Evaluating Stormwater Compliance Using Percentile and Probability Curves

Background

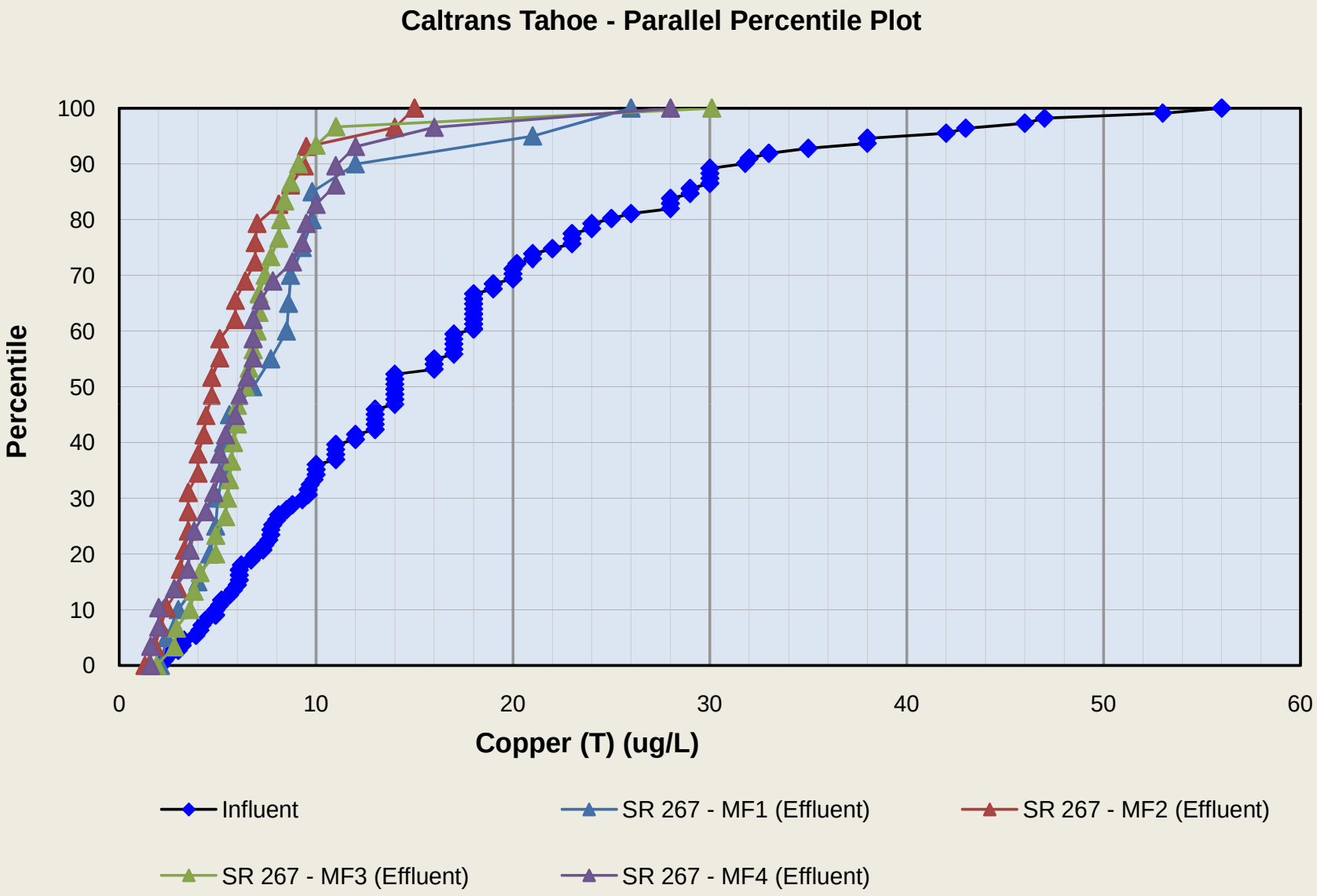
- In stormwater management, we use probability and risk for:

  Compliance, monitoring, AKART, BMP selection, alternatives analysis, monitoring plans, standard-setting, enforcement, bench marks, MEP, design standards, feasibility studies, etc, etc.

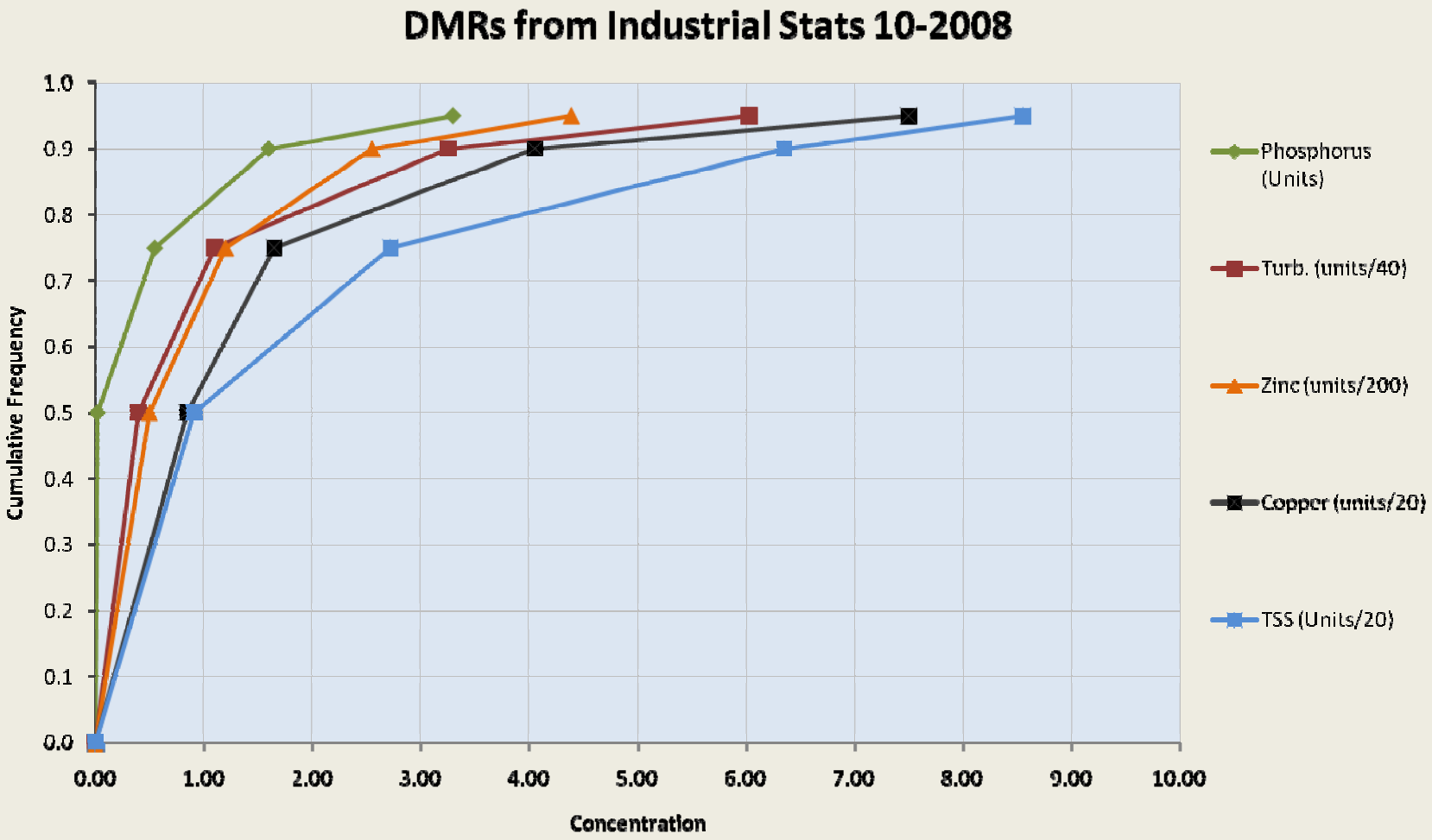
Today, we'll:

- Show and compare, using percentile curves, treated and untreated stormwater
- Show existing stormwater quality and BMP performance
- Look at issues around compliance percentiles for compliance evaluations (e.g. 95^{th} percentile)
- Show how passive BMP applications perform

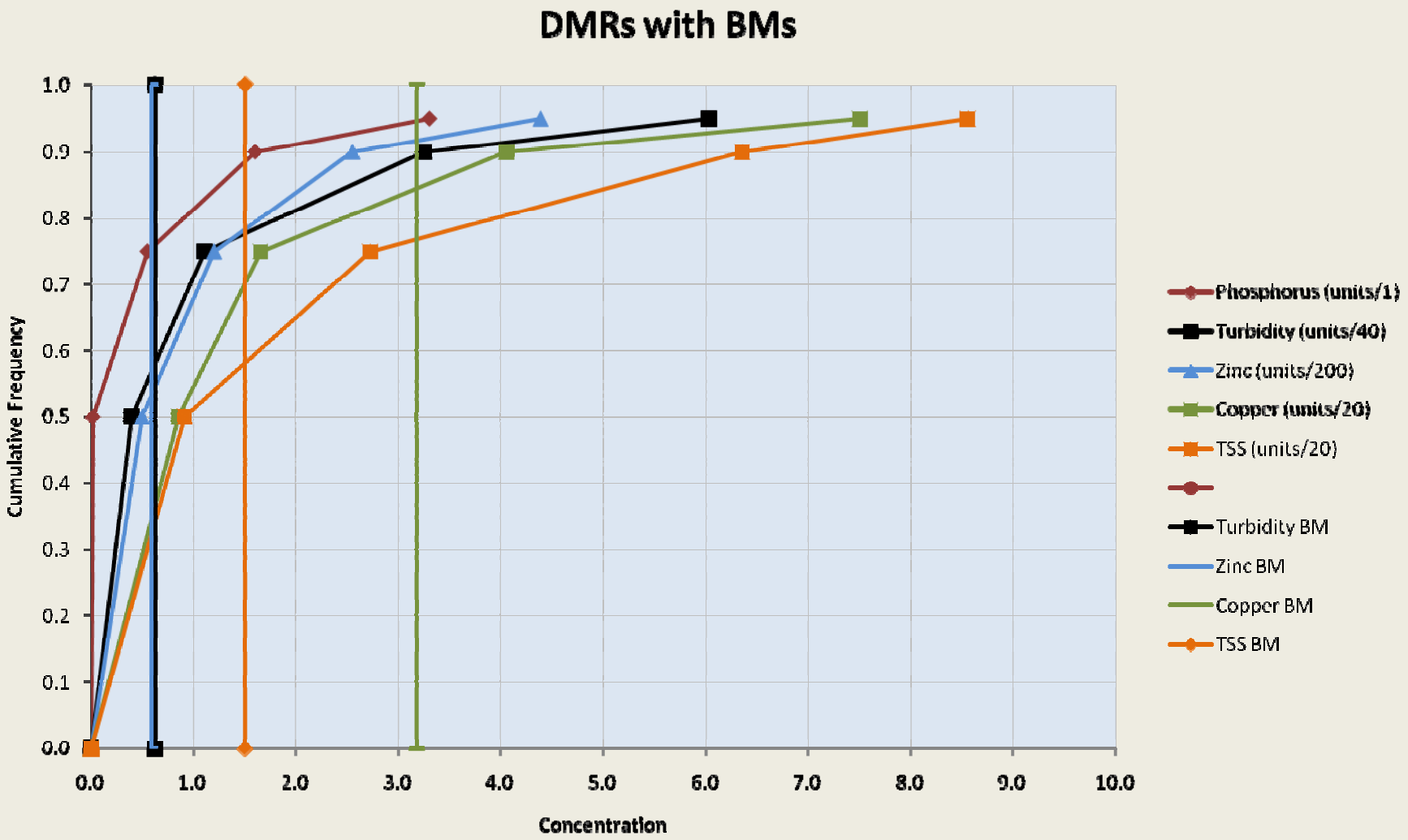
Percentile Curve Overview



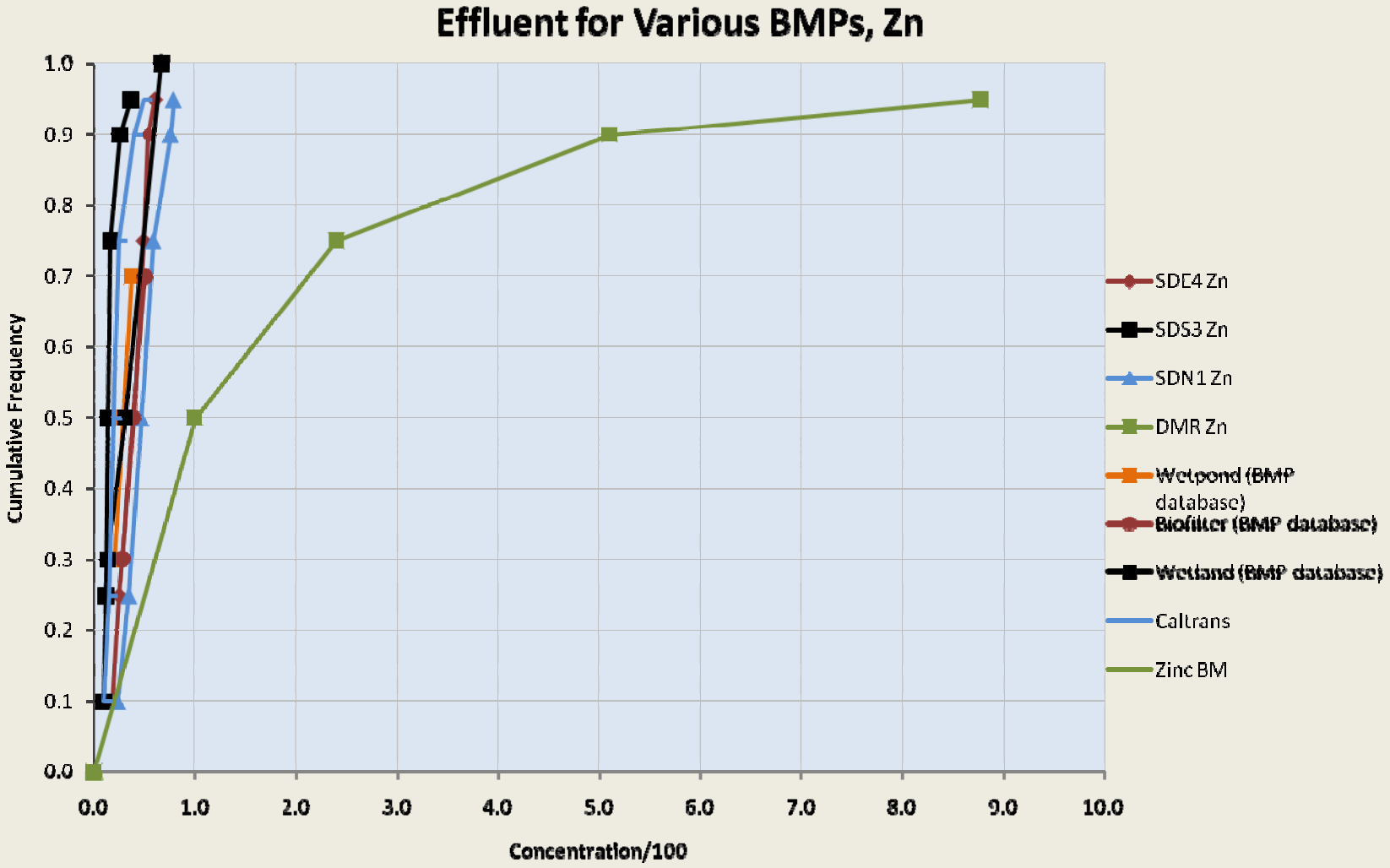
Industrial Stormwater as Demonstrated by DMRs



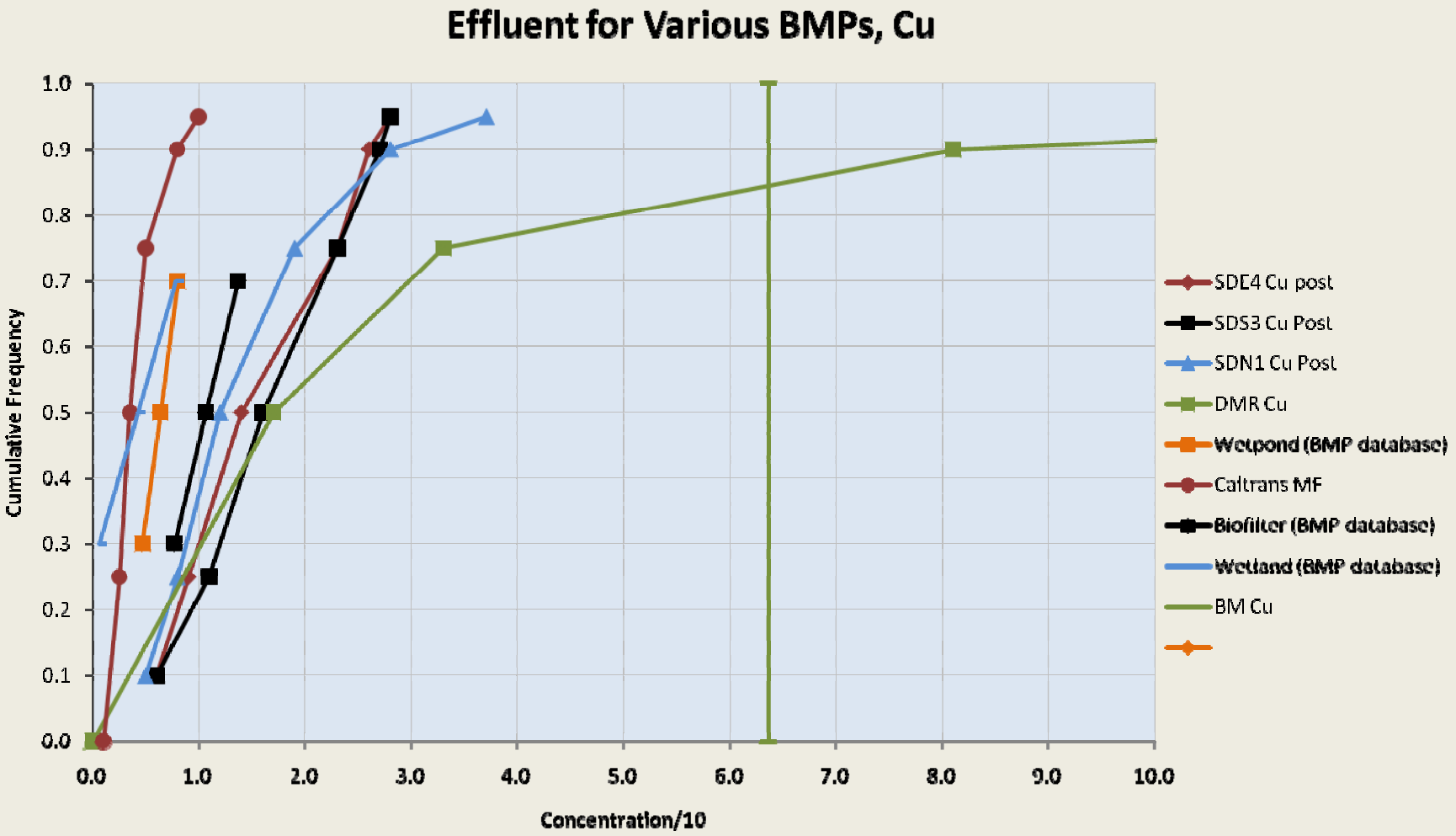
Industrial Stormwater Compared to Bench Marks



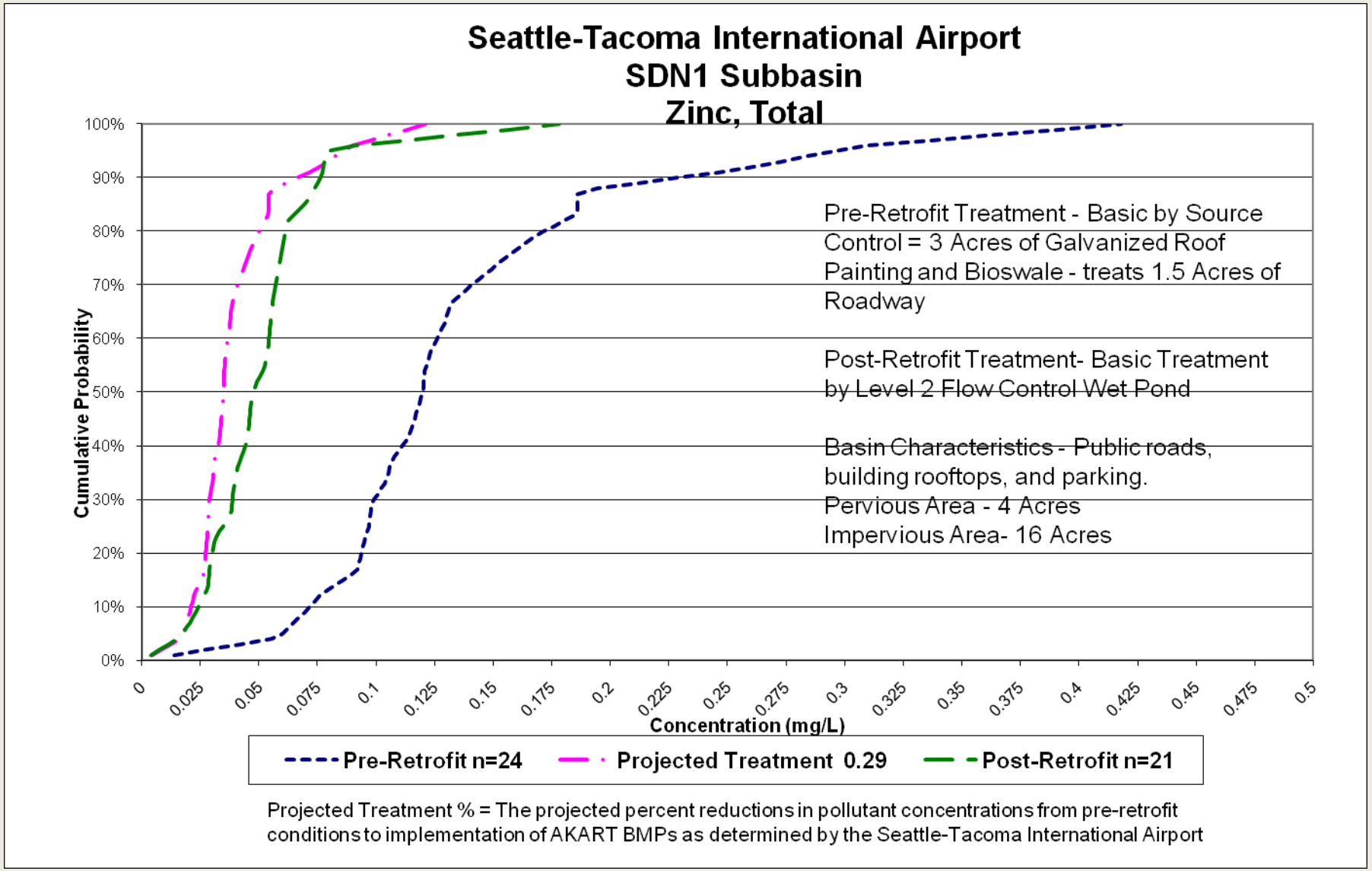
Example BMP Performance



Example BMP Performance

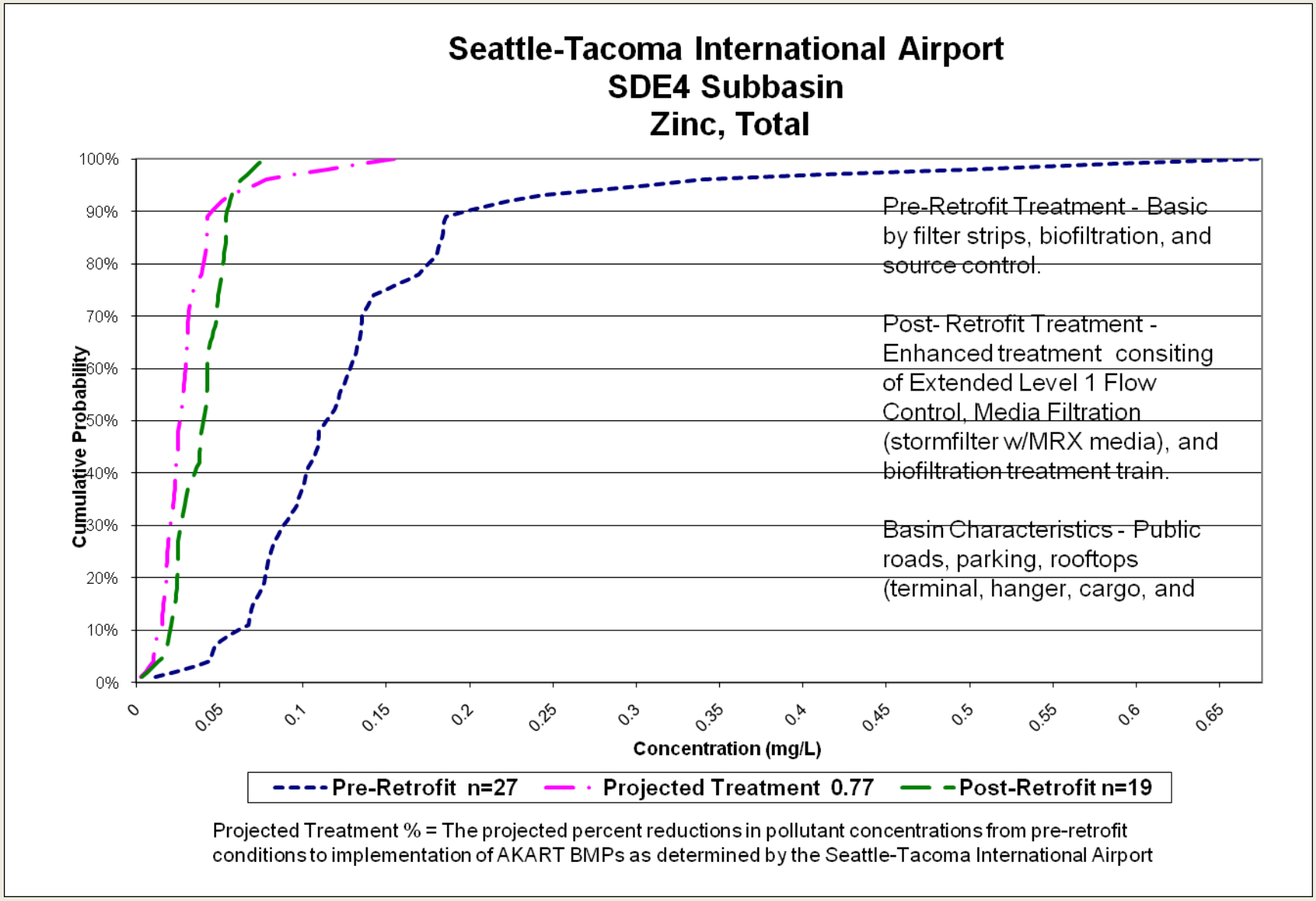


Site Specific Examples



Projected Treatment % = The projected percent reductions in pollutant concentrations from pre-retrofit conditions to implementation of AKART BMPs as determined by the Seattle-Tacoma International Airport

Site Specific Examples



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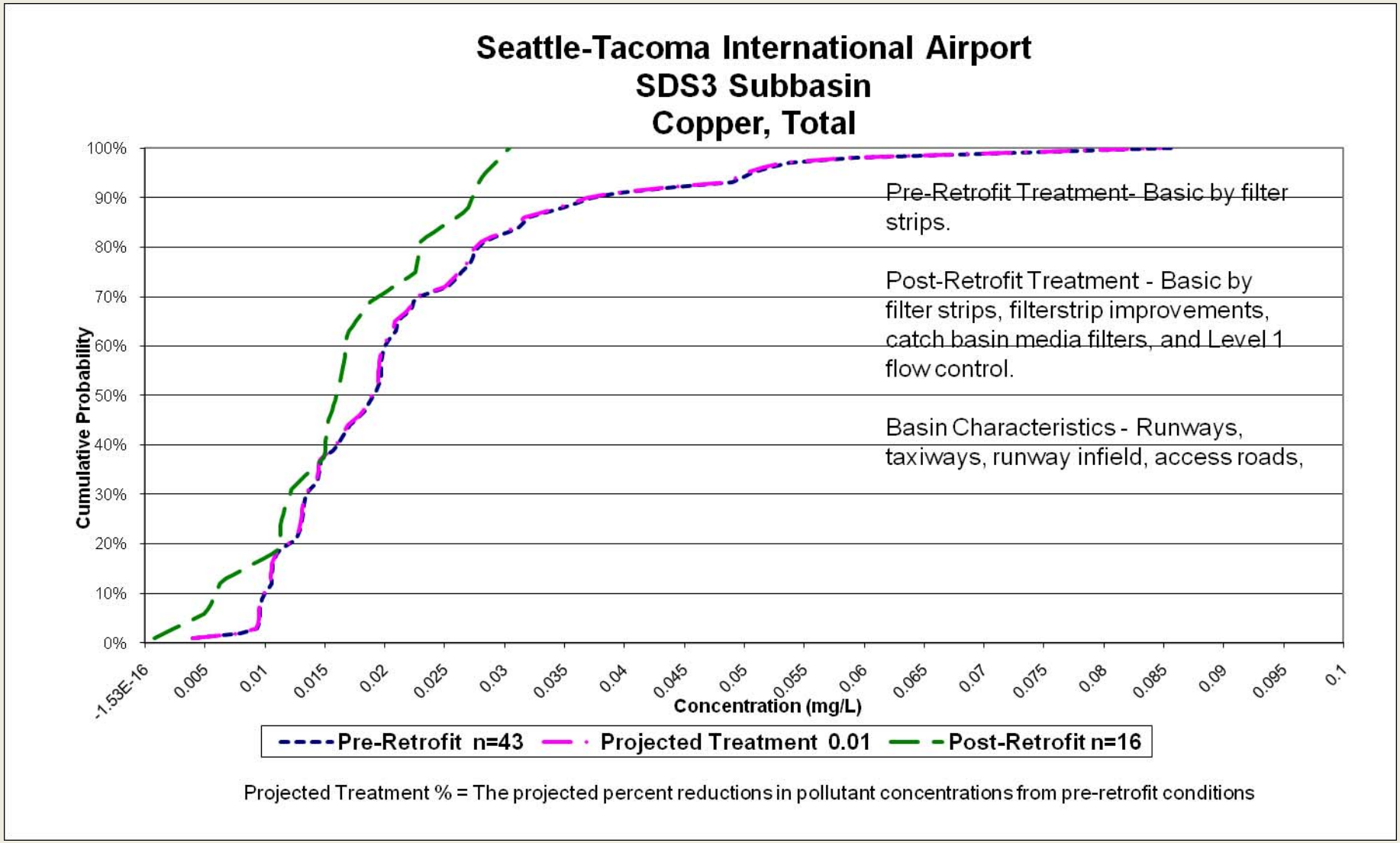
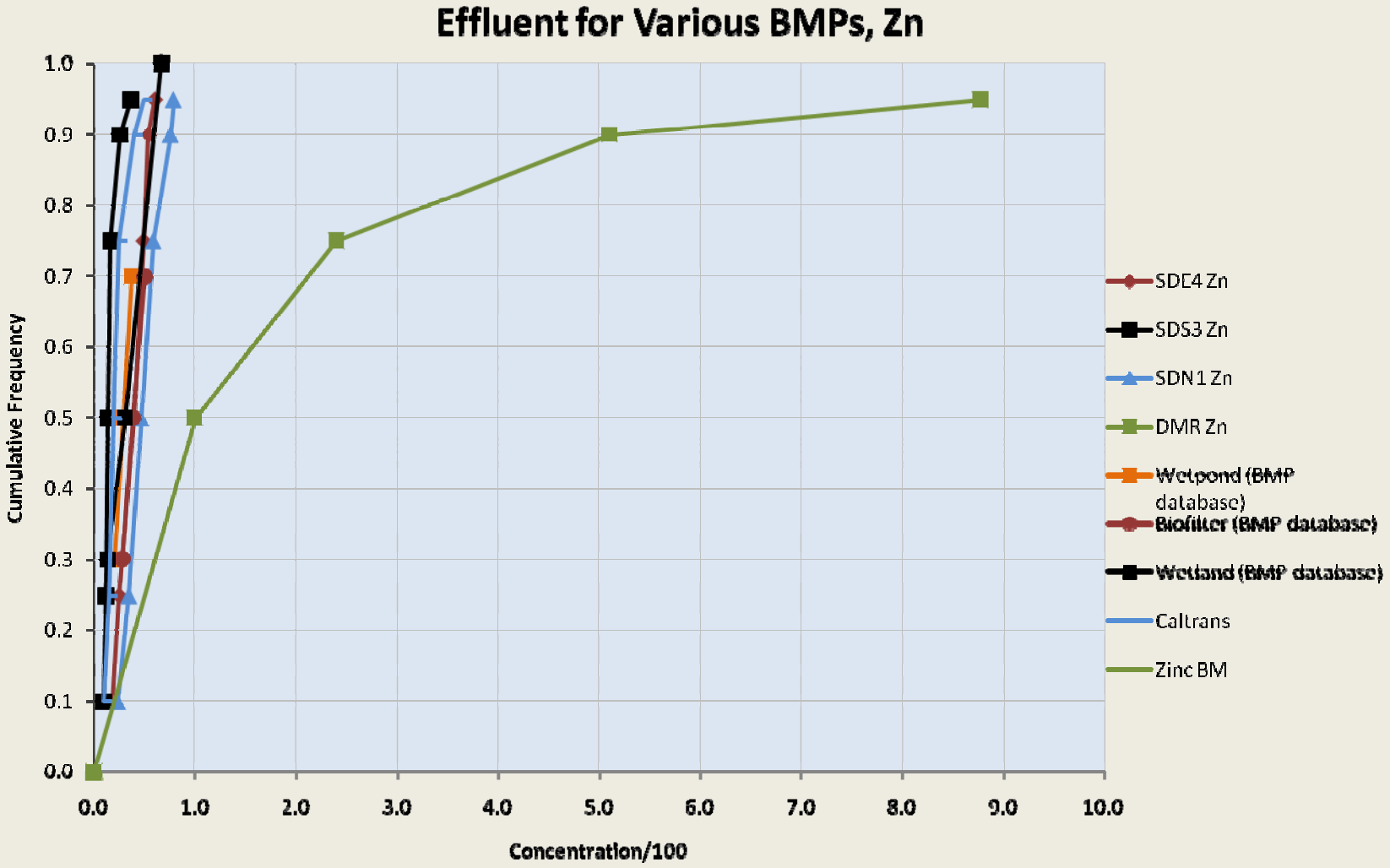
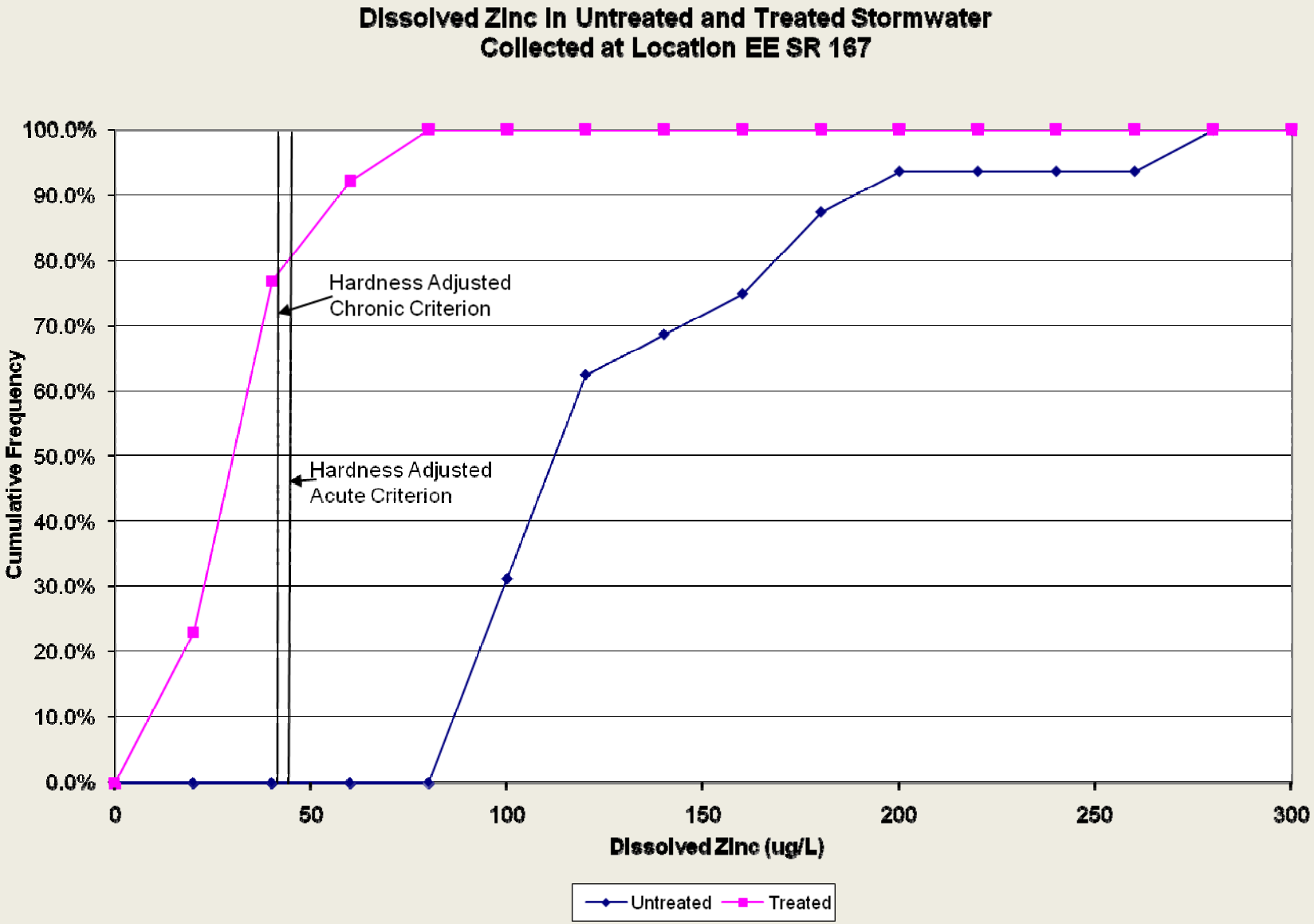
Site Specific Examples



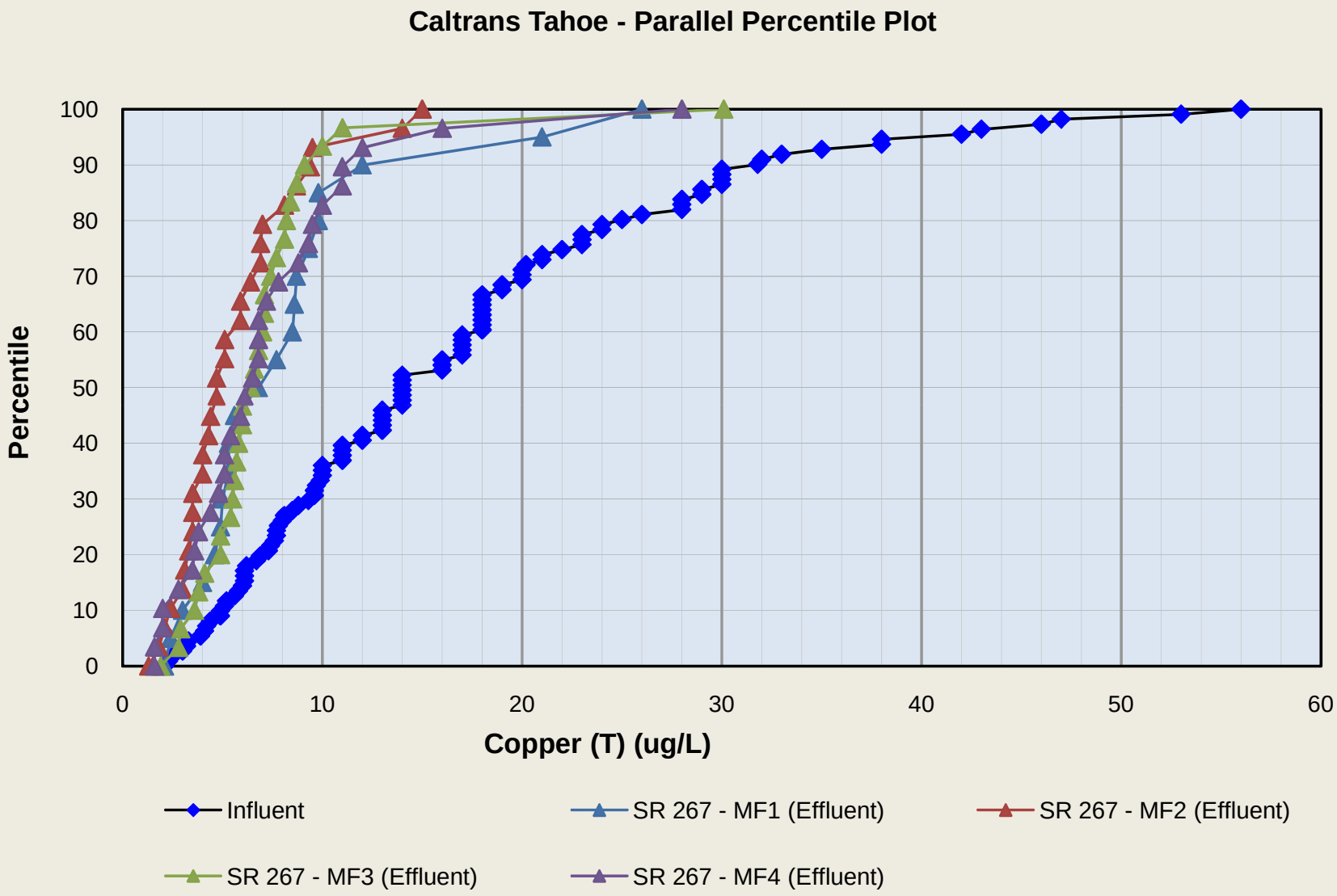
Compare Site Specific Example BMP Performance



WSDOT Examples



Caltrans Example



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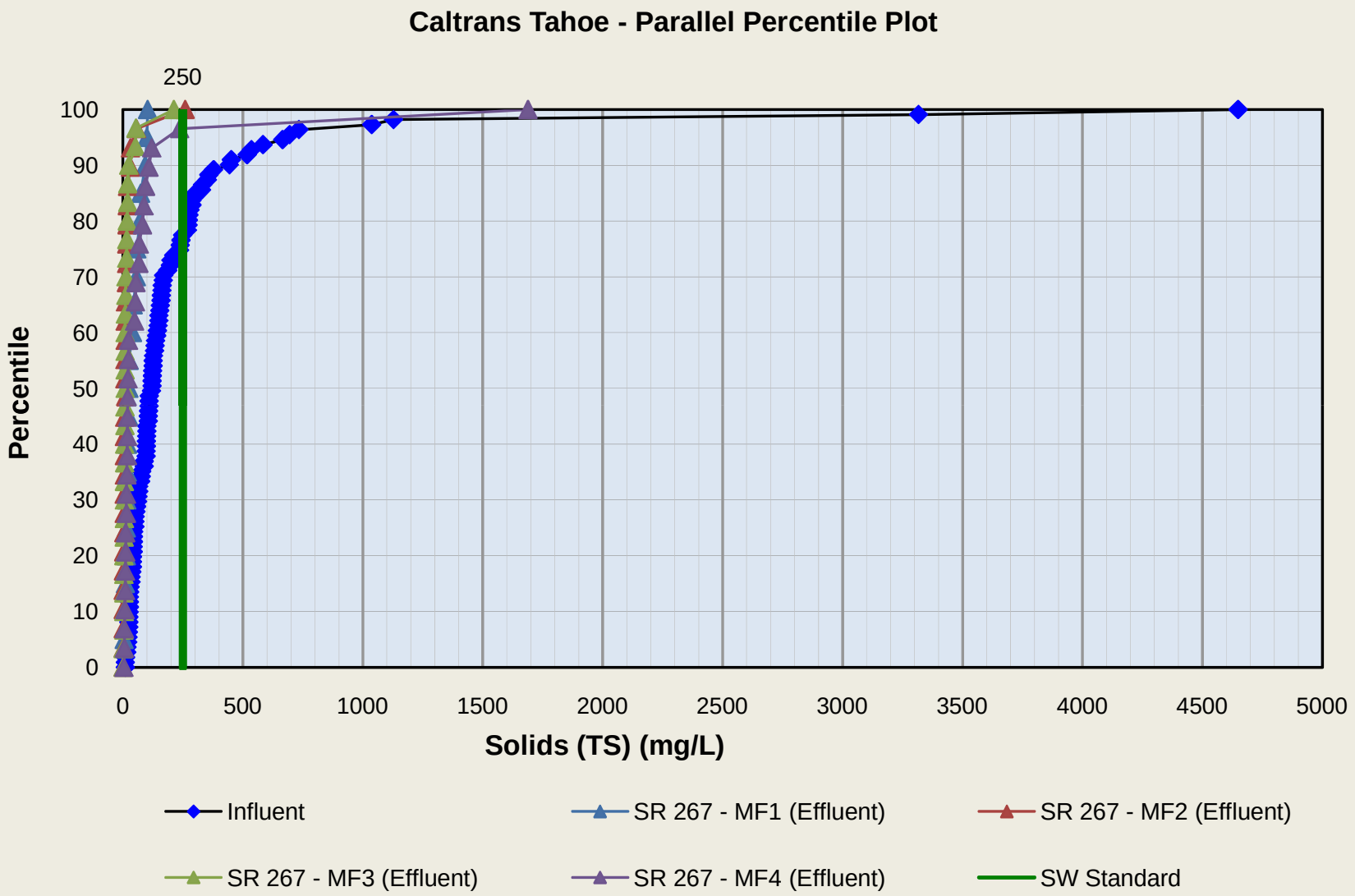

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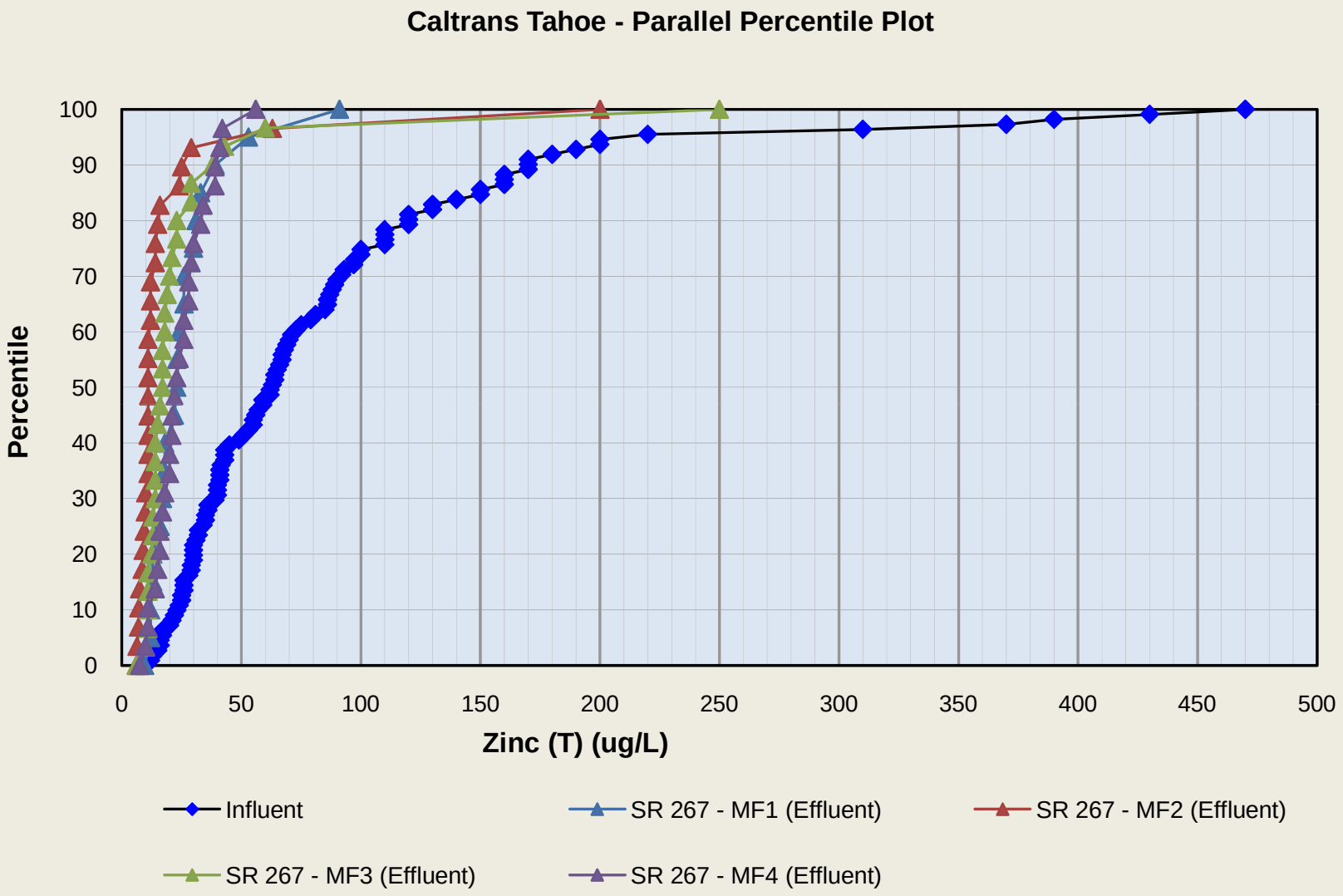
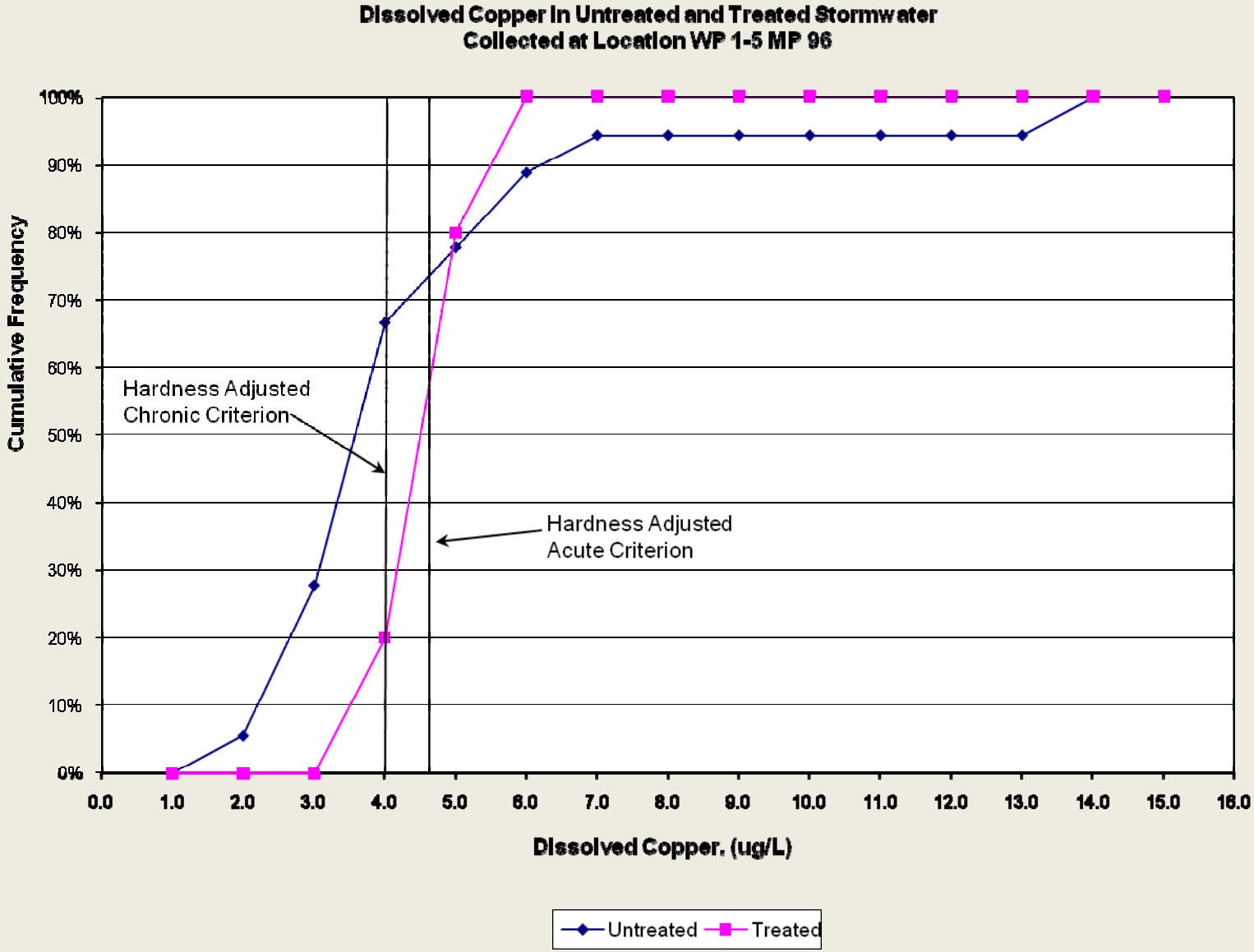


Summary

- Look at Bench Marks and Action Levels compared to existing stormwater and BMP performance
- Consider BMP performance curves - RPA, MEP, AKART
- Use passive BMPs in standard applications to make stormwater improvements

WSDOT Examples