THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

To: MA Water Resources Commission
From: WRC Staff
Re: Proposed Addition to Water Needs Forecast Methodology
Date: 31 January 2017

Background

An update to the **Policy for Developing Water Needs Forecasts for Public Water Suppliers and Communities and Methodology for Implementation** (WNF method) was approved by the Massachusetts Water Resources Commission (WRC) in December 2007 and last revised (with WRC approval) in May of 2009. WRC staff uses this methodology to develop water needs forecasts for communities; the forecast numbers subsequently are incorporated into water withdrawal permits managed by the Department of Environmental Protection (DEP).

Some communities, particularly those on Cape Cod and the Islands, experience a large influx of population in the summer months. For these communities, estimating the population served by a public water supply system is challenging. To address seasonal population fluctuations, WRC staff developed a methodology using Census data combined with data from a report by the University of Massachusetts Donahue Institute[1]. Staff applied this methodology in developing water needs forecasts for the communities on Cape Cod and the Islands in 2010. In 2016, DEP and DCR staff participated in Water Management Act permitting discussions with numerous Cape Cod communities and heard many concerns regarding uncertainty around large seasonal population fluctuations and the ability of the WRC method to adequately address these fluctuations.

Proposed Addition to WNF Method

The existing methodology allows for a five percent buffer to be added to the final five-year period of the water needs forecast. The buffer is intended to account for uncertainties or unanticipated increases in water use as a result of additional growth. In the case of seasonal communities in the Cape and Islands, an additional five percent buffer is proposed to account for the greater uncertainties associated with estimating seasonal fluctuations in this type of population.

The text below is excerpted from the water needs forecasting methodology, page 11, Additional Information. The proposed addition is shown in italics.

Buffer Amount

A 5% buffer is added to the projected ADD[2] for the final five-year period of the water needs forecast. This 5% buffer is intended as a contingency in the event that unanticipated growth results in a need for additional water during the forecast period.

For communities with significant seasonal populations (Cape Cod and the Islands), a 10% buffer may be added to the projected ADD for the final five-year period of the water needs forecast. This 10% buffer would accommodate uncertainties related to large seasonal population fluctuations.

The buffer will be used at MassDEP's discretion, after a review of the system's water use patterns.

[1] 2008 Survey of Cape Cod Second-Home Owners.
[2] ADD: Average Day Demand