



Implementation Update EPA (2013) Ammonia Criteria

Water Quality Standards Workgroup

May 24, 2021



UTAH DEPARTMENT of
ENVIRONMENTAL QUALITY

**WATER
QUALITY**

Presentation Overview

1. Provisional recalculated criteria for Utah
2. Proposed changes to [2017 Utah Implementation Guidance](#)
3. Anticipated milestones and schedule



M. Falcata (USFWS)

The cover page of the document features the Utah Department of Environmental Quality Water Quality logo at the top left. The title is centered and reads: "Utah Implementation Guidance for the 2013 USEPA Ammonia Criteria for the Protection of Aquatic Life." Below the title, the date "September 20, 2017" and "Version 1.0" are listed. At the bottom, there is a small line of text: "The review draft of this document was titled Adoption of 2013 USEPA Ammonia Criteria for the Protection of Aquatic Life for Utah." In the bottom left corner, it says "UTAH DIVISION OF WATER QUALITY DWQ-2017-002062.Docx" and in the bottom right corner, "Version 1.0".

Utah Provisional Recalculation with new data

Acute tests

- *Anodonta nuttalliana* (aka, *californiensis*)
- *Margaritifera falcata*

Chronic results for *A. nuttalliana* and *M. falcata* estimated using acute-to-chronic ratio approach

Deleted 3 fish species and 10 unionid species from EPA (2013) database

- Atlantic salmon
- Sunshine bass
- White perch

Ongoing solicitation for any other new data

The image shows the cover of a report. At the top, it says 'Central Valley Clean Water Association' over a background of mussels. Below that is an aerial view of a wastewater treatment plant. The main title is 'Phase IIc Freshwater Mussel Collaborative Study for Wastewater Treatment Plants: Ammonia Criteria Recalculation Final Report'. It is prepared for the Central Valley Clean Water Association and prepared by Pacific Ecorisk. It is in association with Robertson-Bryan, Inc. and Larry Walker Associates. The date is January 2020. There are also three smaller images: a river scene, a close-up of a mussel, and a person in a boat.

Central Valley Clean Water Association

Phase IIc Freshwater Mussel Collaborative Study for Wastewater Treatment Plants:
Ammonia Criteria Recalculation
Final Report

Prepared for:
Central Valley Clean Water Association

Prepared by:
PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

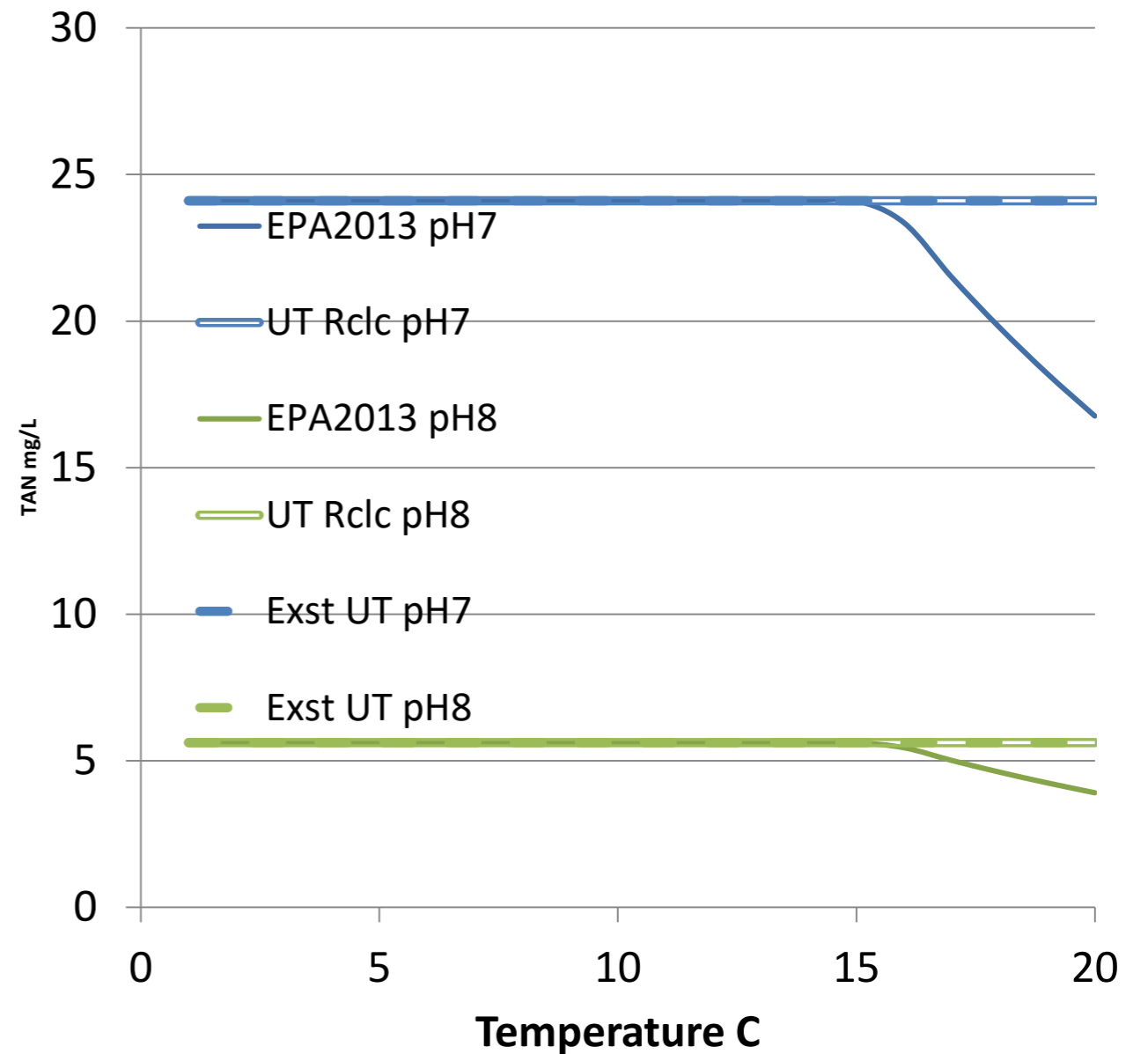
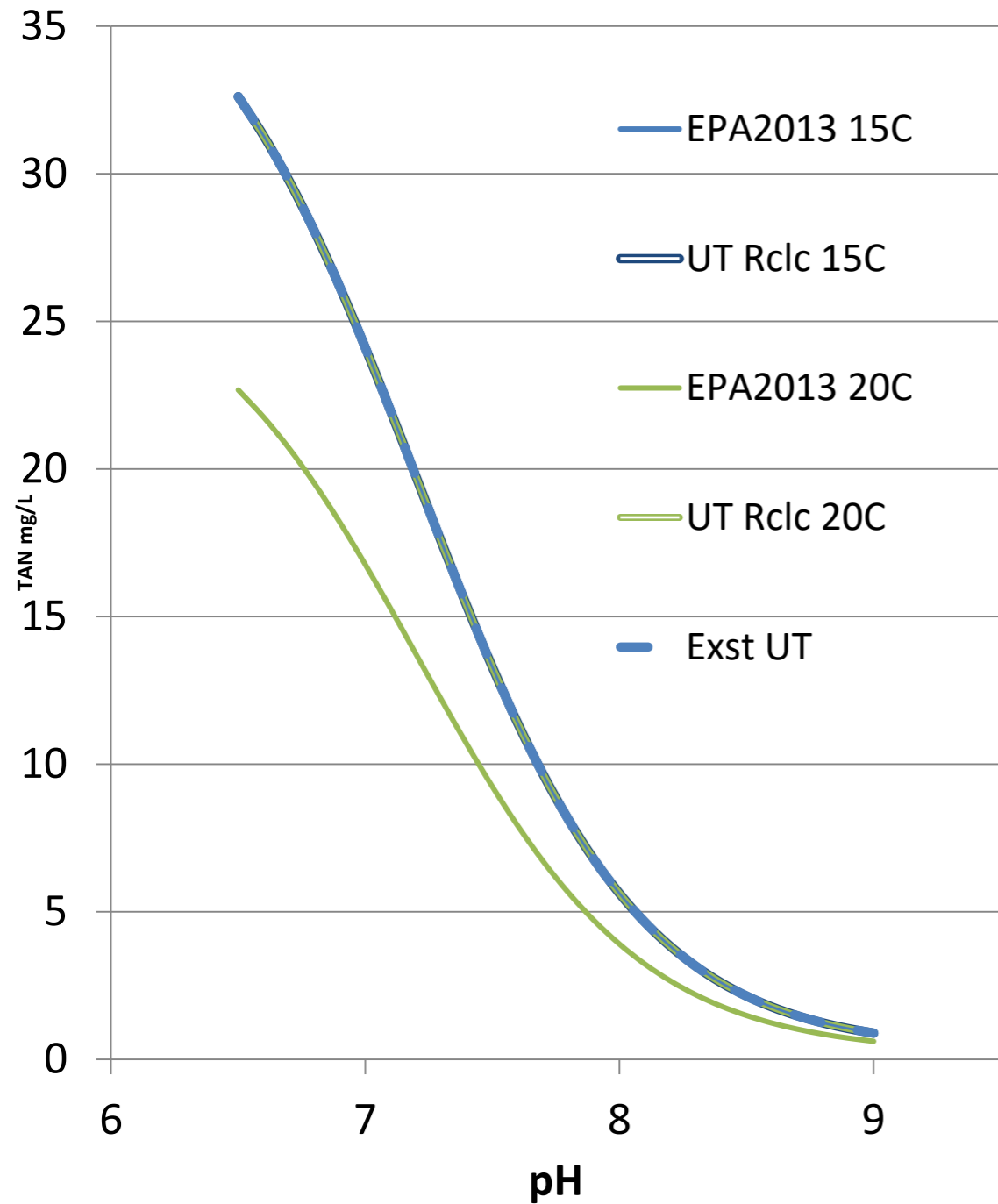
In association with:
ROBERTSON - BRYAN, INC.
Solutions for Progress

LARRY WALKER ASSOCIATES

January 2020

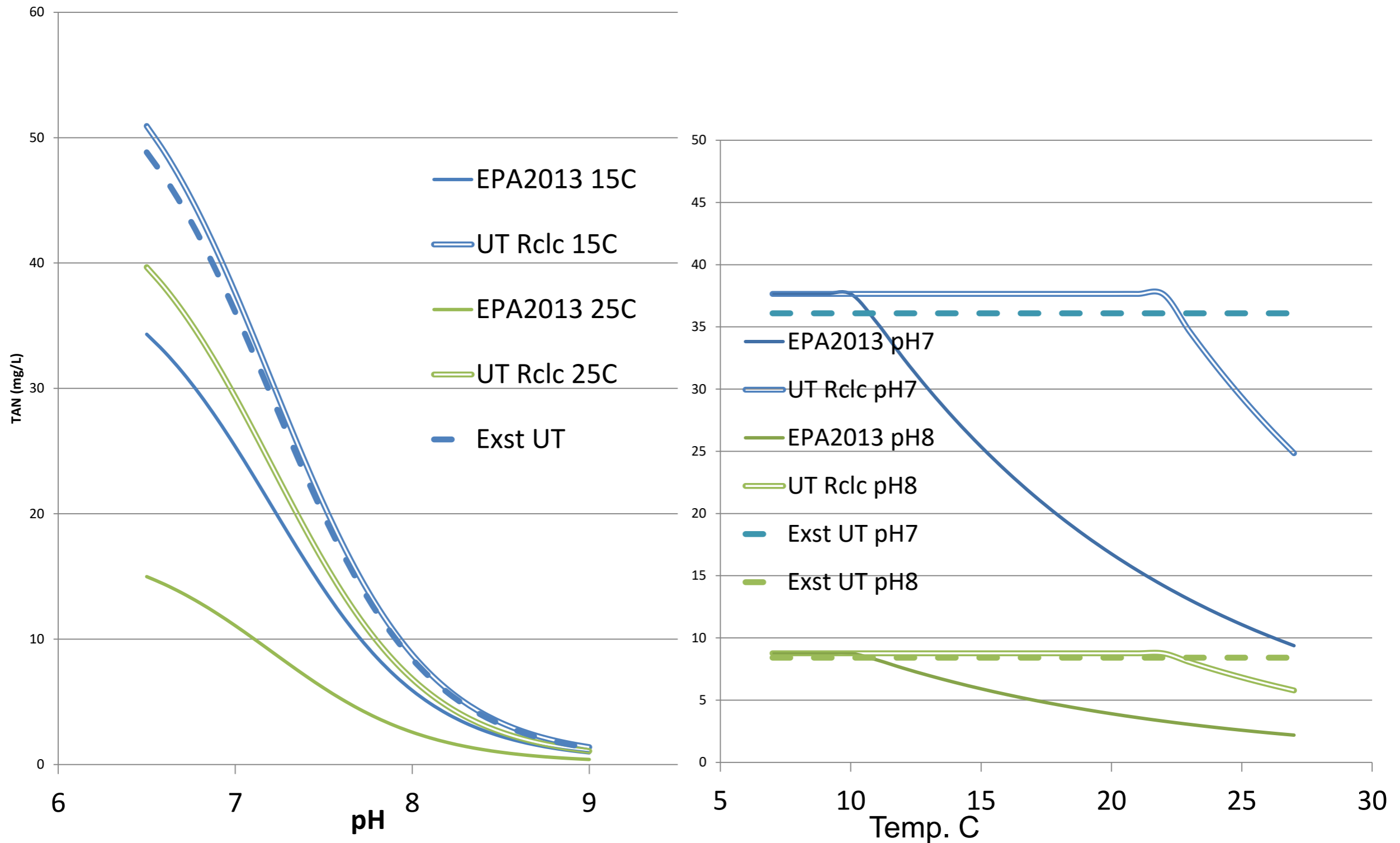
Acute: Unionids and Oncorhynchus Residents

Provisional



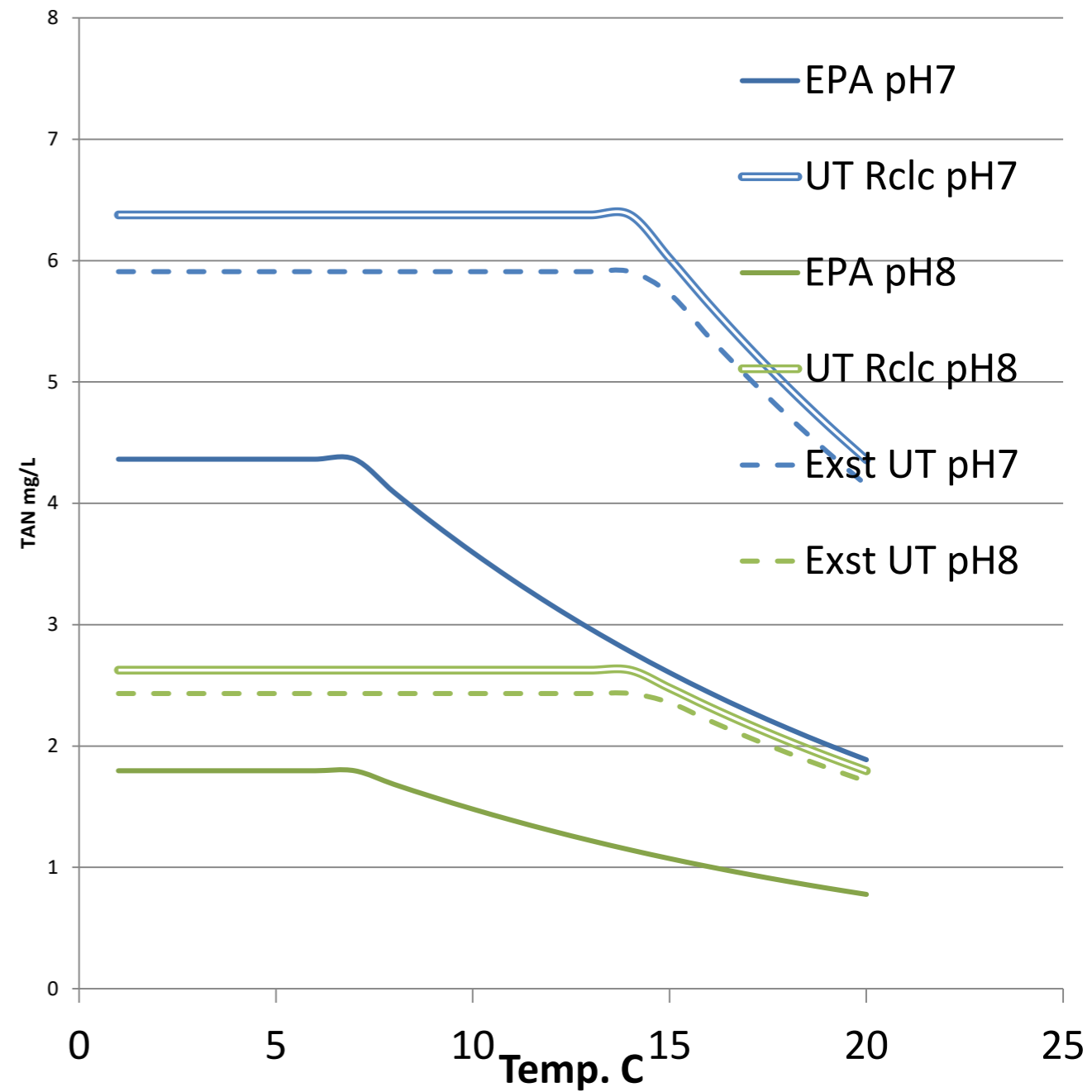
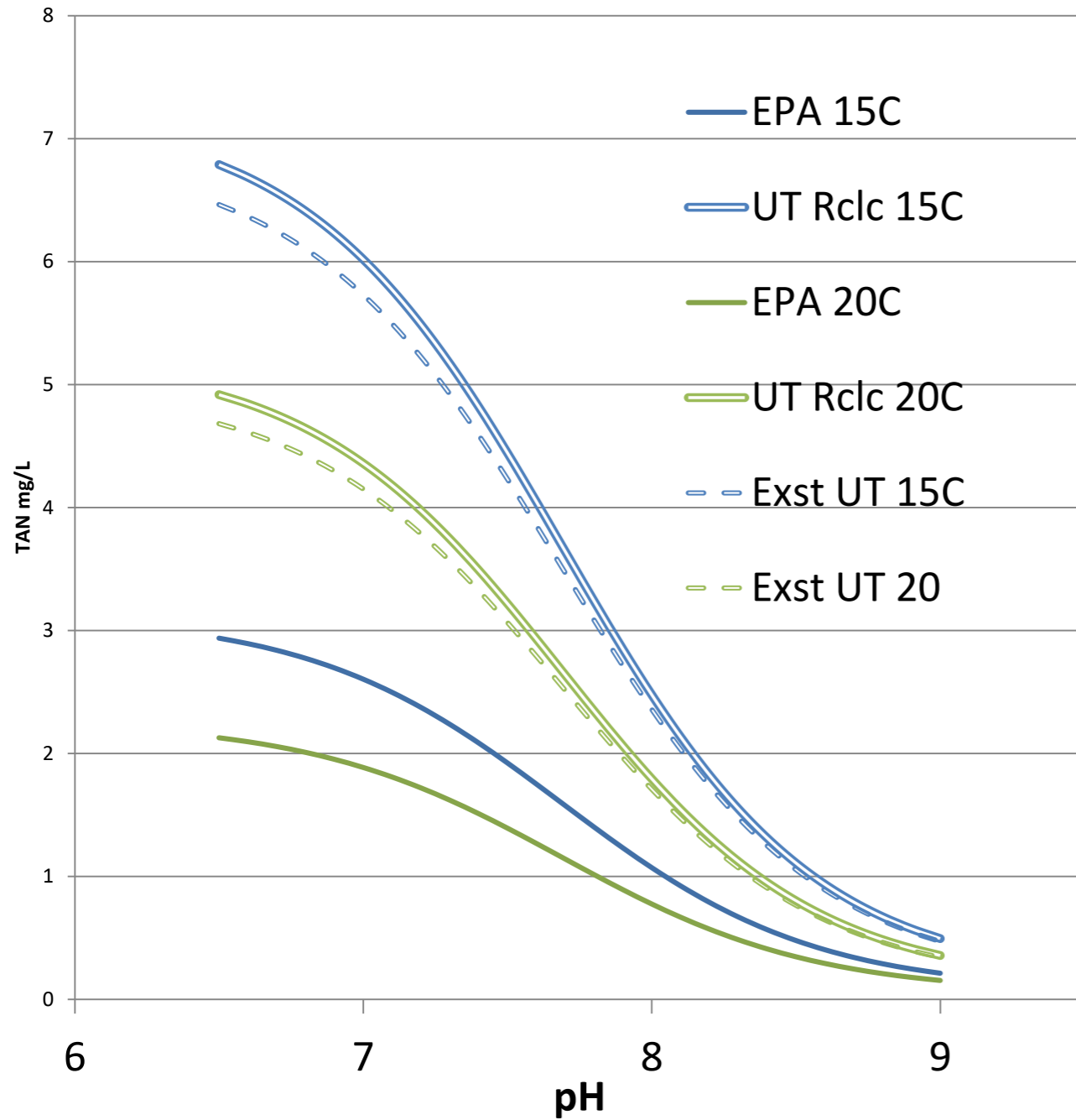
Acute: Unionids Residents, no *Oncorhynchus*

Provisional



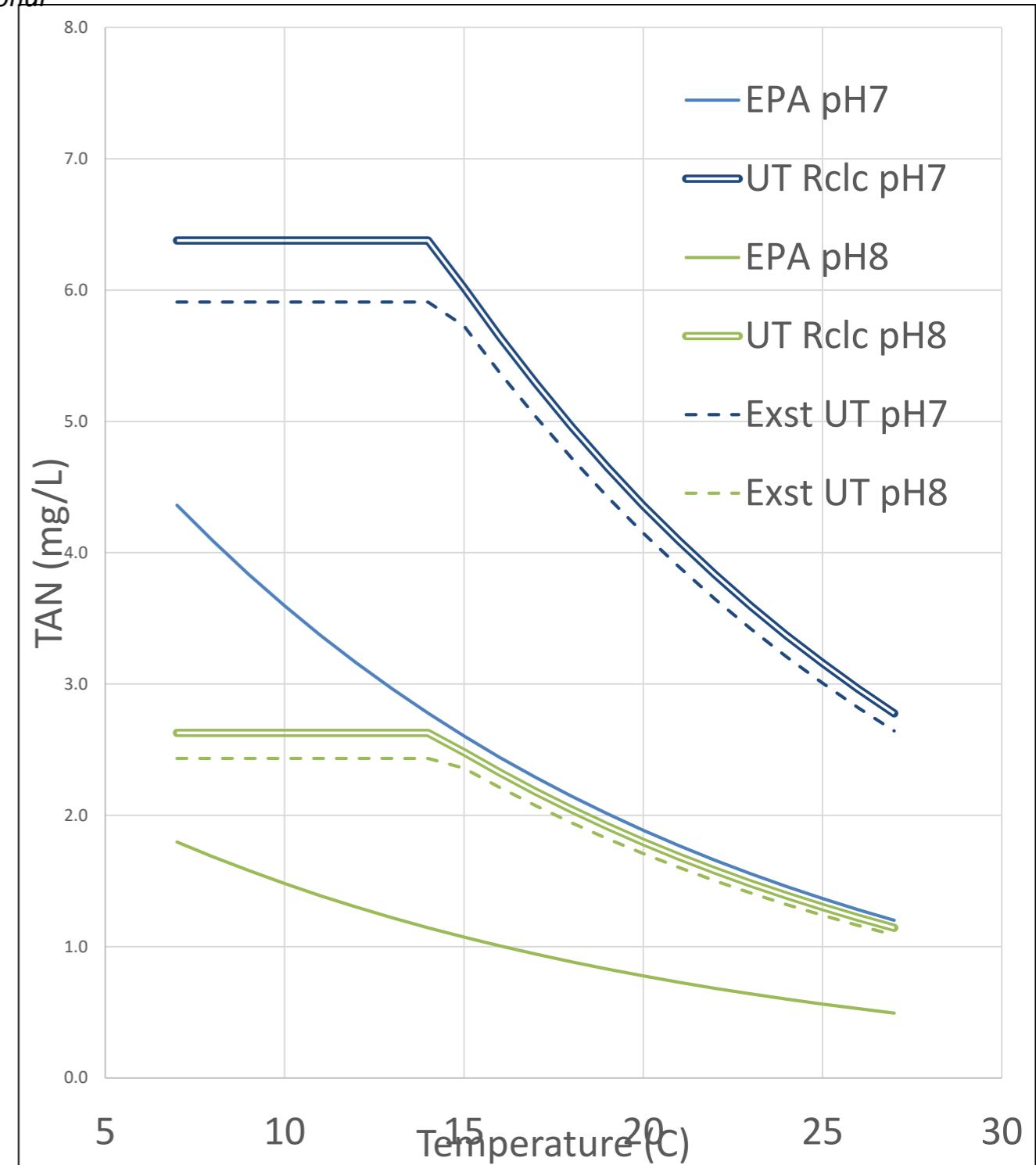
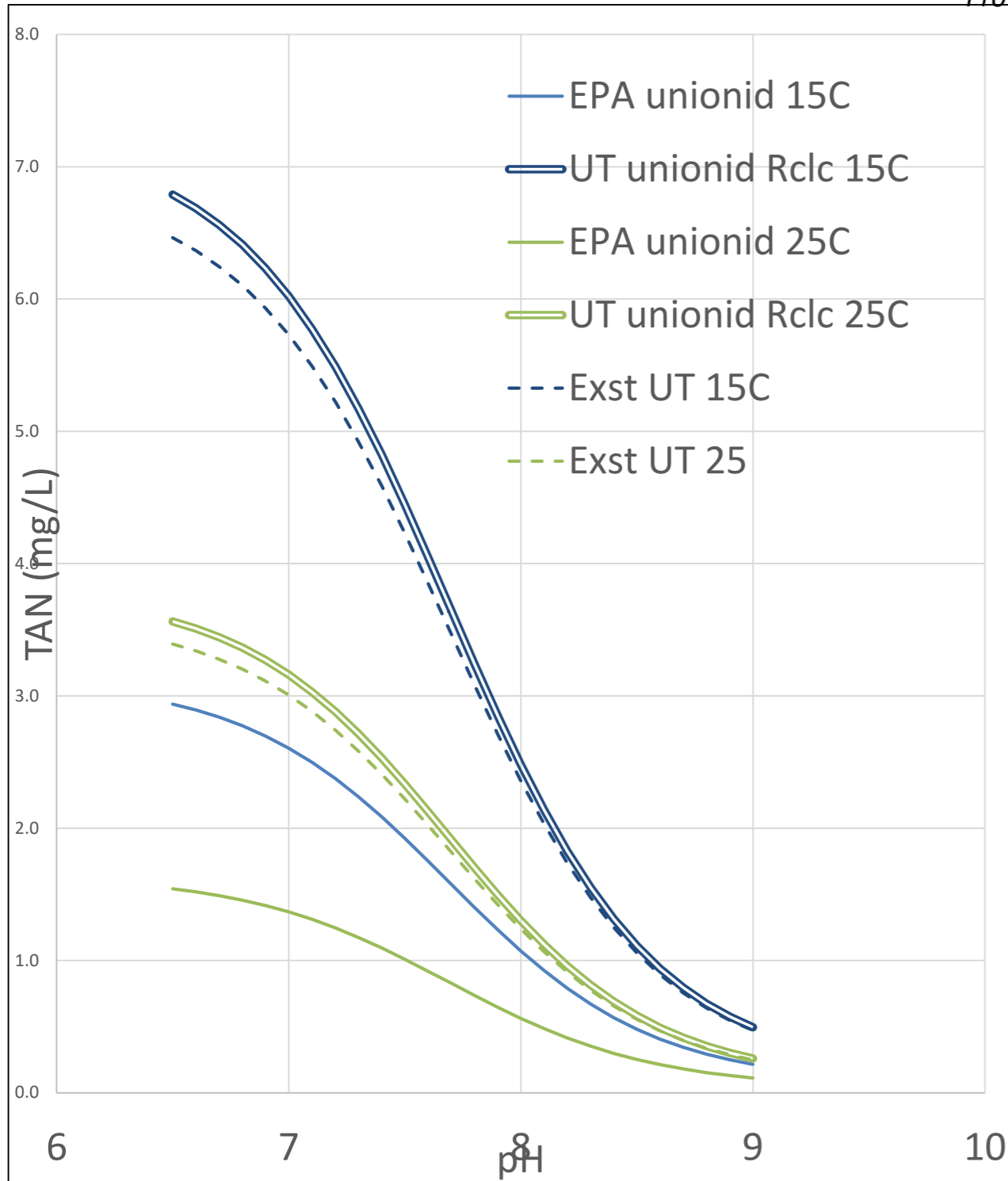
Chronic: Unionids and Oncorhynchus Residents

Provisional



Chronic: Unionids Residents, no *Oncorhynchus*

Provisional



Oncorhynchus does not affect recalculated chronic criteria

Recalculated unionids and *Oncorhynchus* present

$$CCC = 0.9569 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}} \right) \times \text{MIN}(6.663, 3.945 \times 10^{0.028 \times (20-T)})$$

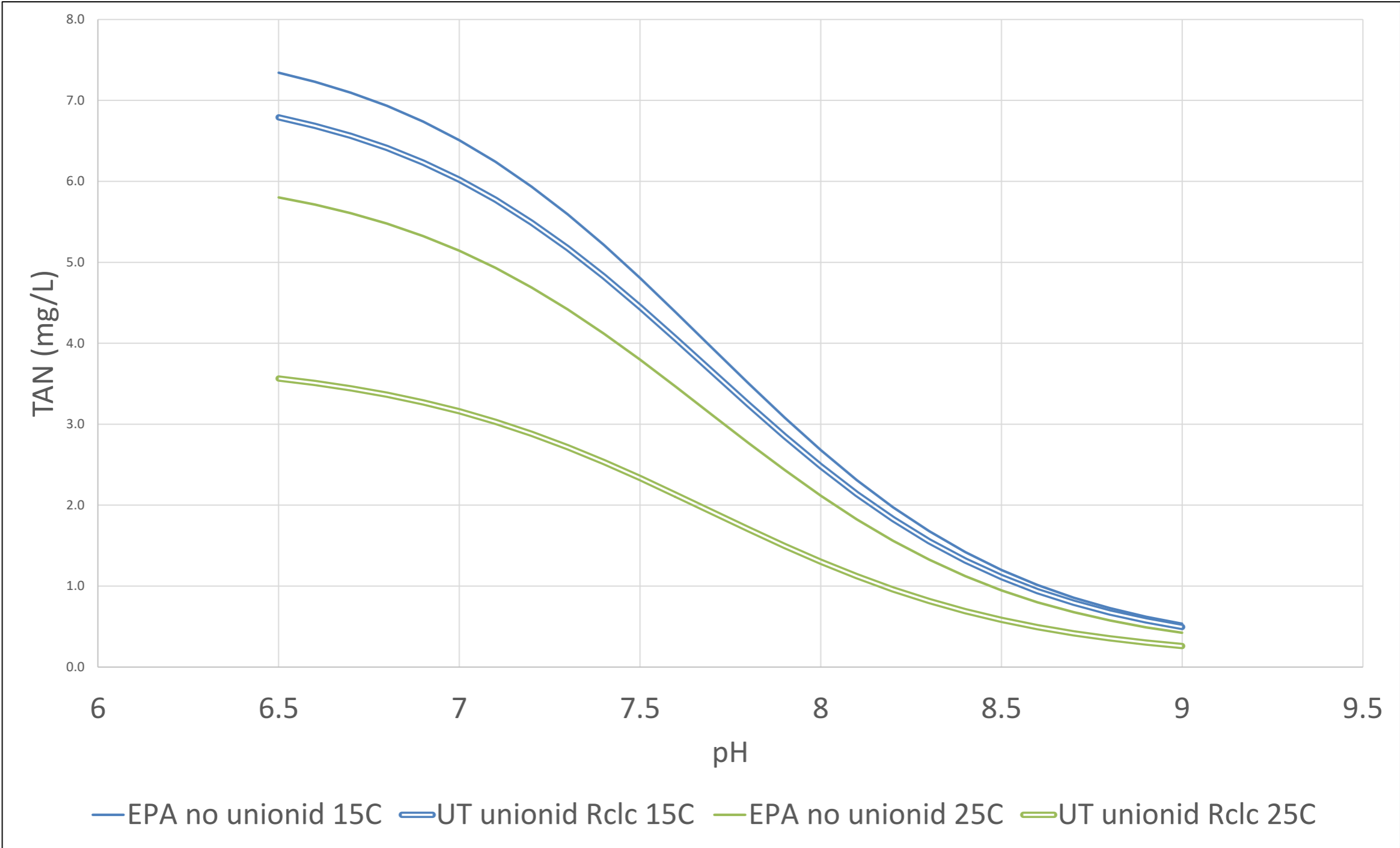
Recalculated unionids present and no *Oncorhynchus*

$$CCC = 0.9569 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}} \right) \times \text{MIN}(6.920, 3.945 \times 10^{0.028 \times (20-T)})$$

At two significant figures, equations result in identical criteria

Chronic: Criteria recalculated for Unionids vs no Unionids

Provisional



Implementation Guidance Updates

Update references for historical and recent occurrence records for unionids

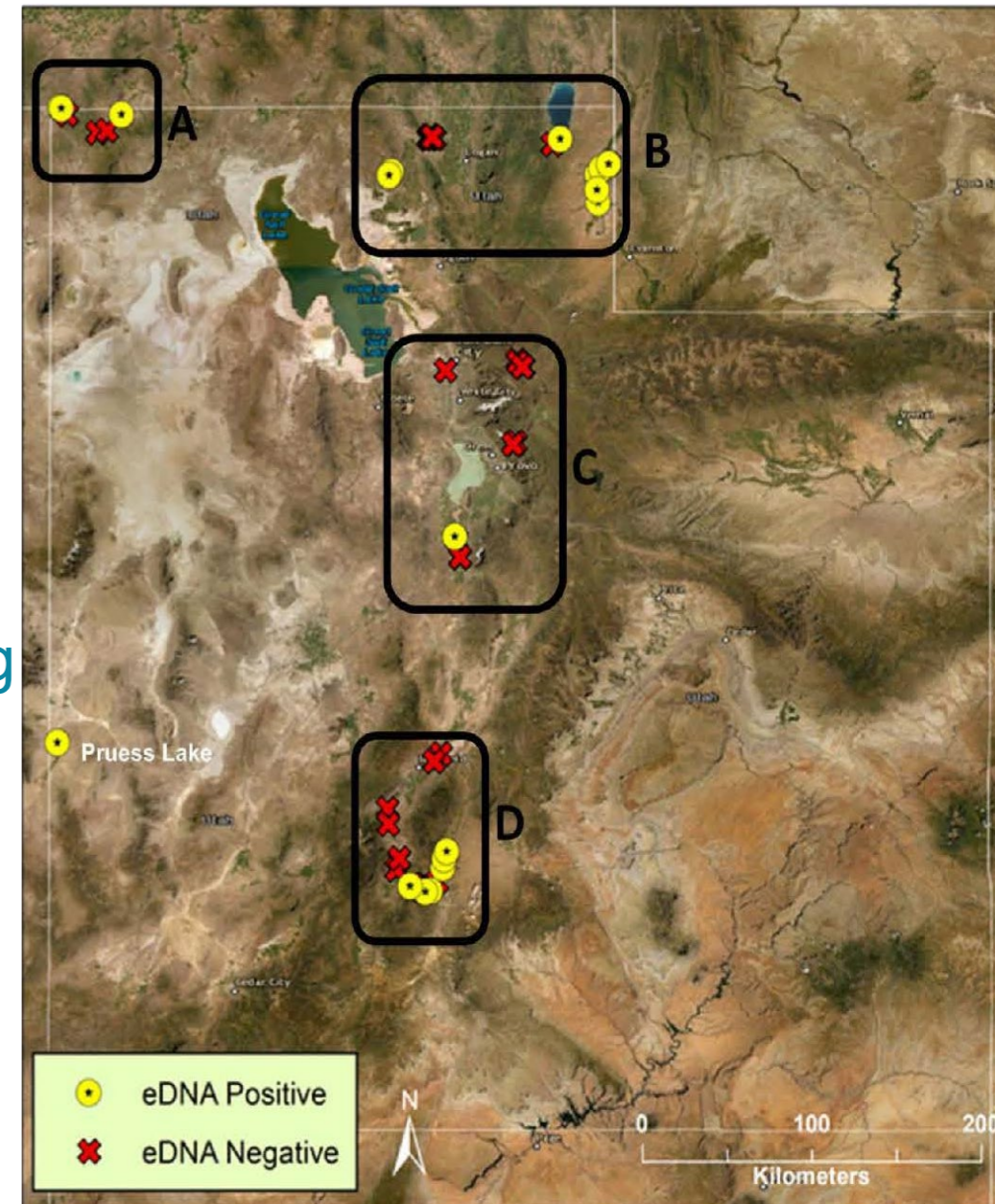
Include references for eDNA for Utah species

Add the recalculated criteria for Utah

DWQ no longer proposing to survey POTW receiving waters

- Unionids-present as a statewide default
- Recalculated criteria will result in little change
- Resource limitations

Continued DWQ support for site-specific criteria



Unionid mussels (Rodgers, 2020)

Anticipated Schedule

Activity	Duration	Date
Review any newer toxicity data (new data may change the recalculated criteria)	30 days	June 2021
Update 2017 Implementation Guidance	3 months	August 2021
Notification to permittees and public comment period	30 days	September 2021
Respond to comments and revise Implementation Guidance	60 days	November 2021
Final workgroup review	30 days	December 2021
Propose revised criteria to Water Quality Board		January 2022

Thank you

