

APPENDIX H

**Procedures for Challenging the
Map of Water Features to be Buffered in the Inland Bays Watershed**

This procedure describes the methodology for landowners, their representatives, and/or consultants to bring any technical errors related to primary and/or secondary water feature classifications shown on the Map of Water Features to be Buffered in the Inland Bays Watershed (map) to the Department's attention.

The map is derived from the widely accepted United States Geological Survey (USGS) National Hydrologic Dataset (NHD) of water features and depicts primary and secondary waters for the purpose of buffering these features in accordance with Sections 4 and 5 of the Regulations of the Pollution Control Strategy for the Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay Watersheds, Delaware. Primary waters include State-regulated wetlands and those waters depicted by the USGS on the NHD as perennial. Secondary waters include those waters depicted by the USGS on the NHD as intermittent and those forested ditches that flow within or are directly adjacent to forested lands.

This manual and accompanying field form must be used prior to requesting a challenge to the water feature designations shown on the maps. The manual and scoring sheet are designed predominately to determine "trouble spots" in lower order/headwater streams (1st order, 2nd order). However, it can also be used for higher order streams (3rd order, 4th order, etc), although these streams are likely always considered primary waters. Beginning users of this manual and scoring sheet should visit a variety of waters and observe the geomorphic, hydrologic, and biologic features to gain experience observing the magnitude and variability of these features. The onus will be on the landowner to provide sufficient data and information regarding a challenge for designation change through field work done by a qualified environmental consultant versed in stream evaluation.

Streams are drainage features that often change along a gradient or continuum and sometimes have no single distinct point demarcating these transitions. In order to distinguish between primary and secondary streams using this manual and scoring sheet, the qualified environmental consultant/field evaluator should have experience making geomorphic, hydrologic, and biological observations in streams. Determinations must not be made from one point without first walking up and down the channel. As a general rule, several hundred feet of channel should be walked to make these determinations. This initial examination allows the evaluator to study the nature of the channel, observe characteristics of the watershed, and observe characteristics that indicate what source of water (baseflow and/or stormflow) may predominately or solely contribute to flow. These initial observations aid in determining the magnitude (absent, weak, moderate, strong) of specific parameters on the scoring sheet.

The waters of Sussex County can be highly variable due to wide ranging types of soils, a groundwater table that fluctuates greatly from season to season and year to year, and because of the magnitude of hydrologic modification (ditching). Spatial and

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temporal variations in the attributes of these waters occur within and among stream systems. The rate and duration of flow in stream channels is influenced by climate and by recent weather. Recent (within 48 hours) rainfall can influence scoring; therefore it is *strongly* recommended that field evaluations be conducted at least 48 hours after the last rainfall. In addition, every effort should be made to conduct field evaluations during normal rainfall periods, avoid extreme wet or dry (drought) periods.

Forested ditches and modified natural streams can be very difficult to decipher in parts of Sussex County as some still exhibit sinuosity as opposed to straight channelization. Resources which may help depict these designations can include topographic map contour lines, forested data layers from the Delaware Department of Agriculture, and county soils survey maps and data from the Natural Resources Conservation Service.

Steps for challenging the Map of Water Features to be Buffered in the Inland Bays Watershed:

- Landowner, their representative, and/or consultant observes what appears to be a technical error related water feature designation as mapped on their parcel.
- Landowner, their representative, and/or consultant should contact a qualified environmental consultant to conduct a field evaluation using the methods stated above and accompanying scoring sheet.
- If the field evaluator determines there is enough evidence to formally request a water feature designation change based on results of the scoring sheet, the landowner, their representative, and/or consultant should contact the Department at 302-739-9943 for a map challenge request form or download the form from: <http://www.dnrec.state.de.us/water2000/Sections/Wetlands/DWRWetlands.htm>. This form is to be used as the official notification to the Department of an intended challenge to the water feature designation. This form should be filled out and mailed to the address on the form along with all supporting documentation from the qualified environmental consultant.
- If an on-site evaluation by the Department establishes that a technical error exists in the Map of Water Features to be Buffered in the Inland Bays Watershed the Department may correct the error after the Department documents, in writing, the results of the on-site evaluation, and the Department gives the public notice of any proposed correction.
- If a meritorious request for a public hearing is requested, the Department may hold a public hearing if necessary in accordance with the procedures and laws required by the State of Delaware.

Stream Designation Field Scoring Sheet

Date:	Project:	Latitude:
Evaluator:	Site:	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 10 or perennial if ≥ 30</i>	County:	Other e.g. Quad Name:

A. Geomorphology (Subtotal = _____)	Absent	Weak	Moderate	Strong
1 ^a . Continuous bed and bank	0	1	2	3
2. Sinuosity	0	1	2	3
3. In-channel structure: riffle-pool sequence	0	1	2	3
4. Soil texture or stream substrate sorting	0	1	2	3
5. Active/relic floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	1	2	3
9 ^a . Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. Second or greater order channel on <u>existing</u> USGS or NRCS map or other documented evidence.	No = 0		Yes = 3	

^a Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = _____)	0	1	2	3
14. Groundwater flow/discharge	0	1	2	3
15. Water in channel and > 48 hrs since rain, <u>or</u> Water in channel -- dry or growing season	0	1	2	3
16. Leaf litter	1.5	1	0.5	0
17. Sediment on plants or debris	0	0.5	1	1.5
18. Organic debris lines or piles (Wrack lines)	0	0.5	1	1.5
19. Hydric soils (redoximorphic features) present?	No = 0		Yes = 1.5	

C. Biology (Subtotal = _____)	3	2	1	0
20 ^b . Fibrous roots in channel	3	2	1	0
21 ^b . Rooted plants in channel	3	2	1	0
22. Crayfish	0	0.5	1	1.5
23. Bivalves	0	1	2	3
24. Fish	0	0.5	1	1.5
25. Amphibians	0	0.5	1	1.5
26. Macroinvertebrates (note diversity and abundance)	0	0.5	1	1.5
27. Filamentous algae; periphyton	0	1	2	3
28. Iron oxidizing bacteria/fungus.	0	0.5	1	1.5
29 ^b . Wetland plants in streambed	FAC = 0.5; FACW = 0.75; OBL = 1.5 SAV = 2.0; Other = 0			

^b Items 20 and 21 focus on the presence of upland plants, item 29 focuses on the presence of aquatic or wetland plants.

Notes: (use back side of this form for additional notes.)

Sketch:
