Message

From: Colarusso, Phil [colarusso.phil@epa.gov]
Sent: 4/26/2017 2:27:47 PM
To: todd.callaghan@state.ma.us
CC: Stover, Toby [Stover.Toby@epa.gov]
Subject: RE: and another thing

Todd,

So I pulled Lesa's paper from the files, growth in juvenile winter is negatively impacted by dissolved oxygen concentrations below 4 mg/l. I know I don't have to tell you that reduced growth translates to lower survival rates. Thus, contemplating a standard that would compromise the survival of one of the signature species of Mount Hope Bay seems to contradict the "good" fish habitat narrative. We may want to get DEP to define how they view "good" fish habitat. Would it be worthwhile for me to send an email to the group? I would feel a little bad about dropping this stuff on them at the 11th hour, but it's kind of important. I also found reference to a paper on alewives that talked about massive fish kills at 3.6 mg/l, though there was a nexus with temperature in that paper.

Phil

From: Callaghan, Todd (ENV) [mailto:todd.callaghan@state.ma.us]
Sent: Tuesday, April 25, 2017 4:19 PM
To: Colarusso, Phil <colarusso.phil@epa.gov>
Subject: RE: and another thing

Phil

MHB is SB = "good" habitat. This process is to refine the DO numeric standard but will still keep the narrative standard of good fish habitat. What you saw in that table were the acute toxicity levels, which I think were being proposed as one-hour minima. The chronic levels should be up a notch, maybe in the 2-4 mg/l range, I'm guessing. There is more work to do, especially regarding looking deep into the guts of the algorithm and the sources from which the DO values arise.

todd

From: Colarusso, Phil [mailto:colarusso.phil@epa.gov]
Sent: Tuesday, April 25, 2017 3:22 PM
To: Callaghan, Todd (EEA)
Subject: and another thing

Todd,

So how does lowering the DO in MT Hope Bay square with the state standard of excellent (SA) or good (SB) fish habitat. Just thinking about a number of papers including work by Lesa Meng using winter flounder growth as an indicator of environmental quality. Lesa did work in Mount Hope Bay and looked at the effect of water temperature and DO. If low DO depresses winter flounder growth can that area still be considered "Excellent or Good" fish habitat?

Phil