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January 19, 2022

House Committee on Natural Resources and Energy
State House
Montpelier, Vermont

Subject: H.466 surface water withdrawals and interbasin transfers

Dear Committee:

Thank you for considering this bill to better regulate withdrawals from surface waters and transfers of water between basins and watersheds.

Transfers should be approached cautiously. Many of our surface waters are listed as impaired, altered, or stressed. Transfers should not be allowed from these waters. And we need to be careful about transfers that return into these waters.

These comments point out troubling aspects of this bill and suggestions for amending them.

Basing the transfer on basins makes areas too large and provides little meaningful restriction on the transfer of water from one surface water to another. I acknowledge that the U.S.G.S. uses "basin" as the term for the 6-digit hydrologic units. I believe that Vermont will be better served by regulating the transfers on the 8-digit code, which the U.S.G.S. calls "subbasin".

The map shows the boundaries of the 6-digit basins and the 8-digit subbasins.

Vermont has five 6-digit basins.

- 010801 all drainage to the Connecticut River upstream of Brattleboro
- 010802 all drainage to the Connecticut River downstream of Brattleboro (mostly the Deerfield River drainage)
- 020200 all drainage to the Hudson River
- 043001 all drainage to Lake Champlain and the Richelieu River
- 043002 all drainage to Lake Memphremagog and the Rivière Saint François

The criterion should be the 8-digit hydrologic unit codes or possibly even the 10-digit codes. If we remain true to the U.S.G.S. definitions, then when regulating transfers between the 8-digit codes, the terminology will be transfers between subbasins.

The definition of Vermont Water Quality Standards would be enhanced by referring to Chapter 29A of the Environmental Protection Rules.

The policy on surface water withdrawals (§ 1041) is to protect, maintain, and restore water quality. The Vermont Water Quality Rules have a specific anti-degradation policy to protect, maintain, and improve water quality. Neither say anything about allowing degradation of water quality. Withdrawing water from a degraded or impaired water will result in further impairment of the surface water used as the source of the withdrawal. And placing degraded or impaired water into another basin will degrade the quality of the receiving water.

Wastewater treatment facilities are designed so that the discharge meets water quality standards at certain conditions of low flow in the receiving water. If the withdrawal lowers the streamflow below that value, the withdrawal should not be allowed.

Prevention of degradation should be explicitly placed into the bill. This prohibition might best be placed in a new § 1043(a)(7) something like : "(7) prohibit withdrawals from impaired, altered, or stressed waters, or from waters upstream from these waters", then list these six categories.

- Part A Impaired surface waters in need of TMDL
- Part B Impaired surface waters - no TMDL determination required
- Part D Impaired surface waters with completed and approved TMDL's
- Part E Surface waters altered by aquatic invasive species
- Part F Surface waters altered by flow regulation
- Stressed wasters

Review of intersubbasin and watershed transfers (§1044) can be strengthened by adding a subdivision (c) along the lines of "(c) Intersubbasin transfers or watershed transfers are not allowed under the following situations

- (1) the source water is in or upstream of an impaired, altered, or stressed water
- (2) the water is returned to or upstream of a water that is impaired, altered, or stressed.
- (3) The withdrawal will reduce the flow needed to maintain water quality at discharge locations of wastewater treatment facilities.

Also (b) would be enhanced if it requires the Secretary to review certain transfers of water between watersheds. A review might be required of transfers from or to class A waters; or above a certain elevation; or when the withdrawal will result in the remaining flow being less than a certain multiple (greater than one) of some specified low streamflow value.

Use of English units versus S.I. units

Some background information.

A member of the committee asked whether to use the English unit (gallons per day) or a metric (S.I.) unit. Water quality standards are often based on some low streamflow value. These values are based on calculations using data from stream gages which report daily stream flow in gallons. (Hydrologic usage spells the word "gage"; it is not a typo.) The stream gages in Vermont go back to 1928. (Yes, the network began basically after the flood of 1927.) The low streamflow values until now have been calculated from those daily measurements. It is possible to convert the resulting calculation to metric units.

When I did hydrology in metric, the unit usually was cumecs/day (a cumec being a cubic meter).

I hope you find these comments worthy of incorporation into H.466.

Thank you for taking the time to read this letter.

Sincerely,
Thomas Weiss, P. E

Basin Boundaries HUC-6 and HUC-8

