Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

1 – ECOLOGICAL INTEGRITY

Evaluation Questions	Observations & Notes	Answers	Score
1. Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality.	10 5 1
2. Is there evidence of fill in the wetland?		a. Less than 1 % b. From 1-3 % c. More than 3 %	10 5 1
3. What percentage of the wetland has been altered by agricultural activities?		a. Less than 5 % b. From 5 to 25 % c. More than 25 %	10 5 1
4. What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		a. Less than 1% b. From 1 to 10 % c. More than 10 %	10 5 1
5. How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter	10 5 1
6. What percentage of the wetland is occupied by invasive plant species?		a. None b. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species	10 5 1
7. Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland	10 5 1
8. How much human activity is taking place in the upland within 500 feet of the wetland edge?		a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone	10 5 1
9. What is the percent of impervious surface within 500 feet of the wetland edge?		a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge	10 5 1
10. Is there a human-made structure that regulates the flow of water through the wetland?		a. No human made structures present **upstream of, or in** the wetland. b. One or more human made structures present **upstream of, or** in the wetland but hydrologic modification is slight c. One or more human made structures present **upstream of, or** in the wetland that severely block or alter surface water hydrology	10 5 1

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY
(Add scores for each question and divide by 10) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

2 – WETLAND-DEPENDENT WILDLIFE HABITAT

Evaluation Questions	Observations & Notes	Answers	Score
1. What is the wetland acreage (including upland islands)?		a. More than 100 acres b. From 20 - 100 acres c. Less than 20 acres	10 5 1
2. What is the score for Ecological Integrity?		Average score for **Ecological Integrity**	_____
3. Has water quality in the wetland been degraded by land use in the watershed?		Record Answer from **Ecological Integrity**, Question 1	_____
4. What is the area of shallow permanent open water less than 6.6 feet deep, including streams and shallow ponds that are part of the wetland complex?		a. More than 3 acres b. From 0.5 to 3 acres c. Less than 0.5 acre	10 5 1
5. Is there deepwater habitat (lakes or ponds > 6.6ft deep) and/or 4th order or higher rivers associated with the wetland?		a. Deepwater stream ≥1 mile long and/or lake or pond ≥10 acres present b. Deepwater stream < 1 mile long and/or lake or pond < 10 acres present c. No deepwater stream, lake or pond present	10 5 1
6. What is the diversity of vegetation classes in the wetland? *Refer to Appendix F for more information about wetland vegetation classes.*		a. Three or more wetland classes (including upland islands) present b. Two wetland classes (including upland islands) present c. One wetland class present	10 5 1
7. Are other wetlands in close proximity to the study wetland?		a. Other connected or unconnected wetlands within a 0.25 mile distance b. Wetland connected to other wetlands within a 0.5 to 1 mile distance by perennial stream or lake, **OR** other unconnected wetlands are present within a 0.25 to 0.5 mile distance c. Wetland not hydrologically connected to other wetlands within 1 mile and more than 0.5 miles from other unconnected wetlands.	10 5 1

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

2 – WETLAND-DEPENDENT WILDLIFE HABITAT (continued)

Evaluation Questions	Observations & Notes	Answers	Score
8. Are there wildlife travel corridors allowing access to other wetlands?		a. Free access along well vegetated stream corridor, woodland, or lakeshore b. Access partially blocked by roads, urban areas, or other obstructions c. Access blocked by roads, urban areas, or other obstructions	10 5 1
9. What percentage of the wetland edge is bordered by undisturbed woodland or idle land (e.g. shrub land or abandoned fields) at least 500 feet in width?		a. More than 95% of the wetland b. More than 75-95% of the wetland c. Less than 75% of the wetland	10 5 1
10. What percentage of the wetland is occupied by invasive plant species?		Record Answer from **Ecological Integrity**, Question 6	_____

AVERAGE SCORE FOR WILDLIFE HABITAT
(Add scores for each question and divide by 10) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

3 – FISH AND AQUATIC LIFE HABITAT

Evaluation Questions	Observations & Notes	Answers	Score
1. What is the dominant land use in the watershed above wetland?		a. Woodland, wetland, or abandoned farmland b. Active farmland or rural residential c. Urban and heavily developed suburban areas, commercial and industrial areas.	10 5 1
2. Has water quality in the wetland been degraded by land use in the watershed?		Record Answer from **Ecological Integrity**, Question 1	_____
3. What is the area of <u>shallow</u> permanent open water less than 6.6 ft deep, including streams and ponds within the wetland?		Record Answer from **Wetland-Dependent Wildlife Habitat**, Question 4	_____
4. What is the acreage of <u>deepwater</u> habitats deeper than 6.6 feet (pond or lake) associated with the wetland?		a. More than 100 acres b. From 10 to 100 acres c. Less than 10 acres d. deepwater pond or lake not present	10 5 1 0
5. What is the width (bank to bank) of the stream within the wetland?		a. More than 50 feet b. From 25 to 50 feet c. Less than 25 feet d. No stream present	10 5 1 0
6. Does the stream channel appear to have been recently altered?		a. Stream is in a natural channel, either a meandering low gradient stream, **OR** a steeper gradient stream with pools and riffles b. Portions of stream appear recently modified, **OR** stream formerly channelized but has regained some natural channel features c. Stream appears to have been recently been channelized, **OR** stream is confined in a non-vegetated chute or pipe d. No stream present	10 5 1 0
7. Within the wetland, what is the diversity of substrate types in the area(s) <u>occupied by open water</u> (flowing or standing) for the non-growing season?		a. 4 or more substrate types b. 2 or 3 substrate types c. 1 substrate type	10 5 1
8. How abundant are coarse woody material and large rocks associated with the open water portion of the wetland?		a. Moderately Abundant to Abundant: More than 10% of the open water portion of the wetland area contains cover objects such as logs, stumps, branches and rocks b. Scarce: Less than 10% of the ~~water~~ open water portion of the wetland wetland area contains cover objects c. No visible woody materials or rocks	10 5 1

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

Evaluation Questions	Observations & Notes	Answers	Score
9. What is the abundance of floating & submerged vegetation?	Date of Observation:	a. Abundant: More than 70% of water area contains cover objects such as pond lilies, pondweed, and bladderwort b. Moderately abundant: From 30 to 70% of water area contains floating and submerged vegetation c. Scarce: Less than 30% of the water area contains floating and submerged vegetation	10 5 1
10. Are there artificial barriers to the passage of aquatic life? **(e.g. dams, elevated culverts, bridge with a width less than the natural stream channel, road crossings, etc. along the stream reach associated with the wetland).**		a. No artificial barrier(s) present. b. An artificial barrier is present and equipped with a fish ladder or other provisions for fish passage, or artificial barrier is only present during extreme low water c. Dam, elevated culverts or other artificial barrier(s) is present without provisions for fish passage d. Stream not present	10 5 1 0
11. Are fish or aquatic species present that are rare, threatened, endangered or "Species of Greatest Conservation Need"?		a. Documented occurrence of a rare or endangered fish or aquatic life species within or immediately adjacent to the subject wetland b. Documented occurrence of a rare or endangered fish or aquatic life species within .5 miles of wetland and suitable habitat exists for this species within the wetland c. No documented occurrence of a rare or endangered fish or aquatic life species within .5 miles of wetland, but suitable habitat exists and wetland is within range of one or more rare species d. No documented occurrence of a rare or endangered fish or aquatic life species within .5 miles of wetland, and suitable habitat is not known to exist	10 5 1 0

AVERAGE SCORE FOR FISH & AQUATIC LIFE HABITAT
(Add scores for each question and divide by 11) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

4 – SCENIC QUALITY

Primary viewing Site: _____

Evaluation Questions	Observations & Notes	Answers	Score
1. How many wetland vegetation classes are visible from the primary viewing location(s)? *Refer to Appendix F for more information about wetland vegetation classes.*		a. Three or more classes b. Two classes c. One class	10 5 1
2. Is there public access at the viewing site?		a. Viewing site is on a property with public access, and trails to the site, or site is along a road. b. Wetland is on property with public access but no trails to the site. c. Wetland is on a property that does not have public access.	10 5 1
3. What is the visible extent across the wetland?		a. Large expanse visible and low growing plants, or mixed vegetation classes you can see through b. View is somewhat restricted by trees and shrubs c. Forested or scrub-shrub wetland with little or no expanse visible.	10 5 1
4. What is the approximate extent of open water (including streams) visible from the primary viewing location/s?		a. More than 3 acres b. From 1 to 3 acres c. Less than 1 acre	10 5 1
5. Does the wetland provide visual contrast with the surrounding landscape?		a. High level of visual contrast with surrounding natural landscape. b. Some visual contrast with surrounding natural landscape c. Little visual contrast with surrounding landscape, or surrounding landscape is developed	10 5 1
6. What is the general appearance of the wetland and surrounding land use(s) visible from primary viewing location(s)?		a. Wetland is undisturbed and natural. No visual detractors, such as buildings, litter, abandoned cars, or powerlines b. Limited disturbance in and/or around wetland. Minor visual detractors c. Severe visual detractors present	10 5 1

AVERAGE SCORE FOR SCENIC QUALITY
(Add scores for each question and divide by 6) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

5 – EDUCATIONAL POTENTIAL

Primary Educational Site(s): _____

Evaluation Questions	Observations & Notes	Answers	Score
1. What is the Ecological Integrity of the wetland?		Average Score from **1- Ecological Integrity**	_____
2. Does the wetland have high value wildlife habitat?		Average Score from **2 – Wetland-Dependent Wildlife Habitat**	_____
3. Does the wetland have high value fish and aquatic life habitat?		Average Score from **3 – Fish & Aquatic Life Habitat**	_____
4. Is all or part of the wetland on public or private property that has public or private access (i.e. with written permission)?		a. Wetland is on a property with public or private access and trails to the site. b. Wetland is on a property with public or private access but no trails to the site. c. Wetland is on a property that does not currently have public or private access.	10 5 1
5. How close is the educational site to off-road parking suitable for 5-10 vehicles or large enough for a school bus?		a. Adequate parking is available less than a 5 minute walk from the educational site. b. Adequate parking is a 5-15 minute walk from educational site, or parking is limited to less than 5 cars. c. Adequate parking is more than 15 mins walk from the educational site, or no adequate parking is available.	10 5 1
6. How many wetland vegetation classes are accessible or potentially accessible for study at the educational site? *Refer to Appendix F for more information about wetland vegetation classes.*		a. Three or more wetland vegetation classes b. Two wetland vegetation classes c. One wetland vegetation class	10 5 1
7. Is there access to open water (include streams) associated with the wetland at educational site?		a. Direct access to water available b. Water access is a short distance (5 mins or less) from the educational site c. No access or access not feasible d. No open water	10 5 1 0
8. What is the aesthetic and visual quality of the educational site?		Average Score from **4 – Scenic Quality**	_____
9. Is the educational site accessible to the disabled?		a. Yes b. No	10 0

AVERAGE SCORE FOR EDUCATIONAL POTENTIAL
(Add scores for each question and divide by 9) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

6 – WETLAND-BASED RECREATION (CANOEING, KAYAKING, AND WILDLIFE OBSERVATION)

Evaluation Questions	Observations & Notes	Answers	Score
1. Are there opportunities for wildlife observation?		Average score for **2 – Wetland-Dependent Wildlife Habitat**	_____
2. Is there access to suitable open water for canoes and kayaks?		a. Open water is present, with easy access b. Open water is present, but site is not easily accessed for canoes/kayaks. c. Open water is present but no access is allowed or possible d. No open water suitable for canoe/kayak	10 5 1 0
3. Are there trail-based recreation opportunities?		a. Maintained trails are present in and immediately adjacent to the wetland b. Trails are present but not maintained c. No trails are present	10 5 1
4. Are there off-trail recreation opportunities?		a. Wetland has open water greater than 0.5 acres in size **AND** an undisturbed 500 ft buffer for greater than 75% of the wetland edge. b. Wetland has open water greater than 0.5 acres in size **OR** an undisturbed 500 ft buffer for greater than 75% of the wetland edge. c. Wetland has neither open water nor an undisturbed buffer greater than 75% d. No access to potential recreation site or access not feasible	10 5 1 0
5. Is there off-road public parking at the potential recreation site for at least two cars?		a. Adequate parking is available less than 5 minutes from the recreation site. b. Adequate parking is a 5-10 minute walk from the recreation site, or parking is limited. c. Adequate parking is more than 10 minutes walk from the recreation site, or no adequate parking is available. d. No access to potential recreational site or access is not feasible	10 5 1 0
6. What is the scenic quality of the potential recreational site?		Average score from **4 – Scenic Quality**	_____

AVERAGE SCORE FOR WATER-BASED RECREATION
(Add scores for each question and divide by 6) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

7 – FLOOD STORAGE

Instead of manually calculating the Wetland Flood Index on this data sheet, you can use the Flood Index Worksheet, an Excel spreadsheet provided on the NH Method website which is set up to do all the calculations for you. An example of the spreadsheet is provided in Table 3.

Note that this function is scored somewhat differently from the other NH Method function. A series of factors are developed that are then use to derive the Flood Storage Index. The numerical scores for the factors do not correspond to the 10, 5, 1, 0 scoring scale used in the other functions.

In the following situations, the Flood Value Index does not need to be calculated for the wetland being studied. Instead a certain flood index range can be assumed:

1. Wetlands with slopes greater than 10% (10' vertical :100' horizontal) as measured along the flow path, where it is obvious that little flood attenuation could occur, **should be assigned a Low Flood Index Value range (0.0 to 0.9).**
2. For large ponds or lakes or wetlands with ponded water surface area greater than 200 acres and streams that are Fourth Order or higher (i.e. 4th, 5th, 6th etc.) **assign a High Flood Index Value range (7.6 to 10.0)**

Evaluation Questions	Observations and Notes	Answers	Factor
1. What is the Wetland Acreage (W)? *Be sure to EXCLUDE the acreage of any upland islands from the total wetland acreage*		_____acres	
2. What is the Watershed Acreage (S)?		_____acres	
3. What is the Water Storage Depth in the wetland (D)?		a. Use the actual water storage depth if known b. Assign a default value of 1.0 if the wetland is located in a 100 year floodplain c. Assign a default value of 1.0 ft if the actual water storage depth is not known	**D**= ___ ft **D**=1.0 ft **D**=1.0 ft
4. What is the Wetland Storage Volume (V)?		Multiply Water Storage Depth by Wetland acreage: D x W = V	**V**=_____ acre feet
5. Wetland Storage Volume Factor (F)		Insert value from Table 1	**F**= _____
6. Watershed Area Factor (A)		Insert value from Table 2	**A**=_____
7. Location of wetland within the watershed (L) *(Choose the highest factor that applies)*		a. Wetland located within 1,000 ft of a 4th order or higher stream OR within 1000 ft of a pond/lake that outlets to a 4th order or higher stream b. Wetland located within 500 ft of a perennial stream (less than 4th order) c. Neither of the above situations apply to the study wetland	1.0 0.8 0.6

SCORE FOR WETLAND FLOOD INDEX = F x A x L x 10 _____

Use the score to locate the Value Range below and assign Flood Index Value

Wetland Flood Index Values	Flood Value Type
0.0 – 0.9	Low Flood Value
1.0 – 2.5	Low to Moderate Flood Value
2.6 – 5.0	Moderate Flood Value
5.1 – 7.5	Moderate to High Flood Value
7.6 – 10.0	High Flood Value

NH METHOD FOR THE EVALUATION OF FRESHWATER WETLANDS *(revised December, 2015)*

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

TABLE 1*	
Wetland Storage Volume Factor (F)	
Wetland Storage Volume (V) (acre-feet)	**Value of F**
≥ 200	1.000
150	0.950
100	0.900
75	0.850
50	0.800
37.5	0.750
25	0.700
18.75	0.650
12.5	0.600
9.375	0.550
6.25	0.500
4.69	0.450
3.125	0.400
2.36	0.350
1.6	0.300
1.2	0.250
0.8	0.200
0.6	0.150
0.4	0.100
0.3	0.075
0.2	0.050
0.15	0.037
0.1	0.025
0.05	0.012
0	0.000

TABLE 2*	
Watershed Area Factor (A)	
(P) Wetl. Area/Wshed Area x 100	**Value for A**
≥10%	1.00
9%	0.95
8%	0.90
7%	0.85
6%	0.80
5%	0.75
4%	0.70
3%	0.65
2%	0.60
1%	0.55
< 1%	0.50

(you will need to interpret your value to the closest value in Tables 1 and 2)

SEE BELOW LEFT FOR EXAMPLES OF WETLAND FLOOD INDEX CALCULATION:

Example 1: *(See Wetland I.D. 1 in Table 3 – sample spreadsheet)*

Wetland Area (W) = 0.25 acres
Watershed Area (S) = 25 acres
Water Storage Depth (D) = 0.5 ft (known depth)
Water Storage Volume (V) = 0.5 ft x 0.25 acres = 0.125 acre-feet
Wetland Storage Volume Factor (F) = 0.03 (from Table 1)
Watershed Area Factor (A) = 0.55 (from Table 2, where 0.25 acres/25 acres x 100 = 1%)
Location in Watershed (L) = 0.8
Wetland Flood Index = 0.03 x 0.55 x 0.80 = 0.0132
Flood Value Type = Low Flood Value

Example 2: *(see Wetland I.D. W3 in Table 3 – sample spreadsheet)*

Wetland Area (W) = 33 acres
Watershed Area (S) = 17,937 acres
Water Storage Depth (D) = 1.0 ft (default value)
Water Storage Volume (V) = 1.0 ft x 33 acres = 33 acre-feet
Wetland Storage Volume Factor (F) = 0.73 (from Table 1)
Watershed Area Factor (A) = 0.5 (from Table 2, where 33 acres/17,937 acres x 100 = 0.18%)
Location in Watershed (L)= 1.0
Wetland Flood Index Value Type = 0.73 x 0.5 x 1.0 = 3.65
Flood Value = Moderate Flood Value

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

Table 3: Example of Flood Index Worksheet for Multiple Wetlands

Use the Excel spreadsheet on the NH Method Website
for automated calculation of the Flood Water Storage Index

Flood Index = (F x A x L) x 10
Where:
Maximum Wetland Storage Volume = 200 acre-ft
Maximum Wetland Flood Function Value = 10

"Red" headings indicate data input columns
"Black" headings indicate columns where the figures are automatically calculated

Wetland I.D.	Wetland Acreage (W)	Watershed Acreage (S)	Wetland Area as % of Watershed (P) from Table 2	Watershed Area Factor (A) Table 2	Location in Watershed (L) (1.0/0.8/0.6)	Water Storage Depth feet (D) 1.0 = default	Wetland Storage Volume acre feet (D) acre feet	Wetland Storage Volume Factor (F) Table 1	Flood Index
1	0.25	25	1.00	0.55	0.8	0.5	0.125	0.03	**0.132**
2	0.75	15	5.00	0.75	1	1	0.75	0.19	**1.425**
3	2	50	4.00	0.7	0.8	2.5	5	0.46	**2.576**
4	10	100	10.00	1	1	3	30	0.72	**7.200**
5	10	1000	1.00	1	1	4	40	0.77	**7.700**
6	3	47	6.38	0.81	0.8	2	6	0.48	**3.110**
7	0.1	3	3.33	0.42	0.6	0.5	0.05	0.016	**0.040**
8	0.75	20	3.75	0.68	0.6	0.15	0.1125	0.027	**0.110**
9	1	50	2.00	0.6	1	2.5	2.5	0.35	**2.100**
10	50	400	12.50	1	0.8	3	150	0.95	**7.600**
W1	283	19548	1.45	0.57	1	1	283	1	**5.700**
W3	33	17937	0.18	0.5	1	1	33	0.73	**3.650**
W4	54	17291	0.31	0.5	1	1	54	0.73	**3.650**
W5	202	16619	1.22	0.56	1	1	202	1	**5.600**
W6	175	2664	6.57	0.82	1	1	175	0.95	**7.790**
W7	40	446	8.97	0.94	1	1	40	0.78	**7.332**
W8	24	380	6.32	0.51	1	1	24	0.69	**3.519**
W9	43	679	6.33	0.51	1	1	43	0.77	**3.927**
W10	116	2161	5.37	0.77	1	1	116	0.92	**7.084**
W11	63	880	7.16	0.86	1	1	63	0.83	**7.138**
W12	24	3302	0.73	0.86	1	1	24	0.69	**5.934**
ND1	93.7	5169	1.81	0.57	1	1	93.7	0.88	**5.016**
ND2	50	3741	1.34	0.57	1	1	50	0.8	**4.560**
ND3	37	258	14.34	1	1	1	37	0.75	**7.500**
ND4	101	2700	3.74	0.68	1	1	101	0.9	**6.120**
ND5	110.5	562	19.66	1	1	1	110.5	0.92	**9.200**
ND6	99	1753	5.65	0.77	1	1	99	0.9	**6.930**

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

8 – GROUNDWATER

Note that this function does not require any field work

Evaluation Questions	Observations & Notes	Answers	Score
1. Does the wetland overlie a stratified drift aquifer?		a. Wetland overlies **a** stratified drift aquifer b. Wetland is within ¼ mile of a stratified drift aquifer c. Wetland is more than ¼ mile from **a** stratified drift aquifer	10 5 1
2. Is the wetland in a potential public water supply area?		a. Wetland is in an area identified by Favorable Gravel Well Analysis b. Wetland is within ¼ mile of an area identified by Favorable Gravel Well Analysis c. Wetland is more than ¼ mile from an area identified by Favorable Gravel Well Analysis	10 5 1
3. Is the wetland within a public wellhead protection area?		a. More than 75% of the wellhead protection area includes the wetland b. 25%-75% of the wellhead protection area includes the wetland c. Less than 25% of the wellhead protection area includes the wetland	10 5 1
4. What is the percent coverage of highly permeable soils within 100 ft of the wetland? *Refer to Table 3 to answer this question*		a. More than 50% of the soil types within 100 ft of the wetland are on the list in Table 3. b. 25-50% of the soil types within 100 ft of the wetland listed in Table 3 c. Less than 25% of soil types within 100 ft of the wetland are listed in Table 3	10 5 1
5. What is the percent coverage of the highly permeable soil types listed in Table 4 within the wetland? *Refer to Table 4 to answer this question*		a. More than 50% of the soil types within the wetland are on the list in Table 4 b. 25-50% of the soil types within the wetland listed in Table 4 c. Less than 25% of the soil types within the wetland are listed in Table 4	10 5 1

AVERAGE SCORE FOR GROUND WATER
(Add scores for each question and divide by 5) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

Table 3: SAND & GRAVEL SOIL TYPES

***Note**: This list of soils was prepared for the purpose of providing an additional data layer for consideration under the groundwater function – i.e. to include areas that are not mapped as aquifer recharge areas yet contain surface soils with coarse particle sizes which enhance infiltration.*

Number & Slope Classes[1]	Map Unit name & Particle Size Groups[2]	Drainage Class[3]	Record % of 100-ft. wetland buffer
12 B,C,D	Hinckley gravelly LS	ED	
21 B,C,D	Colton, gravelly LS	ED	
22 B,C,D	Colton LS	ED	
24 B,C	Agawam FSL & LS	WD	
25 B,C,D	Ninigret-Windsor complex LS	MWD/WD	
26 B,C,D	Windsor LS	ED	
35 B,C,D	Champlain LS	SED	
36 B,C,D	Adams LFS	SED	
22 A,B,E	Colton S&G	ED	
212 B,C	Hinckley, very gravelly LS	ED	
222 B,C,D	Colton, very stony LS	ED	
236 B,C,D	Adams, very stony FLS	SED	
300	Udipsamments	SED	
313	Deerfield, LS	MWD	
350	Udipsamments	SED	
400	Udorthents, S	ED	
526 B,C	Caesar LS	ED	

1. SLOPE CLASSES

A, B = 0 – 8% (includes 'A' on older maps) C = 8 – 15% D = 15 – 25% E = > 25%

2. PARTICLE SIZE GROUPS

F = fine L = loam S = sand LS = loamy sand SL = sandy loam G = gravel

3. DRAINAGE CLASSES

WD = well drained SED = somewhat excessively drained ED = excessively drained MWD = moderately well drained

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

Table 4: HIGHLY PERMEABLE WETLAND SOIL TYPES THAT POTENTIALLY CONTRIBUTE TO RECHARGE DURING DRY SEASONS.

Map Symbol	Soil Name	Drainage Class			
		Somewhat Poorly Drained	Poorly Drained	Very Poorly Drained	Record % of wetland area
15	Searsport			X	
34	Wareham		X		
115	Scarboro			X	
125	Scarboro, very stony			X	
214	Naumberg		X		
314	Pipestone		X		
315	Mashpee		X		
325	Scarboro variant			X	
326	Scarboro variant, very stony			X	
393	Timakwa			X	
394	Chocorua variant			X	
395	Chocorua			X	
433	Grange		X		
546	Walpole		X		
547	Walpole, stony		X		
614	Kinsman		X		
615	Augres		X		
900	Endoaquents, sandy		X	X	
913	Sudbury variant	X			
914	Duane variant	X			
915	Deerfield variant	X			
916	Croghan variant	X			
918	Madawaska variant	X			
992	Pondicherry			X	
				Total percent	_____%

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

9 – SEDIMENT TRAPPING

Evaluation Questions	Observations &Notes	Answers	Score
1. What is the wetland's Flood Storage value?		Average score from 7 – Flood Water Storage.	____
2. Does the wetland lack outlet or have a constricted outlet?		a. Wetland has no outlet or has a constricted outlet or is ponded above the outlet b. Wetland has an outlet but flow path through wetland is primarily sheet flow c. Wetland outlet not constricted or flow primarily within stream channel.	10 5 1
3. What is the character of water flow through the wetland? $\frac{\textit{Channel Length}}{\textit{Straight line distance of stream}}$ = *Sinuosity Ratio*		a. At least one of the following situations apply: • No stream channel OR • Inlet present but no outlet OR • Outlet is im pounded and standing water present in downstream end of wetland OR • Inlet and outlet present and channel sinuosity is $\geq$ 1.5 b. Inlet and outlet present, and sinuosity of channel is >1.0 and <1.5 c. Channel is straight (sinuosity=1.0) and no impoundments within wetland or at wetland outlet	10 5 1
4. What is the ratio of the wetland's size to the size of its watershed? $\frac{\textit{Acres of Wetland}}{\textit{Area of watershed above wetland outlet}} \times 100$		a. Wetland is more than 10% of its watershed b. Wetland is between 1-10% of its watershed. c. Wetland is less than 1% of its watershed.	10 5 1
5. What is the gradient within the wetland?		a. Wetland has gradient < 0.5% or no outlet b. Wetland gradient is 0.5% to 3% c. Wetland has gradient greater than 3%.	10 5 1
6. What is the areal extent (% coverage) all vegetation types that will most likely trap sediments? (e.g. forested swamps, scrub shrub swamps, and persistent emergent marshes) *Refer to Appendix F for more information about wetland vegetation classes.*		a. Persistent emergent plants (stems above surface of water /wetland throughout the year), trees and/or shrubs cover at least 90% of the surface area of the wetland. b. Persistent emergent, trees and/or shrubs, and/or non-persistent emergents (stems fall below the surface of water/wetland during fall and winter) cover 50-90% of the wetland's surface area. c. Persistent emergent, trees and/or shrubs, and/or non-persistent emergents (stems fall below the surface of water/wetland during fall and winter) cover <50% of the wetland's surface area.	10 5 1
7. What is the average water depth in the wetland during growing season?		a. Average water depth is < 1 ft or there is no open water b. Average water depth > 1 ft and < 6.6 ft. c. Average water depth is greater than 6.6 ft	10 5 1

AVERAGE SCORE FOR SEDIMENT TRAPPING:
(Add scores for each question and divide by 7) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

10 – NUTRIENT REMOVAL/RETENTION/TRANSFORMATION

Evaluation Questions	Observations &Notes	Answers	Score
1. What is the wetland's Flood Storage value?		Average score from **7 – Flood Storage.**	_____
2. What is the wetland's ability to trap sediments?		Average score from **9 – Sediment Trapping.**	_____
3. **What is the extent (percent cover) of persistent emergent vegetation, trees and/or shrubs within the wetland?**		Record answer from **9 – Sediment Trapping**, Question 6	_____
4. What hydroperiod occurs over more than 50% of the wetland?		a. Semi-permanently flooded, seasonally flooded/saturated, or saturated b. Seasonally flooded, seasonally flooded/well-drained or temporarily flooded c. Permanently flooded or intermittently exposed	10 5 1
5. What hydric soils cover the greatest percentage of the wetland?		a. Wetland is dominated by fine textured soils (refer to Table A, Appendix D) b. Wetland is dominated by organic and/or peat soils (refer to Table B, Appendix 3) c. Wetland is dominated by sands and gravels (refer to Table C, Appendix D)	10 5 1

AVERAGE SCORE FOR NUTRIENT TRANSFORMATION
(Add scores for each question and divide by 5) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

11 – SHORELINE ANCHORING

If there is no stream, river, lake or pond within or adjacent to the wetland, leave this Function out of the evaluation.

Evaluation Questions	Observations & Notes	Answers	Score
1. What is the gradation of wetland vegetation types along the shoreline?		a. Three or more wetland vegetation types present (PAB, PEM, PSS or PFO) b. Two wetland vegetation types present c. One wetland vegetation type present	10 5 1
2. What is the vegetation density in the wetland bordering watercourse, lake or pond?		a. High: More than 90% woody or persistent vegetation cover b. Moderate: From 70-90% woody or persistent vegetation cover c. Low: Less than 70% woody or persistent vegetation cover	10 5 1
3. How wide is the wetland bordering the watercourse, lake or pond?		a. More than 20 feet b. From 10-20 feet c. Less than 10 feet	10 5 1
4. How "rough" is the substrate of the wetland at the shoreline of the waterbody?		a. Wetland substrate characterized by many boulders, stones or cobbles and woody material b. Wetland substrate has few boulders, stones or cobbles, or substrate is mostly gravel or coarse sands and little woody material c. Wetland substrate is uniformly smooth and is comprises of clays, silts or very fine sands or organic materials and no woody material	10 5 1

AVERAGE SCORE FOR SHORELINE ANCHORING
(Add scores for each question and divide by 4) _____

Wetland Name/Code:_____ Evaluation Date:_____ Evaluator:_____

12 – NOTEWORTHINESS

Describe noteworthy features in the wetland narrative

Note that the scores for this function are totaled and NOT averaged

Evaluation Questions	Observations & Notes	Answers	Score
1. Is the wetland located in or within 500 ft of an area of Highest Ranked Habitat (state or regional level), as identified on the NH Wildlife Action Plan Highest Ranked Habitat Condition map?		a. Yes	10
2. Does the wetland have local significance because has consistently high scores for all functions and/or is among the top ten largest wetlands in town?		a. Yes	10
3. Does the wetland have local, regional or statewide significance because it is it located in a priority area, is documented in a local or regional conservation plan, or it has been recognized as having regional importance in the state?		a. Yes	10
4. Does the wetland have known biological, geological, or other elements that are rare or unique as documented by the NH Natural Heritage Bureau or as determined by a professional?		a. Yes	10
5. Is the wetland known to contain a documented historical or archaeological site?	*Reference the documentation here:*	a. Yes	10
6. Is the wetland hydrologically connected to a state or federally designated river within ¼ mile of the wetland's outlet?		a. Yes	10
7. Is the wetland one of just a few left in an urban setting?		a. Yes	10

TOTAL SCORE FOR NOTEWORTHINESS _____

Add up the scores for all questions which received a YES answer.
The total score is the score for this function (**note that this score is not averaged).**
For example, if you answered YES to four questions, the score would be 40.
If you answered YES to only one question, the score is 10