

2018 Animas River Water Quality Monitoring

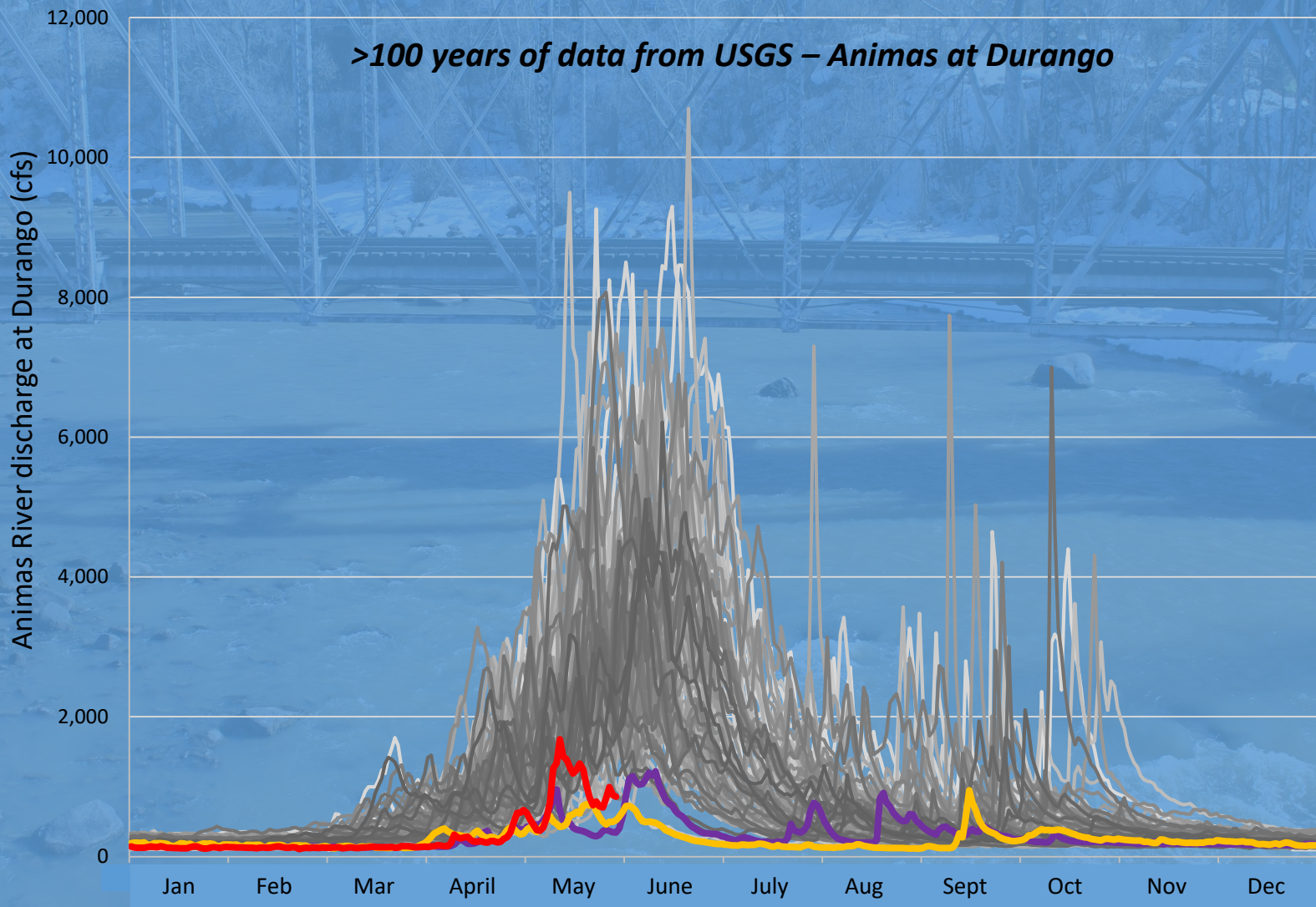
- *Rotary Park, Durango, CO*



- Weekly sampling in May 2018 during spring runoff
- Expedited lab analysis to deliver results to public as quickly as possible

Please keep in mind these results are from one location along the Durango stretch of the Animas River and may not be representative of other reaches of the Animas River.

Monitoring results should be viewed in context of the drought conditions and historically low Animas River levels so far in 2018



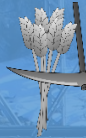
— 1912 to 2017

— 1977 (historic drought)

— 2018

— 2002 (year of Missionary Ridge fire)

EXPLORE MONITORING RESULTS:



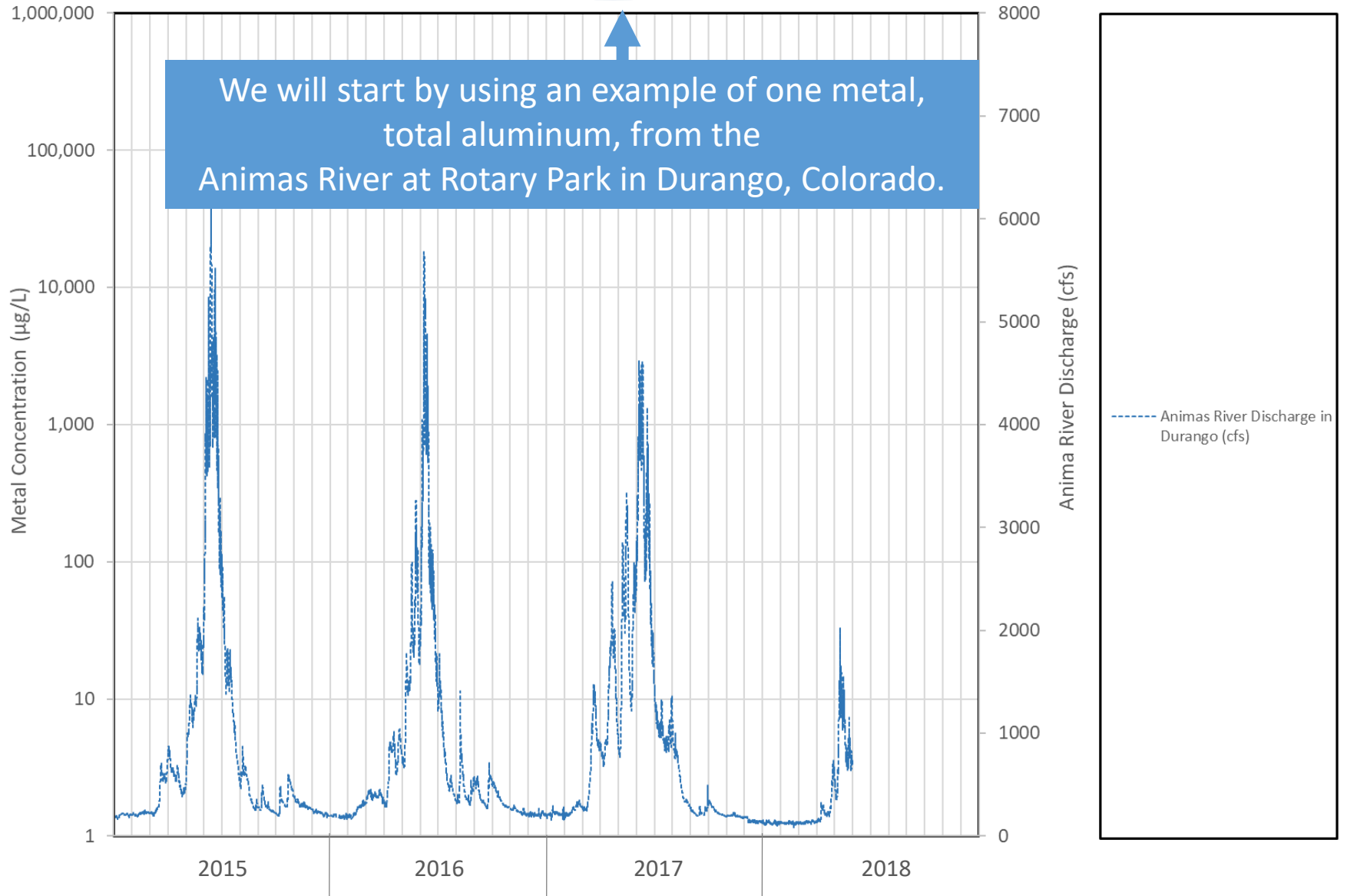
[Guide to graph interpretation \(click here\)](#)

OR

[Graphs with data and summary \(click here\)](#)

Latest data point = 5/30/18

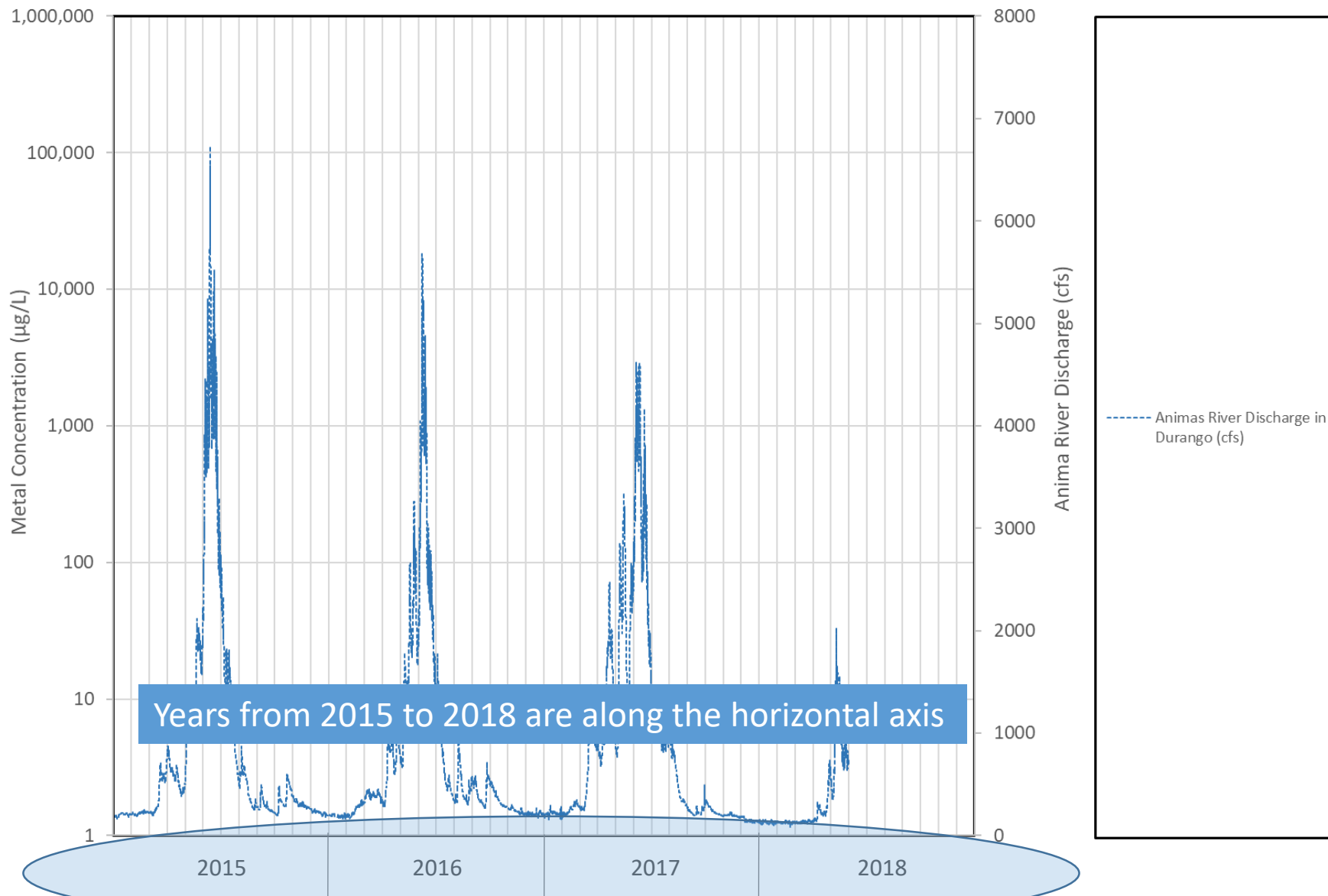
Total Aluminum, Animas River at Durango, CO: 2015-2018



* The recreational screening level represents the level at which no adverse health effects are expected to occur in humans consuming 2L of water per day, from the Animas, orally, for 64 days each year for a total of 30 years.

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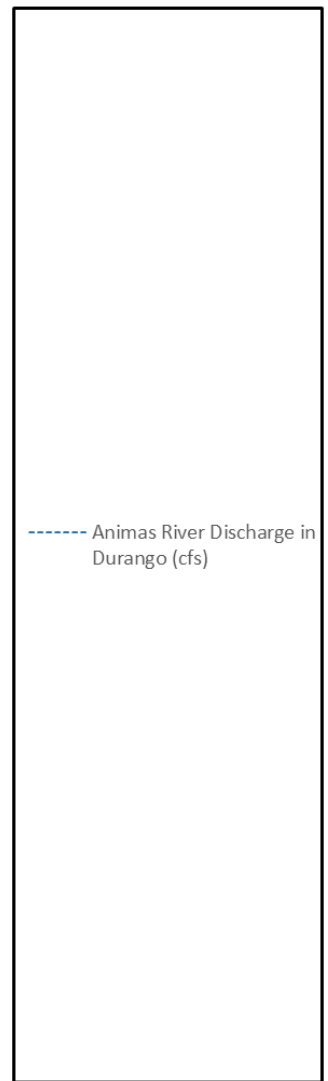
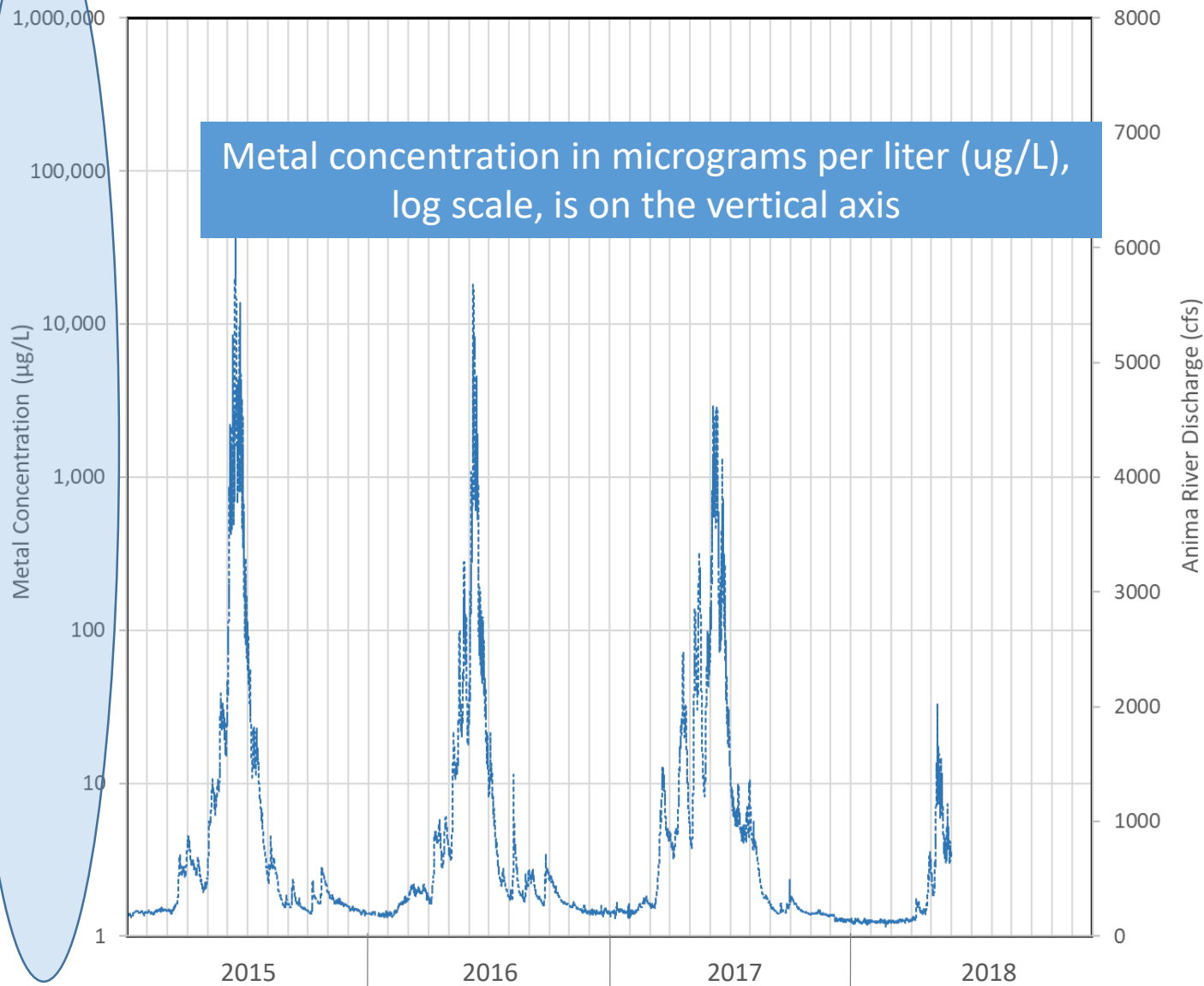
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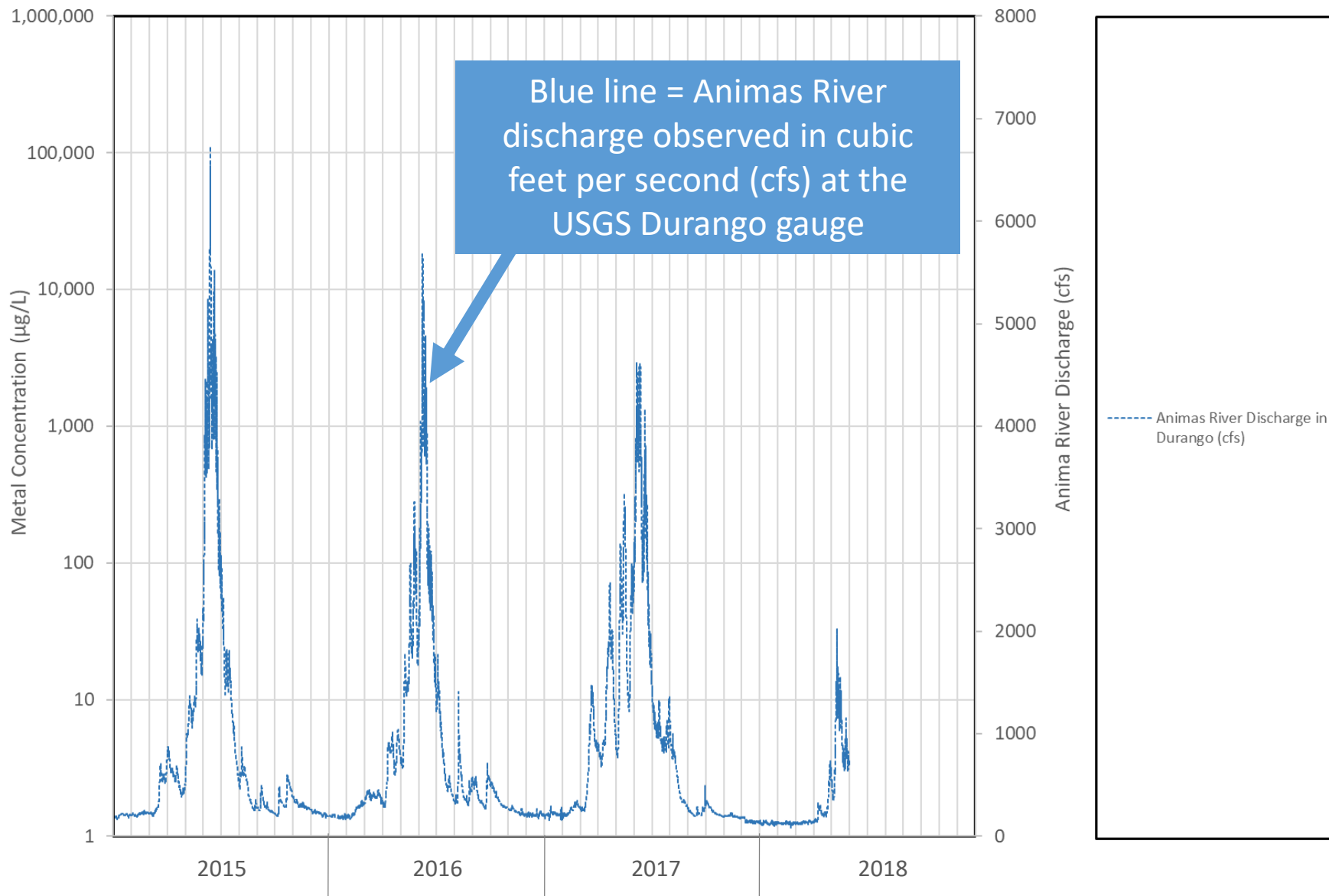
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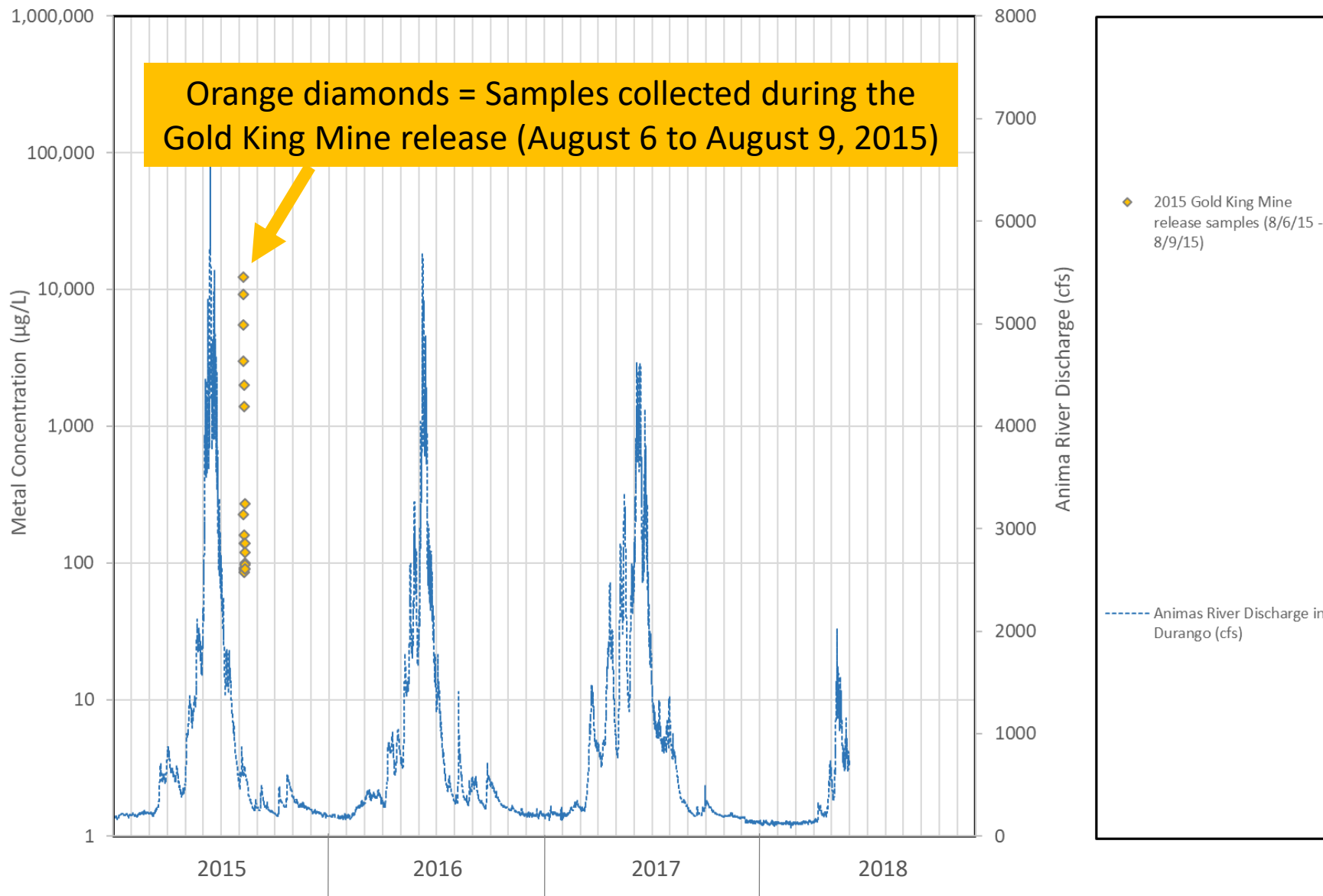
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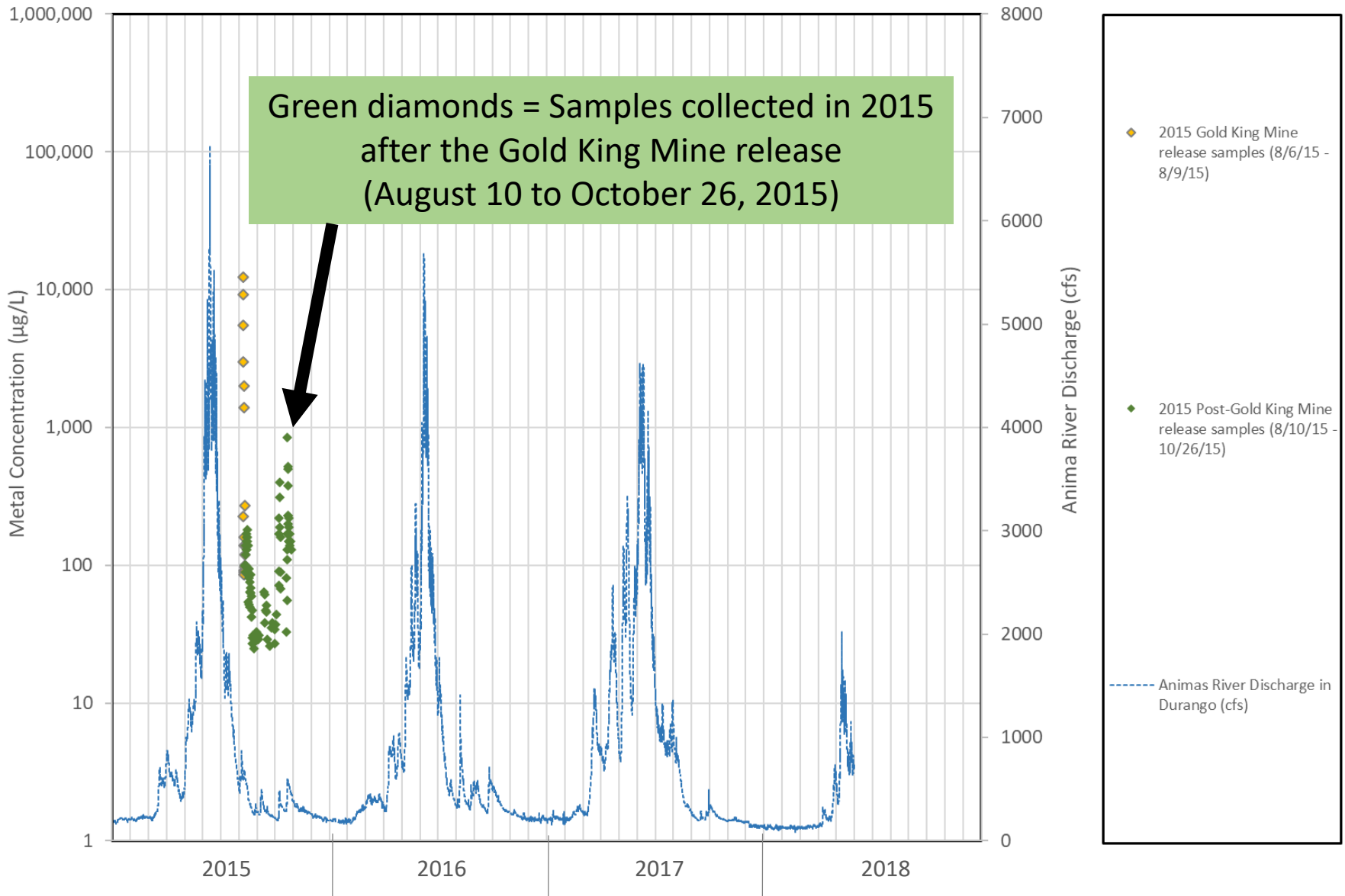
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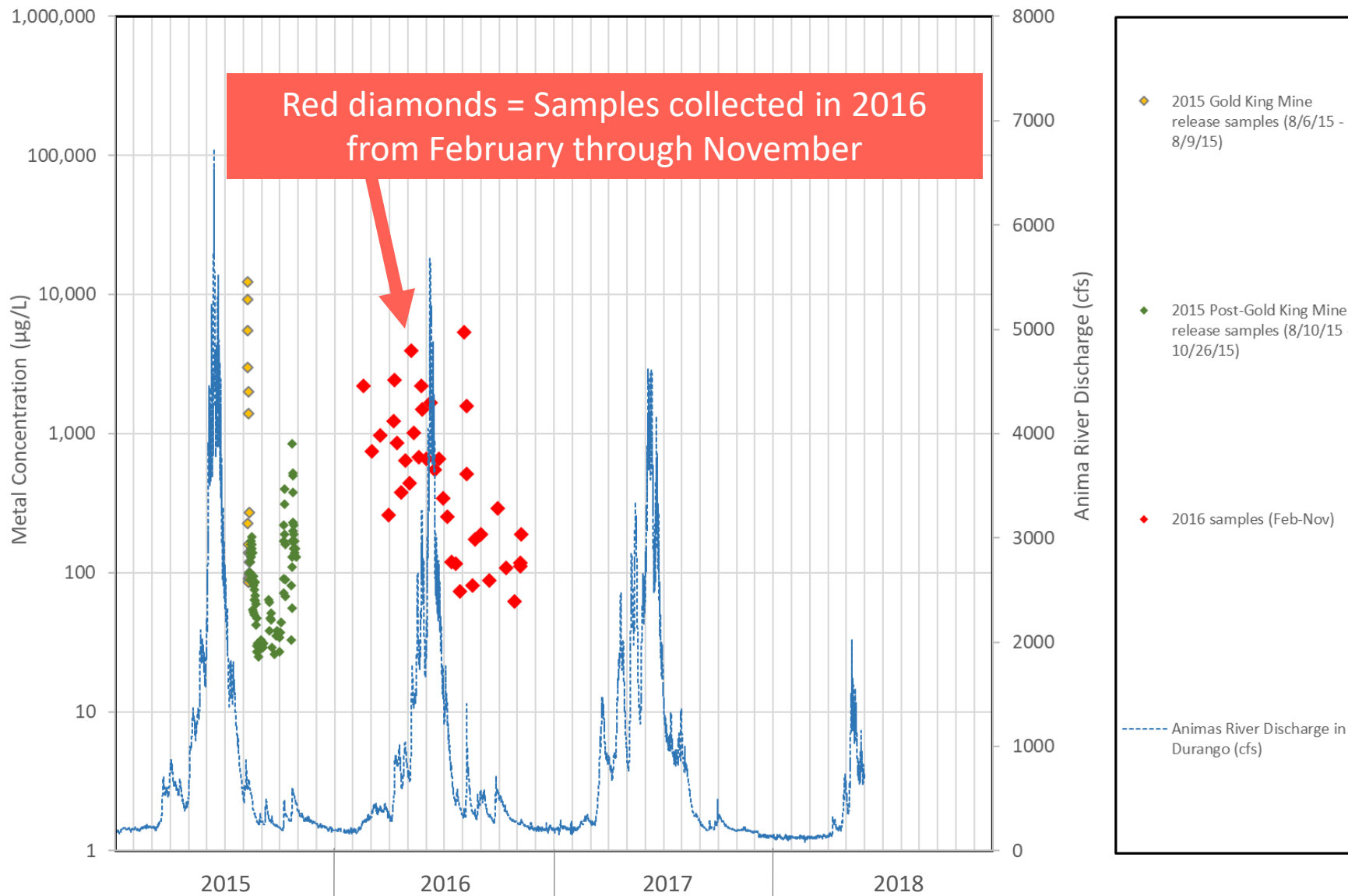
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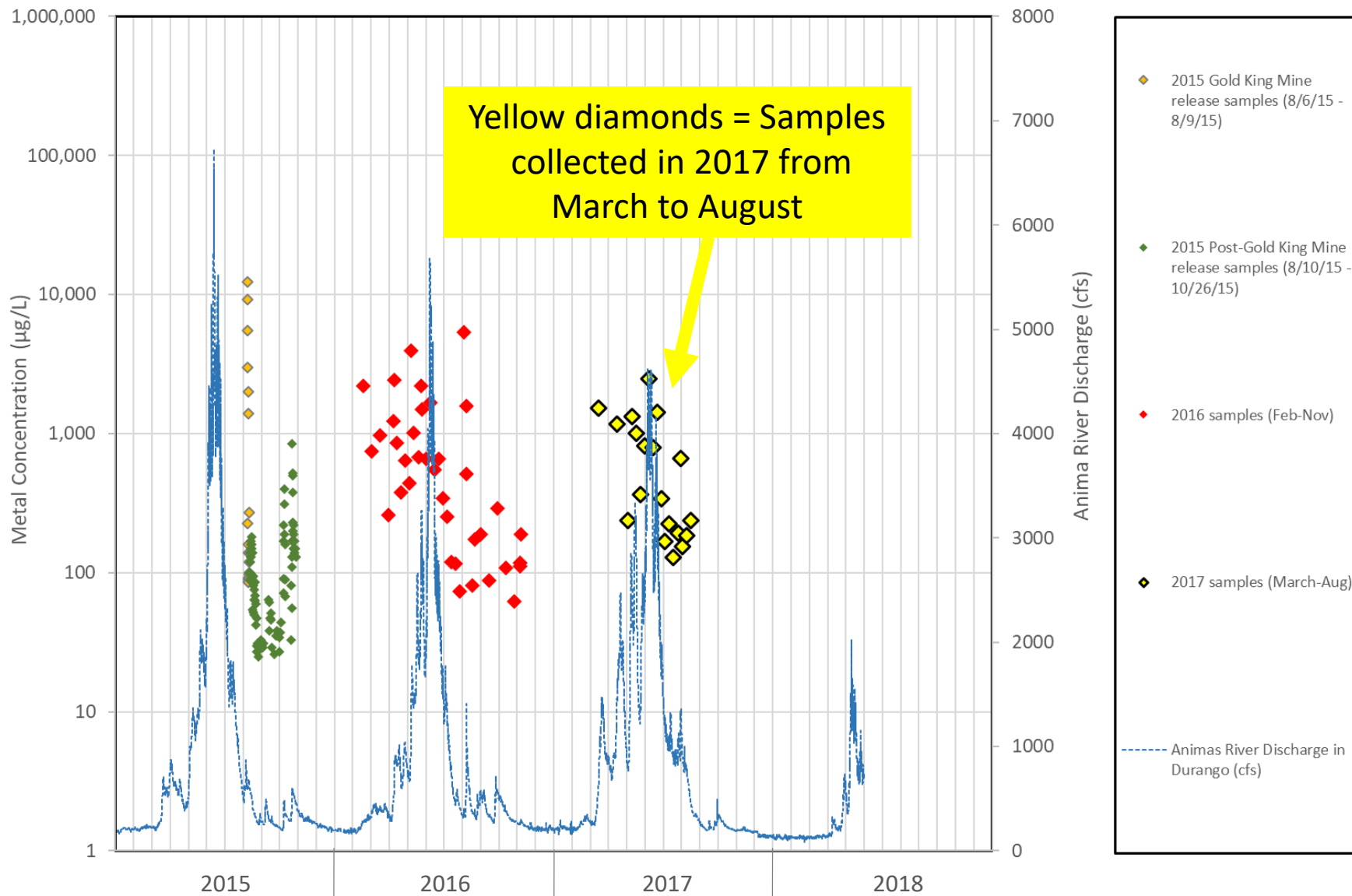
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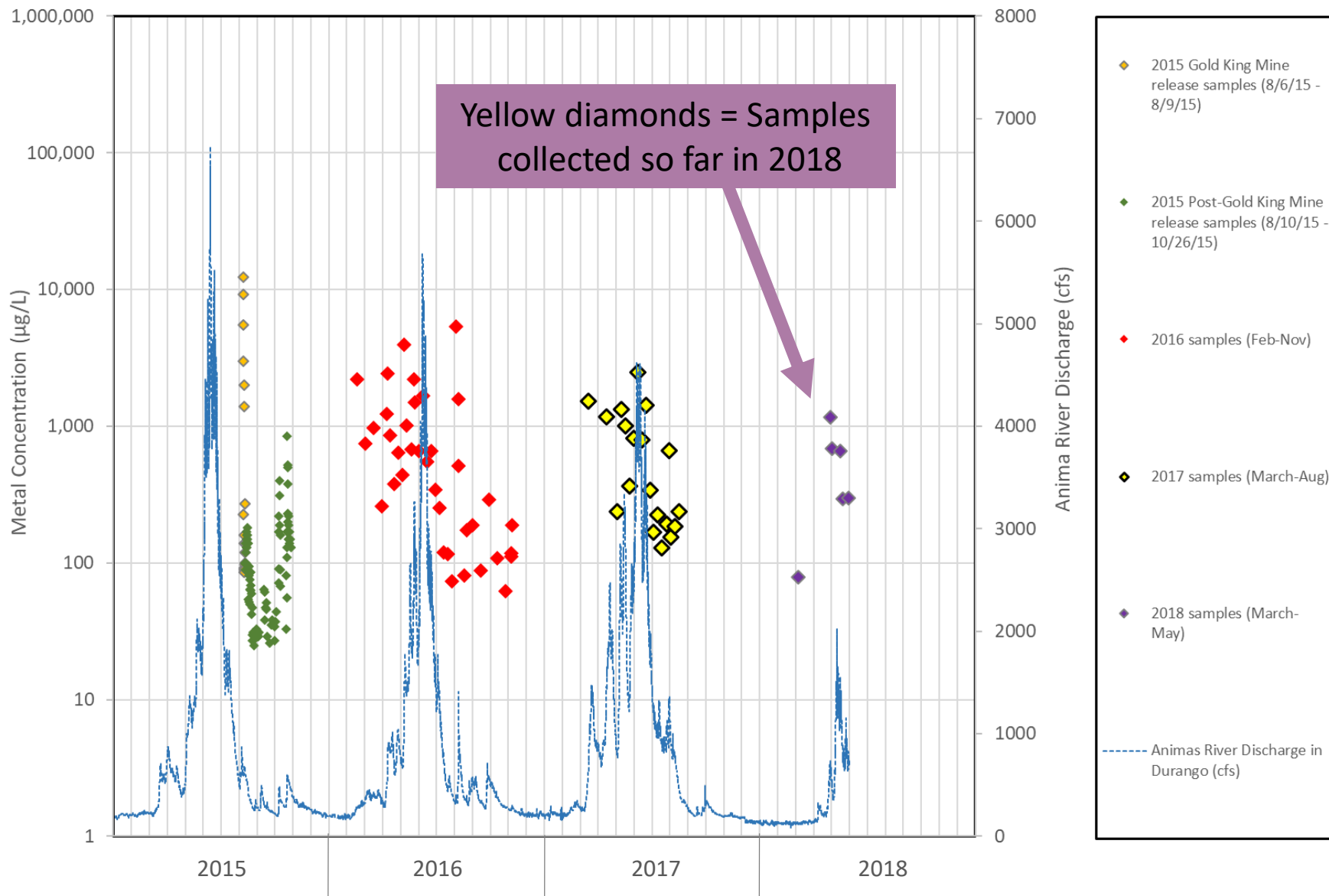
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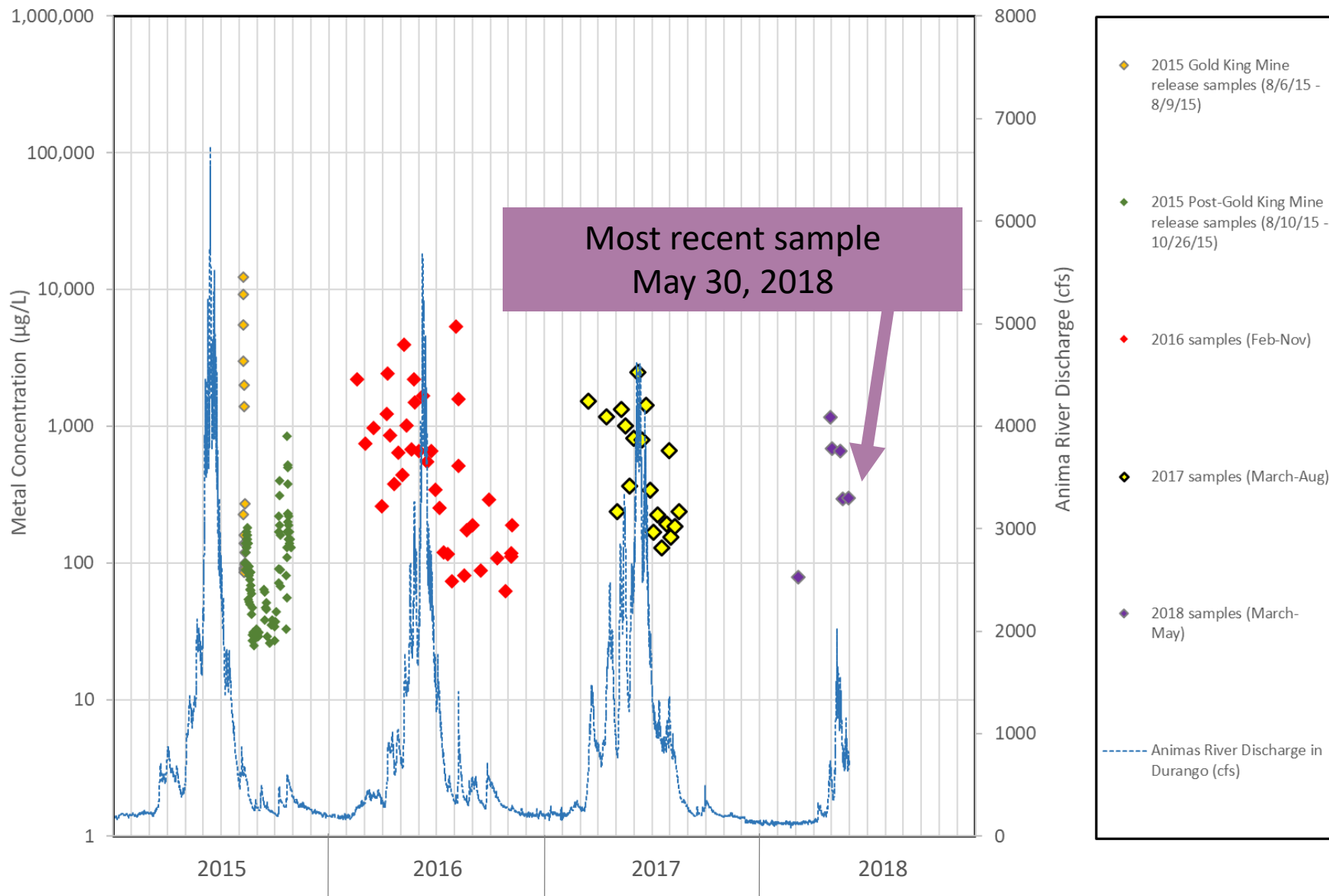
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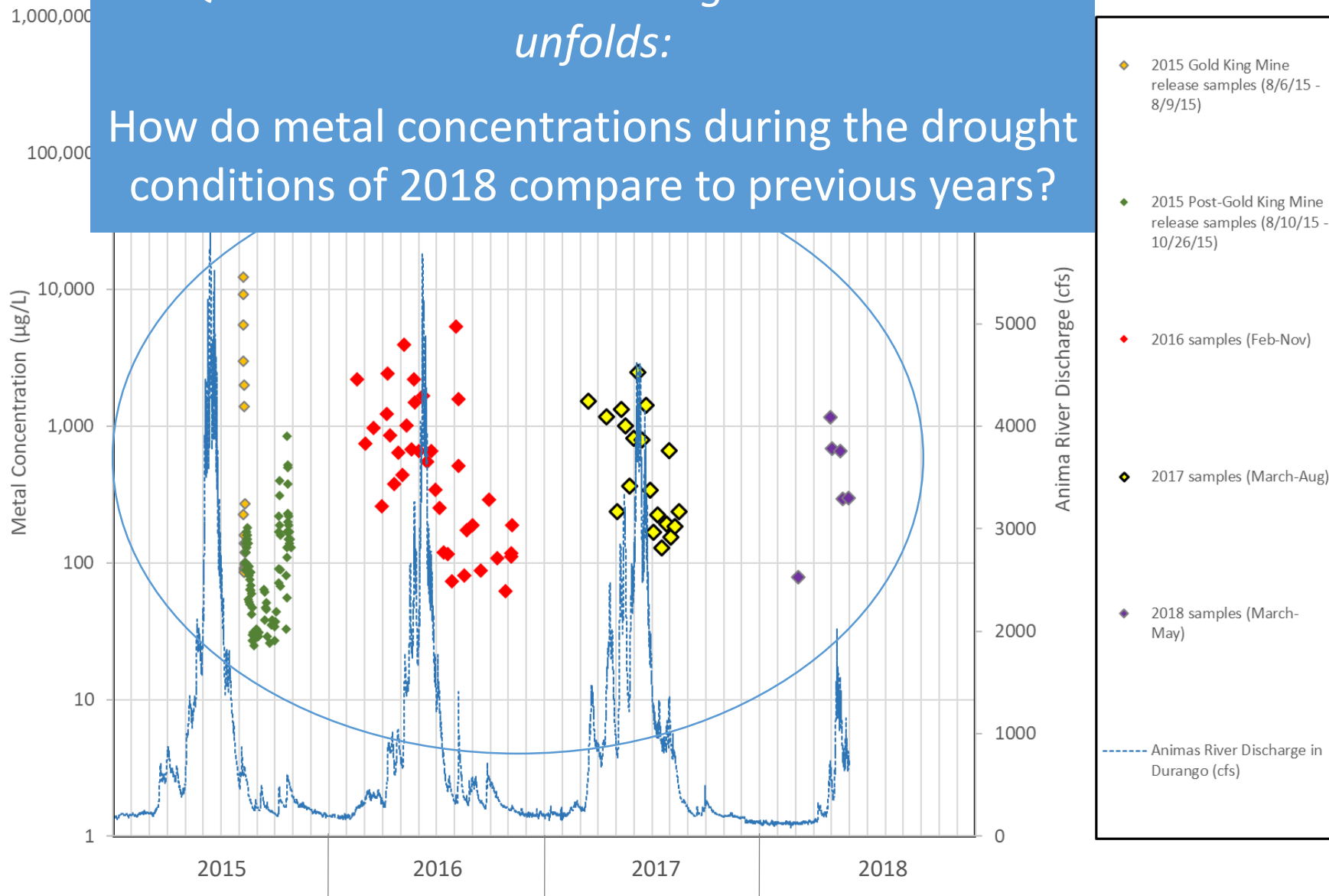


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Questions we will be asking as the season unfolds:

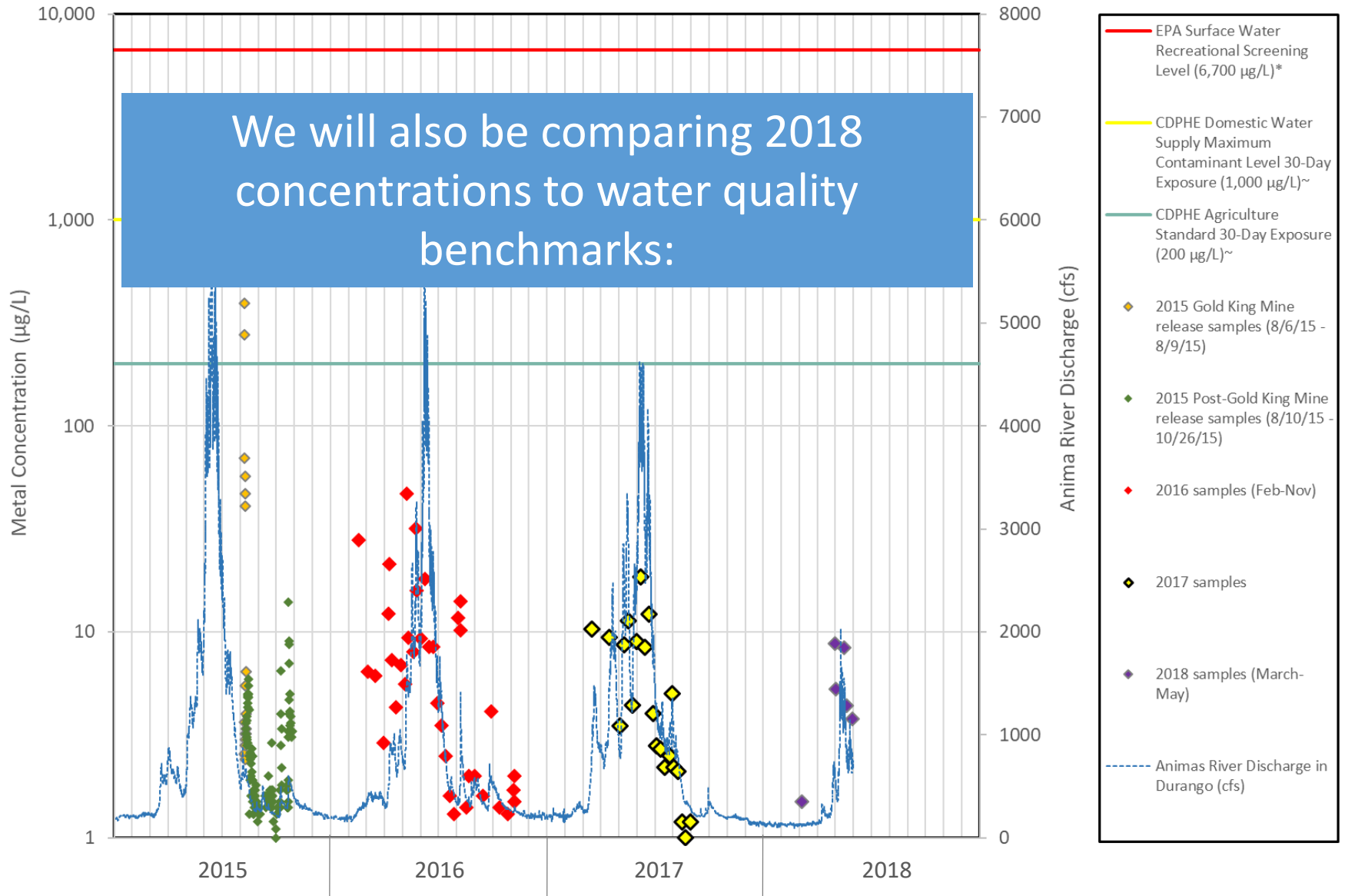
How do metal concentrations during the drought conditions of 2018 compare to previous years?



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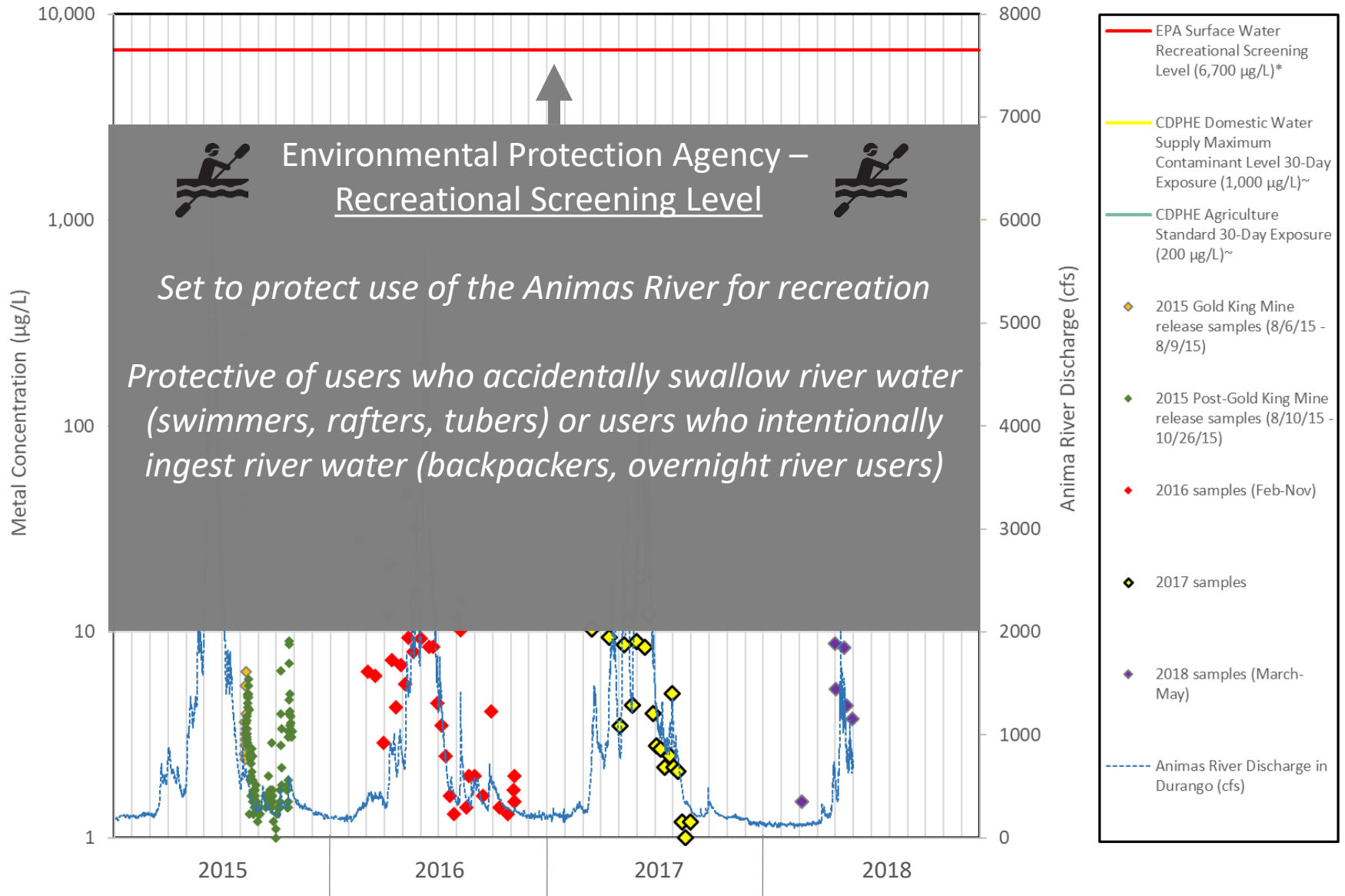
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Total Copper, Animas River at Durango, CO: 2015-2018



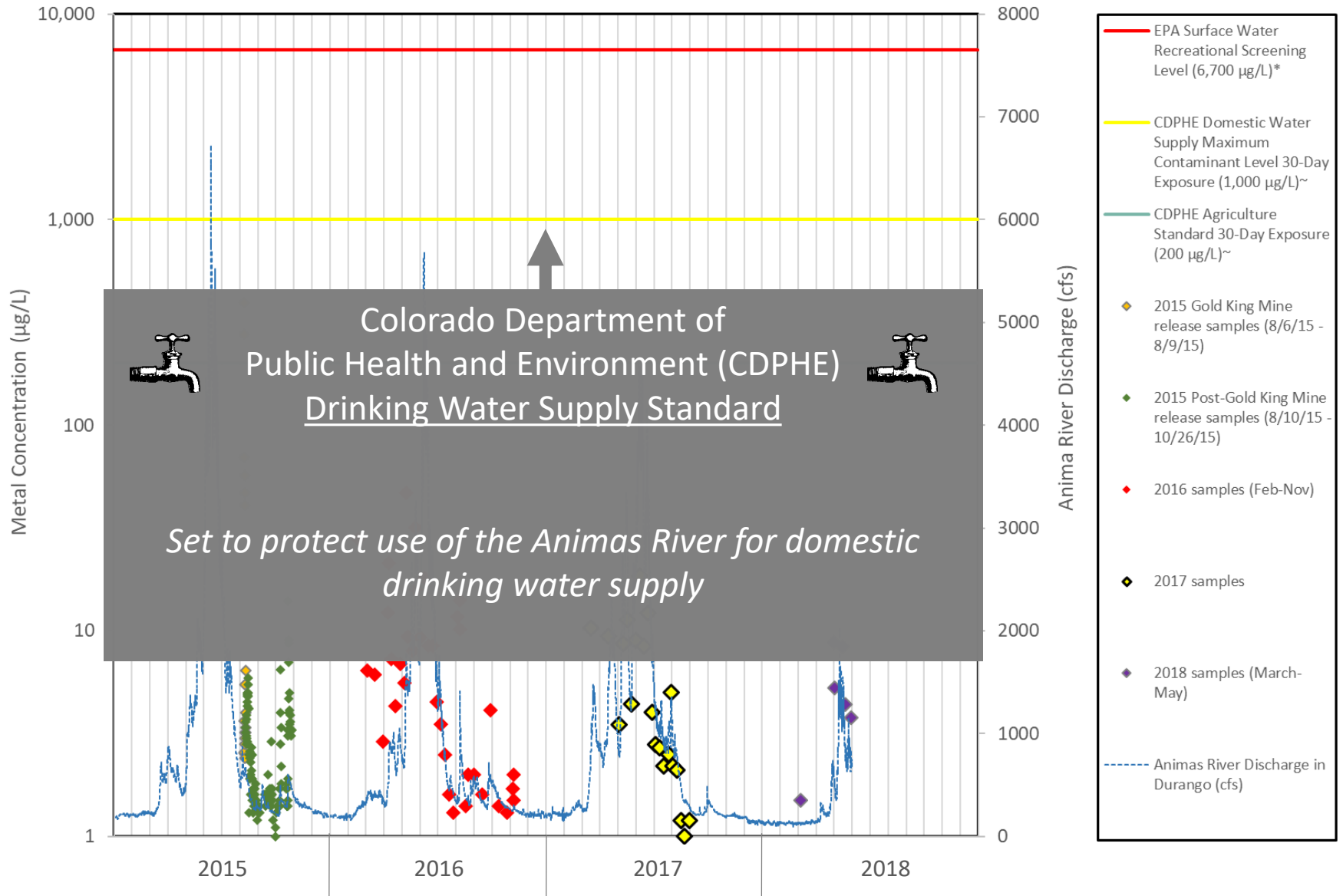
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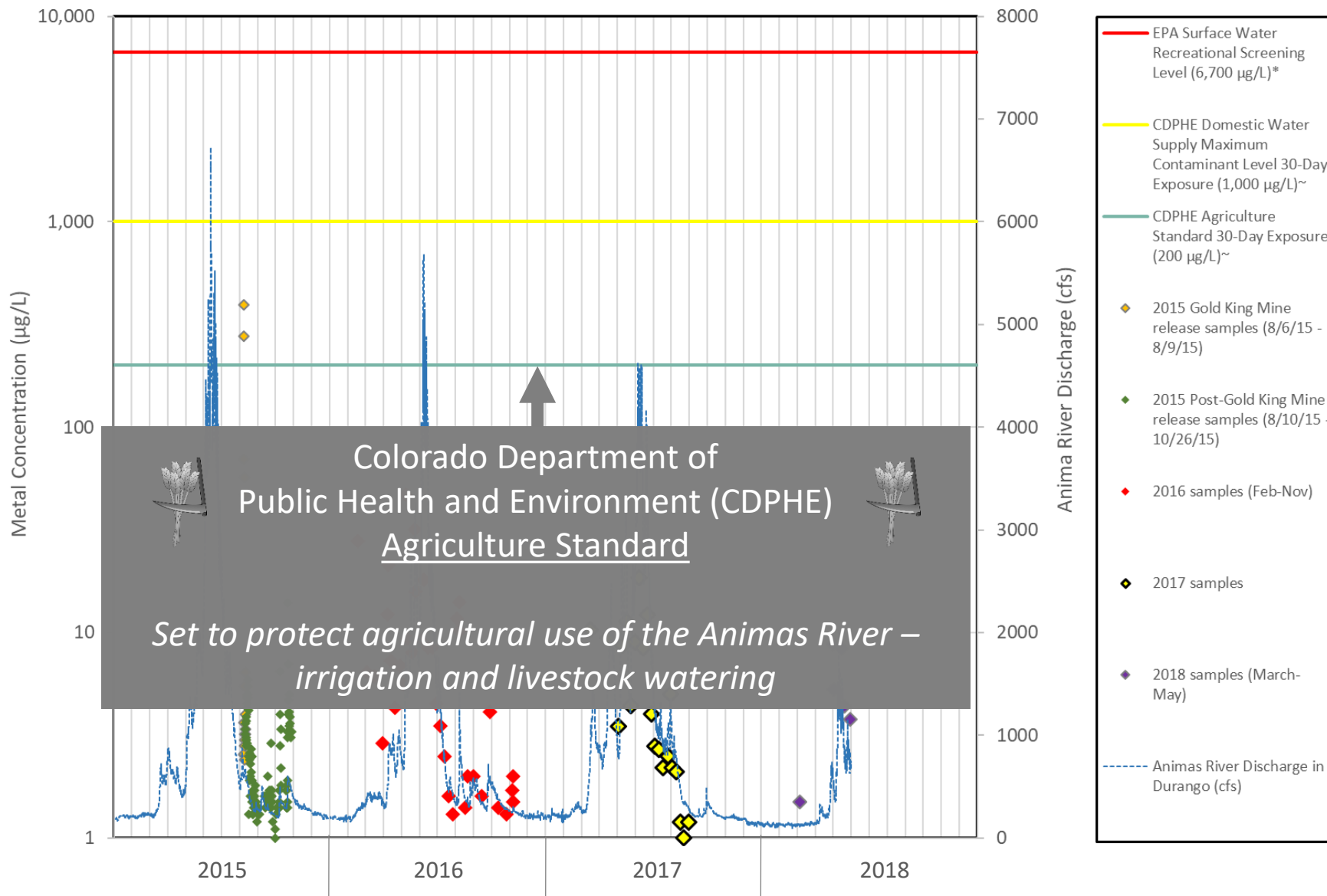
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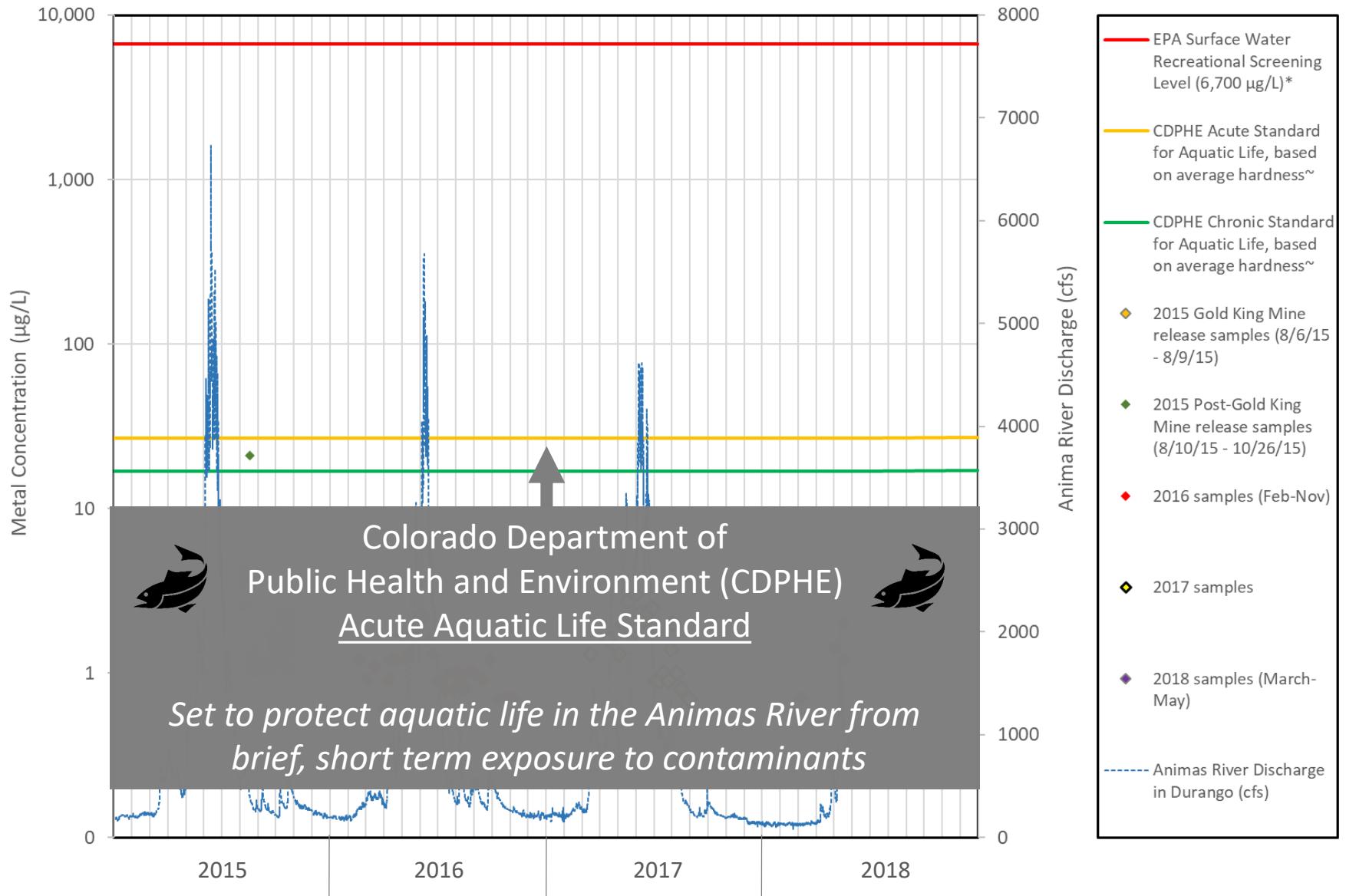
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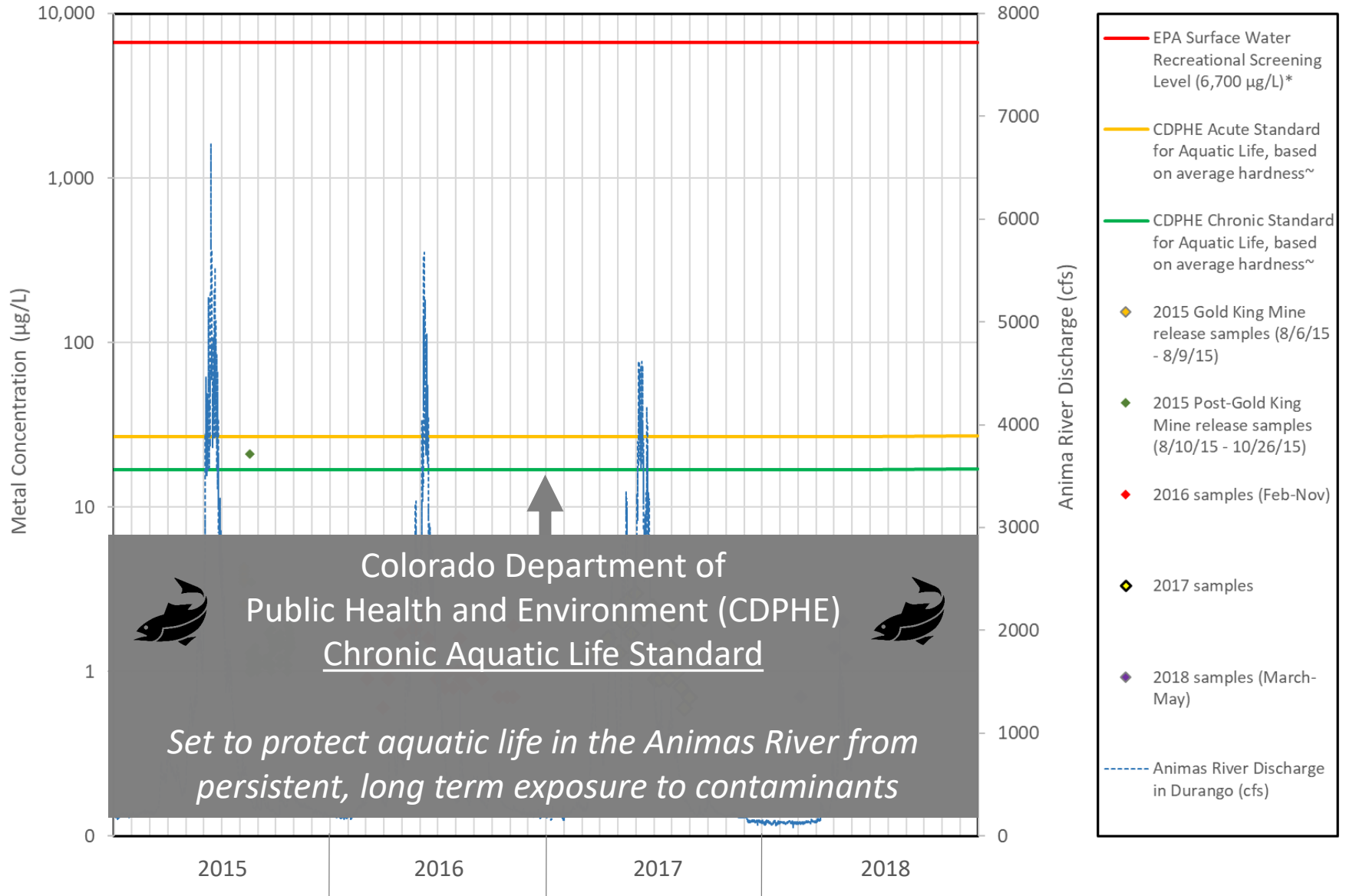
Dissolved Copper, Animas River at Durango, CO: 2015-2018



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2018 Animas River Water Quality Monitoring

The following graphs depict metal concentrations from 2015 to 2018 in context of water quality benchmarks that are set to protect use of the Animas River for agriculture, recreation, and aquatic life.



For additional interpretation of Animas River water quality and aquatic life, please visit www.mountainstudies.org/AnimasRiver

Latest data point = 5/30/18

MSI Rotary Park monitoring program includes analysis of:

Al aluminum

Cu copper

Fe iron

Pb lead

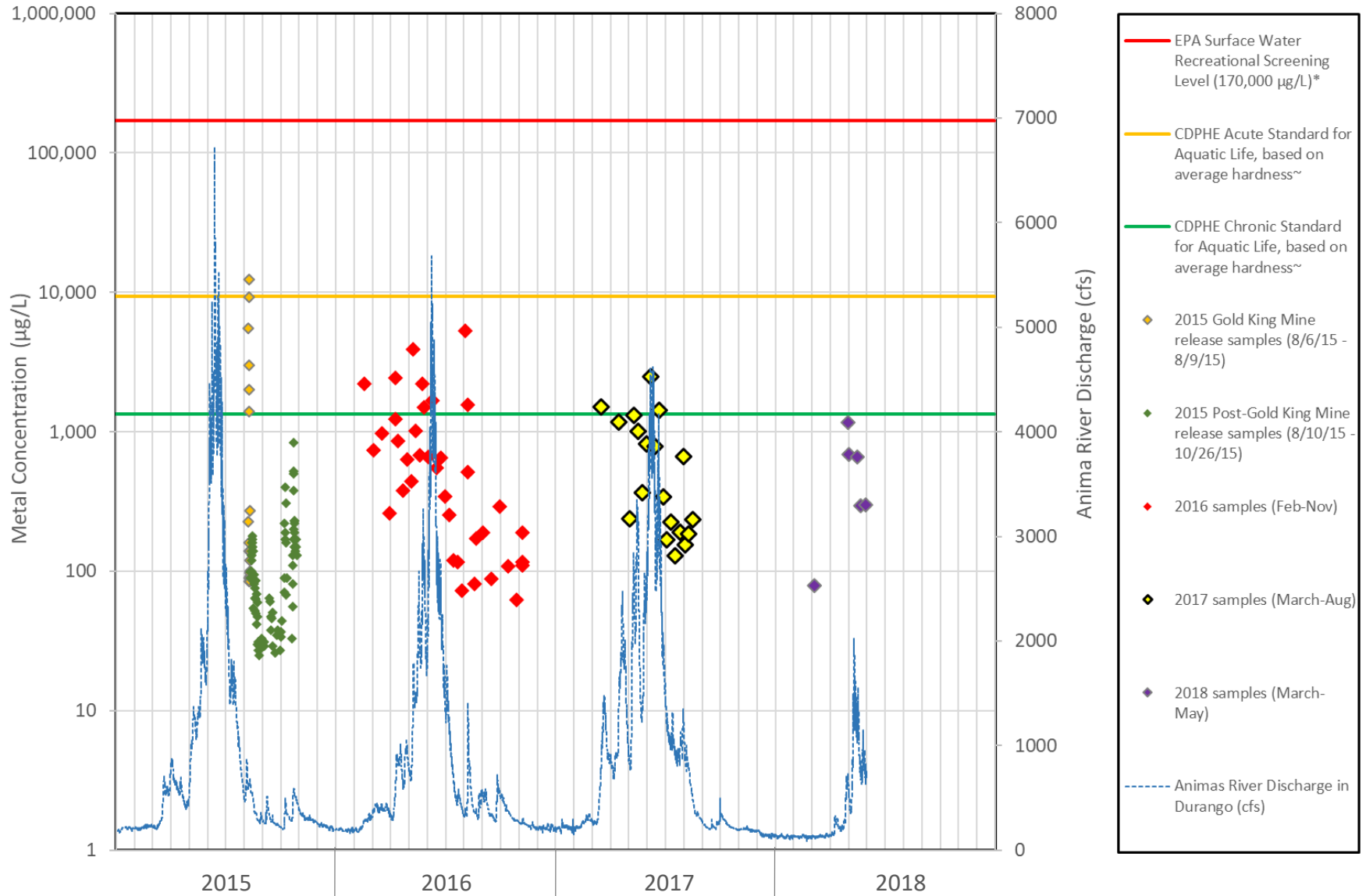
Zn zinc

Total and dissolved metals

MSI analyzed for the total and dissolved fraction of metals. Why?

The pH of water is the main driver of whether a metal is present in a dissolved state or a solid particulate state. This is important because metals are generally more bioavailable and toxic to aquatic life in a dissolved state.

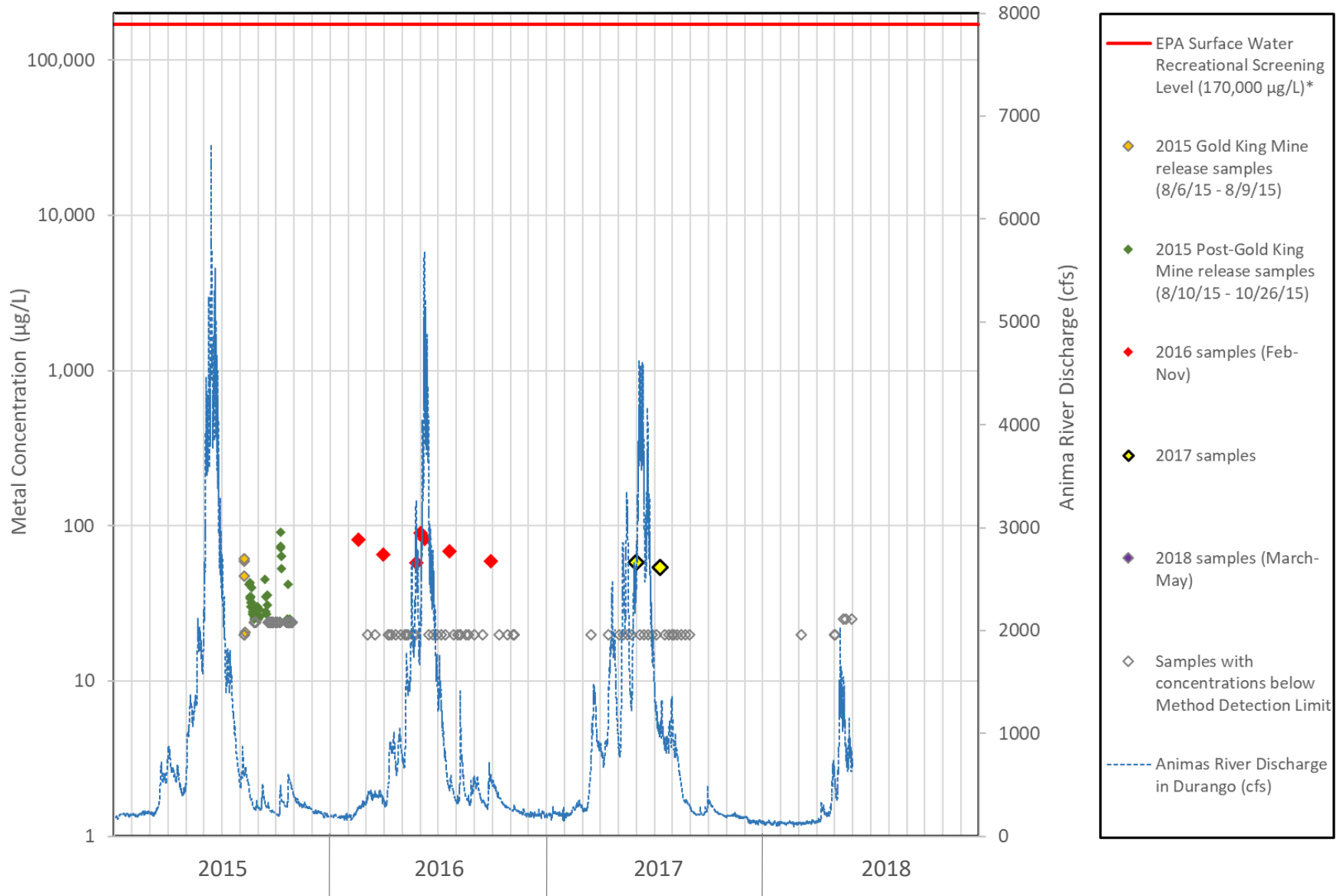
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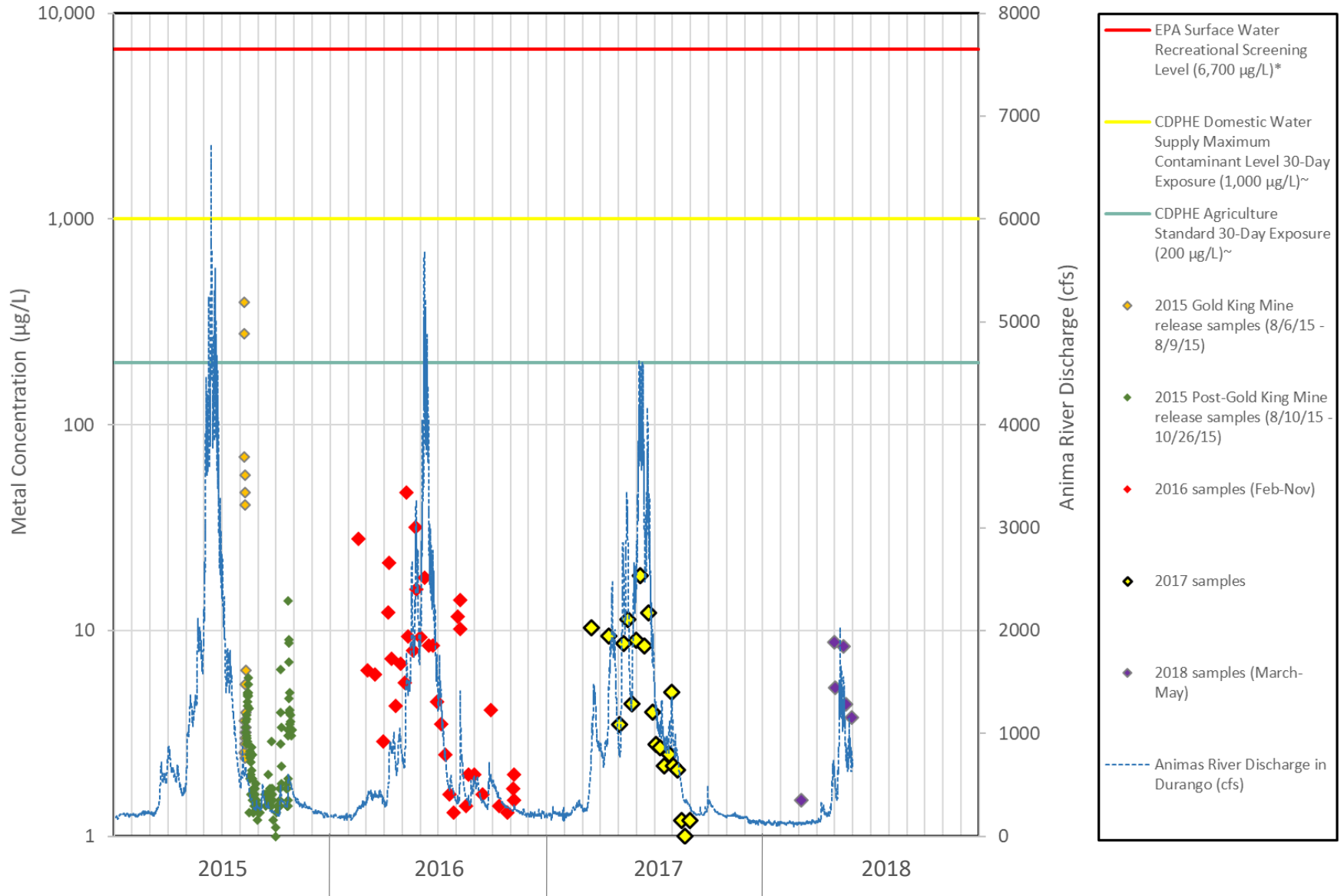
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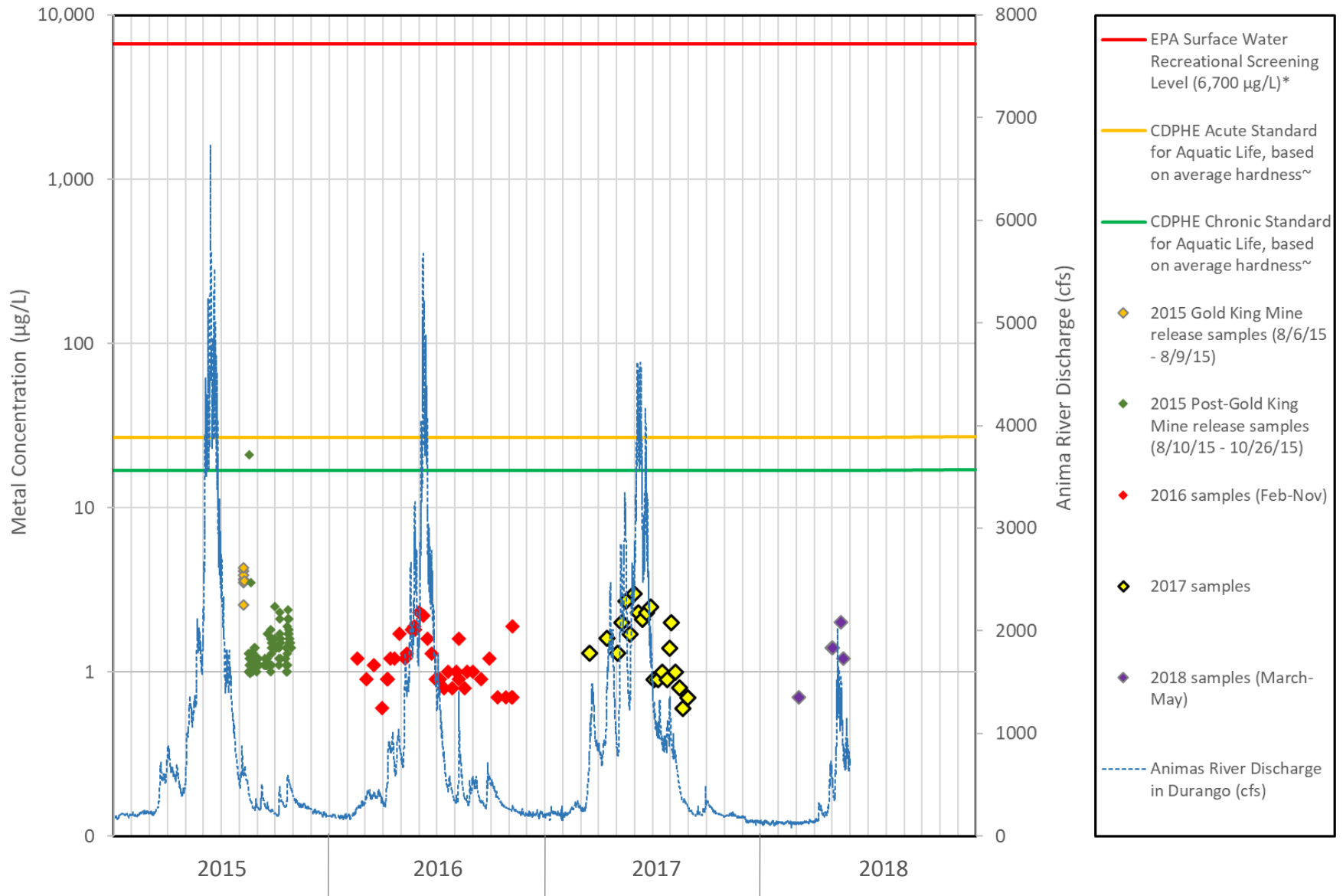
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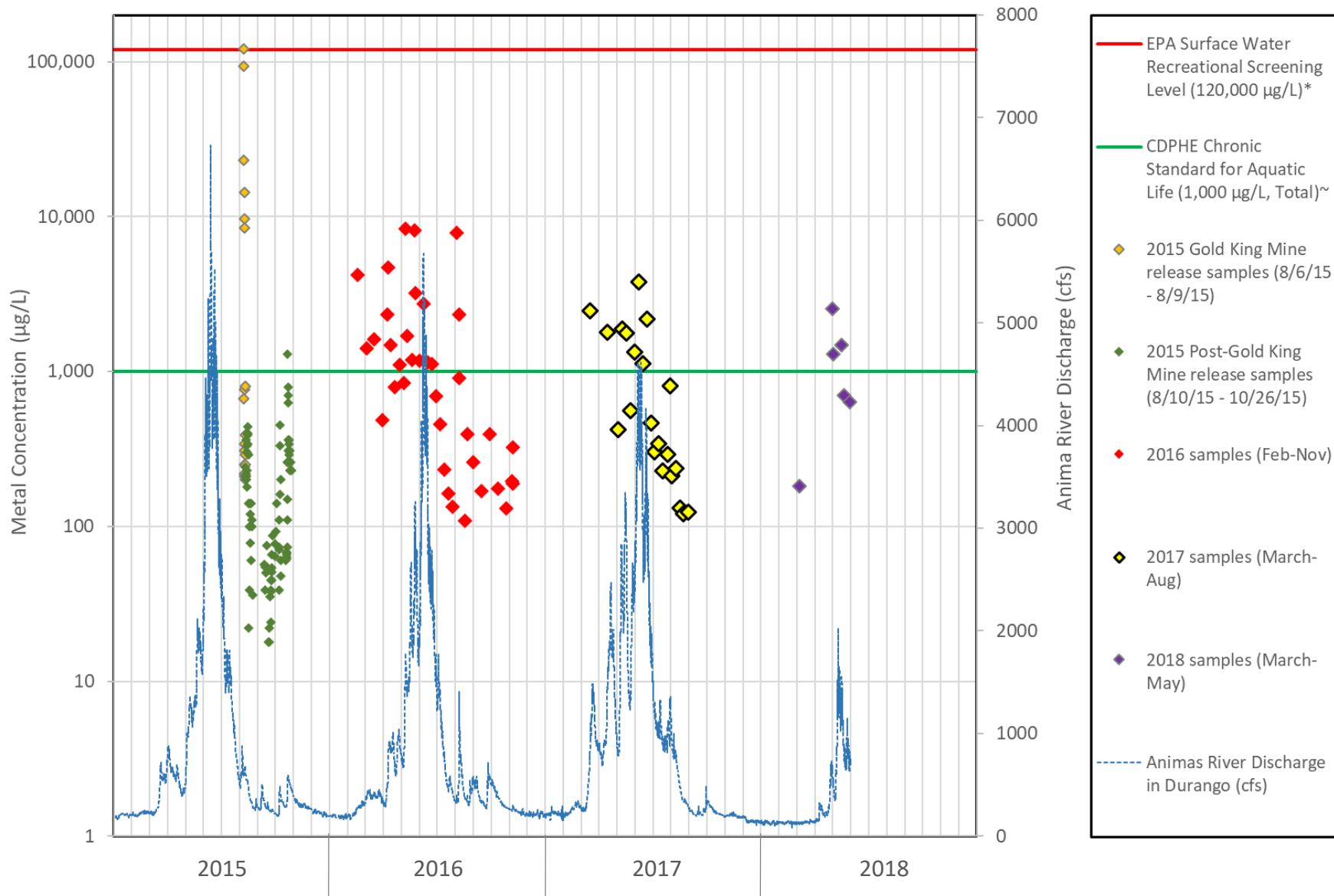
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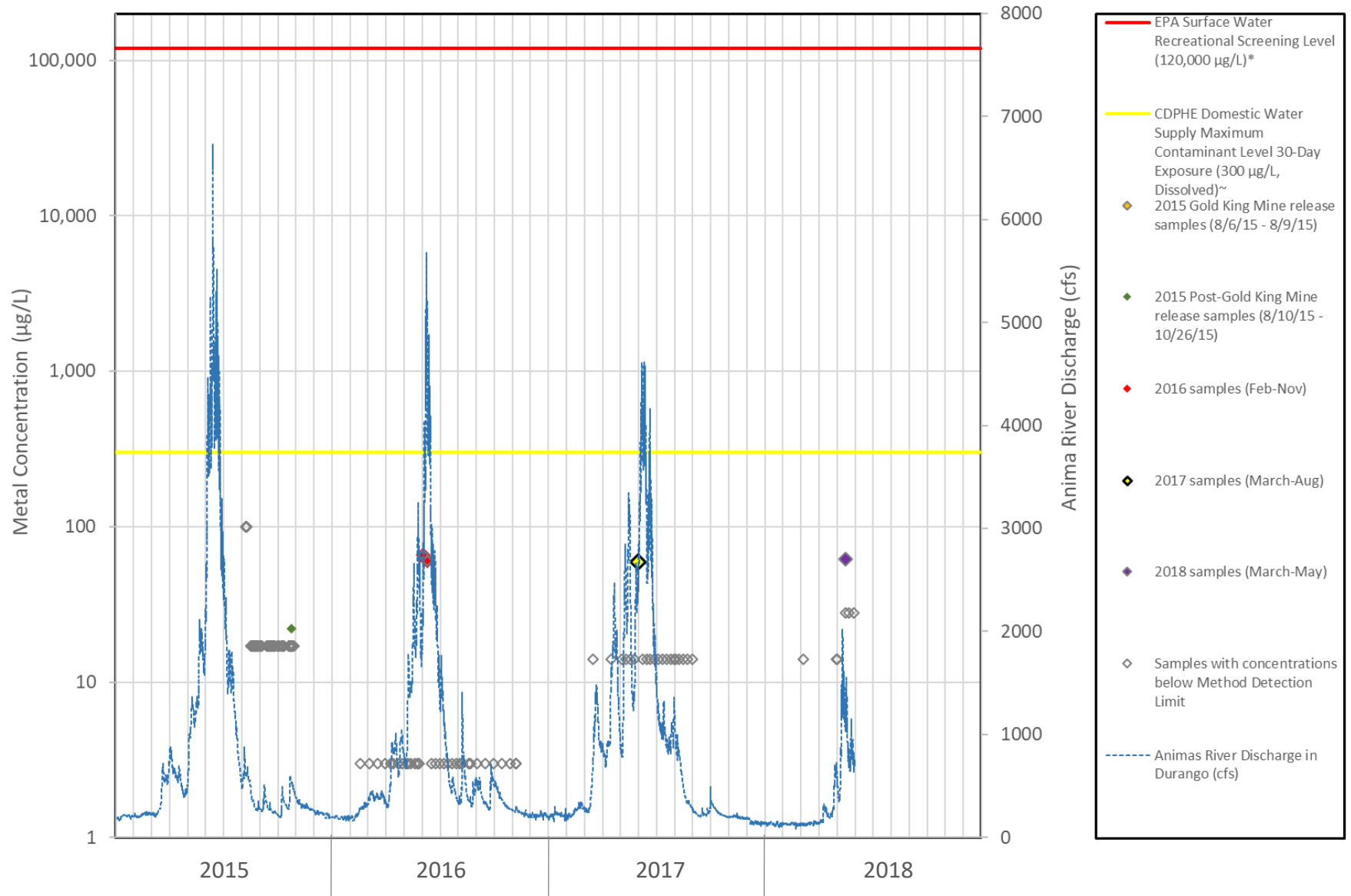
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Total Iron, Animas River at Durango, CO: 2015-2018



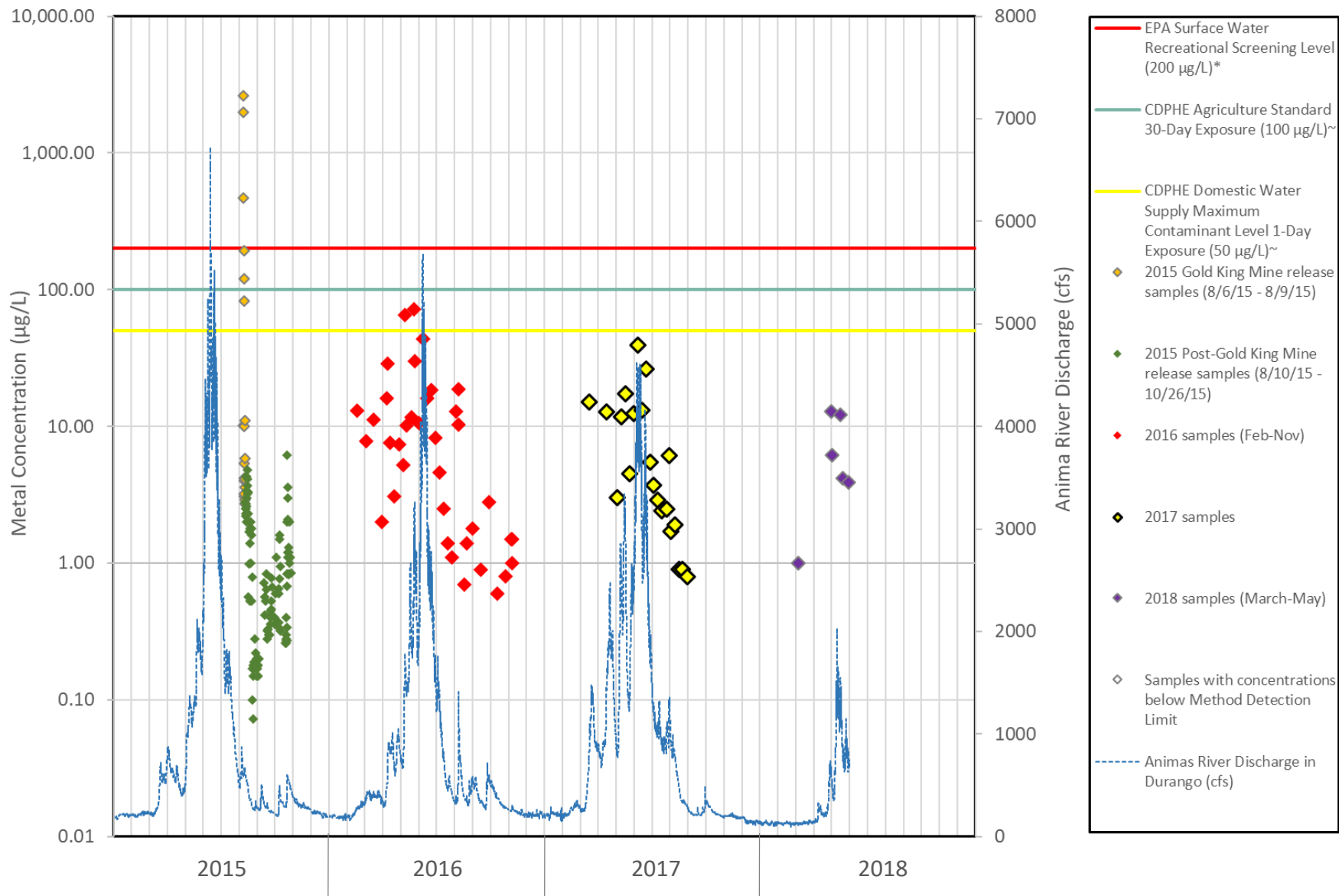
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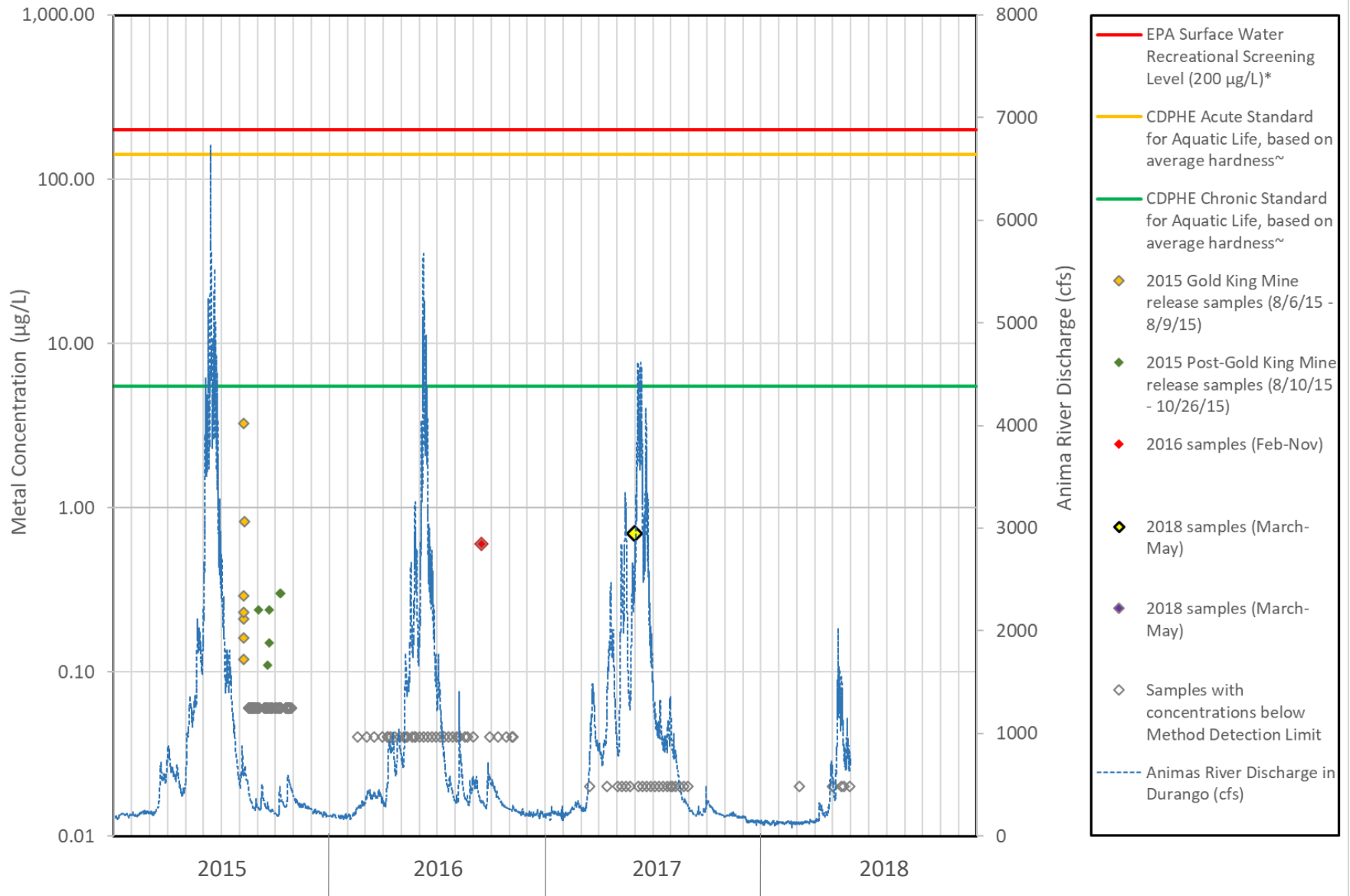
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Total Lead, Animas River at Durango, CO: 2015-2018



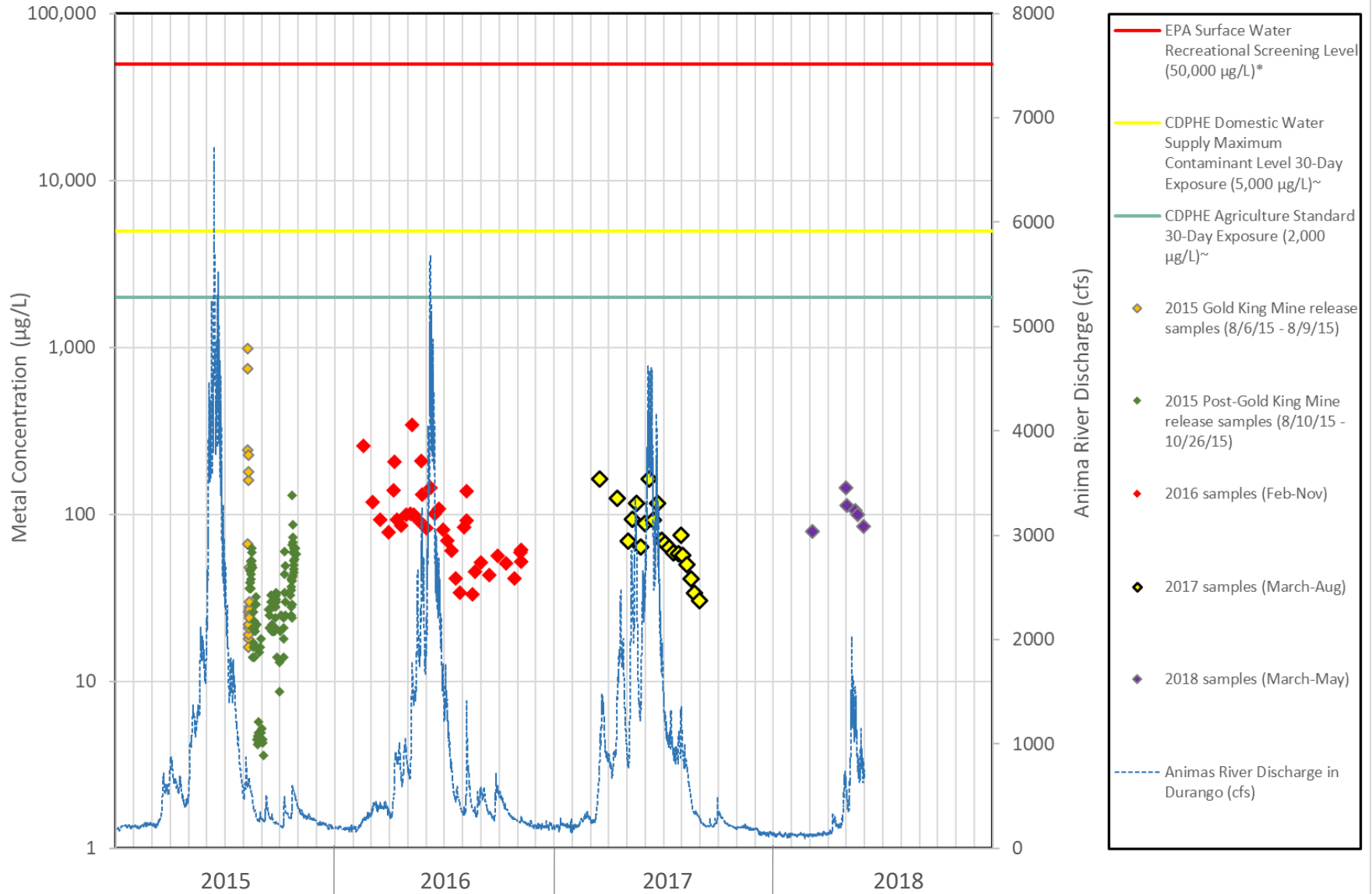
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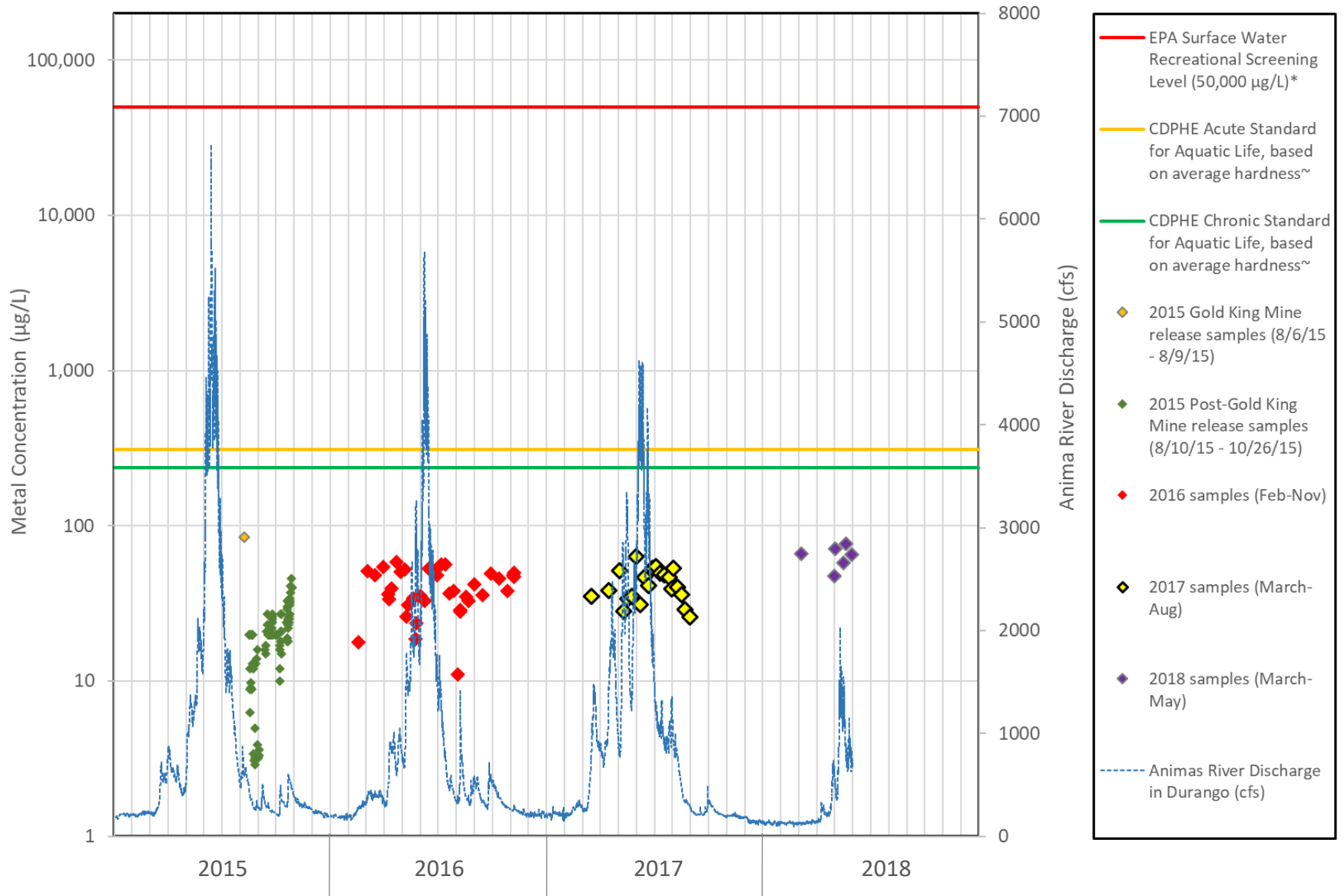
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Total Zinc, Animas River at Durango, CO: 2015-2018



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So far, did metal concentrations in 2018 at Rotary Park surpass water quality benchmarks?



Recreation

No



Agriculture

No



Domestic
Water Supply

No



Aquatic Life

Acute

No

Chronic

No



Safe Levels

Al
t+d

Cu
t+d

Fe
t+d

Pb
t+d

Zn
t+d

But, there were some concerns:



In 2016, 2017, and 2018, concentrations of aluminum and iron approached levels that could be harmful to aquatic life. These elevated levels occurred during spring runoff and were lower in late summer. High levels of aluminum and iron are not unprecedented, and are consistent with levels observed in previous years.

It is important to note that there are large natural sources of aluminum and iron in the Animas River watershed that are not related to mining activities.

Mountain Studies Institute, Colorado Parks and Wildlife, Southern Ute Indian Tribe, and other organizations will continue to monitor aquatic life to assess overall river health.