

Stream flow:

Balancing Water Use for Future Generations

The Connecticut Department of Environmental Protection (DEP) is proposing revisions to the Stream Flow Standards in response to legislation enacted in 2005. This statute directed DEP to develop regulations that would expand the coverage of the stream flow standards to include all rivers and streams rather than only those stocked with fish as was the case previously. The statute further directed DEP to develop standards that balance the needs of humans to use water for drinking, washing, fire protection, irrigation, manufacturing, and recreation with the needs of fish and wildlife that also depend on the availability of water to sustain healthy, natural communities.



How does the new Stream Flow Regulation affect me?

If you appreciate Connecticut's diverse natural wildlife and enjoy taking advantage of the many opportunities for water-based recreation provided in our State, the revised Stream Flow Regulation provides enhanced protection for those activities. The regulations also establish a strong foundation for maintaining existing uses and insuring that adequate water supplies are available today and for future generations.

In the event that a severe drought does occur, ideally all water users will reduce their demand so that both critical human and ecological needs can be met. Demand management by residential water consumers typically involves such simple actions such as limiting lawn watering, car washing, or implementing other measures to conserve water until conditions improve. Wasting water through carelessness or inefficient water use practices however is never acceptable, even during times of relative abundance. The proposed stream flow regulation is designed to enhance the State's ability to manage our water resources efficiently and encourage citizens to participate in the stewardship of what is arguably our most valuable natural resource.

If you are serviced by a public or private water utility, you may experience a modest increase in the cost of water to offset the costs of maintaining water supply infrastructure or to develop new supplies that will insure water availability.

Summary The Stream Flow Standards are most easily understood as requiring two separate but related activities. First, the proposed regulation requires that all rivers and streams be Classified into one of four Classes. Each Class represents a different balancing of human use and ecological health priorities. The Classification adopted for a stream informs future decisions regarding how that specific resource will be managed. The proposed regulation establishes a public process by which this Classification is to be done and identifies the key considerations for determining what Class is appropriate for specific waters. Once a stream has been classified, a series of requirements are imposed on the operators of dams that regulate stream flow, those who divert from a stream or river, or those that pump significant quantities of groundwater from aquifers that sustain the flow of streams and rivers. These requirements are phased in over time to allow current users to adjust their operations or facilities to comply with the new regulations without unduly disrupting the supply of water available for human use. The proposed regulation also provides the option of adopting a Flow Management Plan 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.

Stakeholder Involvement A Commissioner’s Advisory Group met numerous times over the course of three and a half years to provide DEP with a broad perspective on the potential impact of the revised regulations on various stakeholders. DEP consulted with other State agencies, municipalities, water utilities, scientists, and environmental and recreational advocacy organizations. In addition, a Science and Technical Workgroup was formed consisting of recognized experts from various disciplines to insure that the regulations would be based on the best available science and a Policy and Implementation Workgroup was also convened to evaluate various policy options relating to implementing the revised regulations.

Balancing Human and Ecological Needs Based Upon Best Available Science

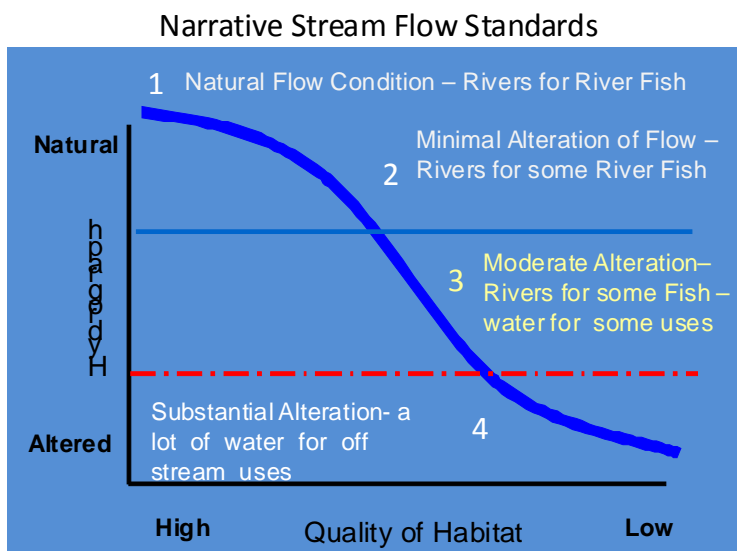
The proposed stream flow standards incorporate the concept of balancing human and ecological needs for water by establishing different flow standards for each of four categories or classes of waters.

Class 1 waters would be considered “natural,” characterized as a resource having little current development in the watershed and having not been affected by the removal of water for human uses.

Class 2 waters would be considered “near natural,” sharing many characteristics with Class 1 systems. The flow standards for this class, however, would allow for some level of human alteration.

Class 3 waters would be defined as “working rivers,” where human uses may have a significant influence on stream flow patterns. These rivers and streams are expected to have adequate water resources available to support viable aquatic communities. Some changes in use may be necessary to support flow patterns needed to ensure these conditions.

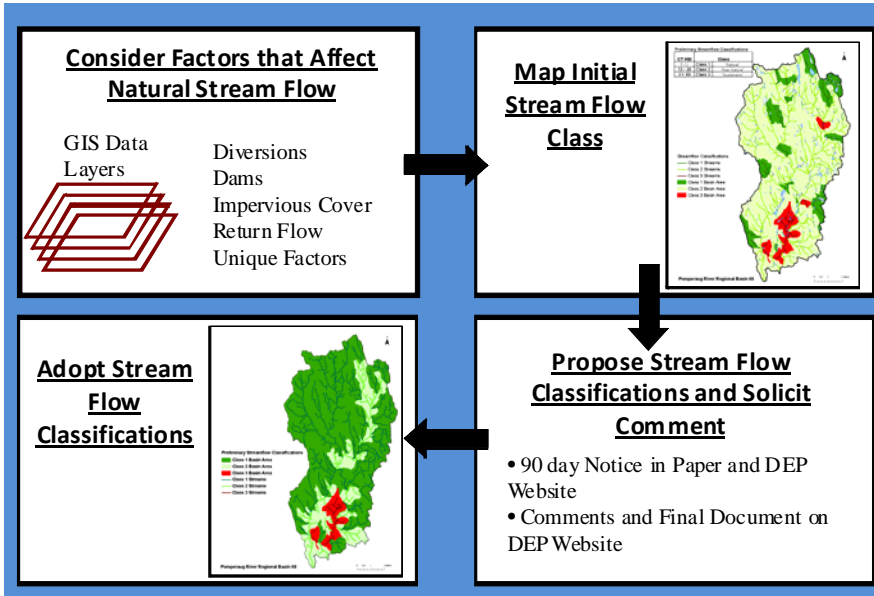
Class 4 waters would be characterized as systems where past practices have resulted in a significant deviation from the natural stream flow pattern and restoring these rivers and streams to a more natural condition would cause an extreme economic hardship.



In Class 1 waters, priority would be given to protecting the ecological health of a river or stream. In Class 4 waters, support of human activities would be weighted most heavily. In Class 2 and Class 3 waters, permitted activities strike a balance between ecological and human needs. We anticipate that most existing consumptive diversions will be in Class 3 and Class 4 waters.

Scientific literature supports that alteration of the natural flow regime impacts stream biota. As a result, the flow standards for each Class are based on maintaining to various degrees the natural variation in flow expected in Connecticut given our seasonal climate and rainfall patterns.

Procedures to Classify Waters



Classifying Stream Segments The proposed regulation sets out a process by which DEP will propose a Class assignment for each river and stream based on an evaluation of factors that have relevance with respect to the balancing of human and ecological values and uses. Once a preliminary map has been completed depicting the proposed classification of all streams and rivers in a Major Basin, the DEP will initiate a public review process designed to allow citizens and water users to comment and suggest changes in class assignments. DEP anticipates that it will take up to five years to complete the process of

classification by classifying one of the five major river basins each year. The proposed stream flow regulation specifies a process that allows a classification to be changed in the future if conditions warrant.

Stream Flow Standards

The proposed Stream Flow Regulation also establishes a numeric criterion for each Class of water that differs with respect to the degree of deviation from a natural stream flow condition. Criteria are presented in two formats, a Minimum Flow Release Rule for waters where in-stream flow is determined by releases of water from a dam control structure, and a Maximum Flow Reduction Rule for streams where flow is influenced primarily by the timing and amount of water withdrawn from the groundwater that feeds the stream.

Phased Implementation of Regulatory Requirements

Phasing of the regulatory requirements over more than 10 years as they apply to water supply utilities is designed to achieve the environmental goals established in PA 05-142 without causing undue disruption of the State's existing water supplies and water use practices. Phasing of regulatory requirements provides the opportunity to mitigate the impact of the regulation on water utilities and consumers by providing adequate time for;

- 1) implementing effective conservation and demand management practices;
- 2) undertaking water supply planning to design, finance and construct any water supply infrastructure necessary to make required releases, to balance multiple sources of water within a water supply system to insure that all existing sources are being used optimally, and to develop a watershed plan that optimizes yield for human use while continuing to meet the narrative goals; and
- 3) establishing system interconnects to allow for movement of water from "water rich" to "water poor" areas.

Flow Management Plans

The option to manage stream flow within a river system under the terms of a flow management plan provides an opportunity to maximize yield for human use while continuing to meet ecological needs. Such a plan might impose different requirements on dam operators or groundwater withdrawals keyed to the unique characteristics of the watershed. This can be achieved by tailoring flow management to the specific characteristics of the system. Flow management plans for the Mill River, Shepaug River and Fenton River are already in place.

Exemptions and Off-Ramps

There are numerous exemptions proposed in the regulations. For instance, diversions of water from portions of a river or stream system that are tidally influenced are not covered by the proposed stream flow regulation. Additionally, some specific types of activities or water uses are exempted from requirements to operate in accordance with the Stream Flow Standards. Typically, these activities involve intermittent, short-term use such as to provide emergency fire or flood protection or to allow maintenance and repair to a dam or seasonal drawdown of a recreational lake. Small water users such as private homeowner wells and others that pump less than 50,000 gallons per day are also exempt. Water users operating in compliance with a current DEP permit must continue to comply with that permit but are otherwise not required to make any changes to operations in order to comply with the revised stream flow regulation. Dams that are regulated under federal law by the Federal Energy Regulatory Commission are not subject to additional release requirements beyond those incorporated into their federal permit. In addition special release rules apply to a limited number of dams that meet specific conditions.

Drought Triggers and Variances

The proposed Stream Flow Regulations allow water utilities to reduce the amount of water they release during periods when there is an increased risk that a drought is imminent and water supplies are in danger of becoming depleted. The Stream Flow Regulations also allow water utilities to eliminate all releases during periods when a water utility is in a drought emergency condition.

In addition, there is a variance procedure that allows the DEP Commissioner to issue a variance to reduce the minimum release or to increase the maximum alteration allowed to a river segment.

Stream Flow Exemptions:

- Federal Energy Regulatory Commission authorized hydroelectric power generation;
- Temporary inspection, maintenance, repair or modification to a dam or other structure;
- Fire emergency purposes;
- Government-maintained flood control dams;
- Stormwater detention basins;
- Diversions from tidally influenced rivers;
- Diversions of less than 50,000 gpd;
- Testing (production capability or water quality);
- Thermal/cooling water discharges;
- Diversions pursuant to pollution abatement orders;
- Temporary or seasonal lake draw downs with conditions
- CONNDOT activities incidental to highway construction;
- Diversions pursuant to a current diversion permit;
- Diversion subject to certain flow management plans or under a flow management compact;
- Run-of-river dams managed in accordance with regulation;
- Dams that impound a drainage area of less than three square miles and make minimum releases;
- Dams that make minimum releases for one mile or less before discharging into another impoundment, provided the most downstream dam meets the release requirements.

To Find Out More:

Public Process

Informational Sessions

DEP Phoenix Auditorium, 5th Floor
79 Elm Street, Hartford, CT

- November 9, 2009 – 9:00 -11:30 am
- December 21, 2009 - 1:30-4:00 pm

Hearing

DEP Phoenix Auditorium, 5th Floor
79 Elm Street, Hartford, CT

- January 21, 2010 -9 :00 am

Public Comment Period

Anyone seeking to comment on the proposed regulations will need to submit in writing or orally at the public hearing.

Written comments to:

Paul E. Stacey

Department of Environmental Protection
Bureau of Water Protection and Land Reuse
Planning & Standards Division

79 Elm Street

Hartford, CT, 06106-5127

by February 4, 2010