yes	Yes	No	High	Large	Yes	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Uniqueness/Heritage

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-28	Yes	Yes	Yes	Yes	High	Medium	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Production Export, Sediment/Shoreline Stabilization
CL-W-29	No	No	Yes	Yes	Medium	Medium	No	No	No	Yes	Medium	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
CL-W-30	No	Yes	No	No	Medium	Small	No	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-31	Yes	No	Yes	No	Medium	Medium	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Shoreline Stabilization, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
CL-W-A	Yes	Yes	No	No	Medium	Medium	No	Yes	Yes	No	Low	No	Yes	No	Yes	Groundwater Recharge/Discharge, Wildlife Habitat, Flood Flow Alteration, Fish and/or Shellfish Habitat, Production Export, Sediment/Shoreline Stabilization, Threatened/Endangered Species Habitat, Uniqueness/ Heritage
CL-W-B	Yes	Yes	Yes	No	Low	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-C	Yes	Yes	Yes	No	Low	Small	No	No	No	No	Medium	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
CL-W-D	Yes	Yes	No	Yes	Low	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Fish and/or Shellfish Habitat, Nutrient Removal/Retention/ Transformation, Production Export
CL-W-E	No	No	Yes	No	High	Medium	No	No	Yes	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-01	No	Yes	Yes	No	Medium	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-02	No	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-03	Yes	No	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-04	No	No	Yes	No	Medium	Small	No	No	No	Yes	Low	No	No	Yes	No	Groundwater Recharge/Discharge, Nutrient Removal/ Retention/ Transformation Wildlife Habitat
DL-W-05	No	Yes	Yes	Yes	Medium	Medium	No	No	No	Yes	Medium	No	Yes	Yes	No	Groundwater Recharge /Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-06	No	No	Yes	No	Low	Small	Yes	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-07	Yes	No	No	No	High	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-08	No	No	No	No	Low	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-09	Yes	No	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/ Shoreline Stabilization, Wildlife Habitat
DL-W-10	Yes	No	Yes	Yes	High	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Production Export Sediment/Shoreline Stabilization, Wildlife Habitat



Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-11	No	No	Yes	Yes	High	Medium	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-12	No	No	Yes	No	Low	Small	Yes	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Wildlife Habitat
DL-W-13	No	No	Yes	Yes	High	Large	No	No	No	Yes	Low	No	Yes	Yes	Yes	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species
DL-W-14	No	Yes	Yes	No	Medium	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat, Threatened/Endangered Species Habitat
DL-W-15	Yes	Yes	Yes	Yes	Medium	Medium	No	Yes	No	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat, Uniqueness/ Heritage, Threatened and Endangered Species Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-16	Yes	No	Yes	No	Medium	Small	No	Yes	Low	No	No	No	No	Yes	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Wildlife Habitat
DL-W-17	No	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
DL-W-18	No	No	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	Yes	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species
DL-W-19	No	Yes	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge /Discharge, Wildlife Habitat, Threatened and Endangered Species Habitat
DL-W-20	No	Yes	Yes	Yes	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat, Nutrient Removal/ Retention/ Transformation, Threatened and Endangered Species Habitat
DL-W-21	No	Yes	Yes	No	Low	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat, Threatened and Endangered Species Habitat
DL-W-22	No	No	Yes	No	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-23	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
DL-W-24	No	Yes	Yes	No	Low	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat, Threatened and Endangered Species Habitat
DL-W-25	No	Yes	Yes	No	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
DL-W-25A	Yes	Yes	Yes	Yes	Medium	Large	No	No	No	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/ Toxicant/Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat , Threatened and Endangered Species Habitat
DL-W-26	No	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Sediment/ Toxicant/Pathogen Retention, Wildlife Habitat
DL-W-27	No	No	Yes	Yes	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
DL-W-28	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-29	Yes	No	Yes	Yes	Medium	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-30	No	Yes	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Uniqueness/Heritage, Wildlife Habitat
DL-W-31	No	No	Yes	No	Low	Small	Yes	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
DL-W-A	Yes	No	Yes	Yes	High	Medium	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-B	Yes	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
DL-W-C	Yes	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-D	Yes	No	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-E (PEM)	Yes	No	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
DL-W-E (PFO)	No	Yes	Yes	No	Low	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/ Discharge, Wildlife Habitat
FA-W-01	No	Yes	Yes	Yes	High	Medium	No	No	No	Yes	Low	No	Yes	No	Yes	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
FA-W-02	No	No	Yes	No	High	Medium	No	No	Yes	No	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Production Export, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-03	No	No	Yes	No	Low	Medium	Yes	No	No	Yes	High	Yes	No	Yes	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Nutrient Removal/Retention/Transformation, Wildlife Habitat
FA-W-04	Yes	Yes	Yes	Yes	Medium	Large	Yes	Yes	Yes	Yes	Low	Yes	Yes	Yes	Yes	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Shoreline Stabilization, Nutrient Removal/Retention/Transformation, Production Export, Recreation, Educational/ Scientific Value, Uniqueness/Heritage, Visual Quality/Aesthetics, Threatened/Endangered Species Habitat, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
FA-W-05	Yes	Yes	Yes	Yes	High	Medium	No	Yes	Yes	Yes	Low	No	Yes	Yes	Yes	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Shoreline Stabilization, Production Export, Uniqueness/Heritage, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-06	Yes	Yes	Yes	Yes	High	Medium	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Shoreline Stabilization, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-07	No	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-08	No	No	Yes	No	Low	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Wildlife Habitat
FA-W-09	No	No	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
FA-W-10	Yes	Yes	Yes	Yes	High	Large	No	No	Yes	Yes	Low	Yes	Yes	Yes	Yes	Groundwater Recharge/Discharge, Flood Flow Alteration, Nutrient Removal/Retention/Transformation, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-11	No	Yes	Yes	Yes	High	Large	No	No	Yes	Yes	Low	No	Yes	Yes	Yes	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-12	No	No	Yes	Yes	High	Medium	No	No	No	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-13	No	Yes	Yes	No	High	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-14	No	Yes	Yes	No	High	Small	No	No	No	No	Medium	No	Yes	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
FA-W-15	Yes	Yes	Yes	Yes	Low	Medium	No	Yes	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Shoreline Stabilization, Flood Flow Alteration, Wildlife Habitat
FA-W-17	Yes	Yes	Yes	No	Low	Medium	No	Yes	Yes	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Shoreline Stabilization, Flood Flow Alteration, Wildlife Habitat



Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
FA-W-A	No	Yes	Yes	No	Medium	Small	No	No	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened/Endangered Species Habitat, Wildlife Habitat
FA-W-B	Yes	No	Yes	No	High	Small	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Sediment/Shoreline Stabilization, Flood Flow Alteration, Threatened/Endangered Species Habitat, Wildlife Habitat
JB-W-01	No	No	Yes	Yes	Low	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Nutrient Removal/Retention/Transformation, Sediment/Toxicant/Pathogen Retention, Wildlife Habitat
JB-W-02	No	No	Yes	Yes	Medium	Small	No	No	Yes	No	Medium	No	No	No	No	Groundwater Recharge/Discharge, Nutrient Removal/Retention/Transformation, Sediment/Toxicant/Pathogen Retention, Wildlife Habitat
JB-W-03	No	Yes	Yes	Yes	Medium	Small	No	No	Yes	No	Medium	No	No	No	No	Groundwater Recharge/Discharge, Nutrient Removal/Retention/Transformation, Sediment/Toxicant/Pathogen Retention, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
JB-W-04	Yes	No	No	No	Low	Small	No	Yes	No	Yes	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Production Export, Threatened and Endangered Species Habitat, Sediment/Shoreline Stabilization, Wildlife Habitat
JB-W-05	No	Yes	Yes	Yes	Medium	Small	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened and Endangered Species Habitat, Wildlife Habitat
JB-W-06	Yes	Yes	Yes	Yes	Medium	Small	No	No	No	No	Medium	No	No	Yes	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Wildlife Habitat, Sediment/Toxicant/ Pathogen Retention
JB-W-A	No	Yes	Yes	No	Low	Small	Yes	No	No	Yes	low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
JB-W-B	No	Yes	Yes	Yes	Low	Small	No	No	no	No	Medium	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
JB-W-C	No	No	Yes	No	Medium	Medium	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened and Endangered Species Habitat, Wildlife Habitat
JB-W-D	No	Yes	Yes	No	Medium	Medium	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened and Endangered Species Habitat, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
JB-W-E	No	No	Yes	No	Medium	Medium	No	No	No	No	Low	No	Yes	No	No	Groundwater Recharge/Discharge, Threatened and Endangered Species Habitat, Wildlife Habitat
WB-W-01	No	No	Yes	No	High	Small	Yes	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge /Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-02	No	No	Yes	No	Medium	Medium	No	No	Yes	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/ Discharge, Nutrient Removal/Retention/ Transformation, Wildlife Habitat, Threatened and Endangered Species Habitat
WB-W-03	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/ Discharge, Nutrient Removal/Retention/ Transformation, Wildlife Habitat, Threatened and Endangered Species Habitat
WB-W-04	Yes	No	Yes	No	Medium	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/Shoreline Stabilization, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-05	No	No	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-06	Yes	No	Yes	Yes	Medium	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/Shoreline Stabilization, Wildlife Habitat
WB-W-07	Yes	No	Yes	No	High	Medium	No	Yes	No	Yes	Medium	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/Shoreline Stabilization, Wildlife Habitat
WB-W-08	No	No	Yes	Yes	High	Small	No	No	Yes	Yes	Medium	No	No	No	No	Groundwater Recharge/ Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-09	No	No	Yes	Yes	High	Small	No	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge/ Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-10	No	Yes	Yes	No	Medium	Large	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-11	Yes	Yes	Yes	No	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-12	Yes	No	Yes	No	High	Medium	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge /Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/Shoreline Stabilization, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-13	Yes	No	Yes	No	High	Small	No	Yes	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/ Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Sediment/Shoreline Stabilization, Wildlife Habitat
WB-W-14	Yes	Yes	Yes	No	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-15	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/ Discharge, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-16	Yes	No	Yes	No	Medium	Small	No	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge/ Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-17	No	Yes	Yes	No	Medium	Small	No	No	Yes	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-18	Yes	No	Yes	No	Low	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Wildlife Habitat
WB-W-19	No	No	Yes	No	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
WB-W-20	No	Yes	Yes	No	Medium	Small	No	No	No	No	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
WB-W-21	No	No	Yes	Yes	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-22	Yes	No	Yes	Yes	High	Large	No	No	No	Yes	Low	No	Yes	Yes	Yes	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Production Export, Wildlife Habitat, Uniqueness/Heritage, Threatened and/or Endangered Species Habitat,

Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-23	Yes	No	Yes	No	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-24	No	No	Yes	Yes	Medium	Small	No	No	No	Yes	Medium	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
WB-W-25	Yes	No	Yes	Yes	High	Small	No	Yes	No	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Fish and/or Shellfish Habitat, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Production Export, Sediment/Shoreline Stabilization, Wildlife Habitat, Threatened/Endangered Species Habitat
WB-W-26	No	No	Yes	No	Medium	Small	No	No	Yes	Yes	Medium	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat
WB-W-27	No	Yes	Yes	Yes	Medium	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Wildlife Habitat



Wetland Name	Associated with Watercourse	Signs of Springs/ Seeps	Concave Landform or Gentle Gradient	Deep Surface Soil Layer (16"+)	Vegetative Cover Density (High, Medium, Low)	Wetland Size (Small, Medium, Large)	Deep Open Water Area (3'+)	Fish or Shellfish Present in Associated Stream	Ecologically Rich	Fine-grained or Organic Soils Present	Wetland Fragmentation (High, Medium, Low)	Publicly Accessible	Threatened or Endangered Species Present or Habitat Present	Multiple Covertypes	Rare Unique Features	Attributed Functions and Values
WB-W-28	No	No	Yes	Yes	Medium	Small	No	No	Yes	Yes	Low	No	Yes	Yes	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat, Threatened/Endangered Species Habitat
WB-W-29	Yes	No	Yes	Yes	High	Small	No	No	No	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Wildlife Habitat
WB-W-A	Yes	No	Yes	Yes	High	Small	No	No	Yes	Yes	Low	No	No	No	No	Groundwater Recharge/Discharge, Flood Flow Alteration, Sediment/Toxicant/ Pathogen Retention, Nutrient Removal/ Retention/ Transformation, Production Export, Wildlife Habitat

## **5.1 Groundwater Recharge/Discharge**

Groundwater can be found within surficial geology and also within bedrock formations. Groundwater is recharged naturally and can occur through multiple sequences. Recharge can occur from precipitation events directly on the surface, through percolation from waterbodies flowing across or situated above an aquifer, and also by subsurface flows between adjacent aquifers. Wetlands and waterbodies assist in groundwater recharge by being collection points for stormwater and surface water flows. Based on the specific soil content, geomorphology, and underlying bedrock characteristics, wetlands and waterbodies can be a direct source of groundwater replenishment. If specific wetland and waterbody characteristics are not conducive for direct groundwater recharge, they are still important as facilitators of flow regimes towards groundwater recharge sites downstream. Natural groundwater discharge often occurs at springs and seeps. Wetlands and waterbodies receive groundwater discharge typically where the water tables are high relative to surrounding elevations.

Within the Study Area, each of the identified wetlands were found to execute a measurable level of groundwater recharge/discharge function. This conclusion is due in part by the relative fluidity and connectivity of wetlands and waterbodies through surface or groundwater flows and also the fundamental interactions that occur between wetlands and aquifers. Wetlands in the Study Area which displayed the function of either groundwater recharge or discharge were observed to have characteristics such as being associated with a watercourse, ponded water, signs of springs or seeps, sandy or organic soils, located in a concave depression or contain a gradual gradient, water marks, and deep surface soil layers. These characteristics indicate that the water level changes periodically or seasonally within the wetland due to potential discharge/recharge events, that the wetland assists in the continuance of surface water flows for groundwater recharge, or that physical attributes in the wetland allows for groundwater recharge/discharge to occur on-site at variable rates.

## **5.2 Flood-flow Alteration**

A total of 64 wetlands within the Study Area were found to contain a practical ability to function as a site of flood-flow alteration or attenuation. Flood-flow alteration and/or attenuation is a wetland's ability to reduce or inhibit the peak flow of major storm events from damaging properties downstream. Wetlands that occur higher in the watershed have the ability to reduce flooding of downstream waterbodies through ponding water or diffusing or diverting flow velocities. Wetlands that occur lower in the watershed may contain the ability to store high volumes of water through direct interactions with the local floodplain or contain large areas of deep porous surface soils with the ability to become heavily saturated and still maintain integrity during increased saturation events. Furthermore, if the wetland is situated in the riparian zone along a waterbody and contains dense vegetation, it has the ability to attenuate the severity of peak flows by dissipating flow velocity during flooding events.

Many of the delineated wetlands that contain the potential to function as an area of flood flow alteration or attenuation were noted to have ponded water, water marks, dense vegetation coverages, be

associated with a waterbody, contain deep top layers of fine-grained or organic soils, large sizes when compared to other wetlands in the local watershed, or to be located in a concave depression or contain a gradual gradient. All these characteristics contribute to the ability to reduce and diffuse stormwater flow velocities, divert stormwater flows, and store excess water volumes.

### **5.3 Fish and Shellfish Habitat**

For a wetland to contain fish and/or shellfish habitat, or directly contribute to the support of suitable habitats downstream, the wetland must be associated with a fish/shellfish bearing water. Wetlands providing the fish and shellfish habitat are typically associated with perennial streams or large bodies of standing water. These waterbodies contain enough production, nutrients, structure, complexity, and annual flow levels in the water column at depths to support the lifecycles of various fish and/or shellfish species.

A total of 24 wetlands within the Study Area were designated as having the function of supporting fish/shellfish habitat. Wetlands within the Study Area that primarily contained fish/shellfish and associated with perennial streams or large open waterbodies were determined to function as fish/shellfish habitat. Other contributing characteristics to the primary indicators of fish/shellfish habitat included wetlands that contained gradual slopes to allow for slow to moderate stream flows, wetlands that contained dense vegetation, and wetlands that contained little to no fragmentation were considered to function in support of fish and shellfish habitat. Wetlands with dense vegetation and associated with perennial waterbodies provided habitat through overhanging vegetation along the waterbody, which provide shading and cover objects such as woody debris in the stream substrate. Delineated wetlands were also included as contributing to potential fish/shellfish habitat if they contained intermittent tributaries and/or ponded wetland areas that were in close connection to a perennial waterbody and could provide seasonal fish habitat or potential refugia within confluence areas. Wetlands directly connected and adjacent to predetermined high quality streams or designated trout streams by the NYSDEC were also characterized as containing the function of supporting fish/shellfish populations and/or habitat.

### **5.4 Sediment/Toxicant/Pathogen Retention**

The sediment/toxicant/pathogen retention ability of a wetland is defined as characteristics that help inhibit the spread of sediments/toxicants/pathogens downstream and negatively affect lower sections of the watershed. Ultimately, the retention of excessive sediments, toxicants, or pathogens that may be carried by surface water runoff within the watershed reduces or prevents the degradation of water quality and is a function shared by many wetland features. A total of 77 wetlands, primarily palustrine emergent (PEM) wetlands, in the Study Area were noted to contain prominent sediment/toxicant/pathogen retention abilities. These wetlands were determined to have thick layers of organic soils that drain slowly, occur in a concave depression or shallow gradient to reduce outflow velocity, and contain areas of deep open water or inundation for extended durations to trap sediment/toxicant/pathogens and allow them to settle out of the water column. Wetlands that contain

dense vegetation are also believed to assist in trapping sediment and were included as secondary characteristics associated with sediment/toxicant/pathogen retention. Generally, wetlands that were associated with a watercourse and were deemed suitable to provide flood-flow alteration were also noted to contain the function of sediment/toxicant/pathogen retention. This is due in part by the belief that sediments/toxicants will be carried downstream and deposited in wetlands during flooding events as well. Suspected potential sources of excess sediment/toxicants/pathogens such as animal farms, agriculture areas, construction sites, roadways, and industrial activities along watershed areas above wetlands increased the importance of this function and these wetlands were specifically targeted to support this function.

### **5.5 Nutrient Removal/Retention/Transformation**

A total of 78 wetlands within the Study Area perform a nutrient removal/retention/transformation function. This function defines a wetland's ability to remove excess nutrients, such as fertilizers, from incoming water and prevent them from impacting waters downstream. Wetlands remove nutrients through variable processes. Mostly wetlands remove excess nutrients by trapping sediments infused with nutrients, by adsorption into soils with high organic matter, and also through nitrification and denitrification events in alternating oxic and anoxic water conditions.

Wetlands which support this function also commonly assist in trapping and retention like the wetlands mentioned to contain the sediment/toxicant/pathogen retention ability. As such, wetlands within the Study Area which support nutrient removal/retention/transformation contain characteristics such as inundation or deep water habitats, were associated with a watercourse, contained a concave landform or gentle gradient to support slow draining, large in size, contained thick layers of fine-grained or organic soils, and contained dense vegetation coverage. Variation in vegetation cover types also allowed for more uptake, retention, and transformation of nutrients in wetland systems due to a presence of more variable plant life. Significant portions of the Study Area are under agricultural land use. As such, wetlands which contain the nutrient removal/retention/transformation function are particularly important in helping reduce the input of excess nutrients to downstream watercourses. An excess of nutrients deposited into a watershed can be associated with increased productivity levels of aquatic plant life, eutrophication events, and lowered dissolved oxygen levels throughout the water column. Such instances may lower water quality, alter aquatic habitat, and adversely impact fish and other aquatic species downstream.

### **5.6 Production Export**

A total of 37 wetlands within the Study Area assist in production export. This function relates to the ability of a wetland to produce resources that may be consumed by various trophic levels or also used by wildlife and humans downstream. In order to perform this function, a wetland must contain a level of high productivity. Generally, wetlands with greater size have greater areas of vegetation. These areas in turn have the potential for more production of organic matter. Wetlands which serve this function are also associated with having an abundance of wildlife habitat and ecological richness. This is due to the notion that an increased amount of trophic levels aid in the support of more production levels within the system

and in turn, an increased level of production export downstream. Many of the wetlands in the Study Area which are associated with production export are large wetlands with a dense vegetative community and association to a watercourse. Wetlands in the Study Area with this function also contained a relatively high ecological richness and a high structural diversity through the presence of multiple vegetative cover types. Wetlands with ponding or seasonal inundation also serve as habitats for amphibians, reptiles, freshwater fish, and aquatic invertebrates. Also, these ponded areas serve as breeding areas for insects that are consumed by higher trophic levels like birds, bats, and other mammals.

## 5.7 Sediment/Shoreline Stabilization

A total of 25 wetlands within the Study Area contained the function of sediment/shoreline stabilization. Sediment/shoreline stabilization is a function of wetlands which border an associated waterbody. This role is defined as an ability of the wetland to reduce erosion of stream channels downgradient of the wetland and within the wetland itself. This function readily occurs in areas where highly erosional forces take place during storm events when water channels are running at higher than average velocities.

Wetlands in the Study Area were considered to function in stabilizing the sediment and banks of a waterbody if they created a wide buffer zone adjacent to a waterbody and contained dense vegetation which acts to absorb and/or diffuse high flow velocities during flood events. Other evidence of the wetlands containing sediment/shoreline stabilization function included the location of the wetland within a concave depression or gentle gradient, which helped to reduce erosional forces from occurring along the banks and shoreline of the waterbody within the wetland complex due to the gentle down gradient.

## 5.8 Wildlife Habitat

Within the Study Area, each of the identified wetlands were found to execute a measureable level of wildlife habitat. Wildlife use or evidence of general wildlife use was directly observed during field surveys in many of the wetlands. White-tailed deer, fisher, gray squirrel, coyote, beavers, muskrat, Canada geese, wood ducks, kingfisher, various birds of prey, green frogs, painted turtles, and several other species were seen within wetlands located within the Study Area during field surveys. Other evidence of wildlife included indication of animal presence including tracks, scat, mammal burrows, beaver dams, scrapes, and chews. Wildlife habitat value can also be inferred by the characteristics of the wetland, particularly its ecological community type, dominant vegetation, and landscape setting. Emergent wetlands are deemed to be suitable for a variety of wetland bird species among other animals. Emergent wetlands also often support abundant insect populations which provide a food source for birds, bats, and other wildlife. Open water and emergent wetlands within the Study Area have pools and seasonally inundated areas respectively, which can provide aquatic breeding habitats for amphibians, as well. In shrub swamps and forested wetlands, shrubs and trees that produce berries such as highbush blueberries (*Vaccinium corymbosum*), buckthorn (*Rhamnus cathartica*), arrow wood (*Viburnum dentatum*), ashes (*Fraxinus* spp.), and winterberry (*Ilex verticillata*), may be used by birds and mammals as a food source. Hardwood tree species like oaks (*Quercus* spp.) found in some forested wetlands produce acorns, which are often consumed by mammal species.



**Photograph 1.** A bald eagle observed at wetland FA-W-4

Wetlands in the Study Area which support wildlife habitat were observed to have characteristics such as being associated with a watercourse, have dense and variable vegetative coverage, being ecologically rich, and having limited wetland fragmentation.

## **5.9 Recreation**

Most wetlands in the Study Area are not considered suitable for public recreation, as they are located on private land without available public access, parking, or available recreational facilities. However, one wetland, FA-W-4, associated with NYSDEC freshwater wetland RX-2, does support public access and recreational opportunities. This wetland is classified by the NYSDEC as a Class II wetland and is a large wetland complex, with multiple cover types, a large and deep open water area, is ecologically rich, and contains extensive wildlife habitat. As such, this wetland provides the public the ability to access the open water portions which can be utilized for fishing, bird watching, and sight-seeing, among other opportunities.

Hunting on private lands is very prevalent within the Study Area. In some instances wetlands provide habitat complexity, shelter, and food sources to multiple game species and impacts to wetlands should account for impacts to the local hunting community. Small man-made farm ponds also provide recreational opportunities for hunting and fishing. Qualifiers of a wetland which would support a recreational value was determined to be availability of public access, the presence of wildlife habitat, association with a watercourse, sizable wetland complexes, multiple cover types, ecological richness, and rare and unique features. However, due to the limitations to public access, the value of recreation is not deemed a principal value for all but one wetland, FA-W-4, within in the Study Area.

## 5.10 Educational/Scientific Value

As with the value of recreation for wetlands, the majority of wetlands in the Study Area do not provide educational or scientific value, as they are located on private land without available or safe public access, parking, or facilities. Qualifiers within a wetland which would support an educational or scientific value include the presence of wildlife habitat, association with a watercourse, sizable wetland complexes, multiple cover types, ecological richness, the presence of threatened or endangered species or their habitats, and rare and unique features. However, due to the limitations to public access, the value of education or scientific value is not deemed a principal value for most wetlands in the Study Area. The only wetland which provides access to the public and thus is able to support education or scientific research is delineated wetland FA-W-4 which is associated with NYSDEC freshwater wetland RX-2. This wetland is classified by the NYSDEC as a Class II wetland and is a large wetland complex, with multiple cover types, a large and deep open water area, ecologically rich, and contains extensive wildlife habitat. This wetland does support public access and as a result, educational and scientific opportunities.

## 5.11 Uniqueness/Heritage

The Uniqueness/Heritage value takes into account the special value that a wetland may have in the context of cultural features located within or adjacent to the wetland, if the wetland has been identified by a local jurisdiction as having local/regional significance, and if there is an assumed rarity of the wetland/habitat type in the local area. A total of eight wetlands within the Study Area have been determined to contain a uniqueness/heritage value primarily due containing an especially large and continuous wetland area, containing a high quality of wetland habitat, and/or the presence of a rarer wetland habitat within the local watershed.

Wetlands deemed to be locally unique are:

- CL-W-4 - *Large Forested (Hemlock) Wetland*
- CL-W-19 - *Spring-fed cedar swamp*
- CL-W-A - *Perched and spring-fed scrub-shrub wetland with rich ecology*
- DL-W-15/DL-W-30 - *Large scrub—shrub and forested wetland complex surrounding a perennial stream (headwaters to Wileyville Creek).*
- FA-W-4 - *Large scrub-shrub and open water wetland (NYSDEC Freshwater Wetland RX-2)*
- FA-W-5 - *Multiple cover types wetland with a rich ecology and the presence of uncommon vegetation*
- WB-W-22 – *Spring Fed Hemlock-hardwood swamp*





**Photograph 2.** A unique hemlock-hardwood swamp at Wetland WB-W-22

### 5.12 Visual Quality/Aesthetics

Many of the wetlands in the Study Area are unsuitable for Visual Quality/Aesthetics, because they lack a primary or publicly-accessible viewing location. However, one wetland, FA-W-4, is associated with NYSDEC freshwater wetland RX-2, and can be seen along a scenic portion of County Route 248 in the Hamlet of Barney Mills located in the Town of West Union. This wetland is classified by the NYSDEC as a Class II wetland and is a large wetland complex, with multiple cover types, a large and deep open water area, ecologically rich, and contains extensive wildlife habitat. Dominant trees at this wetland are red maple (*Acer rubrum*) and yellow birch (*Betula alleghaniensis*), which have colorful foliage during the fall, surrounding a large deep open water area. As such, this wetland provides a visual/quality aesthetic as well as it is representative of a healthy and sizable wetland ecosystem.



**Photograph 3.** Scenic view of Wetland FA-W-4



### 5.13 Threatened or Endangered Species Habitat

A total of 54 wetlands were determined to not only provide a wildlife habitat function but also potentially serve to provide suitable value as habitat for threatened or endangered species. Specifically, these wetlands were presumed to provide potential summer roosting and foraging habitat for the northern long-eared bat (*Myotis septentrionalis*). This species is both a state and federally-listed threatened species and was identified on the United States Fish and Wildlife Service (USFWS) Official Species List.

The northern long-eared bat is a small bat, measuring an average of approximately 3 inches in total length. Adults weigh between 5 and 8 grams. The fur and wing membranes are light brown in color. Compared to other *Myotis* species, these bats have long ears which gives this species its common name. During the spring and summer months, the northern long-eared bat spends the day roosting in trees or artificial structures, switching to a new roost every other day on average. Roost trees include any tree with over three inches diameter at breast height (DBH). Typical roost trees may also contain cracks, crevices or hollows which enable the bat to roost during the daylight hours. Most roost trees are either dead, desiccated, or contain deep furrows, hollows, or peeling bark to allow for effective roosting. In the fall, northern long-eared bats migrate to caves to hibernate over the winter months. This species typically hibernates together with much larger numbers of bats of other species, although hibernating groups of northern long-eared bats still number in the hundreds. Due to the spread of white-nose syndrome within hibernacula containing many bat species, vast numbers of northern long-eared bats (from hibernacula counts) have declined by up to 99 percent in the Northeast causing it to be listed federally as a threatened species (USFWS, 2016).

In relation to wetlands, forested and scrub-shrub wetlands within the Study Area contain suitable roosting habitat for this species due to their average DBH measurements over three inches. Through various research efforts, it has also been suggested that wetlands of all sizes and shapes can be vital foraging areas for bat species during the time spent in summer roosting habitats (Maslonek, 2009). Most insects depend on water for some part of their life cycle, as such, wetlands can provide areas of increased insect presence and thus suitable foraging habitat for bat species. Wetlands within the Study Area selected to contain both summer roosting habitat and also suitable foraging areas were found to include a majority of the following characteristics:

- Part of sizeable wetland complexes
- Contain dense vegetative coverage
- Include a variety of wetland cover types (must include scrub-shrub and forested wetland)
- Associated with a watercourse
- Contain evidence of seasonal inundation events or open water areas
- Forested adjacent areas
- Limited to no wetland fragmentation

The combination of these qualities provides both suitable roosting habitat and foraging habitat within wetlands found within the Study Area. In studies, bat foraging activity was found to be greatest over larger wetlands within forested landscapes and those that suffered from minimal edge effects from fragmentation. These wetlands were likely to provide additional and accessible sources of insect prey and increase feeding propensity over the larger and more diverse wetlands (Maslonek, 2009).

## 6.0 CONCLUSIONS

Wetlands delineated within the Study Area displayed multiple functions based on their specific site characteristics. Each of the wetlands identified within the Study Area were determined to have the ability to provide some function of groundwater recharge/discharge and wildlife habitat. Other functions displayed within wetlands delineated within the Study Area include:

- Flood-flow Alteration (64 wetlands)
- Sediment/Toxicant/Pollutant Retention (77 wetlands)
- Fish and Shellfish Habitat (24 wetlands)
- Sediment/Shoreline Stabilization (25 wetlands)
- Production Export (37 wetlands)
- Nutrient Removal/Retention/Transformation (78 wetlands)

Values were found to occur in a limited number of wetlands within the Study Area. As stated previously, values of a select number of wetlands within the Study Area included Recreation, Educational/Scientific Value, Uniqueness/Heritage, Threatened/Endangered Species Habitat, and Visual Quality/Aesthetics. In general, much of the Project area is not accessible to the public. One wetland, FA-W-4, is associated with NYSDEC freshwater wetland RX-2, and can be seen along a scenic portion of County Route 248 in the Hamlet of Barney Mills located in the Town of West Union. This wetland is believed to provide the values of Recreation, Educational/Scientific Value, Uniqueness/Heritage, Threatened/Endangered Species Habitat, and Visual Quality/Aesthetics due to its public accessibility, large size, multiple cover types, and an extensive open water area.

Assessing a specific wetland's functions and values are principally needed to determine the overall effects an impact or alteration may have on a wetland feature. Ultimately, such a measurement aids in establishing the appropriate level of mitigation after impacts to a wetland occur. As such, this functions and values assessment will be utilized during the impact analysis and mitigation planning efforts for the Project.

## 7.0 REFERENCES

- Browne, S. et al. 1995. *New York State Freshwater Wetlands Delineation Manual*. New York State Department of Environmental Conservation, Division of Fish and Wildlife, Bureau of Habitat, Albany, NY.
- Bryce, S.A., Griffith, G.E., Omernik, J.M., Edinger, G., Indick, S., Vargas, O., and Carlson, D. 2010. *Ecoregions of New York (color poster with map descriptive text, summary tables, and photographs)*: Reston, Virginia, U.S. geological Survey, map scale 1:1,250,000.
- Cowardin, L.M., et al. 1979. *Classification of wetlands and deepwater habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington D.C. 131 pp.
- Edinger, G.J., et al. 2014. *Ecological Communities of New York State, Second Edition*. New York Heritage Program, NYS Department of Environmental Conservation, Albany, NY, 160 pp.
- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers: Waterways Experiment Station; Vicksburg, MS.
- Maslonek, M.L. 2010. *Bat use of created and natural wetlands*. West Virginia University.
- National Wetlands Inventory Wetlands, Electronic Vector Quad Maps of New York, United States Geological Survey.
- Natural Resources Conservation Service (NRCS), United States Department of Agriculture. Web Soil Survey. (<http://websoilsurvey.nrcs.usda.gov/>).
- New York State Department of Environmental Conservation (NYSDEC) Hydrography Network and Water bodies, NYS Hydrologic Units.
- New York State Department of Environmental Conservation (NYSDEC) website, (<http://www.dec.state.ny.us/>).
- Reschke, Carol. 1979. *Ecological Communities of New York State*. New York Heritage Program, NYS Department of Environmental Conservation, Latham, NY 96 pp. and maps.
- U.S. Army Corps of Engineers (USACE). 1993. *The Highway Methodology Workbook*. U.S. Army Corps of Engineers, New England Division. NEDEP-360-1-30. 30 pp.
- USACE. 1999. *The Highway Methodology Workbook Supplement. Wetland Functions and Values: A Descriptive Approach*. U.S. Army Corps of Engineers, New England Division. NAEPP-360-1-30a. 32 pp.
- USACE2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 162 pp.
- USFWS (2016). *Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat*. Federal Register Vol. 81 (6):1900-1922

U.S. Geological Survey. 2014. Hydrologic Unit Maps. Available at: <http://water.usgs.gov/GIS/huc.html> (Accessed January, 2017).