Message

From: Wirick, Holiday [wirick.holiday@epa.gov]
Sent: 5/13/2020 7:38:54 PM
To: Wax, Peter N. [pwax@nd.gov]
Subject: Comments on ammonia criteria equations

Hi Pete, thanks for your email and voicemail message yesterday. I passed your information and concerns along to Mario Sengco, our Region 8 liaison, and to Lars Wilcut, the ammonia criteria expert I'm working with on this issue.

Lars' recommendations are provided below.

Thankfully, he also provided links for me to two internal documents on ammonia criteria approaches and when to choose the various equations so I can... ahem... take a more active role when working with other entities proposing to adopt the new ammonia criteria.

Thanks - and I hope this information is helpful. Please let me know if you need anything else.

Have a wonderful day and evening.

Holly

From: Sengco, Mario <Sengco.Mario@epa.gov>
Sent: Wednesday, May 13, 2020 12:20 PM
To: Wirick, Holiday <wirick.holiday@epa.gov>
Subject: FW: Question from ND re: Ammonia Standard

Hi, Holly

Here is some additional input from Lars based on Pete's response.

Mario

From: Wilcut, Lars <Wilcut.Lars@epa.gov>
Sent: Wednesday, May 13, 2020 10:27 AM
To: Fleisig, Erica <Fleisig.Erica@epa.gov>; Sengco, Mario <Sengco.Mario@epa.gov>
Subject: RE: Question from ND re: Ammonia Standard

Given what I understand North Dakota is looking to do, I recommend they put these equations into their WQS:

- For CMC, both the mussels/*Oncorhynchus*-present equation they already have in there, and also the *Oncorhynchus*-absent equation on page 42. Note the equation is missing brackets (corrected version below:

$$CMC = 0.7249 \times \frac{0.0114}{1 + 10^{7.204-pH}} + \frac{1.6181}{1 + 10^{pH-7.204}} \times MIN\left(51.93, 23.12 \times 10^{0.036\times(20-T)}\right)$$

- For CCC, the only driver is mussels, so it's a matter of determining the presence/absence of mussels. Given that the state determined they are ubiquitous I'm assuming they don't want to bother with any additional equations here. If they do, Appendix N of the criteria document has the applicable equations.
- In my earlier email I said that the issue is rainbow trout, but it's actually all the species in the genus *Oncorhynchus.*
- As an alternative to the equations, or as a supplement to them, the state could adopt the applicable tables (Tables 5a, 5b, 6) showing the criteria magnitude values from given pH and temperatures.
- It would lessen the chance of litigation, promote transparency, and ensure regulatory certainty to clearly describe the circumstances that would determine which equation is used in any given situation. That could include any required interaction with the state authority making decisions, the level and type of information expected, etc.

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Region 8 WQS Liaison

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