Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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FINAL STREAM FLOW CLASSIFICATIONS & STATEMENT OF REASONS
Southeast Coastal, Pawcatuck & Thames Major River Basins

INTRODUCTION

On September 18, 2013, the Commissioner of the Connecticut Department of Energy & Environmental Protection (the "Commissioner") published a notice of proposed stream flow classifications for the Southeast Coastal, Pawcatuck & Thames Major River Basins (see Appendix I). Notice was provided in accordance with the Regulations of Connecticut State Agencies (RCSA) Section 26-141b-5 in newspapers in the basins, including the New London Day, the Norwich Bulletin and the Willimantic Chronicle. The notice was also mailed and emailed to required parties listed in RCSA Section 26-141b-5 and to other interested parties (see Appendix II), and published on the Department's website. Mapping of the proposed classifications was made available in several formats, including an interactive on-line map (http://www.depdata.ct.gov/maps/sfclass/index.htm). The interactive map allowed an individual to view the factors considered in the classification of each stream segment. Two public information sessions were held, as detailed in the public notice, and additional sessions were provided at the request of individual interest groups (see Appendix III).

Public comments and information for the Commissioner's consideration on the proposed classifications were solicited through the public notice. In accordance with the regulations, comments were solicited pertaining, but not limited to: (i) the factors for consideration in the regulations; (ii) the impact of the proposed classification on any prior investment made to develop a permitted or registered diversion and the alternatives, if any, to the diversion including cost factors and feasibility of such alternatives; (iii) the relationship of an existing or proposed diversion to economic development or jobs; and (iv) the practicality of, and potential for, achieving ecological benefit from restoring stream flow to the specific river or stream system. Comments were accepted by email and hard copy, and a total of nineteen comment letters were received. The list of individuals and organizations who submitted comment letters on the proposed regulations is included as Appendix IV.

This report summarizes the principal reasons in support of the classifications, the principal considerations raised in opposition to the classifications and the reasons for rejecting or modifying a proposed classification. It should be noted that this is the initial round of stream flow classifications, and as a result there were a number of comments concerning the methodology for establishing the proposed classifications.

ADMINISTRATIVE REQUIREMENTS

RCSA Sec. 26-141b-5 required a minimum 90 day public notice period for public comment on proposed classifications. The Commissioner, in consultation with the Commissioner of Public Health and with technical assistance from the Office of Policy and Management, Department of Economic and Community Development, and the Department of Agriculture: (1) considered such comments and adopted classifications for the river or stream segment thereof as identified in the public notice; and (2) prepared a document summarizing the principal reasons in support of the classifications, the principal considerations raised in opposition to the classifications and the reasons for rejecting or modifying a proposed classification. Notice of the adopted classifications shall be published in the Connecticut Law Journal upon issuance of this report.

BACKGROUND

The Connecticut Stream Flow Standards and Regulations, RCSA Sections 26-141b-1 to 26-141b-8, inclusive, became effective December 12, 2011. The regulations apply to all rivers and streams in the state. They establish stream flow standards that preserve and protect aquatic life, fish, and wildlife dependent on flow; promote public recreation; are based to the maximum extent practicable on natural variations of flow while meeting societal needs; and are based on the best available science.

The proposed regulations require two separate but related activities. First, they require that all rivers and streams be classified into stream flow classes. Each stream flow class represents a balancing of human use and ecological conditions appropriate to the respective class. The regulations establish the public process for classifying streams and identify the human use and ecological considerations for determining the classification appropriate to specific waters. Second, they require owners or operators of dams that control stream flow to comply with release rules that apply to a stream once it has been classified. The releases are required to begin no later than ten years from classification to allow current users time to adjust their operations to comply with the new regulations without unduly disrupting the supply of water available for human use.

In accordance with the RCSA Sec. 26-141b-5, the Commissioner, after consultation with the Commissioner of Public Health, prepared mapping of proposed classifications indicative of the degree of human alteration of natural stream flow for the streams in the Southeast Coastal, Pawcatuck & Thames Major River Basins. The proposed stream flow classification of a stream or river segment was based on ecological conditions and human use characteristics. These included factors such as location, size and use of dams; existing registered or permitted withdrawals; existing and potential use of the water for public water supply; land use and land cover within the watershed; habitat indicators and other conditions. The complete list of factors and considerations can be found in Appendix V.

The Commissioner utilized the best available data sources related to the factors and the state's Geographic Information System (GIS) for the analyses and to propose the initial stream flow classifications. The methodology for establishing the proposed classifications is attached as

Appendix VI. This methodology was developed in conjunction with the Science & Technical Work Group formed during development of the regulations and was well received by water professionals in demonstrations and presentations.

The Department shared and reviewed the proposed initial classification methodology with the Connecticut Department of Public Health (DPH), meeting with DPH on 12/4/12 and 2/25/13. DPH provided information on potential future public water supplies, which was then incorporated into the proposed classifications to the extent possible prior to issuance of the public notice.

The Department recognized that while it used the best available statewide data for the proposed initial classifications, the data may contain inaccuracies or incompleteness that could be supplemented at the local level. A primary purpose of the public notice and comment period was to allow the public to provide additional or more accurate segment-specific data so that the proposed classifications could be modified as appropriate in accordance with the factors for consideration.

CONSIDERATION OF PUBLIC COMMENT

Nineteen comment letters were received during the comment period (see Appendix IV). The full comment letters, as submitted, can be obtained online at www.ct.gov/deep/streamflow . In general, the commenters appreciated the complexity and effort that went into developing the proposed initial stream flow classifications. However, since this is the initial round of stream flow classifications, there were a number of comments concerning the specifics of the methodology and data used for establishing the proposed classifications. A number of commenters provided data for consideration on specific stream segments. The Department requested clarification from the Waterford Town Planner and two water companies, East Lyme Water Department and Connecticut Water Company, on segment-specific data provided during the comment period. All the segment-specific data provided were evaluated and factored into the proposed classification for that segment where appropriate. The comments are paraphrased below for brevity; however, every effort has been made to preserve the original intent of the comment. Comments focused on similar issues and common themes are grouped together. The comment letter numbers from Appendix IV are listed in parentheses at the end of each comment to identify the commenter.

GENERAL COMMENTS

Some of the comments and questions received, including Letter #1, were simply requests for information on the proposed classification of a particular segment. These requests were responded to by the Department in a timely fashion and there was no follow up by the commenter.

One comment letter received, Letter #7, reviewed the status of each of the water company's sources with respect to the requirements they will need to comply with in the coming years after the classifications are adopted, and offered to work with the Department going forward. The

Department is appreciative of this support and looks forward to working with water companies to protect stream flow for all uses in the future.

Some suggestions for how the classification maps are presented were made. For the web mapping application, it was recommended the Department:

- Consider including the ability to add the stream name to the segment and determine its length when it is selected in the application; (Letters #13, 17)

- Note which "Additional Factors" are "increasers" and which are "decreasers" for ease of review; (Letter #13, 17)

- Add documentation on specifically what "other factors" are applied to a specific segment and how it modified the classification; (Letter #13, 17)

- Include documentation of and the source of information for what constitutes "significant investment" for future sources for Class 3 designations; (Letter #17) and

- It was suggested that the road layer on the PDF formatted maps for each town be included. (Letter #16) (Note that the maps on the website included roads.)

These suggested modifications to the mapping application and maps could improve ease of use as the classification process is undertaken in other basins and the Department will incorporate them to the extent possible going forward.

PRINCIPAL REASONS IN SUPPORT

The principal reasons in support of the proposed classifications provided during the comment period included the following:

1. Generally supportive of the proposed stream flow classifications and congratulate the Department on the outstanding digital mapping system it developed. (Letter #10)

2. Strongly support and endorse the work of the Department to develop a fair and scientifically sound methodology for stream classification and for how this method was applied for the basins in eastern Connecticut. This classification system is an important underpinning of the new stream flow regulations. Overall, the classification approach is logical, well documented and meets the intent and expected purpose of the law and regulations. (Letter #13, 17)

3. Commend the Department on the web mapping and display capability developed to allow easy access to the classification maps. It will be an invaluable tool going forward. (Letter #13, 17)

4. Urge the Department to complete the process for eastern Connecticut in an expeditious manner and move forward to complete the process for the rest of the state as soon as reasonably possible. (Letter #13)

5. Supportive of new stream flow standards that adequately balance public health and the environment, and remain willing to work with the Department to ensure implementation of the regulations achieves that balance. The Department has clearly devoted considerable effort to this initial classification phase and, issues aside, the apparent absence of any significant flow alteration in almost a third of the state's rivers and streams is encouraging. (Letter #19)

PRINCIPAL CONCERNS OR CONSIDERATIONS RAISED IN OPPOSITION

Comments to Reject or Modify the Classification for a Specific Stream Segment

A number of commenters provided new or revised data for consideration on specific stream segments. The data were evaluated and factored into the proposed classification for that segment where appropriate, in many cases resulting in a change to the proposed classification. A table listing the segment-specific comments and response to them can be found in Appendix VII. (Letters #2, 3, 8, 9, 12, 13, 14, 15, 16, 18, 19)

Comments on the Use of the Classifications

1. **Comment:** Concern was expressed regarding the impact of the stream flow classifications on future land development and if Class 1 and Class 2 streams limit the potential for development. (Letter # 5, 8) Also, a request was made that the Department conduct individual outreach to each town to explain the program and its impacts on future development. (Letter # 5)
   Response: The stream flow classifications have no direct impact on surrounding land development. There is basic information on the stream flow regulations, their applicability, and classification process on the Department website at www.ct.gov/deep/streamflow. Information meetings were held early on in this classification process to help the public, including the towns, to understand the program. Each town in the basins under consideration was invited to the sessions. The towns can contact the Department by email to deep.streamflowclass@ct.gov with any specific questions on this.

2. **Comment:** Concern was expressed that the classification system will be utilized for regulatory considerations beyond the stream flow regulations, such as water resource allocation, or limiting development of new supplies to Class 3 streams. (Letters # 10, 11, 14, 18, 19)
   Response: The Stream Flow Standards and Regulations do not give the Department authority for regulatory considerations beyond the regulations themselves. The regulatory authority was debated at length during the public regulation development process and the Department relies on the regulations as established for authorization. This is a separate issue from the stream flow classifications and any changes to regulation authority would have to follow the

public regulations adoption process.

Comments on the Classification Methodology and Weighting

3. **Comment:** The Department selected four initial Hydraulic Stressor Index factors from the original eighteen factors which were apparently considered the most pertinent of the factors as they established a pre-classification value. The remaining factors were "additional factors" that could only raise or lower the classification by one. (Letters # 8, 14, 18, 19)
   Response: The Department, in concert with the Science and Technical Workgroup, used best professional judgment to develop the classification process, using the Hydrologic Stressor Index (HSI) as a core index with adjustments due to other factors as described in R.S.C.A. Sec. 26-141b-5 during development of the Stream Flow Regulations. The methodology (see Appendix VI) was well-vetted through all three advisory work groups, including the (then DEP) Commissioners Advisory Group, Policy and Implementation Group, and Science and Technical Workgroup, and has been consistent throughout the collaborative regulation development process. Early feedback was that the degree of alteration of streamflow was accurately described in mapped stream flow classes. The Department choose basins to demonstrate where work group participants had extensive local knowledge and comprehensive hydrologic modeling had been completed. The Department also solicited feedback from the scientific community and technical workgroups outside of the internal work groups by making presentations on the method at several scientific meetings including the New England Association of Environmental Biologists, Connecticut Conference of Natural Resources, Instream Flow Council, Connecticut Business and Industry Association, Water Planning Council, Department of Public Health Compliance Workshop for the Water Industry, and Connecticut Water Works Association. The process was well-received in these forums.

4. **Comment:** Inclusion of NPDES discharges as one of the four HSI factors biases the classification process since no surface water supply can be located downstream of a wastewater treatment plant, and therefore drinking water sources cannot achieve a maximum score. (Letters # 14, 18, 19) The four initial Hydraulic Stressors are set up such that the maximum score possible a Class 3. A maximum score in this should lead to a Class 4 designation. (Letters # 8, 14, 18, 19)
   Response: The goal of the HSI was not to "achieve a maximum score", but to take the hydrologic factors that most directly impact stream flow and index them on a scale that represents alteration from the natural hydrograph. There was never intent that a maximum score would default a segment to a Class 4. Site-specific conditions and consideration of trade-offs require additional data and a case-by case evaluation to assign Class 4 to a stream segment or segments. For NPDES discharges, the effect on flow is not consistent - in addition to being a flow alteration, return flow can lessen the impact of diversions on stream flow. Finally, while it is true that a surface water drinking water supply would not occur downstream of a wastewater treatment plant, a ground water diversion could. All of these alter the natural hydrograph.
   During the public hearing process for the stream flow regulations, the Department received numerous comments requesting either elimination of Class 4 or inclusion of an environmental standard for Class 4 rivers. Many felt that the goal over time should be to

improve the classification of all the rivers. The Department recognizes the concern that a Class 4 designation may be viewed as lack of an environmental standard for such rivers or stream segments. We also recognize that in a few, very limited cases, it may not be feasible to maintain a Class 3 designation and in some cases it may be necessary to trade off some minimal habitat for improved habitat elsewhere. While it is difficult to put a floor on the minimum acceptable in such a case, it is necessary to have a goal of Class 3 and to have the standard get as close to Class 3 as possible given the local situation. It was always the intent to utilize Class 4 carefully given the policy implications. It was anticipated that data supporting any Class 4 requests would be submitted during the public comment period. Only one detailed case was submitted (see Letter #9) and that resulted in a Class 4 designation. (Also see responses to comments 6 and 12.)

5. **Comment:** All factors for consideration in the initial classifications were weighted equally by the Department, but the factors have an unequal influence on altering natural stream flow. Further, two factors "potential public water supply" and "identified by DPH" are a redundant measure of a single human use metric. (Letters #2, 17) Others letters objected to the equal weighting of the factors, stating that there are more environmental factors than human use factors listed, and therefore the analysis was unbalanced – for example, the USGS index gages are not as important as segments identified as a potential source of water supply. (Letters # 8, 14, 18, 19)
   Response: RSCA Sec. 26-141b-5 outlines the factors that should be considered by the Department to classify stream flow. While some factors designate that streams shall not be a Class 1 or Class 2 (e.g. Sec. 26-141b-5a(1), Sec. 26-141b-5a(2)), the regulation does not specify weighing one factor over another factor. Weighting was therefore not applied.

Comments on the Overall Classification Methodology

6. **Comment:** The Department's methodology in assigning the classifications appears to have deviated from the regulations, specifically with respect to Class 4 designations and margin of safety. The implementation of the methodology has not been consistent and has produced some unexpected results. (Letter # 11)
   Response: The methodology utilized is consistent with the regulations. There is an important distinction between the classification process and implementation of the release rules. The release rules provide significant flexibility for water utilities to meet margin of safety needs within a Class 3 designation. Testimony from public water suppliers on margin of safety concerns and concerns of reliance on a Class 4 designation to meet those were submitted during the regulation adoption process. As a result, substantial off-ramps were provided to protect margin of safety for Class 3 classifications so that it did not have to be a common consideration for Class 4. The Class 3 off-ramps to preserve margin of safety are provided in RSCA Sec. 26-141b-6 and include: automatic drought release reductions and 50% release reductions for ten years if margin of safety is low, and allowances to reduce releases by more than 50% and for more than ten years with approval. These off-ramps are in addition to the exemptions already provided in RSCA Sec. 26-141b-3(c), variances and the ten-year compliance schedule to plan for a new source if necessary. After all Class 3 margin of safety off-ramps have been exhausted, then a classification or petition to Class 4 to protect margin of safety further can be pursued. (Also see responses to comments 12 and 25 below.)

7. **Comment:** Under the proposed classification methodology, the Department has placed a significant burden on the municipalities, planning agencies and water companies to determine if the classifications are appropriate. (Letters # 14, 18, 19) It was noted that many towns in the region are small with limited staff and resources to evaluate the proposed classifications. (Letter # 11)
Response: Meaningful public policy is best developed through public participation and that is built into the regulation. The Department recognizes that an investment in time from municipalities, planning agencies, and water companies is necessary to provide input to the classification process. That is why the Department provided the proposed classifications in detailed web-based electronic mapping, included the all the factors it considered, conducted public information sessions and offered additional information and review assistance, in addition to the more than 100-day review period.

8. **Comment:** The Department should perform a greater "boots to the ground" evaluation. (Letters # 14, 18, 19) "More detail and a site-specific evaluation would be helpful." (Letter # 17)
Response: The Department has used a variety of mapping sources, created new maps, and utilized field staff and local knowledge through the public comment process to evaluate the proposed stream flow classifications, consistent with the regulations. The feedback has been overwhelmingly positive in that only a very small percentage of stream segment classifications proposed have been suggested for revision.

9. **Comment:** There should be consistency among adjacent streams. (Letters # 12, 14, 18, 19)
Response: It is possible for adjacent basins to have a different stream flow class since the 18 factors contributing to the classification may be different in adjacent basins. This is due to the non-linear nature of basins.

10. **Comment:** Classifications do not always reflect the classifications of tributary streams joining the main stem. For example, The Yantic River is Class 3 in Norwich. It is joined by streams of class 2 and 3 and the downstream segment is a Class 1. "If altered streams join together, the result *must* be an altered stream." (Letters # 12, 14, 18, 19)
Response: While we agree that this is an unusual circumstance, the additional flow provided by the tributaries and the presence of anadromous fish run results in a Class 1 for the segment mentioned in the comment above. RCSA Sec. 26-141b-2 defines a stream segment as a discrete, contiguous reach of river or stream channel for which a uniform classification has been adopted. For the purposes of proposing classifications, stream segments were derived from the National Hydrography Dataset (NHD) developed at a 1:24,000 scale (1 inch = 2000ft) by USGS for the State of Connecticut using Wrap Hydro tools (http://www.crwr.utexas.edu/gis/gishydro03/WRAPhydro/WRAPhydro.htm), an extension for ArcGIS. There are approximately 36,000 stream segments in the State. The average length of the stream segments is approximately 0.3 miles long. Each segment receives a classification based on the 18 factors described in RCSA Sec. 26-141b-5. In some instances, the classification process based on the 18 factors results in contiguous stream segments that change classification. This was expected. After consultation with the stream flow working groups, it was decided to report the stream classification consistently using the 18 factors. It

was recognized that some segments could be petitioned for changes during the public process, using the 18 factors as described in RCSA Sec. 26-141b-5.

11. **Comment:** "We believe that, if there is no compelling reason for a stream to be a 3, it should be a 1 or 2.... We do not support a Class 3 designation for a river when the reasons are not clear." (Letter # 17)
Response: The Department has considered all of the 18 classification factors as directed by RCSA Sec. 26-141b-5. In some cases of human use, the regulations determine it may not be class 1 or 2. The factors that contribute to the stream flow class are shown for each segment by the mapping application available on the Department's website (www.ct.gov/deep/streamflow).

Comments on Overall Method – Class 4

12. **Comment:** No Class 4 designations were proposed by the Department. (Letters # 6, 10, 11, 14, 16, 18, 19) Some comments went on to say this is a departure from the regulations, which established a Class 4 designation. And that the Department has misinterpreted the phrase "shall not be classified as Class 1 or Class 2" in certain factors for consideration to be an "automatic Class 3" – these should be Class 3 or Class 4. (Letters # 8, 14, 18, 19) By not proposing any Class 4 segments, the Department has limited the safe yield of certain reservoirs, which is devastating to the utility. (Letter # 8) Some were also concerned that the Department "pushed the burden of proof... on others". (Letter # 11) The case-by-case circumstance would be covered by a petition, and should not be part of the Class 4 designation. (Letters # 3, 16)
Response: Class 4 designations require more site-specificity than can be obtained from the initial classification process, which is largely driven by metrics derived using available statewide hydrologic, ecologic and human use data. The societal needs, economic costs, and environmental impacts to be considered as described in RSCA Sec. 26-141b-4 (d) requires consideration of:
(1) Extent of prior channel modification;
(2) Current impact of development and impervious cover in the watershed;
(3) Overriding societal needs that cannot otherwise be met;
(4) Economic impact that would substantially impair or otherwise detrimentally affect the economy of the community in which the segment is located or of the state;
(5) Associated environmental impacts to other river or stream segments;
(6) Existing biological community; and
(7) The margin of safety of the community water system utilizing the river or stream segment as an existing public water supply source.
Not all of these factors are readily available in a basin-wide assessment. As part of the process to develop final classifications however, we have carefully considered all information submitted during the comment period. For one segment, sufficient information was provided to propose a Class 4. It was clear on the Department website and in presentations to the Advisory groups and public sectors prior to proposing the initial classifications that the Department was starting the classification process with the Southeast Coastal, Pawcatuck and Thames basins, providing ample lead-time for interested parties to prepare Class 4 requests and discuss them with the Department. (See also responses to

comment 4 regarding Class 4 and comments 6 and 25 regarding margin of safety.)

13. **Comment:** Was data regarding use of water for fire protection evaluated? For example, at McDonald Rd in Colchester, there is a fire protection pond, but it is listed as a Class 1 stream which has wild brook trout. This is a public safety issue, shouldn't it be exempted? (Letter # 16)
    Response: Use of water for fire protection is not one of the factors for consideration in classification under RCSA Sec. 26-141b-5. Diversion of water for fire emergency purposes is exempt from the provisions of the Stream Flow Standards and Regulations as described in RCSA Sec. 26-141b-3. This exemption applies to the release rules associated with a particular dam, but has no bearing on classification of the stream segment.

14. **Comment:** How was economic impact considered and taken into account in the classifications? Why was it not considered in establishing Class 4 designations? (Letter # 16)
    Response: While economic impact is not a specific consideration listed under the classification factors in RCSA Sec. 26-141b-5, it is part of the human use and alteration factors and the Class 4 petition process. As mentioned above, there are no readily available data to factor in state-wide on economic impact. Site-specific considerations to establish a Class 4 segment would have to be submitted to the Department for consideration.

Comments on Individual Factors – Level A Aquifer Protection Areas

15. **Comment:** Level B Aquifer Protection Areas for public water supply wells should be considered where Level A Mapping is not complete, as these are certainly sources with significant investment. (Letters # 12, 14, 18, 19)
    Response: The Stream Flow Standards and Regulations do not give the Department the authority to consider Level B equal to Level A Areas. Since Level B mapping areas are larger and not as precisely defined as Level A, Level B Areas are not a good substitute for Level A mapped wellhead areas. However, it is reasonable to consider these existing sources as having significant investment, so the segments along which the wells are located were changed to Class 3. (See table in Appendix VII for specific-segment designations.)

Comments on Individual Factors – Dams

16. **Comment:** "Dams" are defined as dams 15 feet in height or greater, even though the impact of a dam on stream flow will be greater for truly large dams by comparison. (Letter # 2)
    Other comments referred to the definition of a 'dam" in RCSA Sec. 22a-409-1, which means "any barrier of any kind…", and indicated all dams should be included in the analysis. (Letter # 16)
    Response: Both the size and density of dams were considered in the methodology. Use of the Hydrologic Stressor Index (HSI) as a core index was well-vetted in public and technical meetings. As determined by the Science & Technical Work Group, smaller dams are essentially run-of-river, which don't significantly alter flow and thus were not included. (See also the response to comment 3.)

Comments on Individual Factors – Return Flows

17. **Comment:** One of the factors for consideration is Factor No. 5, the size and location of return flows. The only return flows considered are associated with NPDES permitted discharges or concentrated storm water runoff. All return flows should be considered. (Letters # 8, 14, 18, 19) "In effect, as an unintended consequence, the Department may be forcing public water supply utilities to look at areas that are affected by treated sanitary sewer discharges."(Letter # 8)
Response: Municipal NPDES permitted sources are the primary sources of return flow that would affect stream flow. The Department would consider other significant return flow data if provided.

Comments on Individual Factors – Planned Land Use

18. **Comment:** In considering the State's Conservation & Development Plan, a "local historic district" is considered a "conservation zone" for C&D purposes, but does not make sense to apply as a conservation zone for stream flow purposes. (Letter # 8)
Response: The Department did not consider local historic districts as conservation areas for the stream flow classification process. (See Step 3(12) of the methodology in Appendix VI.)

19. **Comment:** The growth areas were only applied to the adjacent stream segment. The regulations require consideration of planned development in the entire upstream watershed. (Letters # 14, 18, 19)
Response: The regulations do not specify the "entire upstream watershed", but simply the "upstream watershed". Planned development in the watershed area draining directly to each segment was considered, including upstream and downstream segments. Impacts to upstream segments would be reflected in the classifications for those segments. The State C&D Plan does not explicitly state the type of future development and associated stream flow impacts, so it is impossible to speculate the extent of flow alteration in downstream segments from that source alone. That is why the public review process allows for more specific local growth information to be provided. The classification methodology therefore considered whether or not each stream segment intersected an identified future growth area. The protected open space/conservation areas were considered in a similar manner in the methodology. It is recognized that some segments could be petitioned for classification change as the planned growth occurs using the public process described in RCSA Sec. 26-141b-5(d). (Also see responses to comments 1, 3, and 10.)

Comments on Individual Factors – future sources with significant investment

20. **Comment:** The Class 3 classification for future sources with "significant investment" was not applied. (Letter # 6, 10)
Response: The Class 3 designation for future sources with significant investment was applied where the information was available, such as for the proposed Miller's Pond Diversion on Hunts Brook in Waterford. Additional information on significant investment was submitted during the comment period (Letter #3, for example) and taken into consideration to change the classification of a number of segments to Class 3.

21. **Comment:** The Department limited "significant investment" considerations for future sources to only the sources proposed within a five-year period, which is not part of the regulations. (Letters # 6, 8, 14, 18, 19)
Response: The Department did not limit consideration of "significant investment" to sources proposed within a five-year period. The Department considered all available information on potential future sources. This included any information submitted in the Water Supply Plans prepared by the water companies, such as capital expenditures and scientific or engineering studies referenced in the Plans. Information on diversion permit application or pre-application materials submitted to the Department, and evidence of land acquisition or other expenditures were counted. In addition, it was assumed that any future source in the Water Supply Plan that was slated to be brought online within the short-term planning period (5 years) likely had some expenditures associated with it (even if those investments were not explicitly stated in the Water Supply Plan), and therefore was also included as a future source with "significant investment".
The Department specifically requested information from the DPH on any potential sources with significant investment, and where specifics were provided, it was included in the classification process. It should be noted that much of the information in the Water Supply Plans and on the DPH "High Quality Sources" List was not specific enough to be considered in this process. For example, development of a ground water source within a particular sub-regional stream basin might be listed, but if no locations are specified, the information could not be applied to a particular segment classification. As noted above, however, any information submitted for a specific stream segment during the comment period was considered.

22. **Comment:** The term "significant investment" for classifying a segment Class 3 is not defined in the regulations. "We urge that no Class 3 designation be imposed on the basis of significant investment unless the need for that designation is demonstrated by specific, publicly accessible information," including who made the investment, level and type of investment and whether the development of the designated segment is referenced consistently in relevant plans. There is a difference between sources needed to supply an immediate need and a $5,000 investment to research a right-of-way for possible use fifty years out. (Letter # 17)
Response: The term "significant investment" for classifying a segment is included in RCSA Sec. 26-141b-5(14), but the details requested in the comment above are not specified. See response to comment 21 and the methodology in Appendix VI for more information on how the Department handled the "significant investment" determination.

23. **Comment:** An example of failure of the classification methodology is the Norwich Public Utilities Norwichtown well adjacent to the Yantic River. This is an emergency source of supply, so Aquifer Protection Area mapping has not been completed for the well. Since it is an approved emergency source, it is clear that there has been significant investment and should have been automatically designated as not a Class 1 or Class 2. However, the river is a Class 3, not by automatic designation, but because the additional factors caused it to be classified that way. (Letter # 8)
Response: Yes that is correct, the river is a Class 3 - not by automatic designation but because of the additional factors, including an existing source of supply diversion. (Also see

response to comment 15.) We will examine this issue further in any future revisions to methodology.

Comments on Individual Factors – DPH HQW List

24. **Comment:** The Department only considered potential sources identified on DPH's High Quality Source List. All existing sources that are included must also be considered. (Letters # 14, 18, 19)
Response: All existing sources were considered. (See Methodology in Appendix VI.)

Comments on Individual Factors – MOS

25. **Comment:** Margin of safety is one of the factors for consideration in the regulations, but was not considered in the initial classifications. Data on margin of safety was made available as testimony during the regulation adoption process, and could have been solicited from the individual utilities. (Letters # 3, 6, 8, 11, 14, 18, 19)
Response: Factor 17 specifically says: "Publicly available data regarding the impact of stream classification on a community water supply's margin of safety". There were no publicly available data to factor into the initial classification methodology regarding "the impact of stream classification on a community water supply's margin of safety". The Department has the margin of safety information in approved water supply plans; however the margin of safety alone is insufficient to make a determination of impact. The Department can rely on any additional data the water company might provide for a specific source during the comment period, which would include a brief evaluation of how the off-ramps would or would not mitigate the impact; however, none of the water companies commenting provided such information. As acknowledged in Comment #31, it is complicated to develop margin of safety information, and the Department understands this. The Department made it very clear that we were beginning the classification process with the Southeast Coastal, Pawcatuck and Thames Regional basins and it took over a year for the initial classifications to be developed and released. That time could have been utilized by the water companies to develop the necessary information. It should also be noted that there is a ten-year implementation period before releases need to be made. This provides adequate time for the evaluations to be made by the water companies and, if necessary, for a petition to be submitted to change the classification.

Comments on Individual Factors – Other Factors

26. **Comment:** The "other factors" needs more public documentation in the classification process to be adequately transparent. The agency should not be making judgments about the reversibility of hydrologic alteration without adequate documentation and public input. (Letters # 13, 17) Factor 18, "any other factor indicative of …" has been applied inconsistently – it seems to function as a wild card that can supersede the other classification criteria. (Letters # 14, 18, 19)
Response: Factor (18), "Any other factor indicative of the degree of human alteration of natural stream flow", contained in RCSA Sec. 26-141b-5 could result in a more altered or less altered stream flow class. When using this factor as one of the 18 factors for classification,

the Department has evaluated the current stream flow condition. This does not preclude discussion of reversibility of hydrologic alterations in the future that are allowable under RCSA Sec. 26-141b-5(d) in a petition to change classification.

Comments on Data Sources

27. **Comment:** The Department's choice to use approved Water Supply Plans for information on status of the public water systems and future sources is problematic. Many of the plans are outdated and were prepared prior to passage of the stream flow regulations. They therefore do not have the necessary data for the classification evaluation. (Letters # 8, 14, 16, 18, 19)
Response: RCSA Sec. 26-141b-5, factors 13 and 14, require the consideration of sources in approved water supply plans. The Department also used the best available data including diversion permitting status, capital expenditures, scientific or engineering studies and land acquisition by the water system, as well as consulting with the Department of Public Health when considering public water supply systems and future sources. The purpose of the public input process was to solicit for any other water supply source information not already captured in the data used.

28. **Comment:** The diversion metric does not seem to consider all permitted and registered diversions. Examples include diversions along Swan Brook in Old Lyme, Pease Brook and Hoxie Brook in Lebanon, Quandock Brook in Killingly, and Horse Brook / Fry Brook in Plainfield. (Letter # 12) Further, the Department limited its consideration only to "active" diversions. The regulations require consideration of all diversions, including inactive, emergency, or bedrock sources. (Letters # 14, 18, 19)
Response: The diversion metric included all data in the existing diversion database. The presence of a diversion is factored into the HSI, but can be modified by other factors. Where missing diversion data was provided for individual segments during the comment period, these were added into the analysis. Also see Appendix VII for information considered for specific segments.

Comments on On-going Efforts

29. **Comment:** Over time, the flow characteristics of a stream may change. There is a strong need to adopt a clear, standardized, balanced, formal mechanism to reclassify a water course, which should involve all stakeholder groups. (Letter # 10)
Response: This process is included in the regulations, under RCSA Sec. 26-141b-5(d) and (e).

30. **Comment:** We urge the Department to revisit the concept in the regulations of automatically classifying a segment to Class 3 when it intersects a Level A Aquifer Protection Area and to begin working on adding ground water into the regulations. (Letter # 17)
Response: These are regulation amendment issues which the Department will keep in mind, but are not part of the current classification process.

Request for Time Extension

31. **Comment:** Because this initial proposal establishes the methodology for classification, more time should be provided for comment. (Letter # 10) The concerns with the methodology are significant enough that the Department should address the concerns and allow additional time to comment before finalizing the classifications. The process set out in the regulations for the Department to take public comment and then finalize the classifications doesn't work. The only recourse respondents have is a burdensome petition process. (Letters # 8, 11, 14, 16, 18, 19) Information regarding safe yield and margin of safety is time-consuming and expensive to develop. A ninety day comment period does not provide sufficient time for utilities to conduct this analysis. (Letters # 14, 18, 19)
Response: The Department must follow the procedures for classification adoption set out in the regulations. We provided more than 100 days for the comment period, held multiple information sessions and made ourselves available to meet with interested parties throughout the process. The regulations also provide a ten-year implementation timeframe and a petition process to change classification. (Also see responses to comments 7 and 3.)

FINALIZATION OF CLASSIFICATIONS

This Statement of Reasons document was submitted in draft form to the Commissioners of Public Health, Agriculture and Economic & Community Development and to the Secretary of the Office of Policy & Management for review and comment. The Department of Public Health responded favorably and no response was received from the other three agencies.

Taking into consideration the Department of Public Health comments, the report was then finalized and final changes were made to the classification maps, as detailed in Appendix VII of this document. The maps will continue to be available on the Department web site at www.ct.gov/deep/streamflow.

CONCLUSIONS

The Commissioner, after consultation with the Commissioner of Public Health and consideration of the factors listed in RCSA Sec. 26-141b-5, prepared a map of proposed classification indicative of the degree of human alteration of natural stream flow for the Southeast Coastal, Pawcatuck and Thames Major River Basins. The proposed classifications were public noticed as required and an interactive map of the proposed classifications was made available online. Submitted public comments were subsequently considered, and a number of classifications were modified as a result of the information provided. The final mapping will be made available through the Department web site at www.ct.gov/deep/streamflow and notification of the availability of the adopted classifications will be published in the Connecticut Law Journal. Regulated dam owners will be required to begin making releases in accordance with RCSA Sec. 26-141b-6 ten years after notice of the final classifications is published in the Connecticut Law Journal.

9/30/14

Date

Mackey McCleary

APPENDIX I

Public Notice of Proposed Stream Flow Classifications
Southeast Coastal, Pawcatuck & Thames Major River Basins

In accordance with the Connecticut Regulations of Connecticut State Agencies Section 26-141b-5, the Commissioner of the Connecticut Department of Energy and Environmental Protection hereby gives notice that the Department, through consideration of the factors required by the regulations, has prepared maps of proposed stream flow classifications for the Southeast Coastal, Pawcatuck and Thames Major River Basins.

The maps are available on-line at www.ct.gov/deep/streamflow. Such maps include river and stream segments in the following towns: Andover, Ashford, Bolton, Bozrah, Brooklyn, Canterbury, Chaplin, Colchester, Columbia, Coventry, East Lyme, Eastford, Franklin, Griswold, Groton, Hampton, Hebron, Killingly, Lebanon, Ledyard, Lisbon, Mansfield, Montville, New London, North Stonington, Norwich, Old Lyme, Plainfield, Pomfret, Preston, Putnam, Salem, Scotland, Sprague, Stafford, Sterling, Stonington, Thompson, Tolland, Union, Vernon, Voluntown, Waterford, Willington, Windham, and Woodstock.

Public information sessions will be held, as follows:

Northeast CT Council of Governments
125 Putnam Pike
Dayville, CT 06241
Tuesday, October 15, 2013
2 sessions: 2:00 – 4:00 pm and 6:00 – 8:00 pm

Southeastern CT Council of Governments
5 Connecticut Avenue
Norwich, CT 06360
Wednesday, October 16, 2013
2 sessions: 2:00 – 4:00 pm and 6:00 – 8:00 pm

A short presentation on how the stream flow classification maps were developed will be given, copies of the maps will be available for inspection, and Department staff will be on hand to answer questions at these information sessions.

The proposed stream flow classification of a stream or river segment is based on ecological conditions and human use characteristics, and determines flow management goals and applicable flow standards for that segment. Proposed stream flow classifications were developed using known information on factors indicative of the degree of human alteration of natural stream flow, environmental flow needs and existing and future needs for public water supply.

The public may submit additional information or comments for the Commissioner's consideration on the proposed classification of a specific river or stream system pertaining to, but not limited to: (i) the factors for consideration in the regulations; (ii) the impact of the proposed

classification on any prior investment made to develop a permitted or registered diversion and the alternatives, if any, to the diversion including cost factors and feasibility of such alternatives; (iii) the relationship of an existing or proposed diversion to economic development or jobs; and (iv) the practicality of, and potential for, achieving ecological benefit from restoring streamflow to the specific river or stream system. Written comments may be submitted by email to deep.streamflowclass@ct.gov, or may be mailed to Robert Hust, Department of Energy & Environmental Protection, Bureau of Water Protection and Land Reuse, 79 Elm Street, Hartford, Connecticut, 06106-5127. The Department is accepting additional information or written comments on the proposed Streamflow Classifications until Tuesday, December 31, 2013.

Additional information on the Stream Flow Standards and Classifications is available on the Department's website at: www.ct.gov/deep/streamflow . Anyone requiring more information may contact the Department by email at deep.streamflowclass@ct.gov or by phone at 860-424-3020.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action and Equal Opportunity Employer that is committed to complying with the Americans with Disabilities Act. To request an accommodation call 860-424-3194 or email deep.accommodations@ct.gov.

APPENDIX II

Mailing List for Public Notice of Proposed Stream Flow Classifications – Southeast Coastal, Pawcatuck & Thames Major River Basins
Mailed September 16, 2013

MUNICIPALITIES:

Bob Burbank
First Selectman
17 School Road
Andover, CT 06232

Ralph Fletcher
First Selectman
5 Town Hall Road
Ashford, CT 06278

Roberta R. Morra
First Selectman
222 Bolton Center Rd
Bolton, CT 06043

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First Selectman
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Hampton, CT 06247

Andrew Tierney
Town Manager
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Hebron, CT 06248

Bruce E. Benway
Town Manager
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Killingly, CT 06239-

Joyce Okonuk
First Selectman
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John Rodolico
Mayor
741 Colonel Ledyard Hwy
Ledyard, CT 06339

Thomas W. Sparkman
First Selectman
One Newent Road
Lisbon, CT 06351

Ralph F Eno Jr
First Selectman
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Lyme, CT 06371

Matthew Hart
Town Manager
4 South Eagleville Road
Mansfield, CT 06268

Ronald K. McDaniel
Mayor
310 Norwich-New London Turnpike
Uncasville, CT 06382

Daryl J Finizio
Mayor
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New London, CT 06320

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First Selectman
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North Stonington, CT 06359

Alan Bergren
City Manager
100 Broadway St
Norwich, CT 06360

Bonnie Reemsnyder
First Selectman
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Old Lyme, CT 06371

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First Selectman
8 Community Ave
Plainfield, CT 06374

Maureen Nicholson
First Selectman
P.O. Box 286
Pomfret Center, CT 06259

Robert M. Congdon
First Selectman
389 Rte 2
Preston, CT 06365

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Mayor
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North Grosvenordale, CT 06255

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Tolland, CT 06084

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Union, CT 06076

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Mayor
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Vernon, CT 06066

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Voluntown, CT 06384

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15 Rope Ferry Road
Waterford, CT 06385

Christina B. Mailhos
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Willington, CT 06279

Neal Beets
Town Manager
P.O. Box 94
Willimantic, CT 06226

Allan D. Walker Jr
First Selectman
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Woodstock, CT 06281

REGIONAL PLANNING AGENCIES

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Windham Regional Council of Governments
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Executive Director
Northeastern CT Council of Governments
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Dayville, CT 06241-0759

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Norwich, CT 06360-4592

Linda Krause
Executive Director
Lower CT River Valley Council of Governments
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Essex, CT 06426

Lyle Wray
Executive Director
Capitol Region Council of Governments
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Hartford, Ct 06106

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Birmingham Utilities, Inc.,
The Connecticut Water Company
230 Beaver St Ansonia, CT 06401-2062

Black Hall Club, Inc.
50 Buttonball Rd
Old Lyme, CT 06371-1704

Blackledge East, LLC.
180 West St
Hebron, CT 06248-1257

Board Of Trustees
Connecticut State University System
East Hall
1615 Stanley St
New Britain, CT 06050-2439

Brooklyn Sand & Gravel
42 Junior Ave
Danielson, CT 06239-4217

Canterbury Horticulture LLC
351 Brooklyn Rd
Canterbury, CT 06331-1139

Chase Farm Golf, LLC
Putnam Country Club
136 Chase Rd
Putnam, CT 06260-2838

Crystal Water Utilities Corporation
321 Main St
Danielson, CT 06239-2817

Crystal Water Utilities Corporation
321 Main St
Danielson, CT 06239-2817

Ernest Joly & Sons, Inc.
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Danielson, CT 06239
Exeter Energy Limited Partnership
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Jackson, Mi 49201

Franklin Mushroom Farms, Inc.
931 Rte 32
PO Box 18
North Franklin, CT 06254 -0018

Fusion Paperboard Connecticut, LLC
PO Box 237
130 Inland Rd
Versailles, CT 06383

Joseph Rustici
301 Preston Rd
Jewett City, CT 06351-2633

Mohegan Golf, LLC
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Baltic, CT 06330-1005

Oakdale Heights Association, Inc.
PO Box 144
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Pequot Holdings Two, LLC
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Plainfield Renewable Energy LLC
C/O Enova Energy Group
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Atlanta, GA 30341-2790

Prides Corner Farms, Inc.
122 Waterman Rd
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Quinnatissat Country Club
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Putnam, CT 06260 -0132

Raceway Golf Club
PO Box 278
Thompson, CT 06277 -0278

Rand-Whitney Realty, LLC
PO Box 336
Montville, CT 06353 -0336

River Ridge Golf Course Inc
301 Preston Rd
Jewett City, CT 06351 -2633

Rocktenn Cp, LLC, Stone Container
Corporation
125 Depot Rd
Uncasville, CT 06382 -2441

Rolling Meadows L.L.C
90 Sadds Mill Rd
Ellington, CT 06029 -3232

Skungamaug Clubs Inc
D/B/A Skungamaug River Golf Club
104 Folly Ln
Coventry, CT 06238 -1211

Southeastern Connecticut Water Authority
1649 Route 12
PO Box 415
Gales Ferry, CT 06335 -1533

State Of Connecticut Department Of Energy &
Environmental Protection
79 Elm St
Hartford, CT 06106

State Of Connecticut, Department Of Correction
165 Capitol Ave, G-4
Hartford, CT 06106 -1620

Stonington Country Club
396 Taugwonk Rd
Stonington, CT 06378 -1807

Strategic Commercial Realty, Inc
205 Munyan Rd
Putnam, CT 06260 -2508

The Connecticut Water Company
93 W Main St
Clinton, CT 06413 -1645

The Ellington Acres Company
170 N Maple St
Enfield, CT 06082 -3103

The Plant Group Inc
465 Pond Rd
North Franklin, CT 06254-1104

Tilcon Connecticut Inc.
1 Forest Rd
North Branford, CT 06471-1023

TTM Printed Circuit Group, Inc
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Stafford, CT 06075

University Of Connecticut
Avery Point Campus
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Groton, CT 06340

Walnut Hill Properties LLC
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East Lyme, CT 06333-1013

Warren Corporation
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Stafford Springs, CT 06076 -1223

Wheelabrator Lisbon Inc.
425 S Burnham Hwy
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Jewett City, CT 06351 -3141

Windham Materials
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Willimantic, CT 06226 -0133

Mohegan Golf, LLC
Pautipaug Country Club, Inc.
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Bartlett, Richard& Therien, Robert
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Bynes, Jack, Byrnes Falls
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Charles Boggini Company LLC
Moser Farm Dairy Inc.
733 Bread And Milk Street
Coventry, CT 06238

Polhemus, Jeffrey & Therien, Robert
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Coventry, CT 06238

Ellington Ridge Country Club
Anthony A. Roberts
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Ellington, CT 06029

Gasek Farms, Inc.
99 Pinney Street
Ellington, CT06029

Natural Country Farms, Inc.
Moser Farm Dairy Inc. Aka Country Pure Foods.
58 West Road
Ellington, CT 06029

Therien, Robert L.
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Fort Kent, ME 04743

Southeastern CT Water Authority
P.O. Box 415
Gales Ferry, CT06335

General Dynamics Corporation
Electric Boat Corporation
75 Eastern Point Road
Groton, CT 06340

Groton Department Of Utilities
Town Of Groton Water Department
295 Meridian Street
P.O. Box 820
Groton, CT 06340

Pfizer, Inc.
Groton Plant
Eastern Point Road
Groton, CT 06340

United States Department of Defense
Naval Submarine Base - New London
Naval Sub Base New London
Groton, CT 06340

Litke, William J.
Bigelow Road
Hampton, CT 06247

Blackledge Country Club
West Street
Hebron, CT 06248

Tallwood Country Club, Inc.
91 North Street
Route 85
Hebron, CT 06248

Frito-Lay, Inc. – Killingly
Maple Street
Killingly, CT 06239

Lebanon, Town of
Town Hall
Exeter Road
Lebanon, CT 06249

Prides Corner Farms Inc.
Waterman Road
Lebanon, CT 06249

Dow Chemical Company
Allyn's Point Plant
1761 Route 12
Ledyard, CT 06335

Holdridge Farm Nursery, Inc.
1046 Col. Ledyard Highway
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Ledyard, CT 06339

New London Water Dept
111 Union Street Staton Building
New London, CT 06320

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24 West 69th Street, Apt 3b
New York City, NY

East Lyme Water & Sewer Commission
P.O. Box Drawer 519
Niantic, CT 06357

Browning, S.P. III
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Malerba Farm
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Norwich Water Department
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Norwich Hospital
Norwich

Hawks Nest Beach Water Supply
Hawks Nest Beach
Old Lyme, CT 06371

Schreiber Farms
571 Quaker Farms Road
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Pomfret School, Inc.
398 Pomfret Street
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Schutz, Arthur T.
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Tolland, CT 06084

Cherokee Southington LLC
United Technologies Pratt & Whitney
Southington
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Torrance CA 90501

Unionville Water Company
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Unionville, CT 06085

Amerbelle Textiles, LLC
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Behringer, Friedrich R.
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Willimantic Country Club
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Windham Materials
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Winsted Water Works
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Vinal, Richard & Amy
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Department of Public Health
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Mr. Steven K. Reviczky, Commissioner
Department of Agriculture
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Ms. Catherine Smith, Commissioner
Department of Economic Community Development
505 Hudson Street
Hartford CT 06106

Mr. Benjamin Barnes, Secretary
Office of Policy and Management
450 Capitol Avenue Hartford, CT 06106

Mr. Arthur House, Chairperson
PURA
Ten Franklin Square
New Britain, CT 06051

APPENDIX III

List of Outreach Meetings

Date	Meeting With
9/10/2012	Instream Flow Council, Ashland, NE - A 6-Year Voyage: Adopting Stream Flow Regulations In Connecticut
10/24/2012	Willimantic River Alliance
11/20/2012	Compliance Workshop For Water Industry Professionals On New Laws and Regulations
12/4/2012	CT DPH
12/10/2012	Streamflow External Workgroup
1/15/2013	Thames River Basin Partnership
2/15/2013	CBIA Environmental Affairs Committee
2/25/2013	CT DPH
3/18/2013	CT Conference on Natural Resources, Storrs, CT -Stream Flow Regulations In Connecticut: A Progress Report
3/20/2013	New England Assoc. of Environmental Biologists Conference, Lake Placid, NY- Adoption Of Stream Flow Standards And Regulations: A View From Connecticut
6/25/2013	American Water Resources Association 2013 Summer Specialty Conference Environmental Flows, Hartford, CT
9/3/2013	Water Planning Council
10/15/2013	Public Information Session, Northeast CT Council of Governments Office, Killingly
10/16/2013	Public Information Session, Southeast CT Council of Governments Office, Norwich
10/22/2013	CT Water Works Assoc. / CT Section American Water Works Assoc. 2013 Annual Fall Conference
10/31/2013	DEEP Staff-Phoenix Auditorium
11/20/2013	Council on Environmental Quality
12/17/2013	Thames Chapter Trout Unlimited
12/20/2013	CT Water Works Assoc.
1/15/2013	Thames River Basin Partnership

APPENDIX IV

List of Individuals Who Submitted Comment Letters

Letter[1]	Submitted by
1	John Dyson, Warren Corporation, Stafford Springs
2	Lee Dunbar, Resident, Mansfield
3	Brad Kargl, East Lyme Water and Sewer Commission
4	Colleen Bezanson, Montville Planning Department
5	Richard L. Matters, Town of Franklin
6	Ellen Blaschinski, CT Department of Public Health
7	Richard Stevens, Groton Utilities
8	Mark Decker/John Bilda, Norwich Public Utilities
9	Will Bullard/Sean Heaney, Department of the Navy
10	Greg Leonard/Ed Monahan, Southeast CT Water Authority
11	James Butler/Robert Congdon/Chris Clark, Southeast CT COG
12	Dave Murphy, Milone and MacBroom
13	Mark Smith, The Nature Conservancy
14	Elizabeth Gara, Connecticut Water Works Association
15	Maureen Fitzgerald, Environmental Planner, Town of Waterford
16	James Paggioli, Colchester Public Works
17	Margaret Miner, Rivers Alliance of Connecticut
18	John Walsh, Aquarion
19	David Radka, Connecticut Water Company

[1] The full text of the letters can be found at www.ct.gov/deep/streamflow.

APPENDIX V

List of Factors for Consideration in Classification
Excerpt from the Stream Flow Standards and Regulations

RCSA Sec. 26-141b-5. Adoption of river or stream system classifications.

(a) The commissioner, after consultation with the Commissioner of Public Health, shall prepare a map of proposed classifications indicative of the degree of human alteration of natural stream flow after consideration of the following factors:

(1) A river or stream segment that is immediately downstream of an existing dam that impounds a public water supply source registered or permitted in accordance with section 22a-365 to 22a-378a of the Connecticut General Statutes, or that intersects a Level A aquifer protection area as approved by the Commissioner pursuant to section 22a-354d of the Connecticut General Statutes shall not be classified as Class 1 or 2;

(2) A river or stream segment that is immediately downstream of an existing dam that impounds a water supply source registered or permitted in accordance with section 22a-365 to 22a-378a of the Connecticut General Statutes, other than a public water supply, shall not be classified as Class 1 or 2;

(3) Size and location of permitted and registered diversions within the watershed, to the extent that these diversions, if operated to the maximum extent allowed in accordance with the provisions of the permit or registration, may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-annual flow characteristics of the river or stream system;

(4) Size and location of dams, reservoirs and other impoundments within the watershed, to the extent that these dams, reservoirs and other impoundments may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-annual flow characteristics of the river or stream system;

(5) Size and location of return flows of water within the watershed, to the extent that these return flows may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-annual flow characteristics of the river or stream system;

(6) Existing land cover in the upstream watershed, to the extent that human development and associated impervious land cover may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-annual flow characteristics of the river or stream system;

(7) Planned land use in the upstream watershed, as contained in an applicable local or state plan, including the state plan of conservation and development, to the extent that future human development and associated impervious land cover may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-

annual flow characteristics of the river or stream system;

(8) Available data related to the distribution and abundance of plant and animal species, such as wild trout, which are dependent upon stream and riparian habitat;

(9) Available data related to the presence of anadromous fish runs or where anadromous fish are actively being restored or are targeted for restoration;

(10) Existence of trout management areas and other recreational resources;

(11) The location of stream gages operated and maintained by the U.S. Geological Survey that have been identified by the commissioner in consultation with the U.S. Geological Survey as hydrologic index reference gages;

(12) Wild or scenic water designation by the state or federal government, or waters predominately within state forests, wildlife management areas, natural heritage areas or other large contiguous areas protected for conservation purposes, including protection for public water supply purposes;

(13) River or stream systems or segments that are identified as a potential source of water supply in an approved coordinated water system plan prepared in accordance with section 25-33h of the Connecticut General Statutes or a water supply plan in effect as of the date of such mapping, to the extent that these potential water supply sources, if developed, may affect the physical characteristics of flow, volume or velocity of water in the stream channel or may alter the daily, seasonal or inter-annual flow characteristics of the river or stream system;

(14) River or stream systems or segments that are identified as a potential source of water supply in an approved coordinated water system plan prepared in accordance with section 25-33h of the Connecticut General Statutes or a water supply plan in effect as of the date of such mapping and where there has been a significant investment toward development of such potential source, including but not limited to capital expenditures, scientific or engineering studies or land acquisition cost, shall not be classified as Class 1 or 2;

(15) River or stream systems or segments that are identified by the Commissioner of Public Health pursuant to Section 59 of Public Act 11-242;

(16) Practicality of, and potential for, restoring stream flow patterns to achieve consistency with the Stream Flow Standards and Regulations due to the extent of prior channel modification or the impact of development and impervious cover in the watershed as of the date of such mapping;

(17) Publicly available data regarding the impact of stream classification on a community water supply's margin of safety; and

(18) Any other factor indicative of the degree of human alteration of natural stream flow.

APPENDIX VI

Methodology for Defining Preliminary Stream Flow Classifications Pursuant to Sections 26-141b-1 to 26-141b-8 of the Regulations of Connecticut State Agencies

Last Revised: 5 September 2013

INTRODUCTION

The State of Connecticut Stream Flow Standards and Regulations (*Sections 26-141b-1 to 26-141b-8 of the Regulations of Connecticut State Agencies*) require that the Department of Energy and Environmental Protection (CT DEEP) in consultation with the Department of Public Health (DPH) prepare a State-wide map of proposed classifications indicative of the degree of human alteration of natural stream flow. The regulations define four stream flow class standards (See Table 1). The regulations include consideration of 18 factors when adopting river or stream system classifications (***Sections 26-141b-5 Adoption of river or stream system classifications*).**

The process described below represents the data and methodology used to evaluate those 18 factors to assign stream segments a proposed stream flow class for public comment. The numbers in parentheses below reflect the stream flow classification factor listed under Sec. 26-141b-5(a). Sec. 26-141b-2 defines a stream segment as a discrete, contiguous reach of river or stream channel for which a uniform classification has been adopted. For the purposes of proposing classifications, stream segments were derived from the National Hydrography Dataset (NHD) developed at a 1:24,000 scale (1 inch = 2000ft) by USGS for the State of Connecticut using Wrap Hydro tools (http://www.crwr.utexas.edu/gis/gishydro03/WRAPhydro/WRAPhydro.htm), an extension for ArcGIS. There are approximately 36,000 stream segments in the State. The average length of the stream segments is approximately 0.3 miles long.

Stream flow Class	Stream Condition	Narrative Standard
1	Free Flowing Stream	Maintain stream flow and water levels to support and maintain habitat conditions supportive of an aquatic, biological community characteristic typically of free-flowing stream systems
2	Minimally Altered	Maintain stream flow and water levels to support and maintain habitat conditions supportive of an aquatic, biological community characteristic minimally altered from that of typically of free-flowing stream systems
3	Moderately Altered	Maintain stream flow and water levels to support and maintain habitat conditions supportive of an aquatic, biological community characteristic moderately altered from that of typically of free-flowing stream systems

4	Altered	Exhibit substantially altered stream flow conditions caused by human activities to provide for societal needs

Table 1: Narrative Standard for Each Stream flow Class

This process will provide all stream segments throughout the state with a class of 1, 2, or 3 designation. CTDEEP is not initially proposing any Class 4 designations; as such designation requires specific information on societal needs, economic costs and environmental impacts that will be considered on a case by case basis.

The process described below entails three steps. The first is to target streams identified in the regulations that shall not be classified as Class 1 or 2. These streams are classified as a Class 3 in this process. Steps 2 and 3 are then used to assign proposed classifications to the remaining streams. The second step involves assigning the remaining streams a classification value based on an index that characterizes current stream flow conditions. The third involves modifying (increasing or decreasing) a stream flow classification based on the additional factors for consideration which describe unique ecological attributes or goals for a particular stream segment.

STEP 1: CLASS 3 FACTORS

Description: *Any streams meeting the criteria for the factors described below are assigned a Class 3 designation.*

(1) A river or stream immediately downstream of an existing dam that impounds a public water supply source or intersects a Level A aquifer protection area.

A public water supply source is a water body listed as reservoir in the State of Connecticut DPH database. Immediately downstream of a dam is defined as the stream segments below the reservoir where the annual Q99 flow is less than two times the annual Q99 flow going into the reservoir. The annual Q99 flow is a very low flow where the naturally occurring daily stream flow that is predicted to equal or exceeded on 99 percent of the days in a year. The annual Q99 stream flow is estimated using methods developed by the United States Geological Survey (USGS) (Ahern 2010).

(2) A river or stream immediately downstream of an existing dam.

Dams are defined as consumptive diversions identified as an impoundment in the CT DEEP diversion spatial dataset. Immediately downstream of an existing dam is defined in the same way as in factor (1), see above.

(14) River or stream identified as potential source of water supply with significant investment.

In response to Public Act 11-242, the Department of Public Health compiled a "Highest Quality Source" list, which lists all existing and proposed sources of water supply for the state. All the proposed sources listed by DPH were reviewed in detail. Locations for the proposed sources were identified in the referenced planning documents and mapped in ArcGIS for consideration in the classification system.

To determine which of the proposed sources had a "significant investment", CT DEEP used any available information on diversion permitting status, capital expenditures, scientific or engineering studies and land acquisition by the water system. In addition to the sources identified by such information, the timeframe within which the proposed source was needed was considered, and even if there was no information on permitting status, etc., it was assumed that sources proposed within the five-year planning period likely had "significant investment". Proposed sources with "significant investment" were then given a Class 3 designation under section 26-141b-5(a)(14). The only exception to this were proposed sources that were small (< 0.01 mgd) bedrock wells. These are unlikely to have a significant impact on stream flow and were therefore not considered for automatic Class 3 designation. The proposed sources for which the planning period is further out than five years or for which no information on investment status was available are given consideration in the classification system under the "Other Factors" discussed below in Step 3 of the process.

STEP 2: HYDROLOGIC STRESSOR INDEX (HSI) FACTORS

Description: *For all remaining unassigned stream segments (i.e. those not assigned to stream flow class 3 in step 1), a class is assigned based on an index that combines the four factors below. Each factor is given a metric value of 1, 2 or 3. Metric values are assigned based on the potential degree of alteration to natural stream flow conditions. A '1' indicates little or no stress to natural stream flow conditions, a '2' indicates minimally altered stream flow conditions and a '3' indicate high stress and alteration from natural stream flow conditions. The values for each of the four metrics are added together to obtain a Hydrologic Stressor Index (HSI) value. The HSI values ranges from 4 to 12. Analogous to the metrics, lower HSI values indicate that in-stream and surrounding drainage area conditions do not stress or alter natural stream flow, whereas higher index values indicate that conditions significantly stress and alter stream flow. HSI values are partitioned into three groups corresponding to a preliminary stream class. An HSI value of 4 - 5 represents Class 1 or 'natural conditions', values of 6 - 8 represent Class 2 or 'near natural conditions', and values of 9 - 12 represent Class 3 of 'altered conditions.' A description of how each metric was defined and calculated is provided below.*

(3) Size and location of permitted and registered diversions within the watershed.

Registered diversions listed in CT DEEP diversion spatial data layer as 'consumptive' and permitted diversion listed as 'consumptive' and 'active' were included in the analysis.

Calculated the maximum withdrawal amount and divided by the annual Q99 to calculate the percent of Q99 flows withdrawn.

Metric Value	Maximum Withdrawal / Q99
1	0
2	0 – 100%
3	>100%

(4) Size and location of dams, reservoirs and other impoundments within the watershed.

Large dams using a combined spatial dataset that included information from CT DEEP database and National Inventory of Dams. Large dams were defined as those that were greater or equal to 15 ft in height or having a storage capacity greater than or equal to 15 acre-feet. The number of large dams was divided by the total number of upstream stream miles.

Metric Value	# of Dams / Stream Mile
1	0
2	> 0 – 0.1
3	> 0.1

(5) Size and location of return flows of water within the watershed.

Only municipal NPDES discharges were included in the analysis. Calculated the design flow of the sewage treatment plant divided by annual Q99 to calculate the percent return flow greater than Q99 flows.

Metric Value	Return Flow / Annual Q99
1	0
2	0 – 75%
3	>75%

(6) Existing development and impervious cover in the upstream watershed.

2006 Impervious Cover dataset from the National Land Cover Dataset. Calculated the percent impervious cover in the upstream watershed.

Metric Value	Percent IC
1	0 – 2%
2	2 – 5%
3	> 5 %

STEP 3: ADDITIONAL FACTORS

Description: *Applies to streams that were not classified in step 1. Includes additional factors in the regulation that can modify (increase the stream flow class (i.e. 1 to 2) or decrease the stream flow class (i.e. 2 to 1)) the classification value calculated using the HSI. The other factors primarily represent a present or future goal for a stream segment or contain unique ecological attribute. Each factor is defined as an increaser or decreaser. The total number of increasers and decreasers were added for each stream segment. If there were more increasers than decreasers present in a stream segment than the stream class was increased up by one class (i.e. 2 to 3). If there were more decreasers present in a stream segment than the stream class was decreased by one class (i.e. 2 to 1).*

(7) Planned land use in the upstream watershed for future development. (↑ Increaser)

Stream segment that intersects with a growth areas defined in the Connecticut Plan of Conservation and Development.

(8) Available data on species that are dependent upon stream and riparian habitat. (↓ Decreaser)

Species that are dependent upon stream and riparian habitat were defined as stream segments that are contained within the upstream watershed where high densities of wild brook trout (> 73 wild brook trout/ hectare) have been sampled.

(9) Available data related to the presence or restoration of anadromous fish runs. (↓ Decreaser)

Stream segments that have been identified by CT DEEP where anadromous fish runs occur or are being actively restored or targeted for restoration.

(10) Existence of trout management areas. (↓ Decreaser)

Stream segments that have been identified by CT DEEP as a trout management area.

(11) The location of stream gages operated by USGS that have been identified as an index station . (↓ Decreaser)

Stream segments that are contained within the watershed upstream of USGS gages identified as an index station in Ahern 2007.

(12) Areas designated as protected for conservation purposes. (↓ Decreaser)

Stream segments that intersect with the most recent CT DEEP protected open space mapping (POSM) spatial dataset or State conservation area identified in the CT DEEP property spatial dataset.

(13) River or stream segments identified as a potential source of water supply; and **(15)** River or stream segments identified by the DPH pursuant to Section 59 of Public Act 11-242.. (↑ Increaser)

Stream segments containing a potential source identified on the "Highest Quality Source" list by the CT DPH in accordance with Public Act 11-242, and planned for development beyond the five-year planning period. (Sources proposed for development within the five-year planning period were considered an automatic Class 3 under Step 1 above).

(↑ Increaser)

(16) Practicality or, and potential for, restoring stream flow patterns to achieve consistency with the Stream Flow Standards and Regulations due to the extent of prior channel modification or the impact of development and impervious cover in the watershed as of the date of such mapping. (↓ Decreaser or ↑ Increaser)

Factor number 16 will be evaluated by the Department when adopting classifications on a case by case basis.

(17) Publically available data regarding the impact of stream classification on a community's water supply's margin of safety. (↑ Increaser)

Factor number 17 will be evaluated by the Department when adopting classifications on a case by case basis.

(18) Any other factor indicative of the degree of human alteration of natural stream flow. (↓ Decreaser or ↑ Increaser)

Factor number 18 will be evaluated by the Department when adopting classifications on a case by case basis.

LITERATURE CITED

Ahearn, E.A., 2007, Flow durations, low-flow frequencies, and monthly median flows for selected streams in Connecticut through 2005: U.S. Geological Survey Scientific Investigations Report 2007–5270, 33 p.

APPENDIX VII
TABLE OF SEGMENT-SPECIFIC COMMENTS OR DATA AND RESPONSE

Segment	Stream	Comment[i]	Response	Letter
109,004,223	Billings Brk	USGS index gage present, should consider "other factors" and change from Class 3 to Class 1	The historic gage is no longer active, though it was accounted for. Potential for public water supply drove the Class 3. No change.	2
108,002,239; 108,002, 268 108, 002,430	Four Mile River (Plants Dam)	Potential public water supply with significant investment (study provided); Should be Class 3	Water company submitted a study showing significant investment for this potential source, which is listed on DPH HQW List. Change to Class 3.	3
108,001,800; 108,001,801; 108,001,803	Darrow Pond	Existing bedrock wells that have emergency status, so potential public water supply	This potential source is not listed in any planning document, no details on location or withdrawal rates were provided, and no permits are in place for this source. No change.	3
108,001,207	Trib to Stony Brk	DIV-200403147 DEEP Permit- Department of Correction Wells; should be Class 3	The diversion metric was factored in, however the presence of wild brook trout and anadromous fish keep the segment at a Class 1. No change.	4
108,001,356	Oxoboxo Brk	DIV200701708GP/DIV200000069M/DIV1986-26 DEEP Permits Rand-Whitney/Smurfit Stone-RockTen/Whipple; should be Class 3	The diversion is on an upstream segment, which is Class 3. No change.	4
108,001,381	Trib to Sandy Brk	DIV-20701789GP SCWA Hillcrest System Interconnection; should be Class 3	This diversion is for an interconnection, and not for a withdrawal that would impact stream flow. The bedrock wells for this system are not registered or permitted diversions. No change.	4
108,001,128; 108,001,129; 108,001,157; 108,001,162; 108,001,178; 108,001,251	Tribs to Deep Hollow Brk	Community Well/SCWA System; should be Class 3	The wells are on segment 108,001,251. These bedrock wells are not a registered or permitted diversion. No change.	4
108,000,767; 108,000,784; 108,000,847	Tribs to Trading Cove Brk and Stony Brk	Soneco Industrial Parcel; should be Class 3	Impervious cover was considered in the analysis, but the presence of wild brook trout balance it out. No change.	4
108,001,430, 108,001,432	Tribs to Latimer Brk	Nature's Art /The Past/Splash Pad/Pond ; should be Class 3	Impervious cover was considered in the analysis. No change.	4

Segment	Stream	Comment[i]	Response	Letter
108,001,534; 108,001,540; 108,001,560; 108,001,607; 108,001,643	Tribs to Latimer Brk	Route 85 Industrial Park; should be Class 3	Impervious cover was considered in the analysis. No change.	4
108,000,987; 108,001,027	Oxoboxo Brk	Below Oxoboxo Dam ; should be Class 3	This is a run-of-river dam, which was factored in, but anadromous fish moved it to a Class 1. No change.	4
107000499; 107000500; 107000503;	Shetucket River in South Windham and Franklin	Future water supply (Ex. 8);	This future source was not in the WSP nor the HQW List, but was confirmed by DPH to be under consideration for future supply. Will be factored in as potential future source, however, no evidence of significant investment was provided. This does not result in a change in class due to other factors in the analysis.	8
(None Specified)	Shetucket River	All of the Shetucket should be class 3	The HSI factors gave most of the Shetucket a Class 2, but planned or current anadromous fish runs shifted these to Class 1. The density of dams, etc. does not warrant a Class 3.	12, 14, 16
108,000,489	Bobbin Mill Brk & Yantic River	The "protected open space" is a local historic district and should not increase the class	The historic district was not considered protected open space. The Lowthrope Meadows Natural Area, a very large protected parcel, affected this classification.	8
108,000,396, 108,000,412, 108,000,451, 108,000,463	Stream segments below Deep River reservoir	Should be Class 4 as would unduly affect MOS	See discussion in body of report for comment #12 & 24. No specifics for classifying these as Class 4 were provided, though it may be a candidate. No change at this time.	8
108,001,686	Unnamed trib to Thames	Presents detailed case for Class 4.	The comments provided a case to support change to a Class 4 in accordance with the considerations in RCSA Sec. 26-141b-4(d). Change to Class 4.	9
108,002,481	Swan Brk	Soundview diversion not accounted for.	Diversion was not in diversion database. It will be factored in, and results in a change to Class 2.	12, 14, 19
108,002,440, 108,002,441;	Swan Brk	Potential water supply. Land purchased & wells installed.	Withdrawals from these 5 bedrock wells total less than 25 gpm, which would have minimal impact on stream flow. No change.	19
108,000,144, 108,000,137,	Pease Brk	Diversion not accounted for.	Diversion for Pride's Corner Farms was not in the diversion database. It will be factored in, but does not result in a class change due to other factors.	12, 14

Segment	Stream	Comment[i]	Response	Letter
108,000,178	Hoxie Brk	Diversion not accounted for.	Diversion was accounted for, giving an HSI of 2, and then presence of wild brook trout bring the classification to a Class 1. No change.	12
108,000,498	Yantic River	Class 3 joined below by Class 2 and 3 streams but reverts to Class 1 – seems to be an error	There is no error. HSI = 2, anadromous fish push to a 1. Also the tributaries coming in provide additional flow volume.	12, 14
108,002,077	Anguilla Brk	Do the anadromous fish and C&D factors cancel each other?	Yes, HSI gives a Class 2, the factors mentioned cancel out, so remains a Class 2.	13
109,002,240	Trib to French River	Appears impervious cover factor may have had too much weight due to road proximity to stream, should be Class 1	Agree. This is a result of the pixel size in the impervious cover data. Change to Class 1.	13
107,001,174	Natchaug River	Downstream of flood control dam – is this also a public water supply dam?	Yes, it is a public water supply reservoir.	13
108,002,035	Oil Mill Brk	Recommend Class 2. Class 3 was driven by growth areas and impervious cover. Knowledge of existing quality, storm drainage, conservation easements and riparian corridor protection efforts by the town were provided.	Comments provided support a Class 2 designation.	15
108,002,082	Niantic River	Recommend Class 2. Class 3 was driven by growth areas and impervious cover. Knowledge of existing quality, storm drainage, conservation easements and riparian corridor protection efforts by the town were provided.	Concur that comments provided support a Class 2 designation.	15
108,002,046	Niantic River	Recommend Class 1. Class 2 was driven by impervious cover and growth areas, but wild brook trout are also present. A conservation easement over large forested wetland protects this segment from future development impacts.	Comments provided support a Class 1 designation.	15
108,002,336	Millstone (Beebee) Brk	Recommend Class 1. The Class 2 was driven by impervious cover. Knowledge of existing quality, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 1 designation.	15
108,002,108	Jordan Brk	Recommend Class 1. The Class 3 was driven by growth areas and impervious cover. Knowledge of storm drainage, existing quality, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 1 designation.	15

Segment	Stream	Comment[i]	Response	Letter
108,002,099; 108,002,114; 108,002,140	Nevins Brk	Recommend Class 2. The Class 3 was driven by impervious cover and growth areas. Knowledge of existing quality, stormwater drainage, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 2 designation.	15
108,002,113	Jordan Brk	Recommend Class 2. The Class 3 was driven by impervious cover and growth areas. Knowledge of existing quality, stormwater drainage, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 2 designation.	15
108,002,159; 108,002,192; 108,002,270	Nevins Brk	Recommend Class 1. The Class 2 was driven by impervious cover. Knowledge of existing quality, presence of native brook trout and anadromous fish runs, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 1 designation.	15
108,002,297; 108,002,306	Jordan Brk trib	Recommend Class 2. The Class 3 was driven by impervious cover and growth area. Knowledge of existing quality, hydrology, conservation easements in place and watershed protection efforts by the town were provided.	Comments provided support a Class 2 designation.	15
108,000,475	McDonald Road, Colchester	Should not be Class 1 since there is a dam and the pond is used for fire suppression.	Dam is run-of-river. Fire ponds are exempt from release rules. No change.	16
108,001,891	Copps Brk	Has emergency water source with registered diversion and is considered potential future source of supply, should therefore be Class 3.	Reasonable to consider as significant investment in a future source. Change to Class 3.	18
109,002,149; 109,002,150; 109,002,167	Stoud Brk, Sunset Hill Brk	Thompson Wells; Has preliminary aquifer protection area, should be a Class 3.	Reasonable to consider as significant investment in a future source. Change to Class 3.	12, 14, 19
109,002,787	Alexander Lake, Goodyear Brk	KIP Wells; Has preliminary aquifer protection area, should be a Class 3.	Reasonable to consider as significant investment in a future source. Change to Class 3.	12, 14, 19
109,003,090; 109,003,110; 109,003,103	Quinebaug Brk; James Brk; Quondock Brk	Plainfield Wells 1, 2 and 3; Has preliminary aquifer protection area, should be a Class 3.	Reasonable to consider as significant investment in a future source. Change to Class 3.	12, 14, 19
109,003,623;	Horse Brk	Gallup Wells; Has preliminary aquifer protection area should be a Class 3	Reasonable to consider as significant investment in a future source. Change to Class 3.	12, 14, 19

Segment	Stream	Comment[i]	Response	Letter
109,002,957	Unnamed trib to Quinebaug River	Brooklyn Wells; Has preliminary aquifer protection area, should be a Class 3.	Reasonable to consider as significant investment in a future source. Change to Class 3.	12, 14, 19
109,004,008; 109,004,007	Pachaug River	SDC Wells Voluntown; Should be Class 3.	These wells are below the threshold requirement to obtain a diversion permit, therefore stream flow impacts would be minimal, no change.	19
107,001,434; 107,001,392	Willimantic River; Trib to Willimantic	Potential source for South Coventry System; Well installed & easement purchased	Supporting documentation for significant investment was provided, and a diversion permit sought within the next year. This is not listed in a WSP or on the HQW list, because it is a recent acquisition. Given that this has the potential to affect stream flow, will change to Class 3.	19
109,002,024; 109,002,023	Trib to French R; French River	Potential source for Thompson System; Well installed & easement purchased	This single bedrock well is below the threshold requirement to obtain a diversion permit, therefore stream flow impacts would be minimal, no change.	19
109,002,809	Whetstone Brk	Downstream of Chase Reservoir, which has a registration for public water supply	The diversion was factored in. Since reservoir was formally abandoned in 1995 & not listed as a future source in WSP or HQW List, no change.	19
107,001,874	Trib to Winding Brk	Coventry Hills System. Diversion not fully accounted for in the methodology.	Diversion was not in the diversion database. Will be factored in, but does not result in class change due to other factors.	19

[i] Detailed comments and data can be found online at www.ct.gov/deep/streamflow.