

APPENDIX C

ANSWERING QUESTIONS THAT REQUIRE USING GIS OR OTHER ANALYTICAL TOOLS

(Remaining questions are answered during field checking)

Wetland scientists and other natural resources professionals use a variety of different analytical tools available to them. Among some of the more commonly used tools are:

- GRANIT Data Layers using ArcGIS, Autocad or similar software
- Terrain Navigator
- Google Earth
- GRANIT Data Mapper
- Stereoscopic Aerial Photos

Record answers on the *NH Method* Data Sheets

Question #	Feature	Get answers using GIS or other Analytical tools
1 - Ecological Integrity		
Question 7	Road, railroad or driveway crossings	From Printed Individual Wetland Map or Using GIS Or Other Analytical Tools <ul style="list-style-type: none"> • Identify road, railroad and driveway crossings. • Confirm road crossings with <i>field checking</i>.
Question 8	Percent of wetland edge bordered by a buffer of undisturbed woodland at least 500 ft in width	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> • Use recent aerial photography as a background. • Demarcate a zone 500 ft from the wetland edge. • Estimate the percent area that includes undisturbed forestland within 500 ft of the wetland • Confirm with <i>field checking</i>.
Question 9	Number of buildings in 500 ft buffer	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> • Using recent Aerial Imagery identify buildings within 500 ft. of the wetland. Note: buildings under trees may not be visible. • Confirm # of buildings with <i>field checking</i>.
2 - Wetland-Dependent Wildlife Habitat		
Question 1	Wetland size (acres)	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> • Determine the size of the wetland using GIS resources (NWI, Hydric Soils, Aerial Photos) and field checking.
Question 4	Area of shallow, permanent open water and streams	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> • Calculate the acreage of all PAB and PUB wetland vegetation classes. • Calculate stream acreage and add to acreage of PUB and PAB • Confirm with <i>field checking</i>.
Question 5	Deepwater habitat associated with the wetland (lake, pond or river)	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> • Calculate the acreage of deepwater lakes and ponds. • Offline - Check the NH DES List of 4th Order and Higher Streams at

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		http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-08-9.pdf to identify any 4th order or higher streams. Estimate the length of the 4 th order or higher stream associated with the wetland.
Question 6	Wetland vegetation diversity	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Identify wetland vegetation classes using NWI Maps and/or aerial photography. Confirm with <i>field checking</i>.
Question 7	Other wetlands in close proximity to the study wetland	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Determine distance to nearby wetlands from the study wetland. Confirm with <i>field checking</i>.
Question 8	Wildlife access to other wetlands	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Use recent Aerial Photo Imagery to identify areas of apparently natural vegetation or undisturbed stream corridors between wetlands that could function as wildlife travel routes. Confirm with <i>field checking</i>.
Question 9	Percent of wetland edge bordered by upland wildlife habitat	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Use recent Aerial Imagery to identify areas of apparently natural vegetation within 500 ft of the wetland edge. Calculate the percentage of the wetland edge bordered by undisturbed upland habitat. Confirm with <i>field checking</i>.
3 – Fish & Aquatic Life Habitat		
Question 1	Land use in watershed	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Use recent Aerial Imagery together with recent Land Cover data. Confirm with <i>field checking</i>.
Question 4	Acres of deepwater habitats	<ul style="list-style-type: none"> Use aerial imagery to calculate deepwater habitat
4 – Scenic Quality		
Question 4	Open water visible	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Calculate acreage of all PAB and PUB wetland vegetation classes and any pond or lake acreage. Calculate the size of large open river areas. The question is broad: Is the open water area less than one acre, more than three acres, or somewhere in between? Confirm with <i>field checking</i>.
Question 6	Visual diversity of vegetation types	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Follow directions for 2 - Wetland-Dependent Wildlife Habitat, Question 6, but only for areas from which the wetland is likely to be viewed. Confirm with <i>field checking</i>.
5 – Educational Potential		
Question 4	Public or private property with public access	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Use the Protected Lands data layer together with the Wetlands data layer to determine if the wetland is on a property that has public access. Public access is not specifically indicated in the GRANIT Data Mapper so this may require checking with the town (Conservation Commission). Confirm with the town's conservation commission..
Question 6	Number and accessibility of wetland classes at educational site	Same instructions as 2 – Wetland-Dependent Wildlife Habitat , Question 6 above, if all vegetation classes are accessible at the education site. Transfer answer.

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6 – Wetland-based recreation - NO GIS or Other DATA NEEDED		
7 – Floodwater Storage		
Question 1	Wetland acres	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Follow the directions and transfer the answer from 2 - Wetland-Dependent Wildlife Habitat, Question 1.
Question 2	Watershed acres	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Using the topographic map and GIS or Other tools, draw the watershed boundary and calculate acreage.
8 - Groundwater		
Question 1	Does the wetland overlie stratified drift aquifer?	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> View the Aquifer Data Layer and determine if the wetland overlies stratified drift aquifer
Question 2	Is the wetland in a potential public water supply area?	Use GIS or Other Analytical Tools or use the Forest Society Website http://clca.forestsociety.org/nhcl/fgwa.asp <ul style="list-style-type: none"> Using the Favorable Gravel Well maps available on GRANIT or via the Forest Society web page, locate the wetland area. Determine if the wetland overlies or is immediately adjacent to a Favorable Gravel Well area.
Question 3	Dominant soil type within 500 ft of the wetland	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Using the Soils Data Layer with soil polygons visually determine the dominant soil type within 500 ft of the wetland.
Question 4	Dominant soil type WITHIN the wetland	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Using the Soils Data Layer with soil polygons visually determine the dominant soil type within the wetland itself.
9 - Sediment Trapping		
Question 2	Is there an outlet?	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Use the DRG Topographic data layer to locate any outlet/s (or lack thereof). Confirm type of outlet and restriction, if any, with field checking.
Question 3	Shape of the stream channel in the wetland	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Determine shape of the stream channel in the wetland using recent aerial photographs.
Question 5	Gradient of Wetland	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Determine the highest and lowest elevation of the wetland along its longest axis. Subtract the two elevations to get the elevation difference. Or determine with GPS during field checking.
Question 6	Areal extent of wetland vegetation classes	Using GIS or Other Analytical Tools: <ul style="list-style-type: none"> Identify NWI wetland classes and determine the classes with the most acreage. Confirm with field checking.
10 - Nutrient Trapping/Retention/Transformation – NO DATA NEEDED FROM GRANIT DATA MAPPER		
Question 3	Areal extent of wetland vegetation classes	<ul style="list-style-type: none"> Same as 9 - Sediment Trapping, Question 6 above. Transfer your answer.
11 - Shoreline Anchoring		
Question 4	Gradation of vegetation types	<ul style="list-style-type: none"> Determine the wetland vegetation classes along the shoreline of the water body. Confirm with field checking.

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12. Noteworthiness		
Question 1	Critical Wildlife Habitats	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Using the Wildlife Action Plan Habitat Land Cover data, identify marsh & shrub wetlands, floodplain forests, peatlands, lakes and rivers. This information can also be interpreted from paper copies of the Wildlife Action Plan Habitat Land Cover map.
Question 2	Wildlife Action Plan Highest Ranked Habitats	<p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Using the Wildlife Action Plan Highest Ranked Habitat By Condition data, identify any highest ranked habitat (statewide significance – pink; or regional significance – green) that appears in or near the wetland.
Question 7	Connection to a state designated river	<p>Refer to the list of rivers in the NH Rivers Management and Protection Program http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-08-9.pdf</p> <p>Using GIS or Other Analytical Tools:</p> <ul style="list-style-type: none"> Determine distance to the nearest state designated river, if applicable.