State of Connecticut
Department of Environmental Protection

Statement of Reasons Pursuant to Connecticut General Statutes Section 4-168d

HEARING REPORT
August 16, 2010

Amendment of the Regulations of Connecticut State Agencies Concerning the Adoption of Section 26-141b-1 to 26-141b-9, Regulations for Stream Flow Standards and Regulations

Hearing Officer:
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Hearing Date:
January 21, 2010

Addendum to
The Hearing Report on
Amendment of the Regulations of Connecticut State Agencies
Concerning the Adoption of Section 26-141b-1 to 26-141b-9
Stream Flow Standards and Regulations

After issuance of the Hearing Report, a clerical error was noted in section 26-141b-7(a)(7) of the proposed regulations. This subparagraph refers to the "...five-year timeframe established in subdivision (2) of subsections (a) and (b) of section 26-141b-6...". This timeframe was modified to ten years in response to public comment and section 26-141b-6 was reorganized for readability, but the reference in section 26-141b-7(a)(7) was not updated to reflect these changes. The language of section 26-141b-7(a)(7) should instead read "...ten-year timeframe established in subsection (a) of section 26-141b-6..."

Date: August 26, 2010

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I. INTRODUCTION

On October 13, 2009, the Commissioner of Environmental Protection ("Department") published a notice of intent (Appendix I) to adopt Stream Flow Standards and Regulations ("Stream Flow Regulations"), Sections 26-141b-1 to 26-141b-9, inclusive, of the Regulations of Connecticut State Agencies ("RCSA"). Pursuant to such notice, a public hearing was held on January 21, 2010 in the Phoenix Auditorium at 79 Elm Street in Hartford from 9:00 a.m. until approximately 1:20 p.m. Sixty-eight individuals provided oral comments at the hearing. The public comment period for the proposed regulations closed on February 4, 2010 at 4:00 p.m. Three hundred and eighty written comment letters were received.

II. ADMINISTRATIVE REQUIREMENTS

As required by the Connecticut General Statutes ("CGS") Sec. 4-168(d), this report describes (1) The final wording of the proposed regulation; (2) a statement of the principal reasons in support of its intended action; and (3) a statement of the principal considerations in opposition to its intended action as urged in written or oral comments on the proposed regulations and the reasons for accepting or rejecting such considerations in revisions of the regulations. For the benefit of the reader, a summary of the major revisions to the proposed regulations has been included in Section V of this report. The list of individuals and organizations who submitted comments on the proposed regulations is included in Appendix II (Exhibit List).

III. BACKGROUND

The Department proposed revisions to the Stream Flow Regulations in response to PA 05-142, enacted in 2005, and codified in CGS Sec. 26-141a through 26-141c (Appendix III). The statute directed the Department to develop regulations that would expand the coverage of existing minimum stream flow standards adopted under CGS Sec. 26-141a to include all rivers and streams rather than only those stocked with fish as was the case previously. The statute further directed the Department to develop standards that preserve and protect aquatic life, fish, and wildlife dependent on flow; promote public recreation; be based to the maximum extent practicable on natural variations of flow while meeting needs; and be based on the best available science.

As directed by CGS Sec. 26-141b, the Department convened a stakeholder process and consulted with the Departments of Public Health ("DPH") and Public Utility Control ("DPUC"). The stakeholder process consisted of establishing three workgroups whose charges complemented each other. Over a period of three and half years, the three workgroups developed a basic framework for the regulations. A Science and Technical Workgroup ("STW") consisted of recognized experts in the fields of stream and river ecology, fisheries biology, hydrology, and drinking water supply management to insure that the regulations would be based on the best available science (Appendix IV). A Policy and Implementation Workgroup ("PIW") evaluated policy options for implementing the revised regulations. The PIW included members representing the interests of

municipalities, water utilities, environmental advocacy organizations, and State agencies such as the DPH and the Department of Agriculture (Appendix V).

In addition, a Commissioner's Advisory Group ("CAG") was formed to provide the Department with a broad perspective on the revised regulations' potential impact on water use by utilities, farmers, industry, recreational users, consumers, and Connecticut's natural environment. The CAG included members from the federal Environmental Protection Agency, United States Geological Survey ("USGS"), Connecticut Business and Industry Association, Connecticut Departments of Public Health and Public Utility Control, University of Connecticut Law School, The Nature Conservancy, Housatonic Valley Association, South Central Regional Water Authority, Connecticut Water Company, Connecticut Fisheries Advisory Council and the Department (Appendix VI). In addition, the Water Planning Council, established pursuant to CGS Sec. 25-33o, was kept informed of the regulation development process.

The stakeholder process culminated in January of 2009 with the Department publishing "Stream Flow: The Next Two Decades – Balancing Human Use and Ecological Health." The document sets forth in plain language how the Department intended to meet the requirements of Public Act 05-142. The Stream Flow Regulations as proposed for hearing in October of 2009 were based on that document with consideration of public comments on the document that were received during the spring of 2009.

The proposed regulations require two separate but related activities. First, they require that all rivers and streams be classified into one of four classes. Each class would represent a balancing of human use and ecological health priorities appropriate to the respective class. The classification adopted for a stream would inform decisions on how that specific resource will be managed. Therefore, the proposed regulations establish a public process for classifying streams and identify the key considerations for determining class appropriate to specific waters. Second, once a stream has been classified, a series of requirements would be imposed on the operators of dams that regulate stream flow and those who remove water directly from streams or pump significant quantities of ground water from aquifers that sustain the flow of streams and rivers during dry periods. These requirements would be phased in over time to allow current users to adjust their operations to comply with the new regulations without unduly disrupting the supply of water available for human use.

The proposed regulations also provide for the option of adopting a Flow Management Compact for a watershed as an alternative to complying with the specific requirements (presumptive standards) relating to dam releases or maximum stream depletion specified in the regulation. Such a compact might impose requirements for dam operations and groundwater withdrawals keyed to the unique characteristics of the watershed that differ from the presumptive standards: however, the balance between human use and ecological health required by the standards and envisioned by the classifications would have to be achieved.

Given the complexity of the proposed regulation and the anticipated public interest, the Department held two general public informational sessions and accepted 33 other invitations for informational presentations to groups representing a wide range of stakeholders. The public hearing was held in late January, towards the end of the 120-day public notice period. The public

notice and hearing elicited substantial comment from a broad range of stakeholders which has resulted in substantial changes to the regulations. A summary of the major revisions is presented in Section V of this report and the specific comments received and responses are outlined in Section VIII of this report.

IV. SUMMARY OF REGULATIONS AS PROPOSED FOR PUBLIC HEARING

The regulations as proposed for hearing include the following sections:

A. Section 26-141b-1 – Short title for the proposed regulations – "Stream Flow Standards and Regulations";

B. Section 26-141b-2 – Definitions. These include terms such as "bioperiod," "river or stream segment," "river or stream system," and "other structure";

C. Section 26-141b-3 – Applicability and exemptions. There are exemptions for safety, such as fire or drought emergencies and dam inspections; limited or short term water use, such as withdrawals less than 50,000 gallons per day, temporary stormwater detention and well capacity testing; permitted withdrawals; and other activities such as pollution abatement;

D. Section 26-141b-4 – Narrative standards. This section establishes stream flow classifications and the narrative goals for those stream classes, based on the natural variation of stream flows, and on the existing and planned degree of human alteration to the streams. The proposed stream flow standards within each class incorporate the concept of balancing human and ecological needs for water by establishing different flow standards appropriate to each of four categories or classes of waters. In Class 1 waters, priority is given to protecting ecological health. In Class 4 waters, support of human activities is weighted most heavily. Class 2 and Class 3 waters have intermediate balance points between ecological and human uses. The flow standards for each class are based on maintaining, to various degrees, the natural variation in flow expected in Connecticut's climate given its seasonal rainfall patterns;

E. Section 26-141b-5 – Adoption of river or stream system classifications. This section sets out the adoption process for stream flow classifications, including the physical, natural and human factors for classification, the public participation process, and the petition process for changes. The factors the commissioner will consider when determining a classification for a river or stream segment include, but are not limited to, the following: size and location of surface and groundwater withdrawals; size and location of planned future withdrawals, including potential sources for public water supply; size and location of dams and impoundments; size and location of water and wastewater discharges; existing and proposed development; presence of flow-sensitive aquatic life; anadromous fish runs, trout management areas, and other recreational resources; location of USGS natural reference stream gages; designated open space protected areas; and physical habitat restoration potential. Maps of the proposed classifications will be publicly noticed and ample opportunity for public comment is incorporated into the requirements. The commissioner will take such comments into consideration before finalizing the classifications, which will

then be published. A petition process to request changes to the classification (to either a more altered or less altered class) is included, along with factors for consideration and public comment;

F. Section 26-141b-6 – Presumptive standards. This section sets out presumptive, numeric flow standards for each class based on seasonable flow criteria and type of flow altering activity. This includes specific release requirements for dams to maintain a minimum stream flow, maximum stream flow alteration standards for other structures such as wells or pumps to limit the water withdrawn from the stream, implementation timeframes, and drought relief and variance provisions;

G. Section 26-141b-7 – Flow management compacts. This section establishes rules and procedures for developing flow management compacts among the water users in a river or stream system for the commissioner's approval that identify alternative flow standards from the presumptive, numeric standards, but which still meet the narrative standards for the river or stream system. Goals, information requirements and supporting documentation are required for such a compact;

H. Section 26-141b-8 – Record keeping and reporting requirements. This section sets out requirements to submit to the department basic information on the dam or other structure, such as name of owner and location, within one year of adoption of the regulations. Beginning five years after adoption, data on the daily amount of water diverted and any amounts returned to the river or stream system should be maintained and, upon a request, submitted to the commissioner; and

I. Section 26-141b-9 – Conflict and severance. A conflict and severance section is included in case of conflicting legal requirements.

The text of the regulations as proposed for public hearing is attached as Appendix III.

V. SUMMARY OF PROPOSED MAJOR REVISIONS TO THE REGULATIONS PROPOSED AT HEARING AS A RESULT OF PUBLIC COMMENT

The majority of comments received during the public comment focused on two particular areas of concern: (1) whether the regulations achieved the balance required by the underlying statute between public uses and aquatic ecosystems, with approximately equal objections to each, and (2) the cost of complying with the regulations. In order to achieve the balance set forth in the statute some changes in the way in which our water resources are managed will be necessary. In some circumstances, this will include investment to upgrade existing infrastructure. However, the Department has taken great care to address the concerns raised regarding cost while still meeting the statutory mandate set forth in Sec. 26-141b of the Connecticut General Statutes, which requires that the flow regulations apply to all rivers and streams; preserve and protect aquatic life, fish, and wildlife dependent on flow; promote public recreation; be based to the maximum extent practicable on natural variations of flow while meeting needs; and be based on the best available science.

Five themes were established to guide the changes to the regulations to achieve balance while reducing cost: (1) increasing the predictability of the classification of stream and river systems and segments; (2) reducing the overall complexity of the regulations; (3) reducing the cost of complying with the regulations; (4) increasing the time for compliance; and (5) focusing on impaired stream and river systems. The changes include the following revisions:

A. Increase Predictability of Classification:

1. Consult with the DPH Commissioner prior to preparing the map of proposed classifications to provide certainty that public water supply needs will be represented;

2. Add language to classification factors, to be considered by the commissioners of the Department and DPH, clarifying that existing conditions will be taken into account;

3. Modify the definition of Class 4 to make it clear that while these river and stream segments have been substantially altered by human activity, reasonable efforts must still be made to minimize impact while meeting societal needs;

B. Reduce Complexity:

1. Delete intermediate compliance with presumptive standards five years post-classification; instead, require full compliance ten years after the effective date of classification for the relevant river or stream system or segment;

2. Eliminate the variable wet/dry release for all bioperiods except the rearing and growth bioperiod, which simplifies operation, makes more water available for storage, and reduces the impact on drinking water system margin of safety while continuing to protect aquatic organisms during that period of the year when they are most vulnerable;

3. Include additional circumstances (e.g., watersheds under three square miles, impoundments with minimal storage) where a dam does not need to periodically adjust the release of water as long as an ecologically protective minimum flow release is made (i.e., release the rearing and growth bioperiod Q80 or natural inflow, whichever is less);

4. Exclude owners and operators of "other structures" (e.g., wells and intake structures) from presumptive standards (i.e., from meeting numeric criteria), but include provisions allowing such owner or operator the flexibility to determine how best to minimize stream flow impacts while also meeting legitimate water needs;

5. Promote flexibility by allowing a subset of all diverters or a single diverter within a river or stream system to propose a flow management compact to address impairments, so long as other diverters that are not a party to the compact are taken into consideration by factoring the other diverters' maximum legal withdrawals or minimum releases;

C. Reduce Cost of Compliance:

1. Include longer time for compliance with a one-step compliance for dam owners and operators ten years post-classification rather than a two-step compliance schedule, the first of which would have been five years post-classification. This gives dam owners eleven or more years to invest in the infrastructure necessary to make the required releases;

2. Eliminate the need to calculate a minimum release of water twice per month during the eight months outside the rearing and growth bioperiod (July 1 through October 31), which reduces operating cost;

3. Include provisions, such as the elimination of wet-release requirements outside of the rearing and growth bioperiod, that allow more water to be stored, if storage is available, thereby reducing the need to develop new drinking water sources;

4. Include the ability for dam owners or operators to request additional time to comply with the minimum release requirements when the water supply system's supply of water may not be enough to meet the demand for water (determined to be a 1.15% margin of safety by the DPH);

5. Eliminate requirement for owners and operators of other structures to demonstrate compliance with presumptive standards (i.e., the numeric criteria);

D. Increase Time for Compliance:

1. Include longer time for compliance with the release standards for dam owners and operators – ten years post-classification rather than five years;

2. Include ability for dam owners or operators to request additional time to comply with the minimum release requirements when the water supply system's supply of water may not be enough to meet the projected demands for water (at or below 1.15% margin of safety as determined by the Department of Public Health);

E. Focus on Impairments:

1. Expand the Class 4 narrative standard to make clear that river and stream systems or segments that have been assigned a Class 4 designation, because of substantial impact on stream flow due to human alteration, will be subject to a requirement that best management practices be applied to work towards achieving consistency with the Class 3 narrative standard while meeting societal needs;

2. Include provisions where, when narrative standards are not met in a stream or river system or segment, the commissioner may order owners and operators of other structures in such systems or segments to evaluate the impairment and implement site-specific measures to reduce the impact and meet the narrative standard; and

3. Allow those proposing a flow management compact to also propose best management practices that are appropriate to the specific impairment situation, for the commissioner's approval.

Understandably, many of the revisions fall under more than one theme. As is often the case, when complexity is reduced, costs to operate are also reduced. Finally, the revisions to the proposed regulations also include edits that promote clarity and better readability.

VI. STATEMENT OF PRINCIPAL REASONS IN SUPPORT OF THE REGULATIONS PROPOSED FOR PUBLIC HEARING

The revised regulations have been drafted in accordance with the statutory mandate put forth by PA 05-142 to balance stream flow needs to support human uses while maintaining the ecological health of Connecticut's rivers and streams. They have been shaped by a robust three and half year stakeholder process and by broad public participation in response to the proposed regulations. The regulations are based on the best available science and provide for natural variations of flow to the maximum extent practicable while providing for sustainable human uses. Striking such a balance has been a very challenging task and there are many facets to the regulation that help achieve the balance.

Inherent in the classification process is the recognition that not all river and streams are the same. Through the classification process, existing and future uses will be considered and the public will have continuing opportunities to provide input. Four stream flow classifications form the basis for operational rules that vary by accommodating more human uses as the classification allows for more deviation from natural conditions. In response to over two hundred comments, Class 4 standards have been strengthened to leave no river behind by requiring the application of best management practices.

The regulations offer considerable flexibility for dam operators to achieve compliance, including developing a flow management compact, drought off-ramps, margin of safety time extension, exemption and variance provisions, and accommodations are made for dams with limited ability to make releases. By removing the presumptive standards for "other structures" and adding a requirement that a diverter operate such structures in a manner that minimizes impact on stream flow while meeting their needs, the revised regulation has provided great latitude for system operators to manage their system in an environmentally responsible way.

The revised regulations also focus effort on those river and stream segments that are not meeting the narrative standard. The goal is to avert situations like that of the Fenton River in 2005 – and to be proactive in management of our water resources. Water resource management in Connecticut is currently challenged by competing water uses, and impending climate change will likely further challenge where and when water is available. Higher intensity rainfall events are expected with longer summer dry spells. Now is the time to address how our water resources are managed and to make changes that will set the stage for long term sustainability. As the metropolitan area of Atlanta, Georgia learned a few years ago, waiting until a drought occurs is not the right time to begin establishing sustainable water resources. Sustainable water resource management is good for economic development, the health and welfare of all citizens of the state, and our natural resources. As a state, we must

move forward with more extensive efforts to manage our water resources in the face of future complexities and challenges; the status quo is simply not sustainable legally, economically or environmentally.

In fact, almost all of the comments received on the proposed Stream Flow Regulations acknowledged the importance of healthy rivers and streams to the citizens and businesses of the state and the need to better manage our water resources. However, balancing the competing uses for Connecticut's water resources is a very challenging and delicate undertaking. Of the 68 speakers at the public hearing and the 380 written comment letters, more than half of the comments (26 speakers and 255 letters) supported the regulations or wanted to make them more stringent in protecting stream flow and fisheries resources by leaving more water in the streams. The principal reasons cited in support of the regulations proposed for public hearing are:

A. Water in Connecticut is a public resource, held in trust for the benefit of all citizens of the state, and protected and preserved for a wide range of uses. The importance of the proposed regulations, and the impact they will have of improving the quality of one of our state's most precious natural resources, cannot be emphasized enough. These regulations apply to every river in the State, not just our stocked streams. They insure seasonal flows that more closely match the natural patterns and the flushing and cleansing necessary for a healthy river system. This is the only solid step forward in almost forty years of public debate to begin to address Connecticut's serious water allocation issue.

B. Rivers in Connecticut face many threats from habitat degradation, development, pollution and other challenges. While all of these issues can and are being addressed through advocacy, outreach, education and restoration, it is the supply of natural flows of water that has the potential to be most dramatically impactful on the health of our rivers.

C. These regulations set clear goals for our rivers and streams so they will continue to provide enough water for our communities, our economy and our environment and includes numerous common sense approaches to protecting and managing our water resources. They appear very workable, with only a few areas that must be strengthened.

D. The regulations reflect and balance multiple and diverse stakeholder perspectives. These regulations assign, for the first time, equal weight to the ecological needs of rivers and streams when considering all of society's water-based needs. The classification system itself recognizes that not every river is suitable habitat for our native species, but it also sets parameters that help guarantee the conditions that these rivers will improve.

E. The regulations will help to ensure that water companies and other industries, who answer primarily to their stockholders, will not dominate water policy. They add a sense of certainty to the water allocation process.

F. Public health and safety are protected with triggers, exemptions for severe drought, fire and other emergencies, and rightly so.

G. The Department comprehensively engaged and incorporated expert stakeholder input. Hundreds of hours were devoted to reviewing and adopting the best available science with respect to river ecology, local hydrology and water management.

H. The phased implementation of the regulations provides adequate time for classification and for the adjustments needed in water management and infrastructure. The 5-16 year implementation schedule offers time for the cost of these programs to be phased in over time, and opportunity for site-specific analysis and planning for infrastructure upgrades.

I. The proposed regulations recognize that a one-size fits all approach is not the best solution and encourage flow management compacts, providing room for collaboration among water-dependent stakeholders. In fact, the regulations allow nearly every water system to develop a tailor-made water allocation plan in lieu of regulatory compliance.

J. Rivers are an economic engine in their own right. Along with consumption, industry and agriculture, the recreational use of Connecticut's rivers and streams is a quality of life issue important to our state's residents and an economic boon to the state and to local business.

K. Financial investment where there is an unreasonable downstream impact is required, appropriate and is a reasonable cost of doing business. The compliance costs to water suppliers will be a relatively small percentage of the overall capital costs that water suppliers normally incur. These regulations create a platform for a financially and ecologically sustainable water supply system.

L. Investments in demand management, leak and waste prevention and infrastructure are necessary to ensure that our water systems remain whole and healthy and will ensure viable water supplies and viable water suppliers.

M. Groundwater is an important component of the proposed regulation. Continued emphasis on groundwater is imperative to both human health and ecological health of the rivers.

N. The entire framework must be adopted rather than separating the stream classification sections from the standards and implementation sections. They are crucial to sustaining both our consumable water supplies and the source of those water supplies – the irreplaceable rivers and streams that belong to us all.

VII. STATEMENT OF PRINCIPAL REASONS IN OPPOSITION OF THE REGULATIONS PROPOSED FOR PUBLIC HEARING AND THE DEPARTMENT'S RESPONSE TO SUCH REASONS

Forty-four of the speakers at the public hearing and ninety-eight of the written comment letters were in opposition to the regulations. A consistent theme in the comments was that the protections were too heavily weighted toward the environment and do not give enough consideration to cost, and that certain uses should be given higher priority or exempted from

the regulations. In addition, many of the supporters of the regulations cited opposition to specific provisions of the regulations because they were not protective enough of the environment. The principal reasons cited in opposition to the regulations are listed below, and the Department's response is provided immediately thereafter:

A. Comment: The regulations do not achieve the balance required by the underlying statute between human uses and aquatic ecosystems. Comments were received on both sides of this issue. Many citizen and environmental groups felt too many exemptions and off-ramps were being provided, to the detriment of the river, aquatic life and recreational uses. Water suppliers, agricultural diverters and golf course operators were concerned about the potential impact of the regulations on how much water they were allowed to consumptively use and the impact on their businesses.

Response: Balance between environmental and human needs as set forth in statute was considered extensively in the original drafting of the regulation and further considered during revisions made as a result of public comment. Many of the proposed revisions focus on reducing the impact to human uses especially for small diversions, human health and safety, and public water systems that are or may be put in a critical supply condition as a result of complying with the regulation. At the same time, emphasis was placed on insuring protection for aquatic organisms during critical periods of the year when they are most vulnerable – during the summer months. Consistent with sound planning principles and the requirement to provide balance, the revisions include special provisions where appropriate and reasonable, to operate and take measures that minimize impact on stream flow to the extent practicable. We did this within five primary themes: (1) increasing the predictability of the classification of stream and river systems and segments; (2) reducing the overall complexity of the regulations; (3) reducing the cost of complying with the regulations; (4) increasing the time for compliance; and (5) focusing on impaired stream and river systems.

B. Comment: Classifications of all rivers and streams should be completed before regulations are adopted that requires management measures.

Response: The Department recognizes that classification determines the applicable stream flow standard and is an important component of the regulation. However, a regulation that sets forth a classification procedure without setting the standards for each stream flow class would establish great uncertainty as to the meaning of the regulation. This would be analogous to creating a zoning map with zoning designations, but not explicitly stating what activities are allowable in each zone. The classification and standards cannot be decoupled. However, other changes to the regulation have increased the predictability of the classification process, which should address part of the concern of those recommending that classification precede establishing standards.

C. Comment: 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.

Response: The Department recognizes the concern over Class 4 designations being 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 in these cases and to have the standard get as close to Class 3 as possible given the local situation. Note that the Department anticipates that the initial classification process will result in a limited number of Class 4 designations, and like all segments, those segments will be subject to a public process to adopt classifications.

D. Comment: Many water suppliers expressed concern that the regulations as proposed would significantly impact the safe yield or available water of water supplies especially for those systems with a low margin of safety, limiting their ability to provide an adequate water supply to customers for public health and safety, increase frequency and duration of water supply drought restrictions, and limit the supplier's ability to provide water to support economic growth. Some municipal officials stressed the potential impact on economic development if water suppliers are not able to provide for the growth for which the municipalities are planning.

Response: Major revisions have been made to the revised regulations to reduce the impact to available supplies. During development of the regulations and review of the public comments, the Department has taken great care to address the concerns raised regarding adequate water supplies while still meeting the statutory mandate. While achieving the balance set forth in the statute will require some changes in how water supply systems are operated and managed, including potential investments infrastructure where necessary, we have focused on reducing impacts to available supply through the following revisions: increasing the predictability of the stream classifications; reducing the overall complexity of the regulations; reducing stream flow releases; increasing flexibility for small storage reservoirs; eliminating presumptive requirements for owners and operators of other structures; increasing the time for compliance; a special margin of safety provision providing relief for water companies; and focusing on impaired stream and river systems. An environmentally sustainable water supply is critical to the state's overall economic health and these regulations will help ensure water is available for the state to grow in an environmentally sustainable manner.

E. Comment: Infrastructure costs to make releases, obtain new sources, and add personnel to oversee releases required by these regulations are substantial, and constitute an unfunded mandate. The entire cost of compliance with these regulations falls on water customers. There should be a mechanism to share the cost among all citizens and businesses that derive benefits from the state's streams and rivers.

Response: Changes in the way our water resources are managed are necessary to achieve the balance set forth in the statute. Such changes may include investment in existing infrastructure and operational requirements. The focus is on reducing the cost to comply while achieving the necessary balance. The cost to any individual diverter is highly variable, dependent upon: (1) the adequacy of their current supplies; (2) asset management practices or the resources that have been dedicated to maintenance, replacement and upgrading of the system or system components; (3) the condition of existing infrastructure; and (4) planned upgrades and repairs.

The proposed regulations included a number of provisions that would provide flexibility to reduce fiscal impacts including: a long implementation schedule; exemptions; variances; less stringent requirements for certain small water users; drought off-ramps; flexible alternative flow management compacts; and public participation to ensure classifications of streams and rivers will be reflective of current water use by the regulated entities. The Department particularly considered the methods to reduce the impact of all or part of the requirements contained in the proposed regulation related to small businesses including: exemptions of all small water withdrawals (less than 50,000 gallons per day); and special relief for other minor withdrawals.

As a result of public hearing comments concerning cost, additional major revisions were made to the revised regulations to eliminate or reduce cost and increase the time allowed to make necessary investments and manage cost more efficiently. These include:

(1) Doubling compliance time from 5 to 10 years;
(2) Adding a special margin of safety provision to the presumptive standards that provides significant relief for water suppliers if margin of safety is of concern now or will be in the near future. This change allows an extension of time up to 20 years to comply as long as the water suppliers takes appropriate demand management, water conservation, and source management measures and pursues additional supplies;
(3) Eliminating a presumptive standard for other structures This will particularly help small water companies, agriculture and small businesses whose water supplies are primarily wells or small intakes;
(4) Extending timeframes for compliance to further reduce stream flow infrastructure improvement cost by allowing these improvements to be implemented over a longer term and be integrated into other planned improvements within the supplier's asset management planning process;
(5) Simplification of the release rules to reduce infrastructure changes and operational costs, including provisions for only minimal releases from reservoirs with small storage, and an additional exemption for emergency water supplies;
(6) Increasing predictability of classification to plan for changes; and
(7) Simplified flow management compact provisions.

One definition of an equitable program is one in which those who enjoy the benefits bear the costs. Water resources are entrusted and owned by the public and the vast majority of the state's population, approximately 84%, is served by public water systems. To achieve the balance set forth in the statute, some changes are likely including the potential increased cost of operation and infrastructure. This regulation, as is typical with other regulatory programs, appropriately and necessarily puts compliance and compliance costs on those performing the regulated activity and causing the impacts, but whose customers in turn directly benefit from the resource use. In this case, stream flow requirements benefit not only the broader ecosystem services that plant and animal life provide, but also ensure that public water supply is of high quality, since adequate stream flow contributes to the function of riparian vegetation and other biogeochemical features that provide water purification services common to healthy ecosystems. In Connecticut, public water suppliers further benefit from the state's unique and restrictive policy of not allowing

wastewater discharges in surface waters used or to be used for potable supply. This policy saves water utilities major expense related to water treatment, but also imposes significant pressure on these high quality rivers, streams and associated aquifers including impacts to the environment and other users of these resources.

The Department has considered the longer term impact of the proposed regulation on small businesses, municipalities, other state agencies and has minimized fiscal impact to the greatest extent possible while still meeting the statute mandate. There is a potential for financial support in the form of low interest loans or grants through the Drinking Water State Revolving Fund to offset some costs to water utilities, including municipal water suppliers.

F. Comment: Numerous comments were received on additional work to be done prior to adopting the regulations, including the following: a water needs study should be conducted prior to adoption of the proposed regulations, tools to be developed by the USGS must be finalized before the regulations are adopted, and additional stakeholder involvement is necessary in order to achieve consensus.
Response: The Department continues to develop tools to assist regulated entities, simplify compliance and reporting, and further responsible management of our water resources. The Department has funded and partnered with the USGS to develop a methodology to calculate flow statistics pertinent to implementing the stream flow regulation. A report titled *Regional regression equations to estimate flow-duration statistics at ungaged stream sites in Connecticut*, U.S. Geological Survey Scientific Investigations Report 2010–5052, was completed in the Spring of 2010 and is available for download at http://pubs.usgs.gov/sir/2010/5052/. That report details the scientific methodology for determining the annual and bioperiod flows at any point along a stream in the state based on characteristics of the drainage basin.

The information from the USGS report is being incorporated into a point and click web-based application called StreamStats http://water.usgs.gov/osw/streamstats/ to assist the regulated community with calculating stream flow statistics needed. The StreamStats project is presently in the quality control phase at the USGS with anticipated availability via the internet by the end of August 2010.

The Department has procured federal funding and is working on a project titled *Development of Water Diversion Database Planning Tool* to build the database to store and retrieve data that are required in the record keeping and reporting requirements of the regulations. The regulated community will be able to submit data to the Department in an electronic format (e.g., an Excel spreadsheet) into the new data storage and retrieval system. The project is currently in the testing phase with anticipated completion by September 2010.

The Department also has developed a draft stream flow assessment guidance document for wells to help diverters assess the impact of a groundwater withdrawal on stream flow. That document is available on the DEP website at

http://www.ct.gov/dep/lib/dep/water/watershed_management/flowstandards/gw_guidelines_12_09.pdf

G. Comment: The legislative scope of these regulations was not intended to include groundwater supplies, so the proposed regulations exceed the legislative authority given to DEP.
Response: Based on a careful reading of the statute and a careful review of the legislative history, the Department disagrees with the conclusion that the Department does not have authority to regulate groundwater. A detailed response to this comment is included in the response to General Comment section that follows.

H. Comment: Agriculture and golf course interests both suggested that they be exempt from the proposed regulations.
Response: Agricultural and golf course operations are both consumptive uses that can have significant impacts on stream flow. Therefore, an outright exemption might preclude achieving the balance required by the statute. However, the majority of agricultural and golf course operations utilize other structures. Demonstrating compliance with presumptive standards has been removed from the regulations for other structures, although the diverter will be required to operate their diversion to minimize the impact on stream flow while meeting their needs – in other words they need to operate in an environmentally responsible manner while still meeting their needs. If the commissioner makes a determination that the river or stream segment is not meeting the narrative standards of Sec. 26-141b-4, the commissioner may issue an order. The commissioner will work with the diverters as necessary to address the issues, working out means to address low flow and drought situations appropriate to the use.

I. Comment: Compliance timeframes are much too short. Although timeframes are extended over sixteen years, the brunt of the impact will be felt when utilities are required to comply with the interim standards, which can be as short as six years, which is not enough time for costly infrastructure changes. In addition, for some of the smaller water systems, they may not be able to comply, regardless of the timing.
Response: The initial compliance schedule has been extended to 10 years and water companies with margin of safety concerns will have up to 20 years to comply, starting not from the effective date of these regulations but from the effective date of a river or stream segment classification. Other structures, including groundwater wells which many small water companies and businesses use, are now excluded from compliance and only be required to comply after the initial 10 year period and only if they are called in to comply because of documented stream flow impairments. The release rules have been reduced for small storage reservoirs.

J. Comment: The frequency and extent of stream flow impairment caused by dams and other structures in the state should be identified. DEP should focus only on the 0.4% of the water bodies at risk.
Response: The fact that only 0.4% of the state's water bodies are at risk is not supported by data. While it is true that only a small percentage of aquatic resources have been identified as flow impaired on DEP's Impaired Waters List, such list is not based on a

comprehensive assessment of all rivers and streams in the state with respect to stream flow standards and criteria. Because of a lack of detailed stream flow standards in the past, efforts by the Department to numerate the impaired segments were limited to those with documented dry streams (either by pictures or by field staff) or extreme water level fluctuations from hydropower operations. In these instances, the Department can confidently attribute the most probable cause of degraded aquatic community to flow alteration. Past efforts were by no means a survey of all the state's waters for flow impairment. Rather, as stated in the 2006 Integrated Water Quality Report to Congress, "because of DEP's very conservative approach to documenting flow issues, the magnitude of these problems is probably under-represented in assessments." However, the commenters appropriately point out that effort should be focused on those segments that are impaired, and revisions to the regulations have been made to provide tools to focus on such segments.

COMMENT: A detailed costs/benefit analysis of the proposed regulations should be conducted.
RESPONSE: Public Act 05-142 provides clear and concise guidance to the Department in development of the regulations. The act clearly envisioned a balancing between public uses of water and aquatic ecosystems. It does not direct that the balance be achieved based on a cost benefit analysis, but provides very clear guidance and factors for consideration in achieving such balance. The Department has been careful through the four year regulation development process to remain true to those factors in meeting the statutory mandate. Although a cost-benefit analysis is not required, overall costs and benefits were considered extensively in achieving the necessary balance required in the enabling statute, including through the advisory committee and stakeholder participation, drafting of the regulation, and revisions made as a result of comments offered by the public and state agencies in the public hearing process.

K. Comment: The fiscal note does not accurately reflect cost on state agencies, including the DPUC, Connecticut's Office of Policy and Management (OPM), the DPH and Office of Consumer Counsel, as well as municipal water departments.
Response: The small business impact and fiscal impact statement was prepared by the Department in accordance with the standard set out in the Uniform Administrative Procedures Act. It is important to note that the regulation is required by PA 05-142, for which a fiscal impact statement was prepared by the Office of Fiscal Analysis and considered by the legislature when the Act was passed in 2005. While an analysis of the fiscal impact beyond the 3 year scope is not required, the Department has considered the longer term impact of the proposed regulation on small businesses, municipalities, other state agencies and as discussed earlier has minimized fiscal impact to the greatest extent possible while still meeting the statutory mandate. The Department has also considered the longer term impact of the proposed regulation on other state agencies and municipalities and has minimized fiscal impact to the greatest extent possible while still meeting the statutory mandate. The Department worked extensively with the other state agencies with regulatory water supply obligations through the three advisory workgroups in development of the regulations. During the public review process, comments were received from the

DPH, DPUC, Office of Consumer Counsel, Department of Economic and Community Development and Department of Agriculture. The Department has taken great care to consider and respond to all comments as part of the major revisions made herein that address concerns raised by those agencies.

VIII. SPECIFIC COMMENTS AND RESPONSE THERETO ON THE REGULATIONS AS PROPOSED FOR HEARING

Numerous modifications have been made to the regulations in response to public comments. Please see section V for a list of the major revisions. In addition, editorial changes and structural changes have been made to improve the readability of the regulations, for example, the word "temporary" was added to Sec. 26-141b-3(c)(9) to further clarify that exemption. Responses to broad policy comments are provided in section VII. The comments which were of a specific nature and their responses are outlined below by section of the regulations as proposed for hearing, preceded by a section on general comments.

Over 380 individuals provided written comments and 68 individuals provided oral testimony on the proposed regulations. The comments were widely varied and at times presented views that are diametrically opposed. It was not practical to discuss and explicitly repeat each comment in this report. The comments are therefore paraphrased, and to the extent possible, common themes are grouped together. The exhibit numbers from which the comments came are listed in parentheses at the end of the comment. Where there were numerous comments on a topic, those providing the most detailed comments are specifically listed. In most cases, the oral comments at the hearing were further supported by the same person in written comments, so just the written exhibit number is referenced. The exception is the first comment under section-4 narrative standards, where a number of those providing oral testimony did not follow up in writing. Please note any citation in the comment refers to the proposed regulation, not to the final proposed regulation.

A. GENERAL COMMENTS

Comment: Water companies, municipalities, agriculture and other businesses will incur high costs to comply with the regulations. Costs may include: compliance reporting; construction or modifications of facilities or infrastructure to control and monitor the required releases or balance flow over multiple bioperiods; managing the hydraulics among interconnected sources for optimization of yield; lost investment in existing facilities that were constructed based upon a long-term water supply which may no longer be fully realized; reduced utility revenues associated with reduced water consumption resulting from more frequent periods operating under drought triggers; additional operating costs and staff time to determine required releases and to make the necessary adjustments at reservoirs and wells; treatment costs for surface supplies due to more frequent water quality problems; and development of new sources of supply. (56 comments including 116,133, 135, 136, 295,296, 32)
Response: Changes in the way we manage our water resources are necessary to achieve the balance set forth in the statute and to preserve water resources for future economic growth. Such changes may include investment in existing infrastructure and operational requirements.

We have focused on reducing the cost to comply while achieving the necessary balance. The cost to any individual diverter is highly variable, dependent upon: (1) the adequacy of their current supplies; (2) resources that have been dedicated to maintenance of the system in the past; (3) the condition of existing infrastructure; and (4) planned upgrades and repairs. The proposed regulation included a number of provisions that provide flexibility to reduce fiscal impacts including: a long implementation schedule; exemptions; variances; less stringent requirements for certain small water users; drought off-ramps; flexible alternative flow management compacts; and public participation to ensure classifications of streams and rivers will be reflective of current water use by the regulated entities. The agency particularly considered the methods to reduce the impact of all or part of the requirements contained in the proposed regulation related to small businesses including: exemptions of all small water withdrawals (less than 50,000 gallons per day); and special relief for other minor withdrawals. As discussed in Sections V and VII of this report, major revisions were made to the regulations to eliminate or reduce cost and increase the time allowed to make necessary investments and manage cost more efficiently including:
(1) Doubling compliance time from 5 to 10 years;
(2) A special margin of safety provision has been added to the presumptive standards to provide significant relief for water companies if margin of safety is of concern now or will be in the near future, allowing an extension of time up to 20 years to comply as long as they take appropriate demand management, water conservation, source management measures and pursue additional supplies;
(3) Eliminating a presumptive standard for other structures. This will particularly help small water companies, agriculture and small businesses whose water supplies are primarily wells or small intakes;
(4) Extended times for compliance will further assist with stream flow infrastructure improvement cost, as these improvements may now be able to be implemented over a longer term and included with other planned improvements thereby reducing costs;
(5) Simplification of release rules requiring less infrastructure changes and operation costs, including provision for only minimal releases for reservoirs with small storage, and an additional exemption for emergency water supplies;
(6) Increasing predictability of classification to plan for changes; and
(7) Simplified flow management compact provisions.
Recommended Change: No further changes

Comment: The draft regulations would likely limit the amount of water supplies available and the ability of public water suppliers to meet their obligations to serve their customers and will likely impact economic development, limiting the growth for new and existing businesses. (56 comments including 116,133, 135, 136, 295,296, 32)
Response: As discussed in Sections V and VII of this report a number of major revisions have been made to reduce the impact to available supplies. During development of the regulations and review of the public comments, the Department has taken great care to address the concerns raised regarding adequate water supplies while still meeting the statutory mandate. We have focused on significant changes to the regulations to reduce impacts to available supply including: increasing the predictability of the stream classifications; reducing the overall complexity of the regulations; reducing stream flow releases; increasing flexibility for small storage reservoirs; eliminate requirements for owners and operators of other structures;

increasing the time for compliance; a special margin of safety provision providing relief for water companies; and focusing on impaired stream and river systems. However an environmentally sustainable water supply is critical to the state's overall economic health and these regulations will help ensure water is available for the state to grow in an environmentally sustainable manner.
Recommended Change: No further changes

Comment: The majority of costs for compliance would likely be incurred in the initial year or two after a basin classification is assigned, even though advocates note that implementation of the regulations will be phased in. (297)
Response: The initial compliance schedule has been extended to 10 years and water companies with margin of safety concerns will have up to 20 years now to comply, starting not from the effective date of these regulations but from the effective date of a river or stream segment classification. Other structures, including groundwater wells which most small water companies and businesses use, are now excluded from a presumptive standard. In keeping with a sound environmental ethic, they will be required to operate their systems in a way to minimize impact on stream flow while meeting their needs at 10 years. In addition, the Department may issue an order if a diversion is causing a river or stream not to meet the narrative standard, thereby focusing enforcement and response on impaired segments.
Recommended Change: Increase time to comply with the presumptive standard for dam owners and operators from five years to 10 years in Section 26-141b-6(a).

Comment: The water provided by rivers and streams is also critical to people and communities for other than potable use, providing water for our most basic needs, sustaining our economy, providing recreation opportunities, and improving our quality of life. Rivers are also an economic engine in their own right, each year millions is spent on freshwater fishing and related recreational activities in Connecticut and millions in tax revenue. These environmental values should also be considered in balancing needs and costs. (11 comments including 22, 42, 213, 229, 279 and 287)
Response: There is an economic value to healthy rivers and streams and that value is very difficult to determine and calculate in terms of dollars. The balance between environmental and human needs was considered extensively in the drafting of the regulation and revisions made as a result of public comment.
Recommended Change: None

Comment: The proposed regulations are intended to provide benefits to many users of Connecticut's rivers through improvements in aquatic ecology. However, the regulation would result in substantial increases in costs for water utilities which would be borne solely by the customers of these water suppliers. A mechanism needs to be developed in order to more equitably share the costs associated with the proposed regulations among all of the benefited parties. (37 comments including 116, 295,133,135,136, 297, 289)
Response: Water resources are entrusted and owned by the public. The vast majority of the state's population, approximately 84%, is served by public water systems. This regulation, as is typical with other regulatory programs, appropriately and necessarily puts the responsibility for compliance and compliance costs on those performing the regulated activity and causing the impacts, but whose customers in turn directly benefit from the resource use. There is currently

no mechanism authorized in the enabling statute that would allow the regulations to share cost among all of the benefited parties and establishing such is outside of the scope of this regulation. There is a potential for financial support in the form of low interest loans or grants through the Drinking Water State Revolving Fund to offset some costs to water utilities, including municipal water suppliers. In addition, the Department would be glad to participate with other stakeholders in discussing proposals for development of such a mechanism.
Recommended Change: None

Comment: Brownfield redevelopment is critical to the economic growth of our state and the proposed regulations are on a collision course with initiatives to redevelop brownfields. (74)
Response: The Department certainly agrees that brownfield redevelopment is a critical component of overall economic growth in Connecticut and is working on many fronts to facilitate such redevelopment. Critical to the success of any development effort is the appropriate infrastructure to support the development including water. Many substantial changes have been incorporated into the revised regulation that will minimize the overall impact to public water supply systems and hence the impact on economic development. However, it is important that the economy of Connecticut grows in an environmentally sustainable manner with consideration for the environmental impacts of our infrastructure – especially water. We certainly encourage brownfield developers to work with municipalities and water suppliers to integrate water conservation and low impact development principles into projects, to further support sustainability.
Proposed Change: No further changes

Comment: No regulations are in place or contemplated that would enable expeditious permitting for new supplies within a five-year period. (116)
Response: The time for compliance has been extended from 5 to 10 years. As discussed earlier, a number of the major revisions will reduce the need or allow additional time to develop new sources. Planned supply sources in water supply plans are factors that will be considered in developing stream flow classifications. The Department has made great strides in reducing timeframes associated with diversion permitting through application of LEAN principles. The backlog has been greatly reduced and timeframes associated with new permit review and issuance have been drastically reduced. In addition, DEP has developed general permits in recent years to streamline diversion permitting and will continue to evaluate those mechanisms. The stream flow classifications will also help the Department evaluate new diversion permits and water supply plans, and will help water suppliers to better plan for new sources.
Recommended Change: No further changes

Comment: The proposed regulations will limit the location and volumes of future water supplies and likely result in many new applications for sources to make up the deficiencies and will place undue pressure on developing Class B water drinking water supplies. (116)
Response: Connecticut public water suppliers and their customers benefit significantly from the state's unique and restrictive policy of not allowing Class B (waste receiving) streams and rivers to be used for potable supply. This policy saves water utilities major expense related to water treatment and provides the highest level of public health protection to their customers as do specific programs targeting source water protection. It is clearly not the Department's

intent to place undue pressure on developing Class B water drinking water supplies and we do not believe that the revised regulations do that. We do, however, see opportunities to better manage our water resources to insure efficient use of our high water quality rivers and streams for potable use while potentially segregating out non-potable uses for Class B waters. We encourage the use of Class B waters for non-potable uses through our regulatory diversion program and through the state interagency water supply planning process.
Recommended Change: None

Comment: The proposed regulations as currently drafted will impose a heavy burden on investor owned, municipal and regional water utility entities, and result in water rate increases for customers of public water systems to support the capital and operating costs of compliance. The effect on water rates could impact economic development in many communities. Choices may need to be made amongst investments in infrastructure if it is determined that the rate impact is too much for ratepayers to bear. (37 comments including 384, 297, 296, 133, 135, 136, 289. 384, 276, 295)
Response: Public water suppliers and state agencies with regulatory water supply obligations including those of the Connecticut Department of Public Health and the Connecticut Department of Public Utility Control, were part of the advisory committees and involved in development of the regulations. The vast majority of the state's population, approximately 84%, is served by public water systems. As discussed earlier, during development of the regulations and review of the public comments, the Department has taken great care to address the concerns raised regarding cost while still meeting the statutory mandate. It is anticipated that a number of major revisions to the regulations including the extended time for compliance to ten years, and the margin of safety relief for water companies allowing up to 20 years to comply, will further assist with any stream flow operation and infrastructure improvement costs, as these improvements may now be able to be planned and included more easily with other planned improvements thereby reducing costs.
Recommended Change: No further changes

Comment: We urge DEP to revise the fiscal note on the proposed regulations to more accurately reflect the costs associated with the stream flow regulations. Given staff limits, it is implausible that the Department can classify the basins, review dam modification applications, review flow management compacts, diversion permit applications, etc. within existing appropriations. The fiscal note fails to address the additional costs that will be incurred by other state agencies with cognizance over public water suppliers and fails to accurately reflect the costs that will be imposed on municipalities. (18 comments including 297, 295)
Response: The small business impact and fiscal impact statement was prepared by the Department in accordance with the standard set out in the Uniform Administrative Procedures Act. It is important to note that the regulation is required by the PA 05-142, for which a fiscal impact statement was prepared by the Office of Fiscal Analysis and was considered by the legislature when the Act was passed in 2005. While an analysis of the fiscal impact beyond the 3 year scope is not required, the Department has considered the longer term impact of the proposed regulation on small businesses, municipalities, other state agencies and as discussed earlier has minimized fiscal impact to the greatest extent possible while still meeting the statute mandate.
Recommended Change: No further changes

Comment: Although outside of the regulatory scope, DEP should work with the Department of Public Health (DPH), the Department of Public Utility Control (DPUC), and water companies to consider all water conservation actions. This should including water conservation incentive water rates to reduce water use in a cost-effective manner while maintaining utility infrastructure and adequate stream flow.
(10 comments including 289, 306, 384, 42)
Response: Water conservation continues to be a major Department initiative across a number of regulatory, technical assistance and education/outreach programs. We agree enhanced water conservation, including water reuse, have a major role in better water supply management, and may solve a number of water demand issues. We have included water conservation requirements or incentives in the regulation where appropriate. We also agree innovative water conservation rate structures have merit and the Department stands ready to assist in such efforts with the other state agencies.
Recommended Change: None

Comment: It appears that compliance would raise water rates only modestly compared to the rate increases already being sought. The capital costs of the Waterbury flow-management plan for the Shepaug came to $4 million, including construction repair work required apart from the flow release agreement. There are economic benefits to clean, healthy rivers and impacts to a river where the fish are dying. Water utilities are already investing hundreds of millions of dollars in infrastructure upgrades and investment for stream flow does necessitate rate increases, any rate increase necessitated by cost of compliance is like to be more in the 5 percent range, or one quarter of the rate increase recently sought (11 comments including 42, 287)
Response: As discussed earlier, we have focused on reducing the cost to comply while achieving the necessary balance.
Recommended Change: No further changes

Comment: The proposed regulation will require frequent and lengthy water use restrictions on customers. Municipalities will be required to enforce such restrictions. (45, 59, 302)
Response: Many substantial changes have been made in the revised regulation which will lessen the frequency and length of water use restrictions. However, when ambient climatic conditions are dry and stream flows drop, conservation and restrictions are necessary and important tools to achieve the balance between human uses and aquatic uses required by the statute. Water suppliers set drought triggers in their water supply plan and the regulations allow for reducing downstream releases with the declaration of each level of drought. The Department is committed to working with all stakeholders and the Water Planning Council to develop the tools and conduct the outreach necessary to help citizens and businesses do their part to insure long term sustainability of our water supplies and the environment during dry climatic periods.
Recommended Change: No further changes

Comment: The regulations would likely limit the amount of water available for public water suppliers, limiting the safe yield or available water of existing sources of supply, and reducing the margin of safety (MOS) for many public water supply systems. This could result in limits

on new customer hook-ups, impact economic development and limit growth for new and existing businesses, impose more frequent and lengthy water use restrictions, require the development of new sources of supply and interconnection, and may limit regional water supply solutions. The regulations should consider the ability of the water supply system to maintain an adequate margin of safety and include special provisions, variances, or expansion of the timeframe for compliance to address MOS impacts. Systems which depend on small reservoirs and ground wells are particularly impacted on MOS. (56 comments, including 27, 116, 135, 136, 212, 261, 268, 275, 276, 296, 297, 325)

Response: Public water suppliers were part of the advisory committees and involved in development of the regulations. Several provisions were included in the regulations as proposed to mitigate impacts to MOS including a flexible 6-16 year compliance schedule allowing for water supply planning, exemptions, special provisions for public safety, droughts, small reservoirs, reservoirs in series, and options to maximize groundwater well withdrawals and reservoir storage. The proposed regulations also provided procedures to allow alternative flow standards under flow management compacts and variances from the standards to reduce impact on MOS.

As discussed earlier a special margin of safety provision has been added to the presumptive standards to provide significant relief for water companies if margin of safety is of concern now or will be in the near future, allowing an extension of time up to 20 years to comply. Revisions to the other structures section will also provide relief for water companies, including those with MOS concerns, from compliance for water supply wells unless an order is issued. Other major regulation revisions made as result of public comment will also reduce impact on MOS including simplification of release rules, provision for only minimal releases for reservoirs with small storage to minimize impact on available water, additional emergency exemption, classification factors, and simplified flow management compact provisions.

Recommended Change: No further changes

Comment: Special conditions or exemption should be included to allow compliance with other public water supply regulatory obligations including those of the Connecticut Department of Public Health, Connecticut Department of Public Utility Control, or Office of Consumer Counsel. (28)

Response: A number of the major revisions included additional special provisions to ensure public water suppliers can meet their regulatory obligations, including a special margin of safety provision. In addition, there is a variance provision that can be requested by the diverter, the Governor or any state agencies.

Recommended Change: No further changes

Comment: It is important to point out that in the Shepaug River settlement agreement, the City of Waterbury's operating rules under the settlement preserve 100 percent of their supply's safe yield while satisfying downstream interests. (136)

Response: Public Act 05-142 specifically excluded the Shepaug River settlement agreement from the new regulations. However, the regulations allows for a similar alternative flow management standard to be proposed for any river or stream segment under the flow management compact provisions.

Recommended Change: None

Comment: Language should be added for concurrence from DPH on classifications to ensure a water utility's margin of safety would not be so adversely affected as to prevent the utility from satisfying the regulatory requirements for DPH or compromise their ability to serve their existing customers. (28, 36, 297)
Response: DPH has been a stakeholder in development of the regulations and is the final decision maker regarding a water company's margin of safety. A number of major revisions to the regulations have been included to address MOS. In addition, we agree that the proposed classification maps would be enhanced by DPH participation in their development. Therefore, DPH will be consulted as DEP develops the maps and of course will also have the opportunity to provide public comment during the formal classification process.
Recommended Change: Add "in consultation with the Commissioner of the Department of Public Health" to Sec. 25-141b-5(a) and (c).

Comment: The Department of Public Health (DPH) suggested several revisions within the proposed stream flow regulations and water supply planning regulations to ensure that public water systems can still adequately serve the public and that excess supply can be identified and reallocated where necessary to provide for stream flows. (36)
Response: The issues raised by DPH regarding MOS have been considered and addressed, although in a slightly different manner than originally proposed by DPH. As discussed earlier, a number of the major revisions to the regulations are recommended which include several mechanisms to address MOS and available supply including adding a MOS provision to the presumptive standards, eliminating the presumptive standards requirement for other structures, additional compliance time, simplifying release rules, allowing minimal releases for reservoirs with small storage ratios to minimize impact on available water, adding provisions for a water supply emergency, including consultations with DPH in preparing the proposed classification maps, and simplifying flow management compact provisions.
Recommended Change: No further changes

Comment: Data submitted by DPH does not indicate that the flow regulations would cause any serious problem for which there are not remedies in the regulations and other evidence indicates that moratoria are rarely if ever imposed, even when a utility is well below the approved margin of safety. Presently 26 of 104 systems reviewed by DPH do not meet the margin-of-safety standard which should be corrected, along with improvements to associated river flows. (287)
Response: Ensuring an adequate public water supply is part of the challenge of finding the correct balance between aquatic ecosystems and human needs. In addition, care needs to be taken not to cause compliance problems with other public water supply regulatory obligations including those of DPH. Care also needs to be taken to insure that water supply systems are operated in a manner that is sustainable and minimizes impact on stream flow. Although some provisions to help address margin of safety were in the proposed regulations it was determined that adding a specific margin of safety provision was appropriate. At the same time, water suppliers must take appropriate demand management, water conservation, source management and additional supply measures before being relieved of having to comply with the stream flow standards.

Recommended Change: Add new subdivision, Sec. 26-141b-6(a)(6), to extend compliance timeframes for up to twenty years if MOS is of concern, with appropriate conservation measures.

Comment: Connecticut agriculture's future is heavily dependent upon access to sufficient quantities of water to ensure growth of the industry and the consumptive use of water by an individual farmer is often variable, seasonal and difficult to predict. This is especially true for field grown crops and livestock and especially crucial during low flow periods or emergency drought situations. The Department of Agriculture offered to work with DEP to provide sensible exemptions for agriculture, including possible exemptions for existing agriculture diversions. (32)
Response: Several provisions were included in the proposed regulations to mitigate impacts to sufficient supply including a flexible 5-16 year compliance schedule, exemptions and variances for droughts, small impoundments, and options to maximize groundwater withdrawals. In addition, the regulations provided procedures to allow alternative flow standards under flow management compacts. Several major revisions discussed above will further assist agricultural operations, particularly the changes to the presumptive standards for "other structures". While an outright exemption of agriculture is not proposed, the changes to the regulation should significantly minimize the impact to the agricultural sector.
Recommended Change: No further changes

Comment: Guidelines about the rate at which water may be released from a dam should be addressed so that other users of this resource and downstream property owners are not negatively affected by the release. Basic guidelines such as a slow release over a specified minimum length of time should be provided. To reduce the potential crop damage and loss of fertilizers/pesticides that then have to be re-applied, a simple system should be set up where the water body manager notifies the town of their scheduled release by a certain date to allow interested downstream property owners to know when to contact the town to obtain the schedule. (383)
Response: The comments appear to be primarily focused on the drawdown of impoundments for various reasons, and activity that is exempt under the proposed regulations. However, such drawdowns are regulated under RCSA Sec. 22a-377(b)-1. The diversion regulations provide an enforceable mechanism to minimize erosion and sedimentation, provide the necessary stream flow, and avoid impacts to adjacent property, wells, fish and wildlife. The Department would not anticipate that the dam release requirements would be on a scale that would cause the concerns raised above.
Recommended Change: None

Comment: Need to consider ground water augmentation to maintain stream flow as a possibility in these regulations. (132)
Response: The Department certainly encourages creative solutions to flow issues. Augmentation of stream flow with groundwater may be viable in certain situations, and could be incorporated into a flow management compact where appropriate.
Recommended Change: None

Comment: The legislative scope of these regulations was not intended to include groundwater supplies, so the proposed regulations exceed the legislative authority given to DEP (45, 128, 133, 135, 136, 277, 297, and 314).

Response: The Department conducted a careful review of the legal analysis submitted, and disagrees with its conclusion that registered diversions, including groundwater diversions, are beyond the scope of the Department's authority to regulate pursuant to Public Act 05-142, An Act Concerning the Minimum Water Flow Regulations, codified in sections 26-141a through 26-141c of the Connecticut General Statutes. The submission concludes that Public Act 05-142 is ambiguous but fails to examine closely the wording of the act's three sections or the relationship among them, all of which is required by statute (C.G.S. § 1-2z) before examining extra textual evidence. Instead, it argues that the legislature never intended the act to apply to groundwater or registered diversions by selectively citing legislative testimony (i.e., extra textual evidence) and equating lack of testimony or contradictory testimony to an affirmative action to explicitly exclude groundwater and registered diversions.

It is unsound to interpret silence or contradictory and ambiguous comments from legislators as unambiguous expressions of approval or disapproval, which is why there is a legislative mandate to first ascertain the meaning of the statute "from the text of the statute itself and its relationship to other statutes" to determine whether "the text is plain and unambiguous and does not yield absurd or unworkable results." C.G.S. § 1-2z. As codified in Sec. 26-141b(1) of the Connecticut General Statutes, the plain language of the statute conveys a specific legislative directive that all of the State's streams shall be subject to minimum stream flow regulations adopted by the commissioner: "Such flow regulations shall[] … [a]pply to all river and stream systems within this state." Furthermore, Sec. 26-141a (emphasis added) states that:

> Whenever any dam or *other structure* is maintained in this state [1] which impounds, *or diverts*, the waters of a river or stream or [2] which dam or *other structure affects the flow of water* in such river or stream, the Commissioner of Environmental Protection may adopt regulations … setting forth standards concerning the flow of such water ….

The last section of P.A. 05-142, codified in Sec. 26-141c (emphasis added), could not be clearer:

> [N]o person or municipality … *shall maintain any* dam or *other structure* impounding or *diverting water* within this state *except in accordance with regulations* as established by the Commissioner of Environmental Protection. If the commissioner finds that any person or municipality … is violating such regulations, the commissioner shall issue an order to such person or municipality to comply with the regulations. … If such person or municipality fails [] to comply with the regulations concerning flow of water, the commissioner may request the Attorney General to bring an action in the Superior Court to enjoin such person or municipality *from restricting the flow of such water* in accordance with such regulations.

An "other structure" is not defined in the statute, so the plain meaning of this term is applied. A "structure" as defined by Merriam Webster means "something that is constructed." As an example, a well is something that is constructed to divert groundwater; in so doing, if there is a hydrologic connection to surface water, such a well affects the flow of water in streams and rivers in that groundwater contributes to the base flow of and variability of flow in streams and

rivers. This is based on sound science, another requirement for the stream flow regulations (C.G.S. § 26-141b(5) and (6)), and also a concept that the General Assembly, through its Legislative Program Review and Investigations Committee, was acutely aware of, given a comprehensive study that was conducted on stream flow in 2003. (Link to December 2003 report: http://www.cga.ct.gov/2003/pridata/Studies/PDF/Stream_Flow_Final_Report.PDF.)

The Department is not proposing to regulate the withdrawal of water from an isolated aquifer with no natural connection to surface water; such a diversion would not affect stream flow. However, the withdrawal of groundwater that affects flow in a stream or river is within the Department's jurisdiction. In written testimony submitted to the Environment Committee in 2005, the commenter has stated that "[w]hile it is uncertain if the intent is to regulate groundwater withdrawals in the same manner as surface water, the bill's *language could clearly be construed to do so.*" (Emphasis added; Connecticut Water Company written testimony submitted March 31, 2005; Environment Committee transcript p. 3862.) Without the ability to regulate groundwater that affects the flow of water in a stream or river, the General Assembly's mandate to use "best available science" in adopting regulations cannot be met since groundwater's contribution to total flow in a stream or river may be significant**,** depending on the hydrological conditions involved. Interpreting the statute to exclude groundwater and registered diversions from the regulations would lead to absurd and, indeed, unworkable results. Because the text of P.A. 05-142 is plain and unambiguous and the Department's interpretation that regulating groundwater and registered diversions does not yield absurd results, "extra textual evidence," like legislative history, which is often less than clear, at times even contradictory, "shall not be considered." C.G.S. § 1-2z.

Also, in examining the three sections of P.A. 05-142 together, it would be absurd to exclude groundwater from the jurisdiction of the act when Sec. 26-141b mandates that the needs and requirements of such sectors as industry, water supply and agriculture must be examined and such sectors involve substantial diversions of groundwater (some of which are registered diversions). This section continues with new language from P.A. 05-142, which allows the commissioner the discretion to provide special conditions for public water systems or agricultural diversions when implementing the stream flow regulations. The regulations, indeed, will provide flexibility in complying with the regulations through drought provisions, variances, time extensions to allow a public water system to improve its margin of safety, and exemptions.

While the act could have provided exemptions for all groundwater withdrawals or registered diversions, as it did for flow management plans effective as of October 1, 2005 where the Department is a party, it did not. And no other statutory provision in the Connecticut General Statutes, including the Water Diversion Policy Act itself, confers immunity on registered diversions from all other environmental requirements. The superior court in the Shepaug litigation has weighed in on this specific issue: "[T]he plain and only effect of the registration provision [in the Diversion Act] is to relieve those with existing diversions from the need to file an application for a permit, not to render such diversion immune from regulation under other statutes." *Waterbury v. Washington*, No. X01UWYCV 97140886, 2000 Conn. Super. LEXIS 355, at *50 (Conn. Super. Ct. Feb. 16, 2000); also cited in *Waterbury v. Washington*, 260 Conn. 506, 572 n. 41 (2002); see also *id.* at 572 (Supreme Court's insistence on the

application of the water management scheme crafted by the legislature reinforced the superior court's observation that holders of diversion registrations are not automatically exempt from stream flow regulations).

A registered diversion is only exempt from the diversion permitting scheme; no special privileges are bestowed upon registered diverters by the Diversion Act. For instance, registered diversions are subject to the Department regulation of pesticide application and water discharge permits. Given the fact that the present stream flow regulations were adopted in 1979 and the Diversion Act in 1982, the 1979 minimum flow standards should be no less applicable as another regulatory program in respect to which registered diversions have no special status as they may be viewed to have under the Diversion Act's provisions. In fact, P.A. 05-142 specifically directed that prior to P.A. 05-142's effective date, the 1979 stream flow regulations are to "remain in effect until the [commissioner] adopts new regulations…."

Finally, the commenter argues that because the 1979 stream flow regulations do not presently restrict groundwater, the Department's scope of jurisdiction in adopting the proposed final stream flow regulations is similarly limited. The boundaries of any authority conferred on the Department are set by statute, not by any subsequent regulations adopted pursuant to such statute. Specifically, the 1971 stream flow statute, P.A. 71-872, has language similar to P.A. 05-142; however, a major difference is that the reference to "stocked river or stream" was expanded to include "all river and stream systems." But the key language that "any dam *or other structure* is maintained in this state which … dam or *other structure affects the flow of water*" remains the same. As examined above, the plain reading of this language supports the regulation of any other structure, including wells, that affects the flow of water. In essence, the Department has had the ability to regulate groundwater since 1971, but did not do so when the 1979 stream flow regulations were adopted. This does not mean that the Department never had the authority to regulate groundwater or registered diversions, simply that the Department did not do so at the time. Moreover, the Department has explicitly testified that the 1979 stream flow regulations were not based on sound science and are not protective of the aquatic environment and, therefore, should not now be used as the basis to determine the Department's scope of jurisdiction.

In conclusion, the Department disagrees with the commenter's conclusion that the Department does not have authority to regulate groundwater or registered diversions. Pumping groundwater from a well depletes stream flow in two ways by removing water directly from the stream and by capturing groundwater that would have discharged to the stream and contributed to stream flow. Groundwater is the primary contributor to the natural base flow of a stream and is critical to sustaining flows during dry periods. A number of factors contribute to how groundwater withdrawal influences the location, extent, and timing of stream flow depletion. The Department also recognizes that many wells and other structures have been in operation for years and the associated stream segments have not been significantly impacted. Therefore, the approach for other structures is being modified to require that a diverter operate an other structure in a manner that minimizes the impact on stream flow while providing for legitimate needs and provide a mechanism to address impairments. If the commissioner determines that flow in a stream segment has been altered to the extent that the narrative

standards for that segment is not being met, the commissioner may issue an order to the owner(s) or operator(s) of an other structure(s) to evaluate and mitigate the impact.
Recommended Change: None

Comment: The regulations in their current form will negatively impact the business community by increasing costs and creating service disruptions, hampering economic development. Such a result will create uncertainty and disincentive to development and limit growth for new and existing businesses. The increase in utility costs for all businesses could make Connecticut less competitive in terms of attracting and retaining businesses. The regulations should be simplified and streamlined, uncertainness eliminated and the costs reduced. (56 comments including 45, 302, 74, 289, 295, 297)
Response: During development of the regulations and review of the public comments, the Department has taken great care to address the concerns raised regarding adequate water supplies while still meeting the statutory mandate. While achieving the balance set forth in the statute, major revisions have been made to the revised regulations to reduce the impact to water supply cost and available water supplies to ensure Connecticut remains economically competitive including: increasing the predictability of the stream classifications; reducing the overall complexity of the regulations; reducing stream flow releases; increasing flexibility; eliminating presumptive requirements for owners and operators of other structures; increasing the time for compliance; a special margin of safety provision providing relief for public water companies; and focusing on impaired stream and river systems.
An environmentally sustainable water supply is critical to the state's overall economic health and these regulations will help ensure water is available for the state to grow in an environmentally sustainable manner. DEP agrees we need to strike that balance between conservation and development, and keep Connecticut competitive in the long term. Existing and planned land uses are listed factors to be considered in the stream flow classifications and any proposed revisions to them. Also a number of DEP programs are in place to help manage land use in environmentally sustainable manner including watershed management, landscape stewardship, and low impact development. DEP continues to examine strategies to better manage water supply and land use with the other state agencies responsible for water supply through the Water Planning Council including the Departments of Public Health ("DPH") and Public Utility Control ("DPUC"). DEP also continues to work with Department of Economic and Community Development on broader state responsible growth program.
Recommended Change: No further changes

B. SPECIFIC COMMENTS:

SECTION 26-141b- 1: SHORT TITLE – No comments were received on this section.

SECTION 26-141b- 2: DEFINITIONS

Comment: Clarify the definition for bioperiod flows that they are the *estimated naturally occurring* flows expected to have existed in the river or stream system for that bioperiod. (212)
Response: Clarification is needed.
Recommended Change: Modify the definitions of "Bioperiod Q25", "Bioperiod Q50", "Bioperiod Q80", "Bioperiod Q90", "Bioperiod Q99", "Median natural flow", and "Q99", to read "…means the naturally occurring daily stream flow that is predicted to be equaled or exceeded …" Note also that the definition for Bioperiod Q75 was eliminated because it was not used in the regulation.

Comment: The actual definition of "diversion" is not included in the regulations, forcing a reader to search elsewhere. Please include the definition itself. (229)
Response: In regulations, when referring to a definition governed by a statute or other regulations, standard practice is to reference such definition, not repeat it. Although this is somewhat cumbersome for the reader, it ensures that the definition maintains consistency with the statute or regulations from which it was taken in the event of changes to that definition.
Recommended Change: None

Comment: Add a definition of the term *release* which is used in the presumptive standards. Clarify that a release includes all water that moves over, through or around a dam, including both controlled and uncontrolled releases and any seepage through the dam. (212) A question was also raised asking if studies been done to determine whether released waters are at an appropriate temperature or water quality that will not harm downstream fisheries. (56)
Response: The definition of "release" was formerly in Sec. 26-141b-6(a)(5), but it is agreed that it should be in the definition section, and the concept of the quality of the water being released should also be incorporated.
Recommended change: Add new definition Sec. 26-141b-2(30): "Release" means the release of water of a satisfactory quality to provide for the preservation, protection and propagation of fish and other forms of aquatic life and includes dam leakage, spillage return flow, and discharge from outlet works.

Comment: Clarify the definition of "river or stream system" so that it reflects the standard meaning of the term, and not just parts of a river system "upstream of any point..." When the intention is to refer only to the upstream segments of a system, that intention can be specified as needed. Additionally, groundwater should not be limited to only groundwater "that contributes flow to sustain flow..." but, should be all groundwater that contributes flow to a river or stream. (42, 282, 330)
Response: Agreed.
Recommended Change: Revise the definition to read '"River or stream system" means the water in a river or stream channel, including all tributary streams that drain into the channel and any groundwater that contributes flow to such river or stream.'

Comment: Modify the "run of river" dam definition. The use of the terms "head pond storage" and "instantaneous" flow are confusing. Clarify that the run of river exemption

applies to all dams from which direct consumptive withdrawals are not being made. Also, the regulations should clarify that a reservoir which is kept in service as a standby or emergency supply qualifies as a run of river dam and is exempt from the release requirements until such time as it is used for active water supply. (Exhibits 38, 76, 134, 287, 296, 297)
Response: There was considerable confusion on the definition of "run-of-river", as the term has different connotations in different industries. The key concepts for this type of dam operation were that there is no active consumptive withdrawal from behind the dam, and that there is no regular, active manipulation of water levels behind the dam such as peaking operations (other than occasional changes, such as seasonal drawdowns). In addition, to address reservoirs kept in an emergency or standby mode, language should be added to clarify that consumptive diversions can be made when the Commissioner of Public Health determines that a public water supply emergency exists.
Recommended Change: Delete the term "run-of-river" from the regulations, and explicitly state the operational conditions in the exemption section – Sec. 26-141b-3(c)(18) - and the reporting section – Sec. 26-141b-9(b).

Comment: The DPH recommended adding numerous definitions to the regulations.
Response: Many of the proposed terms are not utilized in the regulation, and therefore definitions were not necessary; however, the following definitions were added and an effort has been made to maintain consistency with the definitions proposed by DPH: "Community Water System", "Margin of safety", "Source of supply"; "Usable storage", and "Water conservation".
Recommended Change: Add new definitions of the five terms listed above, as proposed by the DPH, with only minor modification.

SECTION 26-141b- 3: APPLICABILITY

Comment: Given that the Rainbow Dam on the Farmington predates FERC authorization, it would appear not to be covered under exemption (1). (213)
Response: Exemption (1) provides for an exemption if a dam is operated in compliance with a license issued by the Federal Energy Regulatory Commission (FERC). In response to this comment, the Department re-evaluated this exemption. It is more appropriate to exempt dams subject to the jurisdiction of FERC, as there are other types of permits issued by FERC that are not a "license" but have stream flow requirements. If the assertion is correct that the Rainbow Dam predates FERC jurisdiction and it is not otherwise regulated by FERC, it would be subject to these regulations.
Recommended Change: Revise exemption (1) to include all dams <u>subject to the jurisdiction of</u> FERC.

Comment: Expand the exemption for diversions for fire emergencies (exemption 3) to include diversions for fire and for any other public safety or public health emergency. (212)
Response: Clearly society needs to be able to respond promptly and efficiently to public safety or public health emergencies. Regarding water supplies, the Commissioner of Public Health has the ability to declare a public health emergency when conditions warrant.

Reservoirs that would be put to use in such an instance would come under exemption (18), which is discussed further below; wells pulled in under an emergency scenario would not be considered in an order under Sec. 26-141b-6(b); and flood control dams come under exemption (4); therefore such a change to the exemption is not necessary.
Recommended Change: No further changes

Comment: By exempting all estuarine dams and run-of-river dams from the requirements for the constructive release of water, the proposed regulations do not provide for water flows necessary to accommodate the anadromous fish species specifically described in PA 05-142, Section 2. These deficiencies may be corrected by including language requiring the connection of independent river and stream segment classes separated by dams and other structures and accommodating anadromous species. (381)
Response: These regulations provide the mechanism to restore the natural stream flow from upstream freshwater rivers and streams to tidal portions. Scientific principles in the regulations such as achieving seasonal flow variability associated with different bioperiods will be critical to preserving and protecting natural aquatic life, including anadromous fish. In addition, the Department has modified the exemption to include large tidal rivers and streams where withdrawal impacts are insignificant and a few tidal rivers immediately downstream of water supply reservoirs.
Recommended Change: Clarify applicability for tidal waters in Sec. 26-141b-3(c)(6).

Comment: Clarify that exemption (8) is for a withdrawal from surface waters that does not exceed fifty thousand gallons of water during any twenty-four-hour period. (212)
Response: This is the intent and can be clarified.
Recommended Change: The exemption is clarified to read "A maximum withdrawal that does not exceed fifty thousand gallons of surface water during any twenty-four-hour period.".

Comment: Exemption (12) needs to be moved out of the exemption section and into a new presumptive standards section in Sec. 26-141b-6. This is important both because the required minimum releases described in this section are appropriate presumptive standards -- no matter on what class river these systems occur -- and is also important in order to make clear that the reduced release requirements provided in section Sec. 26-141b-6(a)(4) during drought conditions apply to these small systems as well. (212)
Response: This is a provisional exemption for a specific purpose that does not need to be subject to the other requirements of the regulations, such as reporting. In addition, since the release amount is limited to the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less, (as discussed below), drought provisions are not necessary.
Recommended Change: None

Comment: Exemption (12) concerns diversion of water caused by impoundment drawdowns and subsequent refilling for specified purposes, and requires a downstream release of 0.15 cubic feet per square mile of drainage area (cfsm) during drawdown and refilling periods. This should be clarified given that dams included under exemptions 19 and 20 are only required to release 0.1 cfsm during drawdown and refilling. (38)
Response: For consistency, it is recommended this requirement be changed to the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less.

Recommended Change: Change "0.15 cfsm" to "rearing and growth bioperiod Q80 or the natural inflow of water whichever is less" in exemption #12.

Comment: A flow compact as provided for in Sec. 26-141b-7 should not be 'exempt' from the regulations (exemption 16). Rather, a flow compact is an alternative means of compliance with the regulations. This section should be eliminated (212).
Response: A flow management compact provides the operational rules for managing releases and withdrawals, including monitoring and reporting, etc., essentially replacing the requirements of these regulations; therefore, an exemption is appropriate. Note that such exemption is only applicable when all diverters are in compliance with an approved flow management compact.
Recommended Change: Add Sec. 26-141b-8(g) to the revised regulation to make clear that noncompliance with a flow management plan subjects all parties to a compact subject to the presumptive standards.

Comment: Run-of-river dams should not be an exempted activity (exemption 18). If this class of dams is to be exempt, provisions for the dam operator or owner to apply for such exemption, and articulate the deliberative criteria that are intended to demonstrate an extreme economic hardship or other circumstance for which an exemption may be approved. The Legislature clearly articulated its intent for Special Conditions and Exemptions to be imposed or granted after due deliberation - not as wholesale classes without demonstration of need or articulation of purpose served or legislative intent achieved by the exemption. (381)
Response: Note that this exemption requires, under section 9(b) that the owner or operator submit a certification that such dam is operating pursuant to the requirements of the exemption. This allows the commissioner to verify the operation and take action if the dam does not meet the requirements of the exemption. There are numerous dams of this type all over the state that are not actively manipulated and do not significantly affect volumes of water moving downstream since they spill regularly. The cost of retrofitting and then actively operating such dams would be significant and given that the only water removed from behind such dams is via evapotranspiration, is not warranted.
Recommended Change: None

Comment: Include an exemption for *existing* infrequently used impoundments. The exemption for operation of these structures, generally back-up water supplies, should include a requirement that it apply only to small impoundments (those that impound 10% or less of mean annual flow) and include a requirement that when water is diverted from the impoundment such dams and impoundments meet the same release requirements as impoundments drawn down for aquatic weed control (e.g..1.5 cfsm release). Infrequently used impoundments will need to be defined (e.g. divert water on average less than once per year). Such a presumptive standard is more appropriate than including these types of impoundments as run-of-river dams. (212, 296)
Response: Infrequently-used impoundments are typically operated in a "run-of-river" mode when not in use for water supply. When pulled into service, these are usually used to meet a water supply emergency, and it is reasonable to exempt such reservoirs during a water supply emergency.

Recommended Change: Modify exemption (18) to include use of infrequently-used impoundments during a water supply emergency as declared by the Department of Public Health.

Comment: Exemptions (19) and (20) need to be moved out of the exemption section and into the presumptive standards section in See. 26-141b-6. This is important both because the required minimum releases described in these sections are appropriate presumptive standards and is also important in order to make clear that the reduced release requirements provided in section Sec. 26-141b-6(a)(4) during drought conditions apply to these small systems. (212, 296)
Response: Agreed.
Recommended Change: Move exemptions (19) and (20) to the presumptive standards section, 6(a)(5).

Comment: We suggest that the Exemption (19) should be modified to say "an upstream *natural* drainage area of three square miles or less..." Also, releases should not be required to exceed natural inflow when the inflow drops below 0.1 cubic feet per second per square mile (csfm). (38, 303)
Response: It is agreed that the regulations should reference the natural drainage area and that it should be a minimal flow or the natural inflow, whichever is less. DEP evaluated the use of 0.1 cfsm, and when broadly applied, that volume did not always make sense for the watershed. For example, in watersheds with significant amounts of stratified drift, 0.1 cfsm provides statistically very low flows; for watersheds high in till, 0.1 cfsm is a much higher flow. For many watersheds, 0.1 cfsm approximates the rearing and growth bioperiod Q80. The Q80 for a particular stream is tailored to the watershed and therefore more appropriate. (Note, that as discussed in the previous comment, this exemption has been moved to section 6(a)(5).)
Recommended Change: Modify the language to read “natural drainage area”, and in each place the regulations require a single, minimal release in sections 3 and 6, it should reference the “rearing and growth bioperiod Q80 or natural inflow, whichever is less”.

Comment: There should be a watershed size that is fully exempt (i.e., no release required), such as <1.5 square miles, to avoid over-regulating streams of limited habitat value. The regulations appear to have no means of excluding streams that are naturally intermittent, ephemeral, or have natural flows that are otherwise too low to create meaningful aquatic habitat. (38, 136, 297, 325)
Response: The required release for watersheds of this size is so small, that it will likely be met by leakage through the dam, and because changes have been made to say “rearing and growth bioperiod Q80 or natural inflow, whichever is less,” when the streams are intermittent, no releases would be required.
Recommended Change: None

Comment: Exemption (20), which allows a constant 0.1 cfsm flow release for stream segments between dams that are 1 mile or less in length, should be expanded to include stream segments between dams of any length, provided the affected reservoir(s) are part of the same reservoir system, and that the most downstream reservoir meets release requirements based upon total watershed size. This proposed change will allow for more flexible and efficient

management of reservoir storage for water supply needs while maintaining a robust range of release flows downstream of the reservoir system. (38)
Response: A cut-off of 1 mile in length was determined to be reasonable for broad applicability by the Science and Technical Workgroup. Special circumstances can be dealt with through flow management compacts if needed.
Recommended Change: None

Comment: Some dams have no appreciable reservoir and no means by which the owners can release significant water from storage. The regulations should define dams having no significant storage as "other structures", or provide alternative standards that apply to small dams with small impoundments, perhaps using a reservoir storage ratio criterion that would drive a different flow standard. This could be done either by exempting dams below a certain height, such as 6 feet, or impoundments whose storage capabilities are less than a specified percentage of the median annual flow, such as 10%. (38, 136, 288, 297)
Response- It is agreed that low-storage dams should have special provisions.
Recommended Change: Add new Sec. 26-141b-6(a)(4)(C) that provides for a single, minimum release of the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less for dams impounding a reservoir with a usable storage of 100 million gallons or less.

Comment: Recommend exemptions for internal watershed diversions. (297)
Response: It is unclear what the comment intended, and without more specificity, the Department cannot properly respond.
Recommended Change: None

Comment: Requests were made to evaluate specific situations such as the Reuben Hart Dam (Exhibit 268) and Woodridge Lake (Exhibit 76) to determine if they would be exempt.
Response: The commissioner cannot make individual determinations without further information. However, as described above the regulations provide flexibility to address many situations and a customized flow management compact is an option if a release from the dam is required.
Recommended Change: None

Comment: Allow public water supply registered and permitted diversions to be "grandfathered" at the presently allowed withdrawal levels. Once streams are classified and the regulations are adopted, impose them on any new public water supplies, as part of the permitting process.
Response: Permitted diversions, because environmental impacts including stream flow have already been assessed, are exempt from these regulations. Upon diversion permit renewal, the classification of the stream or river segment will be considered. Registered diversions can and sometimes do have significant impact on stream flow and must be included in the regulations in order to achieve stream flow protection required by the statue.
Recommended Change: None

Comment: Agriculture, as defined by CGS 1-1(q), should also be included as an exempt activity. These operations need to be guaranteed access to water during low flow and

emergency drought situations. (32, 39, 141, 217, 219, 270, 298, 300) We propose establishing BMPs to ensure wise water use and lessen the impact on stream flow. As an industry it would take two to three years to widely implement the BMP. (39)
Response: "Agriculture" is very broadly defined in the statutes. It is not reasonable to completely exempt all agricultural activities, which can have significant impacts on stream flow. However, the majority of agricultural diversions utilize other structures. Demonstrating compliance with presumptive standards has been removed from the regulations for other structures. The diverters will be required to operate their diversions to minimize the impact on stream flow while meeting their needs – in other words they need to operate in an environmentally responsible manner while still meeting their needs. If the commissioner makes a determination that the river or stream segment is not meeting the narrative standards of section 26-141b-4, the commissioner may issue an order. The commissioner will work with the diverters as necessary to address the issues, working out means to address low flow and drought situations appropriate to the use.
Recommended Change: No further changes

Comment: We suggest that an additional exemption be added to the proposed regulations to include all water bodies defined within river flow management plans as part of an approved federally designated Wild and Scenic River with an approved In-stream Flow Study. (303)
Response: A Wild and Scenic River designation with an approved In-stream Flow Study would likely fulfill most, if not all, of the requirements for a Flow Management Compact under section 8 of these regulations. However, the compact would need to be submitted for the commissioner's review and approval in accordance with the regulation. Given the flexibility allowed in flow management compacts, a separate exemption is not necessary.
Recommended Change: None

Comment: DEP should exempt golf courses from these proposed regulations. (Exhibits 214, 263, 333) Through the use of new technologies and best management practices, golf courses are already achieving the results the department is seeking in this regulation. (199, 214)
Response: Golf courses, like all consumptive diverters, can and do affect stream flow. The use of new technologies and best management practices will assist such operations in meeting these stream flow regulations. Similar to the discussion of agricultural diversions above, changes have been made that will significantly minimize the impact on golf course operators except in those circumstances where they are causing impairment.
Recommended Change: None

Comment: These regulations propose generous, some may suggest too generous, exemptions. We urge DEP not to add further exemptions. (108)
Response: Exemptions have been limited to the extent possible, but part of balancing water use is making allowances for activities that temporarily or minimally affect flow and being able to respond to public safety and public health emergencies.
Recommended Change: None

SECTION 26-141b- 4: NARRATIVE STANDARDS

Comment: The Department received numerous comments related to including an environmental standard for Class 4 rivers. In reference to the Class 4 draft regulation, several comments characterized these as “throw away rivers”, a “dead end”, and a “death sentence” and urged the Department to “leave no river left behind”. In addition, concern was raised that this is an environmental justice issue because heavily impacted rivers are traditionally located in poorer urban areas. (226 comment letters and 15 speakers at hearing, including 23, 70, 107, 139, 210, 232, 275, 299, 305, 318, 330, 360, and 378)
Response: The Department recognizes the concern over Class 4 designations being viewed as the lack of an environmental standard for rivers classified as such, and that having no standard is inconsistent with the intent of PA 05-142. We also recognize that in a few, very limited cases, it may not be feasible to maintain even 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 for these cases and to have the standard be to get as close to Class 3 as possible given the situation. Wholesale classification of any river as Class 4 is not anticipated, and for rivers that are in use for fishing and recreation, those uses will be considered during classification. In fact, the Department anticipates that the initial classification process will result in a very limited number of Class 4 designations, and like all segments those segments will be subject to a public process to adopt classifications (Sec. 26-141b-5(c)(1)(D)).
Recommended Change: The Department expanded the narrative stream flow standard for Class 4 in Section 26-141b-4 (d) to add more specificity for Class 4 conditions. These include attaining best achievable flows and water levels while giving consideration to societal needs, economic cost, and environmental impact with achieving consistency with Class 3 river and stream segments.

Comment: Flow releases more rigorous than existing practice should not be required for Class 4 streams. Requiring a release that results in a less altered stream flow condition conflicts with the stated intent of the Class 4 designation. (38)
Response: Class 4 is reserved only for cases where the best attainable condition may not achieve consistency with the narrative standard for Class 3. Some Class 4 rivers may attain conditions that are better than current practices while working towards the goal of achieving Class 3. In other instances, it may be necessary for a stream segment to be classified as Class 4 because Class 3 narrative and presumptive standards cannot be achieved due to balancing societal need, economic cost, and environmental impacts to the segment in question to other river and stream segments.
Recommended Change: Strike Sec. 26-141b-6(a)(3)(B), recognizing that some Class 4 rivers will not be able to meet minimum flow requirement while others will work towards the goal of Class 3 narrative and presumptive standards.

Comment: Clarify the difference between terms such as "minimally altered, moderately altered and substantially altered" so the standards are consistently interpreted and applied. (135)
Response: The narrative standards under Sec. 26-141b-4 provide descriptions of the degree of alteration allowed under the different stream flow classes. These narrative descriptions should

not be viewed as stand alone, but rather to be used in conjunction with other sections of the regulation. In particular, Sec. 26-141b-6, Presumptive standards, provides numerical standards that quantify of the degree of stream flow alteration allowable under the different stream flow classes. When working with biological communities however, strict application of numerical standards is not always necessary to achieve the narrative standard, so maintaining both in the regulations provides flexibility.
Recommended Change: None

SECTION 26-141b- 5: ADOPTION OF RIVER OR STREAM SYSTEM CLASSIFICATIONS

Comment: The proposed timeline for compliance with the stream flow regulations is too long. Classify the rivers and streams much more quickly. (287)
Response: The regulations do not specify how quickly the Department will classify rivers and streams. Classification is an important and time consuming task and will proceed with existing staffing at DEP. Feedback through the working groups was to allow adequate time for the Department to develop the classification based on all the best information available while allowing for public comment, and that a reasonable timeframe to come into compliance is an important component for the regulations to meet the balancing that is explicit in PA 05-142. Public comment is an integral component of the stream flow classification and the Department wants to allow adequate time to solicit meaningful feedback to allow changes to the proposed stream flow classes. Further, compelling comment from consumptive water users indicated more time is essential, particularly in today's economic climate to make the needed infrastructure changes to accommodate the required releases. The Department will make every effort to quickly complete the classifications.
Recommended Change: None

Comment: No system could be classified as Class 1 as the standard is currently written because the flows in all Connecticut streams have been significantly altered by human land use activities. Revise Class 1 and Class 2 definitions to reflect the true nature of all human impacts on stream hydrology, perhaps by distinguishing those direct impacts on streams flow and water levels (e.g., via diversion), from indirect impacts. (228)
Response: The Department does not believe that all rivers and streams in Connecticut under existing conditions should be classified as significantly altered by human land use activities. There is unequivocal recognition that stream flow has been affected to varying degrees by human activities, including land use activities, from insignificantly (Class 1) to significantly (Class 4), and this recognition forms the rational basis for the proposed classification system.
Recommended Change: None

Comment: The classification process should be explicitly detailed in the regulations to ensure uniformity of the classification process and to minimize the subjectivity of the Standards. (38)
Response: A uniform process is proposed to classify streams using the relevant factors based on the best available information and site specific conditions unique to a particular stream. Justification for the initially proposed classifications will be provided where needed, and the

public will be able to comment on the process and information used to classify during the comment period for classifications specified in the proposed regulations.
Recommended Change: Add language to further illuminate the classification process to Sec.26-141b-5(a) 1-5.

Comment: The Department should explicitly consider the presence of threatened, endangered or otherwise listed species during the river classification process. (23)
Response: The presence of threatened and endangered species is covered by consideration of the available data related to the distribution and abundance of plant and animal species that are dependent on stream and riparian habitat under Sec. 26-141b-5(6).
Recommended Change: None

Comment: Add consideration of average and maximum day public water systems margin-of-safety to the classification system. (36)
Response: Existing or potential withdrawals are factors that are considered during the classification process and the Department will consult with DPH regarding the extent to which these water supplies or potential water supply sources may affect stream flow classification. Margin of safety is not a relevant factor for classifying streams, but is a relevant factor in the compliance timeframes in the presumptive standards, as discussed further below.
Recommended Change: Add clarifying language to Sec. 26-141b-5(a)(11)

Comment: There is the need to assess stream flow impacts from land use as opposed to diversions. The overall cumulative effect of increasing impervious surface areas within the watershed area can negatively impact the recharge capability of aquifers and the base flow of rivers and streams, degrade water quality through increased storm water runoff, and exacerbate the extremes of storm events and drought. It is unfair to saddle water utility customers with the entire cost of monitoring and supplementing stream flow when public actions like Planning and Zoning approvals and expansion of highways contribute significantly to the problems addressed in the proposed regulations. Land use practices that protect groundwater recharge zones and minimize impacts to groundwater hydrology should be encouraged, possibly through incentives, by the state and municipalities. (43, 320)
Response: Existing and planned land uses in a basin are listed factors to be considered in the stream flow classifications, any proposed revisions to classifications, as well as any flow management compact. While land use and development issues vary widely across the state's landscape - and are difficult to address within state regulations in a home rule state such as Connecticut - a number of the Department's regulatory programs are in place to manage land use and the effects on stream flow and hydrology. They include: inland wetlands and watercourses; diversion; stormwater management; aquifer protection; and others. There are also number of technical assistance and outreach programs which address stream flow including watershed management, landscape stewardship, low impact development, and the broader state responsible growth program. DEP continues to examine strategies to better manage land use and reduce water quantity and quality impacts.
Recommended Change: None

Comment: DEP should consider potential inter-basin needs when completing the classification of neighboring and dependent basins, as strategies for implementing the proposed standards may require inter-basin transfers of water. (38, 116)
Response: Inter-basin transfers are included as a factor in classification in Sec. 26-141b-5(a)(1), under permitted and registered diversions
Recommended Change: None

Comment: Comments were received both (1) that the classification process should be completed prior to adopting the standards for the classes in regulation; and (2) that to be effective, the entire framework including classification and standards should be adopted simultaneously as proposed (42 comments).
Response: The Department recognizes that classification determines the applicable stream flow standard and is an important component of the regulation. However, a regulation that sets forth a classification procedure without stating what the standards for each stream flow class would establish great uncertainty as to the meaning of the regulation. This would be analogous to creating a zoning map with zoning designations, but not explicitly stating what activities are allowable in each zone. The classification and standards cannot be decoupled. However, other changes to the regulation have increased the predictability of the classification process, which should address part of the concern of those recommending that classifications precede establishing standards.
Recommended Change: None

Comment: The stream flow standards have no anti-degradation principle as in the federal Clean Water Act to prevent further degradation. (42)
Response: The Connecticut Water Quality Standards, with which all Department regulations must be consistent, do include an anti-degradation policy as required by the Federal Clean Water Act. Specifically, Sec. 26-141b-5(c)(1)(B) of the proposed stream flow regulations outlines formal procedures to petition to a more altered classification, and will ensure that re-classification in stream flow that would allow for degradation in flows will not occur without public input and a review by the Department to ensure that the Water Quality Standards are complied with and that an appropriate balancing of uses as prescribed under PA 05-142 and this proposed regulation will occur.
Recommended Change: None

Comment: Field-verification and impact analysis need to be part of the initial classification process, especially for impaired reaches, to identify river-reaches that need an individualized flow management plan based on anticipated impacts from a withdrawal program using the standard bio-period adjusted diversion caps for the proposed class; also to assess the reach's restoration potential, and potential for higher withdrawal rates (139)
Response: The Department recognizes that field verification may be helpful prior to initial classification in some streams or segments where conflicting information is presented. However, the Department does not have the staff to field check every stream segment. Where reliable field data is available, it will be used to verify initial classifications. If a flow management compact is the choice to come into compliance with the regulation, then site specific study and analysis by the proposing party will be an integral part of that process.
Recommended Change: None

Comment: The regulations should include a "severability" clause within the classification section to clarify that if the classification of one or more river or stream segments is challenged or otherwise delayed, the remaining classifications go into effect upon publication. (212)
Response: Sec. 26-141b-5 of the Stream Flow Standards and Regulations is written so that a discrete river or stream segment may be proposed and adopted. While the Department anticipates moving forward with the adoption of classifications for river and stream segments by basin, each basin will consist of many segments and each segment will have its own uniform classification. The challenge to or delay in adoption of a classification for one segment within a basin does not affect the classification of another segment within that same basin unless this other segment is also challenged.
Recommended Change: None

Comment: Provisions should be incorporated that would allow for a legal appeal of a basin classification, rather than limiting the recourse to change a classification to a petition process by either party. (135)
Response: The Department anticipates moving forward with the adoption of classifications for river and stream segments by basin. If the Department does so, each basin will consist of many segments and each segment will have its own uniform classification. A person who disagrees with the Department's actions on a flow management compact may seek recourse pursuant to the state's Uniform Administrative Procedure Act.
Recommended Change: None

Comment: It is unclear whether Sec. 26-141b-5(c) (Petition to change classification) applies at any time after the adoption of the classification system. If so, it is recommended that this is clearly stated within the first paragraph. (275)
Response: The Department expects any petition to change classification would occur at some time after the classification process has been completed. Note however that under section 26-141b-5(c)(2)(C) the commissioner may reject without prejudice any petition submitted less than 3 years after the last effect date of the classification of such segment, to ensure adequate time to evaluate the effectiveness of the initial classification.
Recommended Change: Add clarifying language to Sec. 26-141b-5(c)

Comment: Adoption of river or stream classifications should require concurrence from the Department of Public Health for streams whose watersheds include an existing or identified potential future source of public water supply. (36, 296)
Response: We agree that the proposed classification maps would be enhanced by DPH participation in their development. Therefore, DPH will be consulted as DEP develops the maps and of course will also have the opportunity to provide public comment during the formal classification process.
Recommended Change: Amend Sec. 26-141b-5 (a) to include consultation with the commissioner of DPH.

Comment: Achieving improved stream flow and a less altered classification will be difficult if not impossible. The following should be added to Sec. 26-141b-5(c)(1)(A): "(iii) it is likely

that a new water management scenario (or Water Management Compact) will be proposed that can achieve the less altered classification. (275)
Response: It is implicit in the factors in Sec. 26-141b-5(c)(1)(A) (i) and (ii) that the review of a petition to change a river or stream system classification to a less altered classification must contain the justification to do so, however, requiring a flow management plan or compact is not necessary.
Recommended Change: None

Comment: In Sec. 26-141b-5(a)(12) "restoring stream flow patterns" should be replaced with "achieving ecological goals". (296)
Response: Achieving ecological goals is implicitly stated in this section. The narrative stream flow standards include goals for habitat conditions and aquatic life, therefore the current statement in Sec. 26-141b-5(a)(12) "Practicality of, and potential for, restoring stream flow patterns to achieve consistency with Stream Flow Standards" is directly aimed at achieving ecological goals.
Recommended Change: None

Comment: Sec. 26-141b-5(c)(1)(A) which pertains to petitioning to change classification from more altered to less altered, should require demonstration that there is no negative impact on a public water supply systems current or future margins of safety. In addition, demand management, a source water supply with an approved or final plan with DPH, water supply that may be deficit, or potential water supply should be included into the classification process itself. Provisions should be included in the adoption of classifications section (See Sec. 26-141b-5 (a)) similar to wording used in the change of classification section. (Sec. 26-141b-5(c)(1)(B)(iii) and (iv). (36)
Response: Under the proposed regulations, the Department may consider impact on water supply and any one or more of the factors outlined in Sec. 26-141b-5 (a) with regard to both the initial classification and a petition for classification change from a more altered to a less altered stream flow class.
Recommended Change: None

Comment: Delete Sec. 26-141b-5(c)(1)(D). This section requires identification of "the specific social needs of the municipality or municipalities within which the river or stream system is located that would not be met should the change in classification [to Class 4] not be approved..." There are many cases where the municipalities benefiting from a water withdrawal are not the same as the municipalities in which the stream is located. This provision of the regulations should be deleted. (296)
Response: The Department has received feedback from the working groups that recognized that communities where water from a particular river and stream system that benefits another municipality should have their societal need taken into consideration. This was one of the main arguments in the Waterbury v. Washington case that led to the development of the stream flow regulations.
Recommended Change: None

Comment: There should be a presumption against reduction in classification. Sec. 26-

141b-5(c)(D) requires an "overriding social or economic justification" for changing classification down to a Class 4. This should be applicable to all reductions in classifications, not just to Class 4. Any reduction in classification should only be temporary and be coupled with a plan that would allow the classification to be brought back up. (287)
Response: Class 4 is only reserved for cases where the best attainable condition may not achieve consistency with the narrative standard for Class 3 and therefore requires justification beyond that required for a change to Class 2 or 3. However, in any petition for change, the need for the change must be demonstrated.
Recommended Change: None

Comment: Prior to final adoption of the classification the Department of Public Health and the Department of Environmental Protection should form a 'Major Basin Flow Management Committee' which includes several State agencies, regional planning organizations and water utility control committee members to review and concur on the proposed final classifications by majority vote. (36)
Response: This process would be somewhat duplicative of the process proposed in the regulations to adopt stream flow classifications, especially as modified by proposed changes. All stakeholders and the general public would already have the opportunity to comment during the public participation period.
Recommended Change: None

SECTION 26-141b- 6: PRESUMPTIVE STANDARDS

Comment: The Department received a number of comments that collectively address the presumptive standard for dam owners and operators. The cost and complexity of implementing the regulation for dam owners and operators was a concern. In addition, some commenters highlighted the potential impact by reducing safe yield or available water of water supply reservoirs. Each of these comments is addressed separately in different sections of this report. This comment, response, and recommended change speak to these comments collectively. (56 comments including 297, 135, 136, 296, 38, 116, and 268)
Response: The Department has evaluated these collective comments and agrees that a change to the presumptive standard for dam owners and operators is warranted. These include increasing the time to comply with the presumptive standard to offset the cost of investing in the infrastructure necessary to comply with the presumptive standard to a minimum of eleven years; reducing the complexity by eliminating the variable wet/dry release for most five of the six bioperiods; maintaining the wet dry release during the rearing and growth bioperiod, the most sensitive and critical time of year for aquatic organisms.
Recommended Change: Increase time to comply with the presumptive standard for dam owners and operators from five years to 10 years in Sec. 26-141b-6(a). Simplify the Class 2 presumptive standard to 75% of the river or stream segments natural inflow for dam owners and operators. Eliminate the wet and dry release outside of the rearing and growth bioperiod for the Class 3 presumptive standard for dam owners and operators.

Comment: Raw water quality will be affected during the deep draw down periods mandated by the regulations. This will result in additional treatment costs, or degraded quality of finished water, or both. The consequences associated with the proposed regulations would be more frequent and severe reservoir drawdown which would cause increased temperatures, more frequent algae blooms along with oxygen depletions and highly variable habitats within the impoundments due to large fluctuations in reservoir levels. In an attempt to improve the aquatic environment in the downstream reaches, the regulations may result in detrimental impacts to aquatic life within the impoundments. In instances where recreational use of an impoundment is allowed, the opportunities for such use may be severely restricted due to reduced accessibility associated with large fluctuations in water levels. (116, 297)
Response: Water supply reservoirs are subject to significant water level fluctuations, and the primary purpose of a water supply reservoir is to provide for potable water, not provide for fish and wildlife habitat with the "man-made" reservoir. So there is in fact a trade-off that society has already made. The man-made reservoirs have already resulted in the conversion from one habitat to another (from stream to impoundment), making the protection of remaining stream segments of greater importance. Obviously the Department would be interested in reviewing all of the factors and reaching a conclusion based on the balancing of the various ecological and recreational factors associated with those instances where water supply reservoirs are used directly for recreational purposes (i.e. open to fishing, etc) and could be subject to greater water surface elevation fluctuation than exists currently. Note that the proposed changes discussed below to the presumptive standard should minimize the nature of issues raised by the commenter.
Recommended Change: None

Comment: The Department should simplify rules for reservoirs with small storage ratios (38,136, 212)
Response: The Department agrees and evaluated reservoirs with small storage volumes and proposes applying a minimum stream flow standard to reservoirs with useable storage <100 million gallons meets the balancing required of PA 05-142.
Recommended Change: Add Sec. 6-141b-6(a)(4)(C).

Comment: The Department should simplify rules for reservoirs that are used occasionally or only in cases of emergency (136)
Response: The Department agrees with this comment as long as the reservoirs are classified as inactive or for emergency use only and not being used for consumptive purposes.
Recommended Change: Add Sec 26-141b-3(c)(18).

Comment: The minimum flow of 0.1 cfsm stated in exemption #19 that exempts dams with upstream drainage area of < 3 square miles should not be required to exceed natural inflow (38, 212).
Response: The Department has determined that another section of the regulations is more appropriate for this requirement and agrees that adding the concept of not exceeding natural inflow should be added to the regulations in cases of a minimum stream flow. To be more consistent with the framework of natural flow variability using bioperiods developed in the proposed regulation, the Department evaluated using various flow durations as a minimum stream flow instead of 0.1 cfsm and determined that a comparable amount of stream flow could

be approximated using the Q80 for the Rearing and Growth Bioperiod. This approach ensures that specific factors that have been identified as important for predicting minimal flows such as subsurface geology and drainage area are used to calculate that minimally acceptable flow conditions.
Recommended Change: Strike Sec 6-141b-3(c)(19) and add Sec 26-141b-6(a)(4)(A).

Comment: Exemption #20, which allows a constant 0.1 cfsm flow release for stream segments between dams that are 1 mile or less in length, should be expanded to include stream segments between dams of any length, provided the affected reservoir(s) are part of the same reservoir system, and that the most downstream reservoir meets release requirements based upon total watershed size (38).
Response: The Department has determined that another section of the regulations is more appropriate for this requirement. The Department does not believe that exempting an unlimited amount of stream length between reservoirs in consistent with PA 05-142. To be more consistent with the framework of natural flow variability using bioperiods developed in the proposed regulation, the Department evaluated using various flow durations as a minimum stream flow instead of 0.1 cfsm and determined that a comparable amount of stream flow could be approximated using the Q80 for the Rearing and Growth Bioperiod. This approach ensures that specific factors that have been identified as important for predicting minimal flows such as subsurface geology and drainage area are used to calculate that minimally acceptable flow conditions. Note that a flow management compact is an alternative for a reservoir system and could include operational rules customized to a specific system.
Recommended Change: Strike Sec 26-141b-3 (c)(20) and add Sec 26-141b-6(a)(4)(B).

Comment: There should be a watershed size that is fully exempt (i.e., no release required), such as <1.5 square miles (38, 116).
Response: The required release for watersheds of this size is so small, that it will likely be met by leakage through the dam, and because changes have been made to say 'rearing and growth bioperiod Q80 or natural inflow, whichever is less," when the streams are intermittent, no releases would be required.
Recommended Change: None

Comment: A minimum stream flow of at least Q99 should be guaranteed by stopping diversions whenever a stream's flow reaches that level. (107)
Response: While this would be very protective of stream flow, it is not consistent with the concept of balance and providing for the needs and requirement of public health and safety as required by PA 05-142.
Recommended Change: None

Comment: Emergency contingency plan "triggers" that curtail downstream releases during critical events have been shown to be necessary to utilities' ability to preserve safe yield. It is important that these triggers be uniformly applied under all potential release rules, whether they are a more complex bioperiod-type standard or straight 0.1 cfsm release requirement. (116)
Response: The Department agrees that drought provisions should include not only Class 3 rivers, but Classes 2 and 4 as well.

Recommended Change: Change Sec. 26-141b-6(a)(5) to include subdivisions (2),(3), and (4).

Comment: Numerous comments were received regarding the maximum alteration standards for other structures, and particularly for groundwater withdrawals. These included the following major concerns: presumptive standards for other structures are too restrictive; diverters are limited to a very low flow over the entire rearing and growth bioperiod even when flows are high; no scientific evidence is presented to link the withdrawal impacts to biota impacts; utilities will be forced into site-specific studies and flow management plans because the groundwater restrictions are unmanageable. Some recommended actions to address the concerns were: allow greater withdrawals at higher flows; monitor stream flow at the well field during critical bioperiods and limit groundwater withdrawals only if stream flow drops below critical levels; ensure that groundwater withdrawals are cut back or eliminated during low flows when stress is greatest on trout and aquatic life. In addition specific suggestions were given to increase the Class 2 and Class 3 standards if stream flow exceeds certain flow durations and exempt wells with less than 2 square mile drainage areas, bedrock wells pumping < 250,000 gpd and wells in confined settings. Multiple commenters suggested that the Department focus only on wells that are shown to be causing flow impairment. (28, 105, 132, 136, 210, 212, 288)

Response: The maximum alteration standard for other structures was discussed and debated at length by the scientific and technical workgroup. Ideally, a diversion would be operated to maintain a certain specified flow in a stream or river, but managing such a diversion would require real-time stream gaging data for every location where there was a regulated diversion. It was recognized early in the development of the regulations that such an approach was not practical for every diversion, although it would be allowed through a flow management compact. Therefore, the presumptive maximum alteration standard proposed in the regulations was protective of in-stream flow and responsive to the fact that many other structures operate year-round with little storage capacity and limited ability to manipulate pumping rates to adjust stream flow impacts when flows are low. Being presumptive, the rule was by necessity conservative to address low flow conditions and did not provide for sharing of higher flows during the rearing and growth bioperiod for example.

The Department certainly recognizes that many wells and other structures have been in operation for years and the associated stream segments have not been significantly impacted. Therefore, the approach for other structures is being modified to require that diverter operate an other structure in a manner that minimizes the impact on stream flow while providing for legitimate needs and provide a mechanism to address impairments. If the commissioner determines that flow in a stream segment has been altered to the extent that the narrative standard for that segment is not being met, the commissioner may issue an order to the owner(s) or operator(s) of an other structure(s) to evaluate and mitigate the impact. The presumptive standards of Sec. 26-141b-6(b) would be available to the respondent to use as a benchmark that they are not violating the narrative standard. Additionally, through the order, alternative standards may be proposed, including site specific standards. This change relieves owners and operators from having to automatically evaluate and change their operational parameters but requires them to operate in an environmentally responsible way and allows the Department to focus on areas of flow impairment. It also provides flexibility in demonstrating that alternative standards may meet the narrative standards.

Recommended Change: Add new Sec. 26-141b-7: Other structures and commissioner determination and order, as discussed in the response above. Modify the language of Sec. 26-141b-6(b) to make clear that if a diverter can document that they meet the standard for an other structure than they meet the narrative criteria as part of a response to an administrative order from the commissioner.

Comment: It is a problem having the ground water methodology in the form of guidance, as it is not clear from the regulations how to treat ground water withdrawals. (28, 136)
Response: With the revised regulatory approach to other structures, the guidance becomes helpful to a regulated entity, but not part of determining compliance. The subject of the regulations is providing standards for stream flow. The methodology for assessing the impact of a given groundwater withdrawal on stream flow is site-specific and numerous methodologies may be applied. The guidance document was intended as a range of possible methodologies, but is not comprehensive or exhaustive in its treatment, nor can it be. Any assessment of impact of a groundwater withdrawal under an order will have to be scientifically justified.
Recommended Change: None

Comment: Need to have drought triggers for groundwater systems just as there are for dams. (28)
Response: The standard for maximum alteration allows that volume of water to be removed from the stream even under drought conditions, so drought provisions are not necessary.
Recommended Change: None

Comment: It is not clear for "other structures" how the phrase "on any day" is applied – eliminate this language (296)
Response: The Q99 statistic is a daily stream flow typically calculated on a cubic feet per second basis, and it was not intended to, for example, release the total volume of flow for a day over just a few minutes – it should be a continuous flow.
Recommended Change: Change "on any day" to "at all times" in Sec. 26-141b-6(b)(1)(A), (B) and (C).

Comment: The regulations would likely limit the amount of water available for public water suppliers, limiting the safe yield or available water of existing sources of supply, and reducing the margin of safety (MOS) for many public water supply systems. This could result in limits on new customer hook-ups, impact economic development and limit growth for new and existing businesses, impose more frequent and lengthy water use restrictions, require the development of new sources of supply and interconnection, and may limit regional water supply solutions. The regulations should consider the ability of the water supply system to maintain an adequate margin of safety and include special provisions, variances, or expansion of the timeframe for compliance to address MOS impacts. Systems which depend on small reservoirs and ground wells are particularly impacted on MOS. (56 comments including 27, 116, 135, 136, 212, 261, 268, 275, 276, 296, 297, 325)
Response: The Department agrees that specific provisions should be included in the regulations to mitigate impacts to MOS if margin of safety is of concern now or will be in the

near future, as long as the water suppliers manage service growth, take appropriate water conservation and source management measures, and pursue additional supplies.
Recommended Change: Add a MOS provision to the presumptive standards Sec. 26-141b-6(a)(6) to extend compliance timeframes for up to twenty years if MOS is of concern now or will be in the near future, with the water supplier taking appropriate water conservation measures, pursues additional sources of supply, and manages growth of the system.

Comment: Any applicant that is applying for a variation in stream flow standards should be required to notify the up- and down-stream people residing by the river as well as in the flood plain, and up- and down-stream communities' conservation officers as to the intended change. Included in the notification should also be groups protecting, conserving, recreating and concerned with those bodies of water. They should then be allowed input before any decision is made pro or con by the commissioner or the commissioner's agent. (12)
Response: A short-term variance is intended to respond quickly to an unusual situation, and it is reasonable for the commissioner, with all the Department's resources available to her, to make a decision as needed. For longer-term variances, a public notice is already required, but it is reasonable to add notice to the Chief Elected Official in each affected municipality. The Department will also post notice on our website when an application is received.
Recommended Change: Add notice to the Chief Elected Official in each affected municipality to Sec. 26-141b-6(c)(2).

Comment: The DEP's ability to apply conditions to variances should only apply to entities requesting the variance. DEP should not have the authority to issue basin wide or state wide withdrawal reductions or operational changes without the consent of the affected parties. (38)
Response: A variance is intended to provide relief from the required minimum release in unusual circumstances and the scope of the variance would be determined by the requesting party. If entities are able to maintain their required minimum releases in those circumstances, issuance of a variance would not prevent them from continuing to do so.
Recommended Change: None

Comment: Sec. 26-141b-6(c)(3)(A) requires rainfall statistics for the period of the requested variance compared to average rainfall over the preceding years – how are rainfall statistics for the future variance period determined? (296)
Response: Clarification is necessary.
Recommended Change: Modify Sec. 26-141b-6(c)(3)(A) to read: "Recent runoff or rainfall statistics as compared with average runoff or rainfall over preceding years;"

Comment: The variances that are currently proposed for reduced releases when certain drought triggers are realized will not adequately make up for the loss of safe yield. (325)
Response: The variance procedures are not intended to accommodate safe yield issues, but to respond to unusual, limited duration circumstances that may require a reduction in minimum releases, such as drought or some sort of catastrophic system failure. Note that other significant modifications have been made that will result in less impact on safe yield than the proposed regulation.
Recommended Change: None

Comment: It appears that petitions for variances to increase minimum releases or decrease maximum alteration are not allowed. We recommend amending this section to allow variances requests in both directions. We also urge the addition of (C) "Members of the public within the affected watershed." The public should be allowed to petition for a variance. The right to petition, in either direction, should not be limited only to the governor, state agencies and owner/operators. (275)
Response: As stated above, the variance is intended as relief for the regulated community in unusual or emergency situations. There is nothing restricting a regulated entity from releasing more than the minimum release, so a variance to increase the minimum required release is not necessary.
Recommended Change: None

Comment: We recommend that the DEP's authority in the regulations to issue variances include the allowance of site-specific stream flow management measures in lieu of the presumptive standards that do not warrant the expense and complexity of flow management compacts. (38)
Response: A variance is intended as a temporary measure in response to a specific situation. A flow management compact is a long-term alternative standard for the stream segment. However, changes are proposed to the flow management compact section (see below) to provide more flexibility.
Recommended Change: No further changes

Comment: Although the proposed regulations allow DEP to approve a variance, there are no guidelines included in the regulations that give water companies any indication of whether they would receive a variance. (297)
Response: Sec. 26-141b-6(c)(3) specifies factors that the commissioner may consider when determining whether or not to grant a variance. The commissioner also has authority to issue the variance in whole or in part with conditions. As discussed above, the purpose of the variance is to provide a timely response to a specific situation, and is included in the regulation for that purpose.
Recommended Change: None

SECTION 26-141b- 7: FLOW MANAGEMENT COMPACTS

Comment: Provide an additional, less cumbersome alternative compliance mechanism through use of "Site-Specific Flow Management Plans". Allowing owners and operators of dams and other structures to comply with the narrative standards by submitting for approval a "Site-Specific Flow Plan" to document how they will operate their system to be in compliance with the appropriate narrative standard. This would allow the Department to take into account specific situations where the particular configuration, situation of the dam or other structure or where other site-specific conditions make it not practical to operate as exactly prescribed under the presumptive standard. Limit the use of multi-party Flow Management Compacts to cases where compliance with the presumptive standards is not sufficient to meet the narrative standards for the river segment. Not all of the listed information will be appropriate for all proposals. (23, 38, 212, 275, 296, 297)

Response: Allowing for site-specific flow management compacts would provide additional flexibility for the regulated community.
Recommended Change: Modify Sec. 26-141b-8(b) to allow an individual to enter into a flow compact, while still accounting for other dams and other structures affecting flow. Modify the supporting documentation requirements for a flow management compact in Sec. 26-141b-8(c)(8)(C) to read "as applicable", adding flexibility to the requirements.

Comment: It is inappropriate to require that Flow Management Compacts that meet the narrative standards include best management practices to minimize flow alteration including conservation and water reuse (Sec. 26-141b-7(b)(3)). (296)
Response: Best management practices ensure that the flow management compact will meet the narrative standard, but more properly belongs not in Sec. 26-141b-8(b), but in Sec. 26-141b-8(c) as a consideration in the development and support of the compact.
Recommended Change: Move the requirement for consideration of best management practices to Sec. 26-141b-8(c)(7).

Comment: This section requires information on development density and the degree to which BMPs have been applied to minimize the impact of impervious surfaces on stream flow. While impervious cover can significantly impact stream flow it is outside the control of most water suppliers and inappropriate information to require in a flow management plan or compact. (296)
Response: This information may be appropriate where the municipality is part of a comprehensive, basin-wide compact, however, it may not always be applicable. Changes discussed above suggested adding "as applicable" to this listing.
Recommended Change: No further changes

Comment: Flow management plans are needed in the future and should be part of an overall, long-term water resource management plan for the watersheds within the state. Flow Management Plans should be evaluated, debated and vetted through the public process prior to promulgation of any regulations (382)
Response: Flow management compacts are voluntary and provide an alternative means of meeting the narrative flow standards. There is no need to require them or postpone implementation of the remainder of the regulations.
Recommended Change: None

Comment: The MDC encourages DEP to consider our request to accept the Wild and Scenic designation, in-stream flow analysis and resulting management plan as an option for a defined management plan. (303)
Response: A Wild and Scenic River designation with an approved In-stream Flow Study would likely fulfill most, if not all, of the requirements for a Flow Management Compact under section 8 of these regulations. However, the compact would need to be submitted for the commissioner's review and approval in accordance with the regulation. Given the flexibility allowed in flow management compacts, a separate exemption is not necessary.
Recommended Change: None

Comment: Although the regulations allow for public participation before DEP enters into a "flow management compact," *see* Regulations of Connecticut State Agencies Sec. 26-141b-7(1), there is no provision for the public to challenge the compacts if they do not adequately protect the river or stream system or are not likely to comply with the narrative standards. The regulations should provide an avenue for the general public to obtain a hearing and ruling if a "flow management compact" is insufficient. (330)
Response: A person who disagrees with the Department's actions on a flow management compact may seek recourse pursuant to the state's Uniform Administrative Procedure Act.
Recommended Change: None

SECTION 26-141b- 8: RECORD KEEPING AND REPORTING REQUIREMENTS

Comment: Sec. 26-141b-8(c)(1) should be changed to read as follows: "The daily amount of water diverted for each day of operation or, for a dam only, the daily amount of water released from the dam during the previous calendar year..." It should be made clear that under this regulation, dam owners are only required to keep records of water released, not water diverted. (38)
Response: Both dam owners and owners or operators of other structures are required to maintain the total volume of water diverted on each day of operation. Dam owners with consumptive diversions behind the dam are required to maintain both the total amount diverted and the total amount released from the dam on each day.
Recommended Change: None

Comment: The DEP should clarify whether "daily amount of water" refers to the total volume of water released, an average daily flow rate, or an instantaneous flow measurement taken on a daily basis. (38)
Response: This language can be clarified.
Recommended Change: Change "the daily amount of water diverted for each day…" to "the total volume of water diverted on each day…" in both Sec. 26-141b-9(c)(1) and Sec. 26-141b-9(c)(2).

Comment: Modify the monitoring requirements to be more reasonable and practical. The cost of the monitoring requirements can be significantly reduced while still furthering the basic intent of the regulations. We recommend that flow measurements only be required twice per month corresponding with the required evaluation of reference gage flow conditions. The proposed regulations require daily monitoring of all affected streams regardless of size. This comes with significant capital and operating expenses that are not justified by the potential benefits to the environment; Daily monitoring also implies that daily adjustments will be required to maintain the required flow rates. For streams that qualify for the exemption to release only 0.1 cfsm, presumptive compliance without the need for flow monitoring should be allowed if the release pipe is configured and sized to meet a minimum flow of 0.1 cfsm when natural inflow is equal to or greater than 0.1 cfsm. We recommend that a minimum of 5 business days after the 1st and 15th of each month be allowed to make release adjustments to allow adequate time for staff to review data and make changes and avoid the costly need to dedicate staff on weekends and holidays. The regulations should define allowable methods for

estimating and measuring releases and withdrawals and other relevant information that utilities will need to accurately assess financial impacts. Reasonable provisions should be built into the regulations allowing operators to self-correct occasional violations without risking enforcement action. The increased complexity and monitoring duties of these regulations will result in unknowing and unintended violations from time to time whether due to human error or technological failures. The March 2005 Waterbury Shepaug River Agreement contains a number of provisions that allow good faith efforts to remedy individual non-willful failures to meet daily release requirements without penalty. (38, 297)

Response: The statute obligates the Department to develop a regulations based on the best available science. Science is not static but evolves over time, driven by data. Therefore, the regulations must provide the data necessary to support this process. As proposed, the regulations do not require all diverters to provide daily stream flow measurements. What is required are data concerning the volume of water removed from the river or stream system by the diverter and, for dams, the volume of water released downstream. Water users covered under permits are required only to continue to report that data required by their permit. Registered diverters may modify their reporting requirements under the regulations by either acquiring a permit or entering into a flow management compact. Natural flows necessary to calculate release requirements for dams generally will not be measured directly by the dam owner but will be estimated by extrapolation from daily flow measurements at USGS gauges located on natural flowing streams since diversions upstream of the dam make it impossible to measure natural flows directly. Further, nothing in the regulations prohibits the DEP from accepting estimates of release volumes based on calculations involving release pipe sizes or other relevant information particularly where seepage represents a significant proportion of the total release volume. With regard to enforcement provisions, DEP has a long history of utilizing enforcement discretion to avoid penalizing those regulated for unknowing or unintended violations provided good faith efforts are made to achieve and maintain consistent compliance. It can be expected that this practice will be maintained.

Recommended change: No specific change is recommended in response to this comment. However, changes made to the proposed regulations to clarify and expand the type and number of activities exempted from regulations and to simplify the presumptive standards for dam releases serve to also address the concerns raised in this comment.

SECTION 26-141b- 9: CONFLICT AND SEVERANCE No comments were received on this section.

IX. FINAL WORDING OF THE PROPOSED REGULATIONS

STREAM FLOW STANDARDS AND REGULATIONS

The Regulations of Connecticut State Agencies are amended by adding sections 26-141b-1 to 26-141b-10, inclusive, as follows:

(NEW) **Section 26-141b-1. Short title.** Sections 26-141b-1 to 26-141b-10, inclusive, shall be known as the department's Stream Flow Standards and Regulations.

(NEW) **Sec. 26-141b-2. Definitions.** As used in sections 26-141b-1 to 26-141b-10, inclusive, of the Regulations of Connecticut State Agencies:

(1) "Anadromous" means a species of aquatic life that spawns in freshwater and migrates to salt water to complete its life cycle as an adult;

(2) "Antecedent period" means the fourteen consecutive days immediately preceding the date the required release is calculated pursuant to section 26-141b-6(a)(2) of the Regulations of Connecticut State Agencies;

(3) "Best management practices" means those practices, facilities or procedures which reduce the impact of human activity on natural stream flow;

(4) "Bioperiod" means the period during which certain biological processes dependent on stream flow rates occurs or is likely to occur;

(5) "Bioperiod Q25" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 25 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(6) "Bioperiod Q50" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 50 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(7) "Bioperiod Q80" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 80 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(8) "Bioperiod Q90" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 90 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(9) "Bioperiod Q95" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 95 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(10) "Bioperiod Q99" means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 99 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(11) "Classification map" means a map delineating the stream flow classification of river or stream segments within a specified geographic area;

(12) "Clupeid spawning bioperiod" means that period from May 1 to May 31, inclusive, of each year;

(13) “Commissioner” means the Commissioner of the Department of Environmental Protection or such commissioner’s designated agent or representative;

(14) “Community water system” means a “community water system” as defined in section 19-13-B102 of the Regulations of Connecticut State Agencies.

(15) "Dam" means “dam” as defined in section 22a-409-1 of the Regulations of Connecticut State Agencies;

(16) “Department” means the Department of Environmental Protection;

(17) "Diversion" means “diversion” as defined in section 22a-367 of the Connecticut General Statutes;

(18) "Divert" means “divert” as defined in section 22a-367 of the Connecticut General Statutes;

(19) “Geomorphic” means those landforms resulting from geologic processes;

(20) “Habitat forming bioperiod” means that period from March 1 to April 30, inclusive, of each year;

(21) “Interbasin transfer” means “interbasin transfer” as defined in section 22a-367 of the Connecticut General Statutes;

(22) “Margin of safety” means ”margin of safety” as defined in section 25-32d-1a of the Regulations of Connecticut State Agencies;

(23) “Maximum extent practicable” means able to be constructed or implemented consistent with sound science and engineering principles; and economically and otherwise reasonable in light of the social and environmental benefits to be gained;

(24) “Median natural flow” means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on fifty percent of days in a period of record calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(25) “Other structure” means, without limitation, any pump, well, siphon, probe, channel, intake or any device that causes water to be diverted and by so diverting has an impact upon the flow of surface water, and that is not a dam;

(26) “Overwinter bioperiod” means that period from December 1 to February 28 or February 29, inclusive, of each year;

(27) “Person” means “person” and “municipality” as these terms are defined in section 22a-423 of the Connecticut General Statutes;

(28) “Public water supply” means any surface or groundwater resource that provides water for **a** community water system.

(29) “Q99” means the naturally occurring daily stream flow that is predicted to be equaled or exceeded on 99 percent of days in a period of record calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(30) “Rearing and growth bioperiod” means that period from July 1 to October 31, inclusive, of each year;

(31) “Registration” means a document filed by a person in accordance with section 22a-368(a) of the Connecticut General Statutes that establishes the location of a diversion of surface or groundwater from a river or stream system in existence prior to 1982, the amount of that diversion, and the use of water diverted at that location;

(32) “Release” means the release of water from a dam of a satisfactory quality to provide for the preservation, protection, and propagation of fish and other forms of aquatic life and includes dam leakage, spillage return flow, and discharge from outlet works;

(33) “Resident spawning bioperiod” means that period from June 1 to June 30, inclusive, of each year;

(34) “River or stream segment” means a discrete, contiguous reach of river or stream channel for which a uniform classification has been adopted;

(35) “River or stream system” means the water in a river or stream channel, including all tributary streams that drain into and any groundwater that contributes flow to such river or stream;

(36) “Salmonid spawning bioperiod” means that period from November 1 to November 30, inclusive, of each year;

(37) "Source of supply" means any well, spring, reservoir, stream, river or other location where water is siphoned, pumped, channeled, or withdrawn for water supply purposes, including interconnections with other water companies;

(38) “Stratified drift” means “stratified drift” as defined in section 22a-354h of the Connecticut General Statutes;

(39) “Structure” means “other structure” as defined in this section of the Stream Flow Standards and Regulations;

(40) “Usable storage” means the difference between total storage volume of a water supply reservoir and the remaining volume below the minimum operational level, intake pipe

elevation, or water elevation above which water can be treated to meet drinking water quality standards, whichever is least;

(41) "Water conservation" means measures designed to promote efficient use of water, to eliminate waste of water, and to encourage the reuse of water; and

(42) “Water supply plan” means a plan filed and approved pursuant to section 25-32d of the Connecticut General Statutes.

(NEW) **Sec. 26-141b-3. Applicability.**

(a) The Stream Flow Standards and Regulations shall apply to all river or stream systems in this state.

(b) Any person owning or operating a dam or other structure that impounds or diverts the waters of a river or stream system or that affects the flow of water in such a system shall comply with the Stream Flow Standards and Regulations starting on the applicable effective date as prescribed by section 26-141b-6 of the Regulations of Connecticut State Agencies. Prior to any applicable effective date prescribed in section 26-141b-6 of the Regulations of Connecticut State Agencies, the minimum stream flow standards established in sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies shall remain in effect.

(c) Notwithstanding subsection (b) of this section, the following activities shall be exempt from the provisions of the Stream Flow Standards and Regulations:

(1) Hydroelectric power generation, provided such operation represents the principal purpose of the dam or other structure and operation is subject to the jurisdiction of the Federal Energy Regulatory Commission;

(2) Temporary inspection, maintenance, repair or modification to a dam or other structure, provided all federal, state and local authorizations have been obtained and are complied with;

(3) Diversion of water for fire emergency purposes;

(4) Operation of a government-maintained flood control dam for the protection of property;

(5) Operation of a dam that is not constructed on a river, stream or brook, and collects and temporarily stores stormwater runoff during storm events;

(6) Diversion from any of the following large, tidally-influenced rivers:

(A) Connecticut River from Wethersfield Cove to Long Island Sound;

(B) Housatonic River from the Orange/Milford town boundary to Long Island Sound;

(C) Pawcatuck River from Major Island at Clarks Village to Fishers Island Sound;

(D) Quinnipiac River from the Route 40 bridge in North Haven to New Haven Harbor;

(E) Thames River; and

(F) Poquonock River;

(7) One or more wells joined in one system whose combined maximum withdrawal of water does not exceed fifty thousand gallons of water during any twenty-four-hour period;

(8) A maximum withdrawal that does not exceed fifty thousand gallons of surface water during any twenty-four-hour period;

(9) Temporary diversion of water incidental to testing the production capability of a well or the quality of water withdrawn therefrom, provided the diversion continues no longer than is necessary for testing the production capability of the well or the quality of water withdrawn therefrom;

(10) Diversion of water authorized by the commissioner pursuant to 33 U.S.C. § 1326;

(11) Diversion of water in a manner and degree that is specified by order of the commissioner for the abatement of pollution pursuant to sections 22a-133e, 22a-424, 22a-428, 22a-430, 22a-431, 22a-432, 22a-449 or 22a-451 of the Connecticut General Statutes, or as specified in approved plans submitted pursuant to such an order;

(12) Diversion of water caused by drawing down the surface elevation of an impoundment and subsequent refilling for the purpose of aquatic weed control, water quality control, seasonal drawdown, or inspection or maintenance of a dam, gate house, outlet works, reservoir, shoreline or dock, provided:

(A) the surface elevation of the impoundment is lowered only to the elevation and for the amount of time necessary for aquatic weed control, water quality control, or inspection or maintenance of dam, gate house, outlet works, reservoir, shoreline or dock; and

(B) during drawdown and refilling periods, water is continuously released in an amount no less than the minimum of either the rearing and growth bioperiod Q80 or the natural inflow of water;

(13) Diversion of surface waters by the Connecticut Department of Transportation incidental to highway construction authorized by the commissioner pursuant to sections 22a-32, 22a-39, 22a-342, 22a-361, 22a-403 or 25-68b to 25-68h, inclusive, of the Connecticut General Statutes;

(14) Diversion operated in compliance with a diversion permit issued by the commissioner pursuant to sections 22a-368 or 22a-378a of the Connecticut General Statutes;

(15) Diversion subject to a flow management plan contained in a resolution, agreement or stipulated judgment to which the state, acting through the commissioner, is a party and effective as of October 1, 2005, or the management plan developed pursuant to section 3 of Public Act 00-152;

(16) Diversion operated in compliance with a flow management compact approved by the commissioner pursuant to section 26-141b-8 of the Regulations of Connecticut State Agencies;

(17) Operation of a dam designed and constructed for the primary purpose of providing temporary detention of stormwater during and immediately following a storm event;

(18) Operation of a dam such that, unless the Commissioner of Public Health determines that a water supply emergency exists, no active manipulation of the storage of water occurs behind the dam and no withdrawal of water occurs from within the impoundment, and only if such dam complies with the recordkeeping and reporting requirements of subsections (a) and (b) of section 26-141b-9 of the Regulations of Connecticut State Agencies; or

(19) Operation of an other structure diverting water from a reservoir, provided (A) the operation of the dam forming the reservoir meets the requirements of subsection (a) of section 26-141b-6 of the Regulations of Connecticut State Agencies, and (B) the recordkeeping and reporting requirements of section 26-141b-9 of the Regulations of Connecticut State Agencies are met.

(NEW) **Sec. 26-141b-4. Narrative standards.**

(a) A river or stream segment classified as “Class 1” pursuant to the Stream Flow Standards and Regulations shall exhibit, at all times:

(1) The depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community characteristic of that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) The natural variation of flows and water levels characteristic of systems that have not been altered by human activity.

(b) A river or stream segment classified as "Class 2" pursuant to the Stream Flow Standards and Regulations shall exhibit, at all times:

(1) The depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community minimally altered from that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) Near-natural variation of flows and water levels characteristic of systems that have been minimally altered by human activity.

(c) A river or stream segment classified as "Class 3" pursuant to the Stream Flow Standards and Regulations shall exhibit, at all times:

(1) The depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community moderately altered from that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) Sufficient variation of flows and water levels characteristic of systems that have been moderately altered by human activity.

(d) A river or stream segment classified as "Class 4" pursuant to the Stream Flow Standards and Regulations may exhibit substantially altered stream flow conditions caused by human activity to provide for the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture and other lawful uses; and shall exhibit to the maximum extent practicable:

(1) The depth, volume and velocity of stream flow achievable through the application of best management practices; and

(2) The variation of flows and water levels characteristic of river and stream systems that have been altered by human activity giving consideration to the social needs, economic costs, and environmental impacts associated with achieving and maintaining consistency with the narrative standard for Class 3 river and stream

segments. The social needs, economic costs, and environmental impacts to be considered shall include, but not be limited to:

(A) Extent of prior channel modification;

(B) Current impact of development and impervious cover in the watershed;

(C) Overriding social needs that cannot otherwise be met;

(D) 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;

(E) Associated environmental impacts to other river or stream segments; and

(F) Existing biological community.

(NEW) **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) 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;

(2) 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;

(3) 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;

(4) 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;

(5) Planned land use in the upstream watershed, as contained in a local or state plan, 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 ;

(6) 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;

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

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

(9) 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;

(10) 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;

(11) River or stream systems or segments thereof that have been identified as a potential source of water supply in a coordinated water system plan prepared in accordance with section 25-33h of the Connecticut General Statutes or a current water supply plan approved by the Commissioner of Public Health, 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;

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

(13) Any other factor that the commissioner reasonably deems necessary.

(b) Public participation. After development of a map of proposed classifications, the commissioner shall provide notice to the public of the proposed classifications of such river or stream segments and offer opportunity for public comment.

(1) Notice of the proposed classifications and opportunity to comment shall be published in a newspaper with general circulation in the area within which the river or stream system is located, and on the department's web site.

(2) Notice shall also be provided to the following:

(A) The chief elected official in those municipalities within which the river or stream system is located;

(B) The executive director of the Council of Environmental Quality;

(C) The commissioners of the Department of Public Health, Department of Agriculture, and Department of Public Utility Control;

(D) The Secretary of the Office of Policy and Management;

(E) Persons, at any such person's last known address as filed with the department, holding a registration or permit issued by the department authorizing activities that are known or suspected to alter the flow of water in the system for which classifications have been proposed; and

(F) Regional planning organizations, as defined in section 4-124i of the Connecticut General Statutes.

(3) Procedure for submitting comments

(A) The public shall have no fewer than 90 days from the date of newspaper publication of notice to submit comments on the proposed classification of any river or stream segment identified in such notice.

(B) An additional comment period of no fewer than 60 days shall be provided for the limited purpose of receiving comments within the scope of comments previously received pursuant to subparagraph (A) of this subdivision. Any additional comments shall be accompanied by a statement identifying the comment or comments submitted pursuant to subparagraph (A) of this subparagraph to which the additional comment is responding.

(C) To the extent reasonable, all comments received by the commissioner shall be posted on the department's web site.

(D) The submission of additional comments exceeding the scope of comments received pursuant to subparagraph (A) of this subdivision will not be considered by the commissioner or posted on the department's website unless: (i) such comment is accompanied by a statement as to the comment's relevance and the reason the comment was not submitted earlier; and (ii) the commissioner finds that the comment is relevant and material and there was good cause for the failure to offer such comment earlier. If an additional comment exceeding the original scope of comments submitted pursuant to subparagraph (A) of this subdivision is accepted by the commissioner, the commissioner shall provide notice to the public on the department's website that the public shall have no fewer than fourteen days to respond to such additional comment.

(4) Following the timely submission of public comments pursuant to subsection (b) of this section, the commissioner shall: (A) consider such comments and adopt classifications for the river or stream system or segment thereof as identified in the newspaper notice; and (B) prepare a document, to be published on the department's website, 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.

(5) Notice of the adopted classification of any river or stream system or segment shall be published in the Connecticut Law Journal and such publication date shall be the effective date for purposes of implementing the Stream Flow Standards and Regulations for such river or stream system or segment.

(c) Petition to change classification. After the first effective date of classification for a river or stream system or segment, the commissioner may at any time consider from any person a written petition to change the classification of a river or stream system or segment thereof or review whether current classifications continue to be appropriate and, if not, propose any classification changes as necessary.

(1) Demonstration of need for classification change

(A) Any petition to change the classification of a river or stream system or segment thereof from a more altered to a less altered classification shall include a demonstration that:

(i) one or more of those factors identified in subsection (a) of this section as having relevance with respect to the original classification of that river or stream system have changed or were mischaracterized at the time of the original classification by the commissioner; and

(ii) the river or stream system currently exhibits a pattern of flow that is consistent with the narrative stream flow standard for the proposed classification.

(B) Any petition to change the classification of a river or stream system or segment thereof from a less altered to a more altered classification shall include a demonstration that:

(i) such change is necessary to accommodate the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture, or other lawful uses and that those needs and requirements cannot be satisfied while maintaining consistency with the narrative stream flow standard for the current classification;

(ii) one or more of those factors identified in subsection (a) of this section as having relevance with respect to the original classification of that river or stream system have changed or were mischaracterized at the time of the original classification by the commissioner;

(iii) alteration of the stream flow pattern has been and will continue to be minimized to the maximum extent practicable through the application of best management practices, including but not limited to water conservation practices and water reuse; and

(iv) alternative sources of water, including interbasin transfers and development of new sources currently not utilized, have been and will continue to be utilized to the maximum extent practicable.

(C) For a river or stream system currently exhibiting a stream flow pattern consistent with the stream flow standard for its current classification, the petition shall, in addition to those items enumerated in subparagraphs (A) or (B) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies, as applicable, include a copy of the completed application for each new or expanded activity proposed in the river or stream system for which a diversion permit is required under Chapter 446i of the Connecticut General Statutes if the proposed change in classification is required to accommodate such activities.

(D) For river or stream system or segment thereof for which a change in classification to Class 4 is sought, the petition shall, in addition to those items enumerated in subparagraph (B) of section 22a-141b-5(c) of the

Regulations of Connecticut State Agencies, include a demonstration that there is overriding social or economic justification for changing the classification of the river or stream system or segment, including identification of the following:

(i) the specific social needs of the municipality or municipalities within which the river or stream system is located that would not be met should the change in classification not be approved and which can not otherwise be satisfied; and

(ii) the specific economic impacts likely to substantially impair or otherwise detrimentally affect the economy of the community or the state that would occur should the change in classification not be approved.

(2) Commissioner action on petitions

(A) The commissioner shall deem incomplete and reject for insufficiency any petition that does not include a prima facie demonstration as required by subdivision (1) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies.

(B) The commissioner shall substantively review, after consultation with the Commissioner of Public Health, any petition that includes a prima facie demonstration as required by subdivision (1) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies. The commissioner shall thereafter reject the proposed classification or modify the existing classification.

(C) Notwithstanding section 26-141b-5(c)(2)(B) of the Regulations of Connecticut State Agencies, the commissioner may reject without prejudice any petition submitted less than three years after the last effective date of classification for a river or stream system or segment thereof.

(D) Petitions to change classifications shall be subject to the requirements of subsection (b) of this section, except that the person submitting a petition shall publish notice of any proposed classification and of the opportunity to comment on such proposal in a newspaper of general circulation in the area of the river or stream system that will be affected by any classification change.

(NEW) **Sec. 26-141b-6. Presumptive standards.**

(a) Not later than ten years after a river or stream segment's effective date of classification, dam owners or operators shall comply with the following:

(1) Operate all dams such that, unless the Commissioner of Public Health determines that a water supply emergency exists, no active manipulation of the storage of water occurs behind the dam and no withdrawal of water occurs from within the impoundment, if the release is into a river or stream segment designated as Class 1.

(2) Release a continuous seventy-five percent of the river or stream system's natural inflow if the release is into a river or stream segment designated as Class 2. Such release shall be calculated and the release rate adjusted, if necessary, on the first day and the fifteenth day of every month unless such day falls on a weekend or holiday in which case the required release shall be calculated and the release rate adjusted on the next business day.

(3) Release the following minimum continuous flow if the release is into a river or stream segment designated as Class 3:

Bioperiod	**Effective Dates**	**Minimum Required Release**	
		Antecedent Period Dry	**Antecedent Period Wet**
Overwinter	Dec 1- Feb 28/29	Bioperiod Q95	
Habitat Forming	Mar 1 – Apr 30	Bioperiod Q95	
Clupeid Spawning	May 1 – May 31	Bioperiod Q95	
Resident Spawning	June 1 – June 30	Bioperiod Q90	
Rearing and Growth	July 1- Oct 31	Bioperiod Q80	Bioperiod Q50
Salmonid Spawning	Nov 1 – Nov 30	Bioperiod Q90	

(A) The required release shall be calculated and the release rate adjusted, if necessary, on the first day and the fifteenth day of every month unless such day falls on a weekend or holiday in which case the required release shall be calculated and the release rate adjusted on the next business day.

(B) The wet period release is required when the median natural flow during the antecedent period equals or exceeds the bioperiod Q25.

(C) The dry period release is required when the median natural flow during the antecedent period is less than the bioperiod Q25.

(4) Notwithstanding subdivisions (2) and (3) of subsection (a) of this section:

(A) Release a minimum of the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less, for a dam that impounds a river or stream system with an upstream, natural drainage area of three square miles or less;

(B) Release a minimum of the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less, for a dam that releases to a river or stream system that flows for a distance of one mile or less before discharging into an impoundment, and provided releases from the downstream dam, or the most downstream dam if in a series, comply with subdivision (3) of subsection (a) of this section; or

(C) Release a minimum of the rearing and growth bioperiod Q80 or the natural inflow of water, whichever is less, for a dam that impounds a reservoir with usable storage of 100 million gallons or less.

(5) If subject to section 25-32d of the Connecticut General Statutes and regulations adopted thereunder, may reduce the minimum release required pursuant to subdivisions (2), (3) and (4) of subsection (a) during certain drought phases. These drought phases, as defined in the dam owner's water supply plan, shall trigger the following reduced releases:

Water Supply Plan Trigger	**Percentage of Required Dry Release**	
	Rearing & Growth Bioperiod	**All Other Bioperiods**
Drought Advisory	100%	75%
Drought Watch	50%	50%
Drought Warning	25%	25%
Drought Emergency	No Release Required	No Release Required

(6) If subject to section 25-32d of the Connecticut General Statutes and regulations adopted thereunder and at any time after a river or stream segment's effective date of classification, may request from the commissioner an extension of time to come into compliance with the provisions of subsection (a) of this section if the following conditions are met:

(A) Such dam owner or operator may request and the commissioner may grant an extension that is no longer than the amount of time remaining before compliance is required pursuant to the provisions of subsection (a) of this section.

(B) If owning or operating a dam where the community water system's margin of safety, as determined by the Department of Public Health, is less than 1.15, the following best efforts to minimize stream flow impacts shall apply:

(i) The community water system is in compliance with its diversion registration or permit;

(ii) The community water system is complying with the minimum stream flow pursuant to sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies;

(iii) The community water system has instituted, as appropriate, the following mechanisms:

(a) Water conservation;

(b) A plan to manage service growth;

(c) Balancing use of different sources of supply, including interconnections, that may impact a river or stream segment differently;

(d) All sources of supply and customers are metered; and

(e) Active pursuit of additional sources of supply; and

(iv) Any additional water supplies developed by the community water system shall be applied toward the margin of safety until a margin of safety of 1.15 is achieved.

(C) Such request for a time extension shall be made in writing to the commissioner and shall contain information sufficient for the commissioner to give adequate consideration to the required conditions in subparagraph (B) of this subdivision. The commissioner may require additional information prior to acting on such a request.

(b) Any owner or operator of an other structure that has been ordered by the commissioner to evaluate the impact of any diversion on a river or stream segment pursuant to section 26-141b-7 of the Stream Flow Standards and Regulations may demonstrate that the river or stream segment meets the narrative standards of section 26-141b-4 of the Stream Flow Standards and Regulations, if the maximum alteration below is met:

(1) For a Class 1 river or stream segment, limit at all times the maximum alteration of stream flow to an amount less than or equal to 0.05 multiplied by the annual Q99. For illustrative purposes:

$$\text{Maximum alteration} \leq (0.05)(Q99_{annual})$$

(2) For a Class 2 river or stream segment, limit at all times the maximum alteration of stream flow to an amount less than or equal to 0.25 times the annual Q99 multiplied by the ratio of the Q99 for the current bioperiod to the Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Maximum alteration} \leq [(0.25)(Q99_{annual})] \times \frac{Q99_{\text{current bioperiod}}}{Q99_{\text{rearing \& growth bioperiod}}}$$

(3) For a Class 3 river or stream segment, limit at all times the maximum alteration of stream flow to an amount less than or equal to 0.50 times the annual Q99 multiplied by the ratio of the Q99 for the current bioperiod to the Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Maximum alteration} \leq [(0.50)(Q99_{annual})] \times \frac{Q99_{\text{current bioperiod}}}{Q99_{\text{rearing \& growth bioperiod}}}$$

(c) Variances

(1) The commissioner may issue a variance to reduce the minimum release required pursuant to subsection (a) of this section if requested by either:

(A) The commissioner of any state agency or the Governor; or

(B) The owner or operator of a dam.

(2) A request for a variance under this subsection shall contain information sufficient to allow the commissioner to give adequate consideration to the effect of the operation of the dam under such a variance on the river or stream system in question. The commissioner may require additional information prior to acting on such a request. If the requested variance is for a period longer than 90 days, the requester shall, at the same time a request is submitted to the commissioner and in a form as prescribed by the commissioner, (A) publish notice of the request in a newspaper of general circulation in the area of the river or stream system that will be affected by the variance, and (B) notify the chief elected official of each municipality that will be affected by the variance.

(3) In determining whether to grant the requested variance under this section, the commissioner shall evaluate consistency of the proposed variance with the appropriate narrative standard for the river or stream system in accordance with section 26-141b-4 of the Regulations of Connecticut State Agencies. The commissioner may also consider the following factors:

(A) Recent runoff or rainfall statistics for the period in question as compared with average runoff or rainfall over preceding years;

(B) Impoundment levels or volume of diversion as compared with levels or volumes at the same season in previous years;

(C) Peculiar or unusual demand situations or requirements to protect water quality;

(D) Peculiar or unusual water capture problems;

(E) Unusual health, safety, power, or other crises imposing increased demands on water supplies; and

(F) If notice was published by the requester, any comments received in response to such notice.

(4) The commissioner may issue the requested variance in whole or part, on an individual, basin-wide or state-wide basis, and may include any condition, such as time limitations, deemed necessary.

(d) Notwithstanding subsection (a) of this section, and after the first effective date of classification for a river or stream segment or system, the release requirements for any classification change made to such segment or system resulting from a petition or the commissioner's initiative shall be effective immediately.

(e) After the first effective date of classification for a river or stream segment or system, the department, in issuing a permit pursuant to section 22a-368(b) of the Connecticut General Statutes to authorize the diversion of surface or groundwater from such segment or system, or in renewing or modifying such a permit, shall consider such classification.

(NEW) Sec. 26.141b-7. Other structures; commissioner determination and order.

(a) Not later than ten years after a river or stream segment's effective date of classification, an owner or operator of an other structure shall operate such other structure in a manner that minimizes the impact on stream flow to the maximum extent practicable, while still providing for the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture and other lawful uses.

(b) If a written determination is made by the commissioner that flow in a river or stream segment has been altered to the extent that such segment is not meeting the narrative standards of section 26-141b-4 of the Stream Flow Standards and Regulations, the

commissioner may order, in accordance with section 26-141c of the Connecticut General Statutes, any or all of the owners or operators of any other structure to:

(1) Determine the impact the diversion of water from such other structure may have on stream flow for such river or stream segment;

(2) Evaluate and recommend measures for the commissioner's approval that reduce the impact of the diversion from such other structure for such river or stream segment. Measures that shall be evaluated include, but are not limited, to:

(A) Water conservation;

(B) Balancing use of different sources of supply, including interconnections, that may impact a river or stream segment differently; and

(C) Additional infrastructure storage.

(3) Implement measures approved by the commissioner that minimize stream flow impacts such that the river or stream segment meets the narrative standards; and

(4) Take any other action that the commissioner reasonably deems necessary.

(c) Any owner or operator of an other structure that has been ordered by the commissioner to evaluate the impact of any diversion on a river or stream segment pursuant to subsection (b) of this section may demonstrate that the river or stream segment meets the narrative standards of section 26-141b-4 of the Stream Flow Standards and Regulations, provided that the applicable maximum alteration provided in section 26-141b-6(b) of the Stream Flow Standards and Regulations is met.

(NEW) **Sec. 26-141b-8. Flow management compacts.**

(a) Any person may, at any time after a river or stream segment or system's effective date of classification, develop and propose for the commissioner's approval a flow management compact.

(b) A flow management compact must demonstrate that when fully implemented:

(1) All river or stream segments covered by such compact's geographic area will meet the narrative standards;

(2) Persons that are parties to the compact and that own or operate dams or other structures that affect stream flow within the compact's geographic area will adhere to an enforceable limit of maximum alteration or minimum release of water;

(3) The maximum alteration or minimum release of water, as required by the Stream Flow Standards and Regulations or any other applicable law, for persons that own or operate dams or other structures that affect stream flow within the compact's geographic area and that are not parties to the compact will be factored into the compact;

(4) The parties to the compact will maintain all operating records for a minimum of fifteen years and such records shall be submitted to the commissioner not later than thirty days following a written request for such records. Upon notification by the department that an electronic reporting system is available for use, operators and owners shall commence the annual submittal of data electronically as prescribed by the commissioner.

(c) A proposal for a flow management compact shall include the following information:

(1) The geographic area of the compact as defined in terms of a river or stream system or segments;

(2) The river or stream system or segments and their classifications;

(3) A list of persons covered under the compact;

(4) Authorized or permitted diversions of all persons within the geographic area of the compact;

(5) Current maximum withdrawal or minimum dam releases of persons covered under the compact;

(6) Alternative water allocations and operational restrictions necessary to meet the Stream Flow Standards and Regulations;

(7) Best management practices, including but not limited to water conservation practices and water reuse, that are or will be implemented in order to minimize alteration of the natural flow pattern;

(8) Supporting documentation demonstrating that any proposed alternatives to the presumptive standards will be sufficient to meet the narrative standards for each classified river or stream segment within the compact, including the following:

(A) Information submitted by persons owning or operating dams or other structures within the river or stream system, including any planned improvements that, once implemented, can reasonably be expected to achieve consistency with the compact;

(B) Results of any biological or habitat studies performed within the river or stream system or in comparable systems demonstrating the effect of stream flow characteristics on natural aquatic habitat and the composition of the aquatic biological community; and

(C) Results of any modeling or other scientific investigations or readily available, credible information that the commissioner deems relevant to estimating the collective impact of dams and other structures that impound or divert the flow of water, including those dams and other structures that are located in the river or stream system upstream from those river or stream segments where the commissioner finds that stream flow patterns are not consistent with narrative or presumptive stream flow standards. The proposal for a flow management compact shall provide the following additional information, as applicable:

(i) the geographic locations of dams and other structures that impound or divert the flow of water;

(ii) the separation distance between any groundwater extraction wells and the river or stream channel;

(iii) the sub-surface geology, particularly the presence or absence of stratified drift deposits or other geological features that may influence the movement of water between surface and groundwater contributing to the flow pattern;

(iv) any enforceable restrictions or conditions placed upon the extraction of water contained in any registration, permit or other written agreement that may serve to mitigate the impact of the extraction on flow in the river or stream system;

(v) development density and the degree to which best management practices have been applied to minimize the impact of impervious surfaces on the natural stream flow pattern;

(vi) return flow of water or treated wastewater that alter stream flow patterns in the river or stream system; and

(vii) a natural stream flow pattern to be equivalent to the pattern described by a synthetic hydrograph of daily stream flow values derived using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner for the purpose of calculating the

naturally occurring annual and bioperiod stream flow statistics necessary to evaluate consistency with these stream flow standards;

(9) An implementation schedule; and

(10) Any other information deemed necessary by the commissioner.

(d) The commissioner shall not approve a proposed flow management compact unless it considers the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture and other lawful uses.

(e) The commissioner may, at any time during the implementation of an effective compact, modify or terminate a compact if the implementation of such compact does not meet narrative standards. A stream flow management compact approved by the commissioner shall be effective for up to twenty years, after which period such compact may be reapproved. Persons that were parties to a compact terminated by the commissioner shall immediately comply with the Stream Flow Regulations and Standards, as applicable.

(f) Prior to the re-approval of a compact or the commissioner's intent to approve, modify or terminate a compact, the procedure for public notice and opportunity for public comment pursuant to section 26-141b-5(b) of the Regulations of Connecticut State Agencies shall apply, except that the person seeking commissioner action on a compact shall be responsible for publishing notice in a newspaper of general circulation in the area of the river or stream system that will be affected by the compact and the Connecticut Law Journal. A decision by the commissioner to approve, re-approve, modify or terminate a compact is effective upon the publication date in the Connecticut Law Journal of notice of such decision. On such effective date, all parties to the compact shall adhere to the requirements and implementation schedule as indicated in the compact.

(g) Non-compliance with any provision of an approved stream flow management compact by any person that is a party to such compact shall immediately subject all persons that are parties to the compact to the Stream Flow Standards and Regulations unless the commissioner is notified of such non-compliance and the parties to the compact remedy the non-compliance in a timely fashion, as determined by the commissioner.

(NEW) **Sec. 26-141b-9. Record keeping and reporting requirements.**

(a) Any person owning or operating a dam or other structure subject to the Stream Flow Standards and Regulations shall, not later than one year after the effective date of classification for a river or stream segment on which such owner's dam or other structure is located, submit to the department on a form prescribed by the commissioner the following information:

(1) The name of the dam or other structure;

(2) The permit or registration number assigned to the dam or other structure pursuant to section 22a-368 of the Connecticut General Statutes;

(3) The geographical location of the dam or other structure in latitude and longitude (degrees, minutes, seconds);

(4) The affected river or stream system or segment thereof and their classifications;

(5) The name, address and telephone number of the owner or operator of the dam or other structure;

(6) A certification that the owner or operator will continue to meet sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies, if applicable; and

(7) A statement that the owner or operator has a plan for making those necessary infrastructure changes necessary to comply with the five-year timeframe established in subdivision (2) of subsections (a) and (b) of section 26-141b-6, if such timeframe is applicable.

(b) Any person owning or operating a dam that is exempted pursuant to subdivision (18) of subsection (c) of section 26-141b-3 of the Regulations of Connecticut State Agencies shall submit to the department a certification that such dam is operating and will continue to operate pursuant to the requirements of such exemption, not later than: (1) ten years after the effective date of classification of the river or stream segment on which such owner's or operator's dam is located; (2) if changing a dam's operation to meet such exemption ten years after such effective date, six months after such dam's change of operation; or (3) if dam ownership changes, six months after the date of ownership change.

(c) Any person subject to the Stream Flow Standards and Regulations shall, not later than five years after the effective date of classification of the river or stream segment on which such owner's or operator's dam or other structure is located, maintain the following information:

(1) The total volume of water diverted on each day of operation and, for a dam only, the total volume of water released from the dam on each day during the previous calendar year; and

(2) The total volume of water returned to the river or stream system on each day and the geographical location in latitude and longitude of said return.

(d) All operating records shall be maintained for a minimum of fifteen years and such records shall be submitted to the commissioner not later than thirty days following a written request for such records. Upon notification by the department that an electronic reporting system is

available for use, operators and owners shall commence the annual submittal of data electronically as prescribed by the commissioner.

(NEW) **Sec. 26-141b-10. Conflict and severance.**

(a) Where there is a conflict between the provisions of the Stream Flow Standards and Regulations and those of any other applicable ordinance, regulation or permit, the provisions of the ordinance, regulation or permit that imposes the most stringent requirements shall govern.

(b) The invalidity of any word, clause, sentence, section, part or provision of the Stream Flow Standards and Regulations shall not affect the validity of any other part that can be given effect without such invalid part or parts.

Statement of Purpose:

The purpose of the proposed regulations is to provide for the protection of Connecticut's river and stream systems by establishing stream flow standards that apply to (or exempt by regulation) all river and stream systems in the state. These proposed rules eventually replace the existing requirements found in the Minimum Stream Flow Standards and Regulations of the Connecticut Department of Environmental Protection, sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies.

The proposed regulations balance the needs of humans to use water for drinking and domestic purposes, fire and public safety, irrigation, manufacturing, and recreation, with the needs of fish, wildlife and other biota that also rely upon the availability of water to sustain healthy, natural communities. The regulations provide a framework considering the best available science to balance the human and ecological needs for water both through classification and operational rules, provide for public notice and input into the process, and provide a phased implementation of regulatory requirements to encourage and support water planning and conservation efforts. Finally, these rules protect Connecticut's river and stream systems by promoting better, more efficient management of our water supplies, so that all needs, both human and ecological, can be met both today and in the future.

The proposed regulations include the following provisions:

(1) Section 26-141b-1 – Short title for the proposed regulations;

(2) Section 26-141b-2 – Definitions. These include terms such as "bioperiod," "dam," "river or stream segment," "river or stream system," and "structure";

(3) Section 26-141b-3 – Applicability and exemptions. There are exemptions for safety, such as fire or drought emergencies and dam inspections; limited or short term water use, such as withdrawals less than 50,000 gallons per day, temporary stormwater detention and well capacity testing; permitted withdrawals; and other activities such as pollution abatement;

(4) Section 26-141b-4 – Narrative standards. This section establishes stream flow classifications and the narrative goals for those stream classes, based on the natural variation of stream flows, and on the existing and planned degree of human alteration to the streams. The proposed stream flow standards incorporate the concept of balancing human and ecological needs for water by establishing different flow standards for each of four categories or classes of waters. In Class 1 waters, priority is given to protecting ecological health. In Class 4 waters, support of human activities is weighted most heavily, but with the goal of eventually achieving Class 3 waters. Class 2 and Class 3 waters have intermediate balance points between ecological and human uses. The flow standards for each class are based on maintaining, to various degrees, the natural variation in flow expected in Connecticut given seasonal climate and rainfall patterns;

(5) Section 26-141b-5 – Adoption of river or stream system classifications. This section sets out the adoption process for stream flow classifications, including the physical, natural and human factors for classification, the public participation process, and the petition process for changes. The factors the commissioner, in consultation with the Commissioner of Public Health, will consider when determining a classification for a river or stream segment include, but are not limited to, the following: size and location of surface and groundwater withdrawals; size and location of planned future withdrawals, including potential sources for public water supply; size and location of dams and impoundments; size and location of water and wastewater discharges; existing and proposed development; presence of flow-sensitive aquatic life; anadromous fish runs, trout management areas, and other recreational resources; location of US Geological Survey natural reference stream gages; designated open space protected areas; and physical habitat restoration potential. A map of the proposed classifications will be publicly noticed and ample opportunity for public comment is incorporated into the requirements. The commissioner will take such comments into consideration before finalizing the classifications, which will then be published. A petition process to request changes to the classification (to either a more altered or less altered class) is included, along with factors for consideration and public comment;

(6) Section 26-141b-6 – Presumptive standards. This section sets out presumptive, numeric flow standards for each class based on seasonable flow criteria and type of flow altering activity. This includes specific release requirements for dams to maintain a minimum stream flow, and provides that an owner or operator ordered to evaluate and mitigate an impact by the commissioner may demonstrate that other structures such as wells or pumps meet the narrative standards by complying with specific maximum stream flow alteration

standards. Implementation timeframes, drought relief, time extension to meet the required margin of safety, and variance provisions are also included;

(7) Section 26-141b-7 – Other structures; commissioner determination and order. This section underscores the commissioner's pre-existing statutory authority to order an owner or operator of an other structure to evaluate and mitigate the impact of such structure on stream flow when such impact does not meet the relevant narrative standards.

(8) Section 26-141b-8 – Flow management compacts. This section establishes rules and procedures for developing flow management compacts among the water users in a river or stream system for the commissioner's approval that identify alternative flow standards from the presumptive, numeric standards, but which still meet the narrative standards for the river or stream system. Goals, information requirements and supporting documentation are required for such a compact;

(9) Section 26-141b-9 – Record keeping and reporting requirements. This section sets out requirements to submit to the department basic information on the dam or other structure, such as name of owner and location, within one year of adoption of the regulations. Beginning ten years after adoption, data on the daily amount of water diverted and any amounts returned to the river or stream system should be maintained and, upon a request, submitted to the commissioner; and

(10) Section 26-141b-10 – Conflict and severance. A conflict and severance section is included in case of conflicting legal requirements.

X. CONCLUSION

Based upon the comments submitted by interested parties and addressing in this Hearing Report, I recommend the proposed final regulation, as attached hereto, be submitted by the Commissioner of Environmental Protection for approval by the Attorney General and the Legislative Regulations Review Committee.

Paul E. Stacey
Hearing Officer

16 August 2010
Date

XI. APPENDICES

List of Appendices:

Appendix I: Notice of Intent to Adopt Regulations and to Hold a Public Hearing

Appendix II: Exhibit List

Appendix III: Text of Regulations as Proposed for Hearing

Appendix IV: Science & Technical Workgroup Members

Appendix V: Policy & Implementation Workgroup Members

Appendix VI: Commissioners Advisory Group Members

APPENDIX I:
NOTICE OF INTENT
TO ADOPT REGULATIONS AND TO HOLD A PUBLIC HEARING

The Commissioner of Environmental Protection hereby gives notice of a public hearing as part of a rulemaking process. Pursuant to sections 4-168 and 22a-6 of the Connecticut General Statutes, and section 22a-3a-3 of Regulations of Connecticut State Agencies ("RCSA"), the Commissioner hereby gives notice of her intention to adopt RCSA sections 26-141b-1 to 26-141b-9, inclusive, to be known as the Stream Flow Standards and Regulations. These regulations are being proposed under the authority of sections 22a-6, 26-141a and 26-141b of the Connecticut General Statutes.

The proposed rules establish flow standards and other regulatory requirements for all river and stream systems in the state. These proposed rules expand the coverage of and eventually replace the existing requirements found in the Minimum Stream Flow Standards and Regulations of the Connecticut Department of Environmental Protection, RCSA sections 26-141a-1 to 26-141a-8, inclusive.

The Governor and General Assembly directed the Commissioner to develop such stream flow standards and regulations after consulting with an advisory group and "after recognizing and providing for the needs and requirements of public health, flood control, industry, public utilities, water supply, public safety, agriculture and other lawful uses of such waters and further recognizing and providing for stream and river ecology, the requirements of natural aquatic life, natural wildlife and public recreation, and after considering the natural flow of water into an impoundment or diversion, and being reasonably consistent therewith." More specifically, the statute directs the Commissioner to establish standards and regulations that: "(1) Apply to all river and stream systems within this state; (2) preserve and protect the natural aquatic life, including anadromous fish, contained within such waters; (3) preserve and protect the natural and stocked wildlife dependent upon the flow of such water; (4) promote and protect the usage of such water for public recreation; (5) be based, to the maximum extent practicable, on natural variation of flows and water levels while providing for the needs and requirements of public health, flood control, industry, public utilities, water supply, public safety, agriculture and other lawful uses of such waters; and (6) be based on the best available science, including, but not limited to, natural aquatic habitat, biota, subregional basin boundaries, areas of stratified drift, stream gages and flow data, locations of registered, permitted, and proposed diversions and withdrawal data reported pursuant to section 22a-368a, locations where any dams or other structures impound or divert the waters of a river or stream and any release made therefrom, and any other data for developing such regulations or individual management plans. Such flow regulations may provide special conditions or exemptions including, but not limited to, an extreme economic hardship or other circumstance, an agricultural diversion, a water quality certification related to a license issued by the Federal Energy Regulatory Commission or as necessary to allow a public water system, as defined in subsection (a) of section 25-33d, to comply with the obligations of such system as set forth in the regulations of Connecticut state agencies."

The proposed rules develop standards and regulations that balance the needs of humans to use water for drinking and domestic purposes, fire and public safety, irrigation, manufacturing, and

recreation, with the needs of fish, wildlife and other biota that also rely upon the availability of water to sustain healthy, natural communities. The regulations consider the best available science to provide a framework to balance the human and ecological needs for water, provide for public notice and input into the process, and provide a phased implementation of regulatory requirements to encourage and support water planning and conservation efforts. The regulations provide for the protection of Connecticut's river and stream systems, and promote better, more efficient management of our water supplies, so that all needs, both human and ecological, can be met both today and in the future.

The proposed regulations include, but are not limited to, provisions regarding: (1) definitions; (2) applicability and exemptions, e.g., due to safety, limited or short term water use, permits, and other activities; (3) narrative standards establishing stream flow classifications based on the natural variation of water flows and levels, and human alterations and needs; (4) the adoption process for stream flow classifications including the physical, natural and human factors for classification, the public participation process, and the petition process for changes; (5) presumptive, numeric flow standards for each class based on seasonal flow criteria, maximum stream flow alteration, type of flow altering structure including specific release requirements for dams, implementation timeframes, and drought relief provisions; (6) rules for developing flow management compacts that identify alternative flow standards from the presumptive, numeric standards; and (7) record keeping and reporting requirements.

In addition, the Commissioner is specifically seeking comment from the public on the social, economic, ecological and technical feasibility of complying with the presumptive standards, as found in RCSA section 26-141b-6, ten years after the first effective date of classification of a river or stream system for owners or operators of other structures that divert water from such system.

Copies of the proposed regulations, small business impact and regulatory flexibility analysis, and other related material, are available for public inspection during normal business hours at the Department of Environmental Protection's Bureau of Water Protection and Land Reuse, Planning and Standards Division, 2nd Floor, 79 Elm Street, Hartford, CT. A link to the proposed regulations is available on the Department's web site at http://www.ct.gov/dep/publicnotices. These documents can also be obtained by contacting Terri Schnoor at the above address, or by phone at (860) 424-3707.

All interested parties are invited to express their views on the proposed regulations at a hearing to be held at the following place and times:

January 21, 2010
9:00 a.m. – until all comments have been heard
Phoenix Auditorium, 5th Floor
Department of Environmental Protection
79 Elm Street, Hartford, Connecticut

Speakers are requested, although not required, to submit a written copy of their comments.

Written comments on the proposed regulations may also be submitted to Paul E. Stacey,

Department of Environmental Protection, Bureau of Water Protection and Land Reuse, Planning & Standards Division, 79 Elm Street, Hartford, Connecticut, 06106–5127 by February 4, 2010.

APPENDIX II:
EXHIBIT LIST

	Proposed Stream Flow Standards and Regulations
EX. #	**Exhibits and Comments Received from:**
1	CT DEP Public Notice: The Notice of Intent to Adopt Regulations and to Hold a Public Hearing published in the Connecticut Law Journal on October 12, 2009
2	CT DEP Authorization to Hold Public Hearing authorizing Paul Stacey to conduct today's hearing and signed by Commissioner Amey Marrella on December 1, 2009
3	CT DEP Draft Streamflow Standards and Regulations which are subject to today's hearing, dated October 6, 2009
4	CT DEP Fiscal Estimate of Proposed Regulations dated October 6, 2009
5	CT DEP Notification form of Small Business Impact and Regulatory Flexibility Analysis dated October 13, 2009
6	Interdepartmental memo from Jeffrey Beckham, undersecretary of the Office of Policy and Management, dated July 9, 2009, review of proposed regulation OPM #1446
7	Letter from Stacey L. Serrano, Associate Legal Counsel, Office of the Governor, dated August 14, 2009 review of proposal
8	Letter transmitting Notice of Intent to adopt regulations to Environment Committee
8a	Senator Edward Meyer
8b	Representative Richard Roy
8c	Senator Andrew M. Maynard
8d	Representative Bryan Hurlburt
8e	Senator John McKinney
8f	Representative Clark J. Chapin
9	Transmittal of Notice of Intent to Adopt Regulations to the list of persons requesting advance notice of regulation making proceedings
10	Letter transmitting the Notice of Intent to Adopt Regulations to additional interested parties
10a	Gian-Carl-Casa – CT Conference of Municipalities
10b	Bart Russell – Council of Small Towns
10c	Alan Siniscalchi – CACIWC
10d	Advisory Group Members List – e-mailed
10e	Additional faxed notices
11	Resolution from Town of Franklin dated October 29, 2009
12	Letter from Joseph Schnierlien dated November 25, 2009
13	Letter from Lynn and Walter Turnquist dated December 21, 2009
14	Letter from Kenneth R. Skon, Superintendent of Water, City of Waterbury, dated December 30, 2009
15	Letter from Charles N. Relugo dated January 12, 2010
16	Letter from Donald J.E. Vaughn, President, Valley Water Systems, dated January 12, 2010

17	Letter from Bruce Hayn, Chairman, Board of Finance, Colchester, dated January 8, 2010
18	Letter from Gregg Schuster, First Selectman, Colchester, dated January 8, 2010
19	Letter from Kathleen Bradley dated January 19, 2010
20	Resolution from Southeastern CT Council of Governments, Norwich dated January 19, 2010
21	Letter from Susan Bransfield, First Selectman, Town of Portland dated January 21, 2010
22	Letter from Lynn Werner and Jenifer Gunther, Housatonic Valley Association dated January 21, 2010
23	Testimony of Mark P. Smith, Director, Eastern US Freshwater Program, The Nature Conservancy dated January 21, 2010
24	Testimony of Southeastern CT Water Authority dated January 21, 2010 – 5 copies
25	Letter from Donald L. Smith, V.P., Roald Haestad dated January 21, 2010
26	Letter from the Avon Water Company, Robert W. Wesneski, President dated January 21, 2010
27	Letter from John J. Herliky, Director, Aquarion Water Company
28	Comments from Kenneth Taylor and Jeffrey Lenox of Leggette, Brashear and Graham, Inc.
29	Letter with comments from Edward Goodhouse, Torrington Country Club dated January 21, 2010
30	Comments from David Day, Superintendent of Public Utilities, Danbury dated January 21, 2010
31	Statement from Joan Smith, President, Groton Open Space Assoc. dated January 20, 2010
32	Testimony of CT Commissioner of Agriculture J. Philip Prelli, dated January 21, 2010
33	Testimony of Metropolitan District
34	Statement from Michael Korby of West Suffield dated January 21, 2010
35	Proposed Stream Flow Standards and Regulations, Public Noticed October 13, 2009
36	Letter from Ellen Blaschinski, Chief, Regulatory Services Branch, DPH, dated January 21, 2010 with attachments – comments, guide to Successful Implement a Minimum Stream Flow Release Process in CT, Proposed Regulations with DPH comments and margin of safety
37	Comments from Jeffrey Donofris, Office of Consumer Affairs, South Central CT Regional Water Authority dated January 21, 2010
38	Testimony of South Central Regional Water Authority dated January 21, 2010
39	Statement of Bob Heffernan, Executive Director of CT Green Industries Coalition dated January 21, 2010
40	Letter from John + Edwina Millington of Washington, CT dated January 20, 2010
41	Comments from CT Environment Groups Unite for Effective Regulations dated January 20, 2010
42	Comments from Margaret Miner, Executive Director, Rivers Alliance with pictures, Draft Low Flow in CT, talking points of M. Jodi Rell, Governor, CT, graphs, Torrington Water Company annual report 2008, Sustainable Drinking Water Infrastructure, Sustainable Water Systems: Step One – Redefining the Nation's Infrastructure Challenge by the Aspen Institute, 2009 and Sport Fishing in America revised January 2008
43	Testimony of Claire C. Bennett of Branford dated January 21, 2010
44	Testimony of Vincent F. Susco, Jr., Public Utilities Administrator, Town of East Hampton WPCA dated January 21, 2010
45	Testimony of Jeffrey M. Publiese, Director of Government Affairs, Middlesex County Chamber of Commerce dated January 21, 2010
46	Letter from Robert Fromer with attachment "Smooth-Flowing Streams is Goals of Regulations" by Judy Benson of the Day

47	Letter from Susan Jackson and Steve Burke of W. Redding dated January 18, 2010
48	Letter from Dr. Vincent Marottoki of New Haven dated January 18, 2010
49	Letter from Dave Sloane of Sloane Communication Systems, Hamden dated January 18, 2010
50	Letter from Ella Calcote of New Haven dated January 19, 2010
51	Letter from Patricia Lindgren, Redding dated January 21, 2010
52	Letter from George Zipparo of Redding dated January 21, 2010
53	Letter from Squeek Zipparo of Redding dated January 21, 2010
54	Letter from Peter Zipparo of Redding dated January 21, 2010
55	Letter from Carol Borsari of Wallingford dated January 22, 2010
56	Letter from William H. Ethier, CAE, CEO, Home Builders Assoc. of CT, Inc., West Hartford dated January 22, 2010
57	Letter from Nancy J. Eaton, Ph.D., Enfield dated January 22, 2010
58	Letter from Elsa Peterson Obuchowski of Norwalk dated January 22, 2010
59	Letter from Matthew S. Knickerbocker, First Selectman, Town of Bethel dated January 19, 2009 and stamped January 22, 2010
60	Letter from Martha Phillips of Litchfield dated January 19, 2010
61	Note from Barbara Backman of Canton Dated January 2010
62	Letter from Nick Mougcy of East Hampton dated January 25, 2010
63	Letter from John Ruzsbatzky, CGCS, the Country Club of Farmington dated January 20, 2010
64	Letter from Maureen, Mark and Maddy Abrahamson of Fairfield dated January 21, 2010
65	Letter from John A. Barrasso, Exec. VP, Mechanical Contractors, Assoc. of CT, Hamden dated January 21, 2010
66	Letter from Mark Decker, PE of the Town of Colchester dated January 21, 2010
67	Letter from John Smith of Branford dated January 20, 2010
68	Letter from Carol Goertz of Cheshire dated January 24, 2010
69	Letter from Mr. & Mrs. James Brideau III of Huntington dated January 20, 2010
70	letter from Doug Peterson of Trout Unlimited, Candlewood Valley Chapter, Danbury dated January 26, 2010
71	Letter from Kenneth Ainsworth of Tower Ridge Country Club of Simsbury dated January 26, 2010
72	Testimony from Donald Carver, Asst. Superintendent of Water for City of Waterbury dated January 21, 2010
73	Letter from Clarence Peterson, III of Newtown dated January 22, 2010
74	Letter from Ann M. Catino, Halloran + Sage, LLP of Hartford dated January 21, 2010
75	Letter from Glen Gammil of Stamford and member of Trout Unlimited, Nutmeg Chapted dated January 26, 2010
76	Letter from James L. Mersfelder of Woodbridge Lake Prop. Owner's Assoc, Inc. in Goshen dated January 20, 2010
77	Letter from Donna L. Albanese-Funk of Southington dated January 26, 2010
78	Letter from John D. Nelson, Jr. of Bethelehem dated January 22, 2010
79	Letter from Lawrence Cyrulik of the Mattabeseck Audubon Society, Portland dated January 24, 2010
80	Letter from Robert D. Kronyik, Ph.D. of Fairfield dated January 24, 2010

81	Letter from Remo Mondazzi dated January 22, 2010
82	Letter from Edward McSuat of Redding and a member of Trout Unlimited dated January 24, 2010
83	Letter from Robert Pagini of Meriden dated January 21, 2010
84	Letter from Laurie Klein of Hamden, dated January 27, 2010
85	Letter from Lisa Kereszi of New Haven dated January 27, 2010
86	Letter from Allen E. Horner of Southington dated January 23, 2010
87	Letter from Ronald Graziani of Wallingford dated January 23, 2010
88	Letter from James Iannone, Treasurer of Farmington Valley Chapter-Trout Unlimited dated January 27, 2010
89	Letter from Bill Geils of Trumbull and member of Trout Unlimited, Nutmeg Chapter dated January 27, 2010
90	Letter from Paul + Sandra Stetson of North Haven dated January 22, 2010
91	Letter from Bill Dunn of Ridgefield and member of Trout Unlimited, Candlewood Chapter dated January 27, 2010
92	Letter from Dwight Stetson of No. Haven dated January 22, 2010
93	Letter from Rep. Linda Orange, Deputy Speaker of the House for Town of Colchester dated January 20, 2010
94	Letter from Bart Russell, Exec. Director, COST of West Hartford dated January 21, 2010
95	Letter from Roald Haestad, Inc. by Donald L. Smith, PE, VP of Waterbury dated January 26, 2010
96	Letter from Thomas W. Nissley of New Canaan dated January 20, 2010
97	Letter from Carl Swanson of Bristol and member of Trout Unlimited, Farmington Valley Chapter dated January 28, 2010
98	Letter from Erick B. Holm, CGCS of Hop Meadow Country Club, Simsbury dated January 25, 2010
99	Letter from William F. Case of Unionville and member of Trout Unlimited dated January 24, 2010
100	Letter Frank Johnson, Pres. Of Mfg. Alliance of CT Waterbury dated January 28, 2010
101	Letter from Stephen Zahur, Chapter Candlewood Valley, Trout Unlimited and resides in Newtown dated January 28, 2010
102	Memo from Lisa Hunter, Exec. Director of Independent Electrical Contractors of New England, Inc. in Rocky Hill dated January 21, 2010
103	Letter from Jack Faski, Pres. Colchester Business Assoc. of Colchester dated January 21, 2010
104	Letter from Tony Sheridan, Pres. + CEO of Chamber of Commerce of Easter CT dated January 21, 2010 and included in the "2010 Survey of Eastern CT Businesses"
105	Letter from Dave Fillion, Jewett City Water Co., Enfield dated January 29, 2010
106	Letter David Ellis, President and Board of Directors Wallingford Land Trust, Wallingford dated January 22, 2010
107	Letter from Michael Goodwin of Gales Ferry, Thames Valley Chapter of Trout Unlimited dated January 29, 2010
108	Letter from Anthony Irving, Chair, Eightmile River Wild + Scenic Coordinating Committee, Haddam dated January 26, 2010
109	Letter from Anne Roberto-Pierson of Arolonia Land Conservancy Inc. Mystic dated January 27, 2010
110	Letter from Robin Wilson, Pres + CEO of Quinnipiac Chamber of Commerce, Wallingford dated

	January 25, 2010
111	Testimony of Alan Kreczko, Simsbury + Farmington Valley Chapter of Trout Unlimited dated January 29, 2010
112	Letter from Gail Sangree of Watertown dated January 28, 2010
113	Letter from Kate Robinson of Stonington dated January 25, 2010
114	Letter from Trudy Swanson McKena, Roxbury Conservation Commission Chairperson dated January 28, 2010
115	Letter from Carlos Canal, Pres. Washington Environmental Council, Washington Depot dated January 27, 2010
116	Comments from Roger Dunn, General Manager, Town of Wallingford, Dept. of Public Utilities Water + Sewer Div. Dated February 1, 2010
117	Comments received by the Pootatuck Club Inc. of Sandy Hook dated January 29, 2010
118	Comments from David Salier of New Canaan and member of Trout Unlimited Mianus Chapter dated February 2, 2010
119	Letter from Tom Adamski of Oxford, CT Inland Wetlands Agency dated January 29, 2010
120	Comments from John Manfred of Mansfield and former member of the Technical Advisory Group investigating the pumping dry of the Fenton River and Board member of Thames Valley Chapter of Trout Unlimited dated January 27, 2010
121	Comments from Michael Freda, First Selectman, Town of North Haven dated January 29, 2010
122	Comments from Roger Alsbough of Enfield January 29, 2010
123	Comments from James Della Volpe, Mayor, City of Ansonia dated January 29, 2010
124	Comments from Robert Switzgable, President of Ski Sundown, New Hartford dated January 25, 2010
125	Comments from Richard Case of Greenwich and member of Mianus Chapter of Trout Unlimited dated February 2, 2010
126	Comments from Edwin Matthews, Jr., President, Shepaug River Assoc. dated January 29, 2010
127	Comments from Paul Formica, First Selectman, Town of East Lyme, Niantic dated January 28, 2010
128	Letter from Dominick DiGangi, P.E. General Manager of First Taxing District Water Dept. Norwalk dated February 1, 2010
129	Letter from Keith Sorenson, VP of Heritage Village Water Co. dated February 1, 2010
130	Letter from Anthony P. Rescigno , Pres. Greater New Haven Chamber of Commerce dated February 1, 2010
131	Letter from Kevin Walsh, Chairman-Regional Leadership Council, New Haven, dated January 30, 2010
132	Letter from Robert Wesneski, Pres. the Avon Water Company dated February 2, 2010
133	Letter from Eric Thornburg, Pres. + CEO, CT Water Company, Clinton dated February 2, 2010
134	Letter from Robert Taylor, Sr. Proj. Manager. Loureiro Eng. Assoc. Inc. Plainville dated February 2, 2010
135	Letter from Maureen Westbrook, VP, Customer + Req. Aff., CT Water Co. w/appendices dated February 2, 2010
136	Letter from David Radka, Director Water Resources, CT Water Company dated February 1, 2010
137	Letter from Martha Smith, New Haven dated February 1, 2010
138	Letter from Margaret Sawyer, East Haven dated January 31, 2010

139	Testimony of Sigrun Gadwa, MS, PWS, Ecologist and Registered Soil Scientist, Carya Ecological Services, LLC dated January 28, 2010
140	Letter from Nancy Potvin, Manchester dated February 1, 2010
141	Letter from Jonathan Bishop, VP, CEO, Bishops Orchards, Guilford dated February 1, 2010
142	Letter from Loretta Victor, Pres. Quinnipiac Valley Audubon Society, Cheshire dated January 30, 2010
143	Letter from Eric Eichorn, Yalesville dated January 31, 2010
144	Letter from Annaita Gordhy, Middletown dated February 1, 2010
145	Letter from Donna Christian, Branford dated February 1, 2010
146	Letter from Robert Butler, Cheshire dated January 30, 2010
147	Letter from Sallie Herson and Mary McZearrie, Windsor dated January 30, 2010
148	Letter from Keith Chrisman, Essex dated January 31, 2010
149	Letter from AlisonMurdock, New Hartford dated February 1, 2010
150	Letter from Frank Hall, Essex dated January 31, 2010
151	Letter from David Jones, Board member, Q River Watershed Assoc dated February 3, 2010
152	Letter from Kevin Collens, Golf Course Superintendent, Tradition Golf Club, Wallingford dated February 3, 2010
153	Letter from Elisabeth Cianciola, Intern River Steward and Chelsea Reiff Gwyther Exec. Director, CT River Watershed Council, Middletown and Greenfield, MA dated February 3, 2010
154	Letter from Zoe Cummings Risch, New Haven dated February 1, 2010
155	Letter from Ed Edelsen, Southbury dated January 30, 2010
156	Letter from Dave Sloane, Hamden dated January 30, 2010
157	Letter from Skip Short, Hamden dated January 31, 2010
158	Letter from Sharon Vocke, Evergreen Energy, LLC, Renewable Energy Solutions, Southington dated February 1, 2010
159	Letter from Marina Julian and David Kenny, Storrs-Mansfield dated February 1, 2010
160	Letter from Daniel Pelletier, Middletown dated February 3, 2010
161	Letter from Tim Ryan, Trumbull dated January 30, 2010
162	Letter from Wilthelmena Smith, Wallingford dated February 3, 2010
163	Letter from Kathy Snow, Town of Ridgefield Conservation Commission, Ridgefield dated February 1, 2010
164	Letter from Deborah Wilson, Rockville dated January 31, 2010
165	Letter from James Woodworth, VP Hammonassett Chapter, Trout Unlimited, Higganum dated February 3. 2010
166	Letter from Walter Grant, Mystic dated January 26, 2010
167	Letter from Karen Peterson Mehra, Greenwich dated February 1, 2010
168	Letter from James Lasek, Southington dated February 1, 2010
169	Letter from Virginia Chirsky, Pres, QRWA dated January 29, 2010
170	Letter from Kathryn Spindler, Gales Ferry dated February 1, 2010
171	Letter from Joellen Anderson, Groton dated January 31, 2010
172	Letter from Janis Baker and Ronald Baker, Burlington dated February 1, 2010
173	Letter from Anna Neumann, Meriden dated February 1, 2010

174	Letter from Joseph Zarzac, Chairman, Meriden Liner Trail Advisory Committee dated January 30, 2010
175	Letter from Bernie Noonan, East Hampton dated January 31, 2010
176	Letter from Steve Curry, Morris dated February 1, 2010
177	Letter from Charles Gogliardi, West Hartford dated February 1, 2010
178	Letter from Frank Wilson, New Haven dated January 29, 2010
179	Letter from Elizabeth Jones, New Canaan dated February 3, 2010
180	Letter from Julio Hulter, North Haven dated January 31, 2010
181	Letter from Cheryl Kapelner-Clamp, Pomfret Center dated February 1, 2010
182	Note from Mr. + Mrs. Rob MacGregor, Glastonbury dated February 1, 2010
183	Letter from Joanne Grabinski, QRWA member, South Meriden dated January 29, 2010
184	Letter from John Montgomery, Meriden dated January 30, 2010
185	Letter from Elizabeth Kielbasinksi, Meriden dated January 29, 2010
186	Letter from Richard Carter, Guilford dated January 29, 2010
187	Letter from William Rivell, Meriden dated February 1, 2010
188	Letter from Mark Lyon, First Selectman, Town of Washington dated February 1, 2010
189	Letter from Megan Ambroso, Env. Consultant dated February 1, 2010
190	Letter from Briana Schain, Cheshire dated January 31, 2010
191	Letter from Deborah Bennett, West Cornwall dated February 1, 2010
192	Note from Leonard Engel, Hamden dated January 30, 2010
193	Letter from Hugh McCulahan, Durham Hammonassett Chapter of Trout Unlimited dated February 3, 2010
194	Note from Victoria Usler, Glastonbury dated February 1, 2010
195	Letter from Jeffrey Adams, Southington dated February 1, 2010
196	Note from Joseph Zaborowski, Meriden dated February 3, 2010
197	Letter from Debra Mason, QRWA Board Member, Wallingford dated January 30, 2010
198	Letter from Roger Kemp, Ph.D., Meriden dated February 3, 2010
199	Letter from Eric Morrison, Groton Superintendent of Shennecossett Golf Course dated February 1, 2010
200	Letter from Joy Ford, Planner, City of New Haven dated February 1, 2010
201	Letter from David Fairman, Waterford dated February 3, 2010
202	Letter from Roger Wilcox, Norwalk dated February 1, 2010
203	Letter from Wende + Richard Harper, Stamford dated February 1, 2010
204	Letter from Richard Venable, Broad Brook dated February 1, 2010
205	Letter from Merle + Elain Ainsworth, Plantsville dated February 3, 2010
206	Letter from Marcus Hilton, West Hartford dated February 3, 2010
207	Letter from Joseph Horivus, Anne Peters and George Benson, Town of Newtown Conservation Commission dated February 2, 2010
208	Letter from Catherine Rawson of New Haven dated February 1, 2010
209	Letter from Dominic Giller, New Haven dated February 1, 2010
210	Letter from James Belden, Pres. Pootatuck Watershed Assoc. Newtown dated February 3, 2010
211	Letter from Meg Reich, VP, Willimantic River Alliance, Bolton dated January 31, 2010

212	Letter from Mark Smith, Dir, Eastern U.S. Freshwater Program, the Nature Conservancy, Boston, MA dated February 2, 2010
213	Letter from Eileen Fielding, Exec. Director Farmington River Watershed Assoc, Inc. Simsbury dated January 21, 2010
214	Letter from Brett Chapin of the Redding Country Club, Superintendent, West Redding dated February 4, 2010
215	Letter from Sara DaSilva, Pres., NRWA Board of Dir, Georgetown dated February 2, 2010
216	Letter from William Hixson, No. Stonington dated February 2, 2010
217	Letter from Richard Wingate, Voluntown dated February 1, 2010
218	Letter from Luilla Landis, Cromwell dated February 1, 2010
219	Letter from Jeffrey Luff, Oxford dated February 4, 2010
220	Letter from John Blake, Sierra Club, Hartford and Hebron Inland Wetlands Comm. Dated February 1, 2010
221	Letter from Susan Branson, Exec. Director, Sleep Rock Assoc. Washington Depot dated January 31, 2010
222	Letter from Tammy Casey, New Hartford dated February 1, 2010
223	Letter from Phillippe Fontaine, East Granby dated February 2, 2010
224	Letter from Pete and Sissy Aron, New Milford dated February 2, 2010
225	Letter from Michael Horn, Hamden Natural Res. And Open Space Comm. Dated February 1, 2010
226	Letter from Michael Dagate, Pres, CT Assoc. Of Realtors, East Hartford dated January 29, 2010
227	Letter from John Garcia, Pres., CT Assoc. of Golf Course Super., Inc. dated January 27, 2010
228	Letter from Kevin Karl, Norwalk dated February 1, 2010
229	Letter from Dwight Needels, Ph.D., Meriden dated January 31, 2010
230	Letter from Cote + Dave Rauch, Meriden dated February 2, 2010
231	Letter from Eleanor Fisher, Groton dated February 1, 2010
232	Letter from Scott Lehmann, Storrs dated February 2, 2010
233	Letter from Kristen Richardson, Lab Inst., Dept. of Biology, Quinnipiac Univ. dated February 2, 2010
234	Letter from William Niland, Southington dated February 1, 2010
235	Letter from Muriel Garney, Hamden dated February 1, 2010
236	Letter from Frederick Leavenworth, Chairman Pomperaug River Watershed Coalition dated January 29, 2010
237	Letter from C. Thomas Paul, Madison dated January 30, 2010
238	Letter from Melissa Leonard, Naugatuck dated February 1, 2010
239	Letter from Ann Watkins, Pawcatuck dated January 30, 2010
240	Letter from Daniel Rogers, New London Country Club, Superintendent, Waterford dated February 2, 2010
241	Letter from Shimon Anisfeld Ph.D., Senior Lecturer + Research Scientist, Yale Univ. School of Forestry- Env. Studies dated February 1, 2010
242	Letter from Roberta Paro, Norwich dated February 1, 2010
243	Letter from John Strillacci, Southington dated February 2, 2010
244	Letter from Karen Schnitzer, West Haven dated February 1, 2010
245	Letter from Carole Golitke, Wallingford dated January 30, 2010

246	Letter from Scott Simpson, West Haven dated February 1, 2010
247	Letter from Janice Jones, Philip Jameson Jones Winery, Shelton dated February 1, 2010
248	Letter from Residents of Roxbury and Washington dated January 31, 2010
249	Letter from Carmen Torres Salepaldo, Hartford dated January 31, 2010
250	Letter from Jack Clancy, Meriden dated February 1, 2010
251	Letter from KristenWolfe, Cheshire Inland Wetlands + Watercourses Comm. Dated February 4, 2010
252	Letter from Judy + Barry Goldfarb, Higganum dated February 4, 2010
253	Letter from Mr. + Mrs. Woodrow and Theresa Long, Wallingford and members of the Quinnipiac River Watershed Assoc. dated February 1, 2010
254	Letter from Peter Gorman, Suffield Country Club, Superintendent of Suffield dated February 4, 2010
255	Letter from Laura diBonaventura, Greenwich dated January 31, 2010
256	Letter from Vincent Broncato, Woodbury dated February 4, 2010
257	Letter from Eric Thornburg, Pres + CEO, CT Water, Clinton dated February 2, 2010 (Same as #133)
258	Letter from Wielison Godburn, Meriden dated February 1, 2010
259	Letter from Linsey Hartenstein, Meriden dated February 1, 2010
260	Letter from Jose Treggor, Marine Education + Research Assoc. dated February 2, 2010
261	Letter from Edward Soper, Adm, Water + Sewer Dept. Town of Manchester dated February 1, 2010
262	Letter from Ann Bogricki, East Hartford dated February 2, 2010
263	Letter from Paul Bonini, Waterford Golf Club Superintendent dated February 4, 2010
264	Letter from Judy Mandel, Harwinton dated February 1, 2010
265	Letter from Caitlin Capistron, Hamden dated February 4, 2010
266	Letter from April Capone Almon, Mayor, Town of East Haven dated February 1, 2010
267	Letter from Linda Campbell, Coventry dated February 1, 2010
268	Letter from Susan Sukanonsy, President Torrington Water Company dated January 29, 2010
269	Letter from Joseph Mazza, First Selectman, Town of Guilford dated February 2, 2010
270	Letter from Robert Hohmon, Woodbridge dated February 2, 2010
271	Letter from Frederick Gregory, Redding Ridge dated January 31, 2010
272	Letter from Louise Fabry Riewicz, New London dated February 1, 2010
273	Letter from Scott Niven, CGCS, Property Manager the Stanwich Club, Greenwich dated February 2, 2010
274	Letter from Margaret Holton, Norwalk dated February 2, 2010
275	Letter from Lynn Werner, Exec. Director Housatonic Valley Assoc, Cornwall Bridge dated February 2, 2010
276	Letter from Richard Sobolewski, Sup. Of Tech. Analysis for Mary Healy, Consumer Counsel, New Britain dated February 2, 2010
277	Letter from Thomas West, P.E. Superintendent, Southing Water Dept. dated February 2, 2010
278	Letter from Joseph Polka, Branford dated February 1, 2010
279	Letter from Martin Mador, Hamden Sierra Club dated February 2, 2010

280	Letter from Whitney Adams Jr., Sue Sutherland, Groton Open Space Assoc. dated February 1, 2010
281	Letter from George Adair, Director, Public Utilities, Town of Wallingford dated February 3, 2010
282	Letter from Cheryl Dunson, VP, Public Issues, League of Women Voters of CT dated February 3, 2010
283	Letter from Robert Reed, Greater Norwich Area Chamber of Commerce dated February 3, 2010
284	Letter from John Bilda, Gen. Mgr. Norwich Public Utilities dated February 3, 2010
285	Letter from Fillmore McPherson, First Selectman, Town of Madison dated February 3, 2010
286	Letter from Richard Branigan, Town Mgr. Town of N. Branford dated February 3, 2010
287	Letter from Margaret Minor, River Alliance "Continued Comments" dated February 4, 2010
288	Letter from Wayne Bugden, LEP, Director CME Assoc, Inc., Woodstock dated February 3, 2010
289	Letter from Joan McDonald, Commissioner, DECD dated February 4, 2010
290	Letter from Fred Camille, State Representative 151st Dist. Dated February 3, 2010
291	Letter from Brian Johnson, Blue Fox Run Golf Course Superintendent, Avon dated February 4, 2010
292	Letter from Mary Rickel Pelletier, Proj. Director, Park River Watershed Revitilization Init. Dated February 4, 2010
293	Letter from Peter Gorman, Suffield Country Club Golf Course, Superintendent dated February 3, 2010 (same as #254)
294	Letter from John Garcia, Pres. CT Assoc. of Golf Course, Woodbridge dated January 27, 2010 (same as #227)
295	Letter from Eric Brown of CBIA, Hartford dated February 4, 2010
296	Letter from Charles Firlotte, Pres, CEO of Aquarion Water Co., Bridgeport dated February 4, 2010
297	Letter from Elizabeth Gara, Exec. Director, CT Water Works Assoc., Hartford dated February 4, 2010
298	Letter from Steven Reviczky, Exec. Dir. CT Farm Bureau, Windsor dated February 2, 2010
299	Letter from Rep. Mary Mushinsky, State Capitol, Hartford dated February 4, 2010
300	Letter from Peter + Mary Conclin of No. Windham dated February 2, 2010
301	Letter from Andrea Markowski, Esq. State Director, National Federation of Independent Business, CT dated February 3, 2010
302	Letter from Guy Russo, Director of Water + Sewer Dept. City of Middletown dated February 4, 2010
303	Comments received by the Metropolitan District, James Randazzo, Mgr. Of Water Supply dated February 4, 2010
304	Letter from Alan Siniscalchi, Pres. CT Assoc. of Conservation + Inland Wetlands Commission, Inc. (CACIWC) dated February 4, 2010
305	Letter from Lynne Hamjian, Surface Water Branch Chief Office of Ecosystem Protection, USEPA Region I, Boston, MA dated February 4, 2010
306	Letter from Karl Wagener, Exec, Director, State of CT Council of Env. Quality dated February 4, 2010
307	Letter from Richard Miller, Director, Env. Policy, UCONN dated February 4, 2010
308	Addendum to Exhibit #36 – Revised Margin of Safety Data Set dated February 2, 2010
309	Letter from Lori Romick, Vice Chair, Milford Rep. Housatonic River Estuary Comm. Dated

	February 2, 2010
310	Letter from Chris Randall, New Haven Land trust dated January 28, 2010
311	Letter from Suellen McCuin , Exec. Director, CT Council on Soil and Water Cons. Dated February 4, 2010
312	Letter from David Day, P.E. Superintendent, City of Danbury dated February 4, 2010
313	Letter from John Miranowski, Greenwich dated February 3, 2010
314	Letter from Jonathan Avery, Pres. Hazardville Water Co. dated February 3, 2010
315	Letter from Ann Courcy, Deep River dated February 2, 2010
316	Letter from Mary Moulton, Pres. Pequabuck River Watershed Assoc. dated February 4, 2010
317	Letter from Wm. Biff Cuthbert of Guilford dated February 5, 2010
318	Letter from Nathalie Alegre, Co-Chair, New Haven Env. Justice Network, New Haven dated February 4, 2010
319	Letter from Christine Gold back, Stratford dated February 4, 2010
320	Letter from Thomas O'Dell, Chairman CT River Coastal Cons. District, Inc. dated February 5, 2010
321	Letter from Cheryl Dunson, VP, Public Issues League of Women Voters of CT dated February 3, 2010 (same as #282)
322	Letter from Brian Shugrue, Cheshire dated February 5, 2010 (post marked 2/4/10)
323	Letter from Jean-Ellen Trapani, Westbrook dated February 3, 2010
324	Letter from Robert Dickinson of So. Windsor dated February 1, 2010
325	Letter from Thomas Villa, Dir. Of Operations, So. Norwalk Electric + Water, So, Norwalk dated February 1, 2010
326	Letter from Albert Satton of Wallingford dated February 1, 2010
327	Letter from Edward Scherer, Wethersfield dated February 2, 2010
328	Letter from Donald Shubert, Pres, CT Construction Ind. Assoc. Inc. (CBIA) dated February 3, 2010
329	Letter from Richard Stanley of West Simsbury dated February 2, 2010
330	Letter from Eric Annes, Legal Fellow, CT Fund for the Env., Save the Sound dated February 3, 2010
331	Letter from Krista Borsari of Wallingford dated February 5, 2010 (post marked 2/4/10)
332	Letter from Molly McKay of Mystic dated February 2, 2010
333	Letter from Gordon Kauffman III of Turf Grass Mmgt. Inc. February 2, 2010
334	Letter from James Richetelli Jr. Mayor, City of Milford dated February 3, 2010
335	Letter from Steven Nugen of No. Haven dated February 4, 2010
336	Letter from Mary Sargent of Southington dated February 1, 2010
337	Letter from James Buchman, Wallingford dated (post marked 2/4/10)
338	Re-submittal of comments from the Nature Conservancy-David Sutherland to replace Exhibit #212 from Mark Smith dated February 2, 2010
339	Correction to Exhibit #227 John Garcia, Pres of CT Assoc. of Golf Course Sup. Dated February 3, 2010
340	Letter from Jeff Yates, Mianus Chapter Trout Unlimited, Redding dated February 4, 2010
341	Letter from John Moorhead, Mianus Chapter Trout Unlimited, Greenwich dated February 4, 2010
342	Letter from Michael Gualt, Mianus Chapter Trout Unlimited, Darien dated February 4, 2010

343	Letter from Bernard Kriegel, Mianus Chapter Trout Unlimited, Stamford dated February 4, 2010
344	Letter from Wm. Morrissey, Mianus Chapter Trout Unlimited, Madison dated February 4, 2010
345	Letter from Matt Dumas, Mianus Chapter Trout Unlimited, Darien dated February 4, 2010
346	Letter from CM Vaughn, Jr. Mianus Chapter Trout Unlimited, Norwalk dated February 4, 2010
347	Letter from Ed Albrecht, Mianus Chapter Trout Unlimited, Cheshire dated February 4, 2010
348	Letter from Pat O'Meara, Mianus Chapter Trout Unlimited, Wilton dated February 4, 2010
349	Letter form Jan Allardt, Mianus Chapter Trout Unlimited, St. of CT. Wtr. Planning Adv. Group 2003-2006, Streamflow Comm. 2000-2003, Greenwich Dated February 4, 2010
350	Letter from James Glowinka, Chairman CT Council of Trout Unlimited, Norwalk dated January 31, 2010
351	Letter from Cheryl Groisheck, Nutmeg Chapter of Trout Unlimited, Shelton dated January 28, 2010
352	Letter from Ross Ogden, Nutmeg Chapter Trout Unlimited, Easton dated February 4, 2010
353	Letter from Peter Jennings, Mianus Chapter Trout Unlimited, Westport dated February 4, 2010
354	Letter from Nicholas Camporfranco, Mianus Chapter Trout Unlimited, New Canaan dated February 4, 2010
355	Letter from Edward Thulin, Nutmeg Chapter Trout Unlimited, Easton dated January 27, 2010
356	Letter from G. Kinsey Lamb, Nutmeg Chapter Trout Unlimited, Fairfield dated February 4, 2010
357	Letter from Sterling McDeritt, Nutmeg Chapter Trout Unlimited, Fairfield dated January 28, 2010
358	Letter from Ron Merly, Nutmeg Chapter Trout Unlimited dated February 4, 2010
359	Letter from Gian-Andrea Morressi, Nutmeg Chapter Trout Unlimited, Bridgeport dated February 4, 2010
360	Letter from Richard O'Neill, Nutmeg Chapter Trout Unlimited, Ridgefield dated February 4, 2010
361	Letter from Tony Hill, Mianus Chapter of Trout Unlimited, Norwalk, dated January 29, 2010
362	Letter from Charles McCaughtry, Thames Valley Chapter, Trout Unlimited, Ashford dated February 4, 2010
363	Letter from john Awdziewicz, Mianus Trout Unlimited, Greenwich dated February 4, 2010
364	Letter from Roger Bullard, Greenwich dated January 28, 2010
365	Letter from Merlin Schulze, Mianus Chapter, Trout Unlimited, New Canaan dated January 24, 2010
366	Letter from Salvatore Campofranco, Mianus Chapter, Trout Unlimited, New Canaan dated February 4, 2010
367	Letter from Dennis Ling, Mianus Chapter, Trout Unlimited, Cos Cob dated January 25, 2010
368	Letter from Carol Gregory, Mianus Chapter, Trout Unlimited, Norwalk, dated February 4, 2010
369	Letter from James Bacon, Mianus and Naugatuck Chapter, Trout Unlimited, Redding dated February 4, 2010
370	Letter from Richard Vocco, Mianus Chapter, Trout Unlimited, Stamford dated February 4, 2010
371	Letter from Cal Johnson, Mianus Chapter, Trout Unlimited, Ridgefield dated February 4, 2010
372	Letter from Ted Gardziel, National Leadership Chair, Connecticut Trout Unlimited, Guilford dated February 4, 2010
373	Letter from Gerard Agiglia, Nutmeg Chapter, Trout Unlimited, Trumbull dated January 25, 2010
374	Letter from Albert Jacques, Nutmeg Chapter, Trout Unlimited, Fairfield dated February 4, 2010
375	Letter from Michael Owens, Ridgefield dated February 4, 2010

377	Letter from Milton Buchta, Mianus Chapter, Trout Unlimited, Norwalk, dated February 4, 2010
378	Letter from Dixie Handfield, President, Thames Valley Chapter, Trout Unlimited, Lebanon dated February 4, 2010
379	Letter from Michael Law, Mianus Chapter, Trout Unlimited, New Canaan dated February 4, 2010
380	Letter from Kevin Fuller, President, Hammonasset Chapter, Trout Unlimited, Middletown dated February 4, 2010
381	Letter from Thomas J. Steinke, Town of Fairfield Conservation Commission dated February 3, 2010
382	Letter from Jay Sheehan, P.E. Woodard & Curran, Inc., dated February 4, 2010
383	Letter from Delia P. Fey, AICP, Town Planner, Town of Woodstock dated February 3, 2010
384	Letter from Kevin DeGabbo and John Betkoski, DPUC dated February 4, 2010
385	Letter from Eugene Quinn, Nutmeg Chapter, Trout Unlimited, Weston dated January 31, 2010
386	Letter from Barbara Currier Bell, Milford dated January 30, 2010
387	Letter from Barbara Henry, First Selectman, Town of Roxbury dated February 3, 2010
388	Letter from John M. Picard, mayor, City of West haven dated February 1, 2010
389	Letter from Carol Lemmon, President, Connecticut Botanical Society dated February 4, 2010
390	Letter from Eric Hammerling, Executive Director, Connecticut Forest and Park Association dated February 4, 2010
391	Letter from Sigrun Gadwa, MS, PWS, Ecologist and Registered Soil Scientist of Carya Ecological Services, Inc., dated February 4, 2010

APPENDIX III:
TEXT OF REGULATIONS AS PROPOSED FOR HEARING

The Regulations of Connecticut State Agencies are amended by adding sections 26-141b-1 to 26-141b-9, inclusive, as follows:

(NEW) **Section 26-141b-1. Short title.** Sections 26-141b-1 to 26-141b-9, inclusive, shall be known as the department's Stream Flow Standards and Regulations.

(NEW) **Sec. 26-141b-2. Definitions.** As used in sections 26-141b-1 to 26-141b-9, inclusive, of the Regulations of Connecticut State Agencies:

(1) "Anadromous" means a species of aquatic life that spawns in freshwater and migrates to salt water to complete its life cycle as an adult;

(2) "Antecedent period" means the fourteen consecutive days immediately preceding the date the required release is calculated pursuant to section 26-141b-6(a)(3) of the Regulations of Connecticut State Agencies;

(3) "Best management practices" means those practices, facilities or procedures which reduce the impact of human activity on natural stream flow patterns which the commissioner has determined to be acceptable based on technical, economic and institutional feasibility;

(4) "Bioperiod" means the period during which certain biological processes dependent on stream flow rates occurs or is likely to occur;

(5) "Bioperiod Q25" means the daily stream flow that is equaled or exceeded on 25 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(6) "Bioperiod Q50" means the daily stream flow that is equaled or exceeded on 50 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(7) "Bioperiod Q75" means the daily stream flow that is equaled or exceeded on 75 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(8) "Bioperiod Q80" means the daily stream flow that is equaled or exceeded on 80 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(9) “Bioperiod Q90” means the daily stream flow that is equaled or exceeded on 90 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(10) “Bioperiod Q95” means the daily stream flow that is equaled or exceeded on 95 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(11) “Bioperiod Q99” means the daily stream flow that is equaled or exceeded on 99 percent of days in a bioperiod calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(12) “Cfsm” means cubic feet per second per square mile of contributing watershed area at a discrete point within a river or stream system and refers to the discharge rate of water;

(13) “Classification map” means a map delineating the stream flow classification of river or stream segments within a specified geographic area;

(14) “Clupeid spawning bioperiod” means that period from May 1 to May 31, inclusive, of each year;

(15) “Commissioner” means the Commissioner of the Department of Environmental Protection or such commissioner’s designated agent or representative;

(16) "Dam" means “dam” as defined in section 22a-409-1 of the Regulations of Connecticut State Agencies;

(17) “Department” means the Department of Environmental Protection;

(18) "Diversion" means “diversion” as defined in section 22a-367 of the Connecticut General Statutes;

(19) "Divert" means “divert” as defined in section 22a-367 of the Connecticut General Statutes;

(20) “Fluvial specialist” means a species of aquatic life that requires flowing water throughout its life cycle;

(21) “Geomorphic” means those landforms resulting from geologic processes;

(22) “Habitat forming bioperiod” means that period from March 1 to April 30, inclusive, of each year;

(23) “Interbasin transfer” means “interbasin transfer” as defined in section 22a-367 of the Connecticut General Statutes;

(24) “Median natural flow” means daily stream flow that is equaled or exceeded on fifty percent of days in a period of record calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(25) “Other structure” means, without limitation, any pump, well, siphon, probe, channel, intake or any device that causes water to be diverted and by so diverting has an impact upon the flow of surface water, and that is not a dam;

(26) “Overwinter bioperiod” means that period from December 1 to February 28 or February 29, inclusive, of each year;

(27) “Person” means “person” and “municipality” as these terms are defined in section 22a-423 of the Connecticut General Statutes;

(28) “Public water supply” means any surface or groundwater resource that provides water for a private, municipal or regional utility supplying water to fifteen or more service connections or to twenty-five or more persons;

(29) “Q99” means the daily stream flow that is equaled or exceeded on 99 percent of days in a period of record calculated using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner;

(30) “Rearing and growth bioperiod” means that period from July 1 to October 31, inclusive, of each year;

(31) “Registration” means a document filed by a person in accordance with section 22a-368(a) of the Connecticut General Statutes that establishes the location of a diversion of surface or groundwater from a river or stream system in existence prior to 1982, the amount of that diversion, and the use of water diverted at that location;

(32) “Resident spawning bioperiod” means that period from June 1 to June 30, inclusive, of each year;

(33) “River or stream segment” means a discrete, contiguous reach of river or stream channel for which a uniform classification has been adopted;

(34) “River or stream system” means the water in the river or stream channel upstream of any point on that river or stream, including all tributary streams that drain into the channel, and the subsurface groundwater that contributes flow to sustain flow in the river or stream;

(35) “Run-of-river” means a method of operating a dam on a continuous basis where no headpond storage is used and which results in a condition where outflow from the reservoir is equal to inflow on an instantaneous basis;

(36) "Salmonid spawning bioperiod" means that period from November 1 to November 30, inclusive, of each year;

(37) "Stratified drift" means "stratified drift" as defined in section 22a-354h of the Connecticut General Statutes;

(38) "Structure" means "other structure" as defined in this section of the Stream Flow Standards and Regulations;

(39) "Water supply plan" means the plan required by section 25-32d-2 of the Regulations of Connecticut State Agencies; and

(40) "Year" means the period starting January 1 and ending on December 31.

(NEW) **Sec. 26-141b-3. Applicability.**

(a) The Stream Flow Standards and Regulations shall apply to all river or stream systems in this state.

(b) Any person owning or operating a dam or other structure that impounds or diverts the waters of a river or stream system or that affects the flow of water in such a system shall comply with the Stream Flow Standards and Regulations starting on the applicable effective date as prescribed by section 26-141b-6 of the Regulations of Connecticut State Agencies. Prior to any applicable effective date prescribed in section 26-141b-6 of the Regulations of Connecticut State Agencies, the minimum stream flow standards established in sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies shall remain in effect.

(c) Notwithstanding subsection (b) of this section, the following activities shall be exempt from the provisions of the Stream Flow Standards and Regulations:

(1) Hydroelectric power generation, provided such operation represents the principal purpose of the dam or other structure and operation is conducted in compliance with a current or renewed license issued by the Federal Energy Regulatory Commission;

(2) Temporary inspection, maintenance, repair or modification to a dam or other structure, provided all federal, state and local authorizations have been obtained and are complied with;

(3) Diversion of water for fire emergency purposes;

(4) Operation of a government-maintained flood control dam for the protection of property;

(5) Operation of a dam that is not constructed on a river, stream or brook, and collects and temporarily stores stormwater runoff during storm events;

(6) Diversion from a river or stream system at or below the point where that river or stream system is influenced by the tidal waters of Long Island Sound;

(7) One or more wells joined in one system whose combined maximum withdrawal of water does not exceed fifty thousand gallons of water during any twenty-four-hour period;

(8) The maximum withdrawal of fifty thousand gallons of surface water during any twenty-four-hour period;

(9) Diversion of water incidental to testing the production capability of a well or the quality of water withdrawn therefrom, provided the diversion continues no longer than is necessary for testing the production capability of the well or the quality of water withdrawn therefrom;

(10) Diversion of water authorized by the commissioner pursuant to 33 U.S.C. § 1326;

(11) Diversion of water in a manner and degree that is specified by order of the commissioner for the abatement of pollution pursuant to sections 22a-133e, 22a-424, 22a-428, 22a-430, 22a-431, 22a-432, 22a-449 or 22a-451 of the Connecticut General Statutes, or as specified in approved plans submitted pursuant to such an order;

(12) Diversion of water caused by drawing down the surface elevation of an impoundment and subsequent refilling for the purpose of aquatic weed control, water quality control, seasonal drawdown, or inspection or maintenance of a dam, gate house, outlet works, reservoir, shoreline or dock, provided:

(A) the surface elevation of the impoundment is lowered only to the elevation and for the amount of time necessary for aquatic weed control, water quality control, or inspection or maintenance of dam, gate house, outlet works, reservoir, shoreline or dock; and

(B) during drawdown and refilling periods, water is continuously released in an amount equal to or greater than 0.15 cfsm or an amount equal to or greater than the natural inflow, whichever is less;

(13) Diversion of surface waters by the Connecticut Department of Transportation incidental to highway construction authorized by the commissioner pursuant to sections 22a-32, 22a-39, 22a-342, 22a-361, 22a-403 or 25-68b to 25-68h, inclusive, of the Connecticut General Statutes;

(14) Diversion operated in compliance with a diversion permit issued by the commissioner pursuant to sections 22a-368 or 22a-378a of the Connecticut General Statutes;

(15) Diversion subject to a flow management plan contained in a resolution, agreement or stipulated judgment to which the state, acting through the commissioner, is a party and effective as of October 1, 2005, or the management plan developed pursuant to section 3 of Public Act 00-152;

(16) Diversion operated in compliance with a flow management compact approved by the commissioner pursuant to section 26-141b-7 of the Regulations of Connecticut State Agencies;

(17) Operation of a dam designed and constructed for the primary purpose of providing temporary detention of stormwater during and immediately following a storm event;

(18) Operation of a dam in run-of-river only if such dam complies with the recordkeeping and reporting requirements of section 26-141b-8 of the Regulations of Connecticut State Agencies;

(19) Operation of a dam that impounds a river or stream system with an upstream drainage area of three square miles or less and that releases a minimum of 0.1 cfsm of water; or

(20) Operation of a dam that releases a minimum of 0.1 cfsm of water to a river or stream system that flows for a distance of one mile or less before discharging into an impoundment, provided releases from the downstream dam, or the most downstream dam if in a series, meet the release requirements based upon total watershed size at the most downstream dam.

(NEW) **Sec. 26-141b-4. Narrative standards.**

(a) A river or stream segment classified as "Class 1" pursuant to the Stream Flow Standards and Regulations shall, at all times:

(1) Provide the depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community characteristic of that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) Exhibit the natural variation of flows and water levels characteristic of systems that have not been altered by human activity.

(b) A river or stream segment classified as "Class 2" pursuant to the Stream Flow Standards and Regulations shall, at all times:

(1) Provide the depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community minimally altered from that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) Exhibit near-natural variation of flows and water levels characteristic of systems that have been minimally altered by human activity.

(c) A river or stream segment classified as "Class 3" pursuant to the Stream Flow Standards and Regulations shall, at all times:

(1) Provide the depth, volume and velocity of stream flow necessary to support and maintain habitat conditions supportive of an aquatic, biological community moderately altered from that typically present in free-flowing river or stream systems of similar size and geomorphic characteristics under the prevailing climatic conditions; and

(2) Exhibit sufficient variation of flows and water levels characteristic of systems that have been moderately altered by human activity.

(d) A river or stream segment classified as "Class 4" pursuant to the Stream Flow Standards and Regulations may exhibit substantially altered stream flow conditions caused by human activity as necessary to provide for the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture and other lawful uses.

(NEW) **Sec. 26-141b-5. Adoption of river or stream system classifications.**

(a) The commissioner shall prepare a map of proposed classifications after considering the following factors:

(1) Size and location of permitted and registered diversions;

(2) Size and location of dams, reservoirs and other impoundments;

(3) Size and location of return flows of water;

(4) Existing land cover in the upstream watershed;

(5) Planned land use in the upstream watershed, as contained in a local or state plan;

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

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

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

(9) 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;

(10) 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;

(11) River or stream systems or segments thereof that have been identified as a potential source of water supply in a current water supply plan approved by the Department of Public Health;

(12) Practicality of, and potential for, restoring stream flow patterns to achieve consistency with Stream Flow Standards and Regulations due to the extent of prior channel modification or current high impact development and impervious land cover in the watershed; and

(13) Any other factor that the commissioner reasonably deems necessary.

(b) Public participation. After development of a map of proposed classifications, the commissioner shall provide notice to the public of the proposed classifications of such river or stream segments and offer opportunity for public comment.

(1) Notice of the proposed classifications and opportunity to comment shall be published in a newspaper with general circulation in the area within which the river or stream system is located, and on the department's web site.

(2) Notice shall also be provided to the following:

(A) The chief elected official in those municipalities within which the river or stream system is located;

(B) The executive director of the Council of Environmental Quality;

(C) The commissioners of the Department of Public Health, Department of Agriculture, and Department of Public Utility Control;

(D) The Secretary of the Office of Policy and Management;

(E) Persons, at any such person's last known address as filed with the department, holding registration or permits issued by the department authorizing activities that are known or suspected to alter the flow of water in the system for which classifications have been proposed; and

(F) Regional planning organizations, as defined in section 4-124i of the Connecticut General Statutes.

(3) Procedure for submitting comments

(A) The public shall have no fewer than 90 days from the date of newspaper publication of notice to submit comments on the proposed classification of any river or stream segment identified in such notice.

(B) An additional comment period of no fewer than 60 days shall be provided for the limited purpose of receiving comments within the scope of comments previously received pursuant to subparagraph (A) of this subdivision. Any additional comments shall be accompanied by a statement identifying the comment or comments submitted pursuant to subparagraph (A) of this subparagraph to which the additional comment is responding.

(C) To the extent practicable, all comments received by the commissioner shall be posted on the department's web site.

(D) The submission of additional comments exceeding the scope of comments received pursuant to subparagraph (A) of this subdivision will not be considered by the commissioner or posted on the department's website unless: (i) such comment is accompanied by a statement as to the comment's relevance and the reason the comment was not submitted earlier; and (ii) the commissioner finds that the comment is relevant and material and there was good cause for the failure to offer such comment earlier. If an additional comment exceeding the original scope of comments submitted pursuant to subparagraph (A) of this subdivision is accepted by the commissioner, the commissioner shall provide notice to the public on the department's website that the public shall have no fewer than fourteen days to respond to such additional comment.

(4) Following the timely submission of public comments pursuant to subsection (b) of this section, the commissioner shall: (A) consider such comments and adopt

classifications for the river or stream system or segment thereof as identified in the newspaper notice; and (B) prepare a document, to be published on the department's website, 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.

(5) Notice of the adopted classification of any river or stream system or segment shall be published in the Connecticut Law Journal and such publication date shall be the effective date for purposes of implementing the Stream Flow Standards and Regulations for such river or stream system or segment.

(c) Petition to change classification. The commissioner may consider from any person a written petition to change the classification of a river or stream system or segment thereof or review whether current classifications continue to be appropriate and, if not, propose any classification changes as necessary.

(1) Demonstration of need for classification change

(A) Any petition to change the classification of a river or stream system or segment thereof from a more altered to a less altered classification shall include a demonstration that:

(i) one or more of those factors identified in subsection (a) of this section as having relevance with respect to the original classification of that river or stream system have changed or were mischaracterized at the time of the original classification by the commissioner; and

(ii) the river or stream system currently exhibits a pattern of flow that is consistent with the narrative stream flow standard for the proposed classification.

(B) Any petition to change the classification of a river or stream system or segment thereof from a less altered to a more altered classification shall include a demonstration that:

(i) such change is necessary to accommodate the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture, or other lawful uses and that those needs and requirements cannot be satisfied while maintaining consistency with the narrative stream flow standard for the current classification;

(ii) one or more of those factors identified in subsection (a) of this section as having relevance with respect to the original classification of that river or stream system have changed or were mischaracterized at the time of the original classification by the commissioner;

(iii) alteration of the stream flow pattern has been and will continue to be minimized to the extent practicable through the application of all reasonably feasible best management practices, including but not limited to conservation practices and water reuse; and

(iv) alternative sources of water, including interbasin transfers and development of new sources currently not utilized, have been and will continue to be utilized to the maximum extent practicable.

(C) For a river or stream system currently exhibiting a stream flow pattern consistent with the stream flow standard for its current classification, the petition shall, in addition to those items enumerated in subparagraphs (A) or (B) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies, as applicable, include a copy of the completed application for each new or expanded activity proposed in the river or stream system for which a diversion permit is required under Chapter 446i of the Connecticut General Statutes if the proposed change in classification is required to accommodate such activities.

(D) For river or stream system or segment thereof for which a change in classification to Class 4 is sought, the petition shall, in addition to those items enumerated in subparagraph (B) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies, include a demonstration that there is overriding social or economic justification for changing the classification of the river or stream system or segment, including identification of the following:

(i) the specific social needs of the municipality or municipalities within which the river or stream system is located that would not be met should the change in classification not be approved and which can not otherwise be satisfied; and

(ii) the specific economic impacts likely to substantially impair or otherwise detrimentally affect the economy of the community or the state that would occur should the change in classification not be approved.

(2) Commissioner action on petitions

(A) The commissioner shall deem incomplete and reject for insufficiency any petition that does not include a prima facie demonstration as required by subdivision (1) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies.

(B) The commissioner shall substantively review any petition that includes a prima facie demonstration as required by subdivision (1) of section 22a-141b-5(c) of the Regulations of Connecticut State Agencies. The commissioner shall thereafter reject the proposed classification or modify the existing classification.

(C) Notwithstanding section 26-141b-5(c)(2)(B) of the Regulations of Connecticut State Agencies, the commissioner may reject without prejudice any petition submitted less than three years after the last effective date of classification for a river or stream system or segment thereof.

(D) Petitions to change classifications shall be subject to the requirements of subsection (b) of this section, except that the person submitting a petition shall publish notice of any proposed classification and of the opportunity to comment on such proposal in a newspaper of general circulation in the area of the river or stream system that will be affected by any classification change.

(NEW) **Sec. 26-141b-6. Presumptive standards.**

(a) Dam owners or operators shall comply with the following:

(1) Not later than six months after a river or stream segment's effective date of classification as Class 1, all dams shall be operated in run-of-river operation.

(2) Not later than five years after the first effective date of classification for a river or stream segment, a dam shall be operated:

(A) To release seventy-five percent of such system's natural inflow if the release is into a river or stream segment designated as Class 2.

(B) To release the following minimum flow during each bioperiod if the release is into a river or stream segment designated as Class 3:

Bioperiod	Effective Dates	Minimum Required Release
Overwinter	Dec 1- Feb 28/29	Bioperiod Q95
Habitat Forming	Mar 1 – Apr 30	Bioperiod Q95
Clupeid Spawning	May 1 – May 31	Bioperiod Q95

Resident Spawning	June 1 – June 30	Bioperiod Q90
Rearing and Growth	July 1- Oct 31	Bioperiod Q80
Salmonid Spawning	Nov 1 – Nov 30	Bioperiod Q90

(C) To release the greater of 0.1 cfsm or the minimum stream flow required pursuant to sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies if the release is into a river or stream segment designated as Class 4.

(3) Not later than ten years after the first effective date of classification for a river or stream segment, a dam shall be operated:

(A) To release the following minimum continuous flow if the release is into a river or stream segment designated as Class 3 and except as allowed pursuant to subdivision (4) of subsection (a):

Bioperiod	**ffective Dates**	**Minimum Required Release**	
		edent Period Dry	**edent Period Wet**
Overwinter	c 1- Feb 28/29	operiod Q95	operiod Q75
Habitat Forming	lar 1 – Apr 30	operiod Q95	operiod Q75
lupeid Spawning	ay 1 – May 31	operiod Q95	operiod Q75
esident Spawning	ne 1 – June 30	operiod Q90	operiod Q75
earing and Growth	uly 1- Oct 31	operiod Q80	operiod Q50
lmonid Spawning	ov 1 – Nov 30	operiod Q90	operiod Q75

(i) The required release shall be calculated and the release rate adjusted, if necessary, on the first day and the fifteenth day of every month unless such day falls on a weekend or holiday in which case the required release shall be calculated and the release rate adjusted on the next business day.

(ii) The wet period release is required when the median natural flow during the antecedent period equals or exceeds the bioperiod Q25.

(iii) The dry period release is required when the median natural flow during the antecedent period is less than the bioperiod Q25.

(B) To release the greater of 0.1 cfsm or the minimum stream flow required pursuant to sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies if the release is into a river or stream segment designated as Class 4.

(4) Dam owners subject to section 25-32d of the Connecticut General Statutes and regulations adopted thereunder may, not later than five years after the first effective date of classification for a river or stream segment, reduce the minimum release required pursuant to subdivisions (2) and (3) of subsection (a) during certain drought phases. These drought phases, as defined in the dam owner's water supply plan, shall trigger the following reduced releases:

ıter Supply Plan Trigger	Percentage of Required Dry Release	
	ing & Growth Bioperiod	ll Other Bioperiods
Drought Advisory	100%	75%
Drought Watch	50%	50%
Drought Warning	25%	25%
Drought Emergency	No Release Required	No Release Required

(5) For the purposes of subsection (a) of this section, release includes dam leakage, spillage return flow, and discharge from outlet works.

(c) Owners or operators of other structures shall comply with the following:

(1) Not later than five years after the first effective date of classification for a river or stream segment, each structure that causes an impact to such segment, regardless of the effect that dams and other structures may have on such segment, shall:

(A) If the structure impacts a Class 1 segment, limit on any day the maximum alteration of stream flow to an amount less than or equal to 0.05 multiplied by the naturally occurring, annual Q99. For illustrative purposes:

$$\text{Each structure's maximum alteration} \leq (0.05)(Q99_{annual})$$

(B) If the structure impacts a Class 2 segment, limit on any day the maximum alteration of stream flow to an amount less than or equal to 0.25 times the naturally occurring, annual Q99 multiplied by the ratio of the naturally occurring Q99 for the current bioperiod to the naturally occurring Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Each structure's maximum alteration} \leq [(0.25)(Q99_{annual})] \times \frac{Q99_{current\ bioperiod}}{Q99_{rearing\ \&\ growth\ bioperiod}}$$

(C) If the structure impacts a Class 3 segment, limit on any day the maximum alteration of stream flow to an amount less than or equal to 0.50 times the

naturally occurring, annual Q99 multiplied by the ratio of the naturally occurring Q99 for the current bioperiod to the naturally occurring Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Each structure's maximum alteration} \leq [(0.50)(Q99_{annual})] \times \frac{Q99_{current\ bioperiod}}{Q99_{rearing\ \&\ growth\ bioperiod}}$$

(2) Not later than ten years after the first effective date of classification for a river or stream segment, each structure that causes an impact to such segment, with due regard to the effect that dams and other structures may have on such segment, shall:

(A) If the structure impacts a Class 1 segment, maintain and operate in such a way as to limit on any day the collective, maximum alteration of stream flow to an amount less than or equal to 0.05 multiplied by the naturally occurring, annual Q99. For illustrative purposes:

$$\text{Collective, maximum alteration in the river or stream system} \leq (0.05)(Q99_{annual})$$

(B) If the structure impacts a Class 2 segment, use best efforts to maintain and operate in such a way as to limit on any day the collective, maximum alteration of stream flow to an amount less than or equal to 0.25 times the naturally occurring, annual Q99 multiplied by the ratio of the naturally occurring Q99 for the current bioperiod to the naturally occurring Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Collective, maximum alteration in the river or stream system} \leq [(0.25)(Q99_{annual})] \times \frac{Q99_{current\ bioperiod}}{Q99_{rearing\ \&\ growth\ bioperiod}}$$

(C) If the structure impacts a Class 3 segment, use best efforts to maintain and operate in such a way as to limit on any day the collective, maximum alteration of stream flow to an amount less than or equal to 0.50 times the naturally occurring, annual Q99 multiplied by the ratio of the naturally occurring Q99 for the current bioperiod to the naturally occurring Q99 for the rearing and growth bioperiod. For illustrative purposes:

$$\text{Collective, maximum alteration in the river or stream system} \leq [(0.50)(Q99_{annual})] \times \frac{Q99_{current\ bioperiod}}{Q99_{rearing\ \&\ growth\ bioperiod}}$$

(3) For a structure impacting stream flow in a Class 4 river or stream segment at the time of such classification, continue to operate unaffected by the Stream Flow

Standards and Regulations, provided any such structure complies with all other applicable law.

(4) For a structure diverting water from a reservoir, not be required to operate pursuant to the requirements of subsection (b) of this section, provided that the requirements of subsection (a) of this section are met at the dam forming the reservoir.

(c) Variances

(1) The commissioner may issue a variance to reduce the minimum release required pursuant to subsection (a) of this section, or to increase the maximum alteration required pursuant to subsection (b) of this section if requested by either:

(A) The commissioner of any state agency or the Governor; or

(B) The owner or operator of a dam or other structure.

(2) A request for a variance under this subsection shall contain information sufficient to allow the commissioner to give adequate consideration to the effect of the operation of the dam or other structure under such a variance on the river or stream system in question. The commissioner may require additional information prior to acting on such a request. If the requested variance is for a period longer than 90 days, the requester shall, at the same time a request is submitted to the commissioner and in a form as prescribed by the commissioner, publish notice of the request in a newspaper of general circulation in the area of the river or stream system that will be affected by the variance.

(3) In determining whether to grant the requested variance under this section, the commissioner shall evaluate consistency of the proposed variance with the appropriate narrative standard for the river or stream system in accordance with section 26-141b-4 of the Regulations of Connecticut State Agencies. The commissioner may also consider the following factors:

(A) Runoff or rainfall statistics for the period in question as compared with average runoff or rainfall over preceding years;

(B) Impoundment levels or volume of diversion as compared with levels or volumes at the same season in previous years;

(C) Peculiar or unusual demand situations or requirements to protect water quality;

(D) Peculiar or unusual water capture problems;

(E) Unusual health, safety, power, or other crises imposing increased demands on water supplies; and

(F) If notice was published by the requester, any comments received in response to such notice.

(4) The commissioner may issue the requested variance in whole or part, on an individual, basin-wide or state-wide basis, and may include any condition, such as time limitations, deemed necessary.

(d) Notwithstanding subsections (a) and (b) of this section, and after the first effective date of classification for a river or stream system, the release requirements for any classification change made to such system resulting from a petition, the commissioner's initiative or a flow management compact adopted pursuant to section 26-141b-7 of the Regulations of Connecticut State Agencies shall be effective immediately.

(e) After the first effective date of classification for a river or stream segment, the department, in issuing a permit pursuant to section 22a-368(b) of the Connecticut General Statutes to authorize the diversion of surface or groundwater from such system, or in renewing or modifying such a permit, shall consider and apply the Stream Flow Standards and Regulations to the maximum extent practicable.

(NEW) **Sec. 26-141b-7. Flow management compacts.**

(a) Any person may, at any time after a river or stream system's effective date of classification, develop and propose for the commissioner's approval a flow management compact with alternative standards differing from the presumptive standards required pursuant to section 26-141b-6 of the Regulations of Connecticut State Agencies.

(b) A flow management compact must demonstrate that when fully implemented:

(1) It will meet the narrative standards;

(2) It will impose sufficient restrictions on all dams and other structures subject to the Stream Flow Standards and Regulations and that are within the compact's geographic area defined in terms of a river or stream system or segments;

(3) It will implement best management practices, including but not limited to conservation practices and water reuse, in order to minimize alteration of the natural flow pattern; and

(4) It will develop monitoring and reporting requirements, in order to verify that all dams and other structures governed by the compact are in compliance with its terms and conditions.

(c) A proposal for a flow management compact shall include the following information:

(1) The geographic area of the compact;

(2) The river or stream system or segments and their classifications;

(3) A list of persons covered under the compact;

(4) Authorized or permitted diversions of all persons within the geographic area of the compact;

(5) Current maximum withdrawal or minimum dam releases of persons covered under the compact;

(6) Alternative water allocations and operational restrictions necessary to meet the Stream Flow Standards and Regulations;

(7) Supporting documentation demonstrating that any proposed alternatives to the presumptive standards will be sufficient to meet the narrative standards for each classified river or stream segment within the compact, including the following:

(A) Information submitted by persons owning or operating dams or other structures within the river or stream system, including any planned improvements that, once implemented, can reasonably be expected to achieve consistency with the compact;

(B) Results of any biological or habitat studies performed within the river or stream system or in comparable systems demonstrating the effect of stream flow characteristics on natural aquatic habitat and the composition of the aquatic biological community; and

(C) Results of any modeling or other scientific investigations or readily available, credible information that the commissioner deems relevant to estimating the collective impact of dams and other structures that impound or divert the flow of water, including those dams and other structures that are located in the river or stream system upstream from those river or stream segments where the commissioner finds that stream flow patterns are not consistent with narrative or presumptive stream flow standards. The proposal for a flow management compact shall provide the following additional information:

(i) the geographic locations of dams and other structures that impound or divert the flow of water;

(ii) the separation distance between any groundwater extraction wells and the river or stream channel;

(iii) the sub-surface geology, particularly the presence or absence of stratified drift deposits or other geological features that may influence the movement of water between surface and groundwater contributing to the flow pattern;

(iv) any enforceable restrictions or conditions placed upon the extraction of water contained in any registration, permit or other written agreement that may serve to mitigate the impact of the extraction on flow in the river or stream system;

(v) development density and the degree to which best management practices have been applied to minimize the impact of impervious surfaces on the natural stream flow pattern;

(vi) return flow of water or treated wastewater that alter stream flow patterns in the river or stream system; and

(vii) a natural stream flow pattern to be equivalent to the pattern described by a synthetic hydrograph of daily stream flow values derived using methods developed by the U.S. Geological Survey or otherwise acceptable to the commissioner for the purpose of calculating the naturally occurring annual and bioperiod stream flow statistics necessary to evaluate consistency with these stream flow standards;

(8) An implementation schedule; and

(9) Any other information deemed necessary by the commissioner.

(d) The commissioner shall not approve a proposed flow management compact unless it considers to the maximum extent practicable the legitimate needs and requirements of public health and safety, flood control, industry, public utilities, water supply, agriculture and other lawful uses.

(e) The commissioner may, at any time during the implementation of an effective compact, modify or terminate a compact if the implementation of such compact does not meet narrative standards. A stream flow management compact approved by the commissioner shall be effective for up to twenty years, after which period such compact may be reapproved.

(f) Prior to the re-approval of a compact or the commissioner's intent to approve, modify or terminate a compact, the procedure for public notice and opportunity for public comment

pursuant to section 26-141b-5(b) of the Regulations of Connecticut State Agencies shall apply, except that the person seeking commissioner action on a compact shall be responsible for publishing notice in a newspaper of general circulation in the area of the river or stream system that will be affected by the compact.

(NEW) **Sec. 26-141b-8. Record keeping and reporting requirements.**

(a) Any person owning or operating a dam or other structure subject to the Stream Flow Standards and Regulations shall, not later than one year after the effective date of classification for a river or stream segment on which such owner's dam or other structure is located, submit to the department on a form prescribed by the commissioner the following information:

(1) The name of the dam or other structure;

(2) The permit or registration number assigned to the dam or other structure pursuant to section 22a-368 of the Connecticut General Statutes;

(3) The geographical location of the dam or other structure in latitude and longitude (degrees, minutes, seconds);

(4) The affected river or stream system or segment thereof and their classifications;

(5) The name, address and telephone number of the owner or operator of the dam or other structure;

(6) A certification that the owner or operator will continue to meet sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies, if applicable; and

(7) A statement that the owner or operator has a plan for making those necessary infrastructure changes necessary to comply with the five-year timeframe established in subdivision (2) of subsections (a) and (b) of section 26-141b-6, if such timeframe is applicable.

(b) Any person owning or operating a dam in run-of-river operation shall, not later than one year after the effective date of classification of the river or stream segment on which such owner's or operator's dam is located, submit to the department a certification that such dam is operating and will continue to operate in run-of-river mode.

(c) Any person subject to the Stream Flow Standards and Regulations shall, not later than five years after the effective date of classification of the river or stream segment on which such owner's or operator's dam or other structure is located, maintain the following information:

(1) The daily amount of water diverted for each day of operation and, for a dam only, the daily amount of water released from the dam during the previous calendar year; and

(2) The daily amount of water returned to the river or stream system and the geographical location in latitude and longitude of said return.

(d) All operating records shall be maintained for a minimum of fifteen years and such records shall be submitted to the commissioner not later than thirty days following a written request for such records. Upon notification by the department that an electronic reporting system is available for use, operators and owners shall commence the annual submittal of data electronically as prescribed by the commissioner.

(NEW) **Sec. 26-141b-9. Conflict and severance.**

(a) Where there is a conflict between the provisions of the Stream Flow Standards and Regulations and those of any other applicable ordinance, regulation or permit, the provisions of the ordinance, regulation or permit that imposes the most stringent requirements shall govern.

(b) The invalidity of any word, clause, sentence, section, part or provision of the Stream Flow Standards and Regulations shall not affect the validity of any other part that can be given effect without such invalid part or parts.

Statement of Purpose:

The purpose of the proposed regulations is to provide for the protection of Connecticut's river and stream systems by establishing stream flow standards that apply to (or exempt by regulation) all river and stream systems in the state. These proposed rules eventually replace the existing requirements found in the Minimum Stream Flow Standards and Regulations of the Connecticut Department of Environmental Protection, sections 26-141a-1 to 26-141a-8, inclusive, of the Regulations of Connecticut State Agencies.

The proposed regulations balance the needs of humans to use water for drinking and domestic purposes, fire and public safety, irrigation, manufacturing, and recreation, with the needs of fish, wildlife and other biota that also rely upon the availability of water to sustain healthy, natural communities. The regulations provide a framework considering the best available science to balance the human and ecological needs for water both through classification and operational rules, provide for public notice and input into the process, and provide a phased implementation of regulatory requirements to encourage and support water planning and conservation efforts. Finally, these rules protect Connecticut's river and stream systems by promoting better, more efficient management of our water supplies, so that all needs, both human and ecological, can be met both today and in the future.

The proposed regulations include the following provisions:

(1) Section 26-141b-1 – Short title for the proposed regulations;

(2) Section 26-141b-2 – Definitions. These include terms such as "bioperiod," "river or stream segment," "river or stream system," "run-of-river," and "structure";

(3) Section 26-141b-3 – Applicability and exemptions. There are exemptions for safety, such as fire or drought emergencies and dam inspections; limited or short term water use, such as withdrawals less than 50,000 gallons per day, temporary stormwater detention and well capacity testing; permitted withdrawals; and other activities such as pollution abatement;

(4) Section 26-141b-4 – Narrative standards. This section establishes stream flow classifications and the narrative goals for those stream classes, based on the natural variation of stream flows, and on the existing and planned degree of human alteration to the streams. The proposed stream flow standards incorporate the concept of balancing human and ecological needs for water by establishing different flow standards for each of four categories or classes of waters. In Class 1 waters, priority is given to protecting ecological health. In Class 4 waters, support of human activities is weighted most heavily. Class 2 and Class 3 waters have intermediate balance points between ecological and human uses. The flow standards for each class are based on maintaining, to various degrees, the natural variation in flow expected in Connecticut given seasonal climate and rainfall patterns;

(5) Section 26-141b-5 – Adoption of river or stream system classifications. This section sets out the adoption process for stream flow classifications, including the physical, natural and human factors for classification, the public participation process, and the petition process for changes. The factors the commissioner will consider when determining a classification for a river or stream segment include, but are not limited to, the following: size and location of surface and groundwater withdrawals; size and location of planned future withdrawals, including potential sources for public water supply; size and location of dams and impoundments; size and location of water and wastewater discharges; existing and proposed development; presence of flow-sensitive aquatic life; anadromous fish runs, trout management areas, and other recreational resources; location of US Geological Survey natural reference stream gages; designated open space protected areas; and physical habitat restoration potential. A map of the proposed classifications will be publicly noticed and ample opportunity for public comment is incorporated into the requirements. The commissioner will take such comments into consideration before finalizing the classifications, which will then be published. A petition process to request changes to the classification (to either a more altered or less altered class) is included, along with factors for consideration and public comment;

(6) Section 26-141b-6 – Presumptive standards. This section sets out presumptive, numeric flow standards for each class based on seasonable flow criteria and type of flow altering

activity. This includes specific release requirements for dams to maintain a minimum stream flow, maximum stream flow alteration standards for other structures such as wells or pumps to limit the water withdrawn from the stream, implementation timeframes, and drought relief and variance provisions;

(7) Section 26-141b-7 – Flow management compacts. This section establishes rules and procedures for developing flow management compacts among the water users in a river or stream system for the commissioner's approval that identify alternative flow standards from the presumptive, numeric standards, but which still meet the narrative standards for the river or stream system. Goals, information requirements and supporting documentation are required for such a compact;

(8) Section 26-141b-8 – Record keeping and reporting requirements. This section sets out requirements to submit to the department basic information on the dam or other structure, such as name of owner and location, within one year of adoption of the regulations. Beginning five years after adoption, data on the daily amount of water diverted and any amounts returned to the river or stream system should be maintained and, upon a request, submitted to the commissioner; and

(9) Section 26-141b-9 – Conflict and severance. A conflict and severance section is included in case of conflicting legal requirements.

APPENDIX IV
SCIENCE & TECHNICAL WORKGROUP MEMBERS

Peter Aarrestad – DEP Inland Fisheries Division

Lee Dunbar – WPLR Planning and Standards Division

Bob Gilmore – WPLR Inland Water Resources Division

Rick Jacobson – DEP Inland Fisheries Division

Elizabeth Ahern – US Geological Survey

Colin Apse – The Nature Conservancy

Jim MacBroom – Milone & MacBroom

Piotr Parasiewicz – University of Massachusetts

David Radka – Connecticut Water Company

Doug Thompson – Connecticut College

Glenn Warner – Connecticut Institute of Water Resources

APPENDIX V:
POLICY & IMPLEMENTATION WORKGROUP MEMBERS

Lee Dunbar – WPLR Planning and Standards Division

Robert LaFrance – Commissioner's Office

Melanie Attwater Young – Connecticut Department of Agriculture

Gil Bligh – City of New Britain

Betsey Gara – Connecticut Water Works Association

Darrell Smith – Connecticut Department of Public health

Kirt Mayland – Trout Unlimited

Margaret Minor – Rivers Alliance

Marc Taylor – Pomperaug Study

Peter Gallant – Tighe & Bond

Kachina Walsh Weaver – Connecticut Conference of Municipalities

Maureen Westbrook – Connecticut Water Company

APPENDIX VI:
COMMISSIONERS ADVISORY GROUP MEMBERS

Ralph Abele –US Environmental Protection Agency

Jack Betowski – Connecticut Department of Public Utility Control

Linda Bireley – Fisheries Advisory Council

Ellen Blashinski – Connecticut Department of Public Health

Darrell Smith – Connecticut Department of Public Health

Eric Brown – Connecticut Business and Industry Association

Virginia de Lima – US Geological Survey

David Silverstone – South Central Regional Water Authority

Marc Smith – The Nature Conservancy

Kurt Strasser – University of Connecticut School of Law

Lynn Werner – Housatonic Valley Association

Maureen Westbrook – Connecticut Water Company

Betsey Wingfield – Bureau of Water Management and Land Reuse