Review of 2\textsuperscript{nd} Administrative Draft of the 2\textsuperscript{nd} Nutrient Watershed Permit

February 5, 2019
BACWA Members Appreciate the SF Water Board

• Desire to have science provide the foundation for regulatory actions
• Interested in input from all stakeholders
• Open to considering all options that will achieve the desired outcomes
• Willing to eliminate repetitive low value requirements in favor of using limited public resources to pursue higher priorities
• Using regulatory discretion wisely

Wkdqnv$
Agenda

• Recognition of Early Actions
• Comparison of 95% UCL vs. Highest Year
• Calculation of Load Targets
  • Selection of Baseline for Current Performance
  • Case Studies demonstrating variability of TIN loadings
  • Rationale for using a slightly higher buffer
• Option for Commitment on Regional Study
• BACWA comments on 2\textsuperscript{nd} AD
• Next Steps
Recognition of Early Actions

• 2nd AD identifies (Table F-6) dischargers that are committing to take early action
• Other dischargers may have plans to significantly reduce TIN by 2024 but the details of the plans are in the process of being finalized
• Add wording to AD to the effect that any POTW that significantly reduces TIN by 2024 will be deemed an early actor, not just the seven listed in Table F-6
Comparison of 95% UCL vs. Highest Year

- Depending on the variability of dry season TIN during baseline years, a POTW could have a lower Current Performance than even their most recent loadings by use of mean UCL

- BACWA appreciates the WB switching to the highest baseline year for Current Performance

- Unintended consequences: a few POTWs were penalized by the switch which we don’t believe was the intent

- BACWA understands the optics of limits to 2 significant figures for load caps, however rounding down had some significant impacts in some cases (see spreadsheet)

- Request use of the higher of mean UCL or Highest Year as Current Performance and only rounding up or no rounding
<table>
<thead>
<tr>
<th></th>
<th>2013/14</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>2017/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta Diablo Historical Loads vs Population Growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Column1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Avg TIN</td>
<td>1,473</td>
<td>1,310</td>
<td>1,340</td>
<td>1,555</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-11.04%</td>
<td>2.25%</td>
<td>16.11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry Season TIN</td>
<td>1,365</td>
<td>972</td>
<td>1,261</td>
<td>1,588</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-28.79%</td>
<td>29.74%</td>
<td>25.88%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>202,696</td>
<td>205,983</td>
<td>209,272</td>
<td>211,951</td>
<td>213,449</td>
</tr>
<tr>
<td>% Growth</td>
<td>1.62%</td>
<td>1.60%</td>
<td>1.28%</td>
<td>0.71%</td>
<td></td>
</tr>
</tbody>
</table>
Main Takeaway Points from this Plot

- Highest dry season annual average was 2014-15.
- Highest dry season annual average was **not** 2017-2018 as would be predicted by the assumption that population growth drives inter-annual DIN variability.
- Actual annual dry season DIN loads (medium blue line) have not followed a predictable 2% per year growth.
- Predicting a 2% growth from max dry season DIN load (2014-15) indicates that at 2% per year from that baseline, Facility could exceed the planning level target in early 2022.

DIN Dry Season Load (kg/day)
Effluent TIN load is variable and can increase significantly more than the population growth over the same year.
Dry Season Year-to-Year Variation (2014-2018)

Rwa data: Dry Season Annual Average (for FY14/15, FY15/16, FY16/17, FY17/18, 4 data points)

Standard Deviation/Average

TIN Weighted STD/Average = 6%
Dry Season Month-by-Month Variation

Raw Sample: 20 dry season monthly data (2014-2018)

Standard Deviation/Average

TIN Weighted STD/Average = 12%
Conclusion from Case Studies

• On a regional, long term basis (e.g. 20 years) you would expect strong correlation between increasing nitrogen loads and Bay Area population

• On a shorter term, individual plant basis, there is demonstrated poor correlation between nitrogen loads and population growth within the service area
Options for Addressing Variability
Not tied to Growth

• Adjust baseline to reflect variability

• Increase the buffer
Rationale for Use of Larger Buffer

• Variation in dry weather loads can be significant and not tied to population, makes it difficult for planning

• With many demands for limited resources and no major plant renovation on the horizon, POTWs will plan prudently but shouldn’t be blind-sided by unexpected variability independent of growth

• A higher buffer would serve to provide a bit more cushion to avoid compliance jeopardy without materially impacting prudent planning

• From a mass balance perspective, Regional San’s load reductions (~15%) coupled with early actor load reductions (~7%, see attachment) could provide a rationale for a 20% buffer while still maintaining the status quo by 2024 (i.e. no imminent danger of impairment, no toxin outbreaks, no eutrophication) but with significant advancement across the region on the plans to implement reductions
Regional Study

• AD sets forth the same approach as used for Optimization/Upgrade Study

• Problematic for BACWA as it forces a very narrowly scoped effort w/o the benefit of synergies gained by participating in the broader and better funded SFEI Operational Landscape Units

• Understand the WB’s need for a well thought out scope of work and on-going commitment from BACWA

• BACWA could commit to $500k funding, convening stakeholders to develop and produce a Scope of Work with desired schedule and budget (by end of 2019), and on-going participation in the governance of the effort to help ensure completion of Scope and deliverables
Next Steps

• Some agencies may be contacting WB with specific issues to clarify that pertain only to their plant
• BACWA has set up another Google doc for member input/redlines
• BACWA will provide additional comments (few expected) to the WB by middle of next week