SAFE CLEAN WATER PROGRAM

MEMORANDUM

Date:	Wednesday, April 23, 2025
Project:	Safe, Clean Water Program 2025 Adaptative Management
To:	Dusadee Corhiran and Mayra Cabrera, LA County Public Works
From:	Craftwater
Attachment:	A – Recommended Pilot Water Supply Scoring Criteria Revisions
Subject:	**Water Supply Scoring Adaptation Pilot Rubric**

Executive Summary

The purpose of this memo is to **inform potential adaptation of scoring criteria and evaluation of Water Supply Benefits** after five rounds of Safe, Clean Water Program (Program) project submittals as part of adaptive management. To evaluate historical trends and alternative scoring criteria, the Study **analyzed 183 Infrastructure Program project applications**, including projects that were accepted and funded, considered but not funded, referred to the Technical Resources Program, or withdrawn.

The following alternative Water Supply Benefit scoring approaches were evaluated:

1. **Calibrating Scoring to Historical Projects**: Evenly scales the scoring criteria across the range of proposed project performance from the first five rounds of Program implementation
2. **Adding Gradation to Scoring Rubrics**: Provides additional granularity so that projects can score at one-point increments

Public Works should consider routinely calibrating scoring criteria to the historic range of submitted project data (alternative 1 above). This approach better aligns the cost-effectiveness and magnitude scoring with the true range of Program-worthy multi-benefit project efficiencies and performance, and inherently accounts for Program-wide opportunities, constraints, and economic changes over time. **Adding gradation to scoring rubrics (alternate 2 above) is also recommended,** as it could improve scoring outcomes for an additional number of projects without negatively affecting overall scoring outcomes for any projects.

While the projects included in this analysis represented a robust dataset, the team acknowledges that they were not comprehensive of potential projects that were considered but *not* submitted to the Program. Furthermore, the analysis relied only on the project performance data proposed to the Program, which may have changed since initial submittal.

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Introduction and Purpose

The objective of this memo is to inform potential Public Works guidance on Water Supply Benefit scoring criteria adaptations. To accomplish this objective, the memo presents (1) a brief review of Water Supply Benefit scoring trends under the current criteria and then (2) explores the programmatic implications of calibrating the criteria using historical project data (see Attachment A for Recommended Scoring Criteria Revisions). Note that a broader array of alternative rubrics were evaluated under Appendix E of the Metrics and Monitoring Study, whereas this effort was scoped to focus only on updating the alternative rubric recommended by that effort.

Review of Current Water Supply Scoring Criteria

The Feasibility Study Guidelines include the current Infrastructure Program Project Scoring Criteria. The Water Supply Benefit scoring criteria have two parts: water supply cost-effectiveness (total lifecycle cost[1] per acre-foot of water supply or $/AF) and average annual magnitude of water supply (acre-feet per year or AFY). The current rubric for cost-effectiveness is shown in Table 1 and Figure 1, and the rubric for magnitude is shown in Table 2 and Figure 2.

[1] Total life-cycle cost: the annualized value of all capital, planning, design, land acquisition, construction, and total life O&M costs for the Project for the entire life span of the Project (e.g., 50-year design life span should account for 50-years of O&M). The annualized cost is used over the present value to provide a preference to projects with longer life spans. The Regional Program module applies a constant 3.375% discount rate per year to compute the present value annualized total life-cycle cost.

Table 1. Current Water Supply Cost Effectiveness Scoring Criteria

Total Life-Cycle Cost per Unit of Acre Foot of Stormwater and/or Urban Runoff Volume Captured for Water Supply[1] ($/AF)	Points
$2,000-$2,500	3
$1,500-$2,000	6
$1,000-$1,500	10
< $1,000	13

Table 2. Current Water Supply Benefit Magnitude Scoring Criteria

Yearly Additional Water Supply Volume Resulting from the Project (AFY)	Points
25-100	2
100-200	5
200-300	9
> 300	12

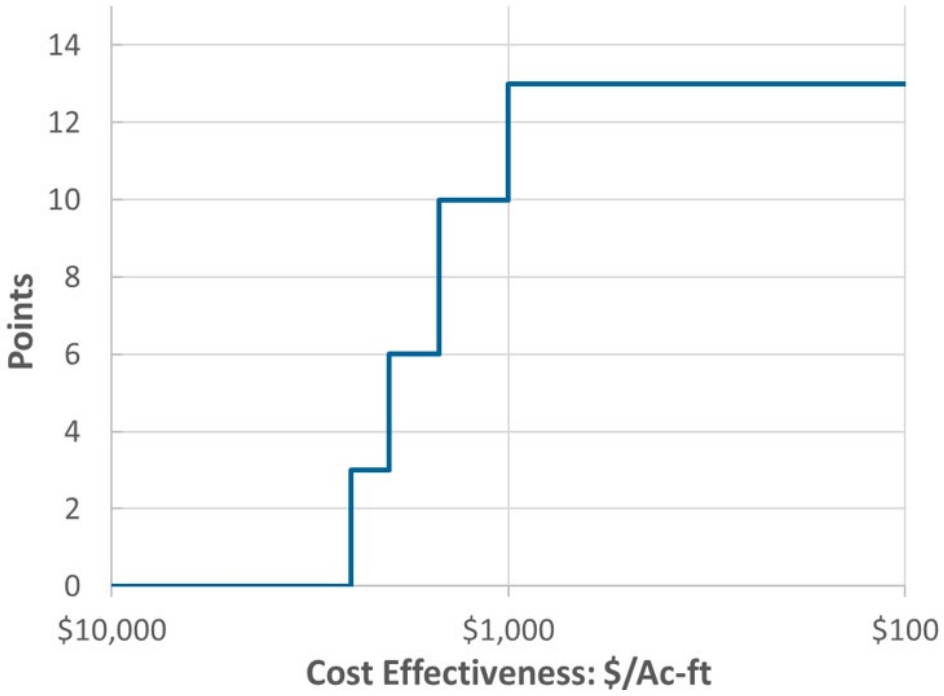

Figure 1. Current Cost Effectiveness Scoring Rubric

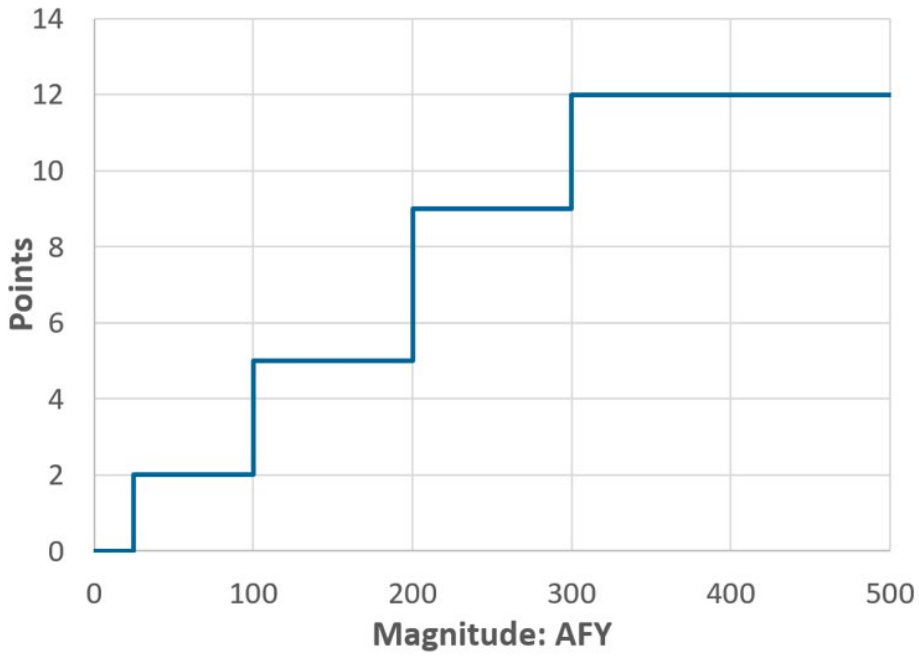

Figure 2. Current Magnitude Scoring Rubric

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Data Assumptions and Limitations

Data from the first five rounds of Infrastructure Program applications was exported from the Program module to evaluate historical Water Supply Benefit scoring trends. Several key assumptions were made:

- **Projects "Under Development" were screened out.** The analysis included 183 projects from the following categories: Accepted Funded (134), Considered Not Funded (41), Refer to Technical Resource Program (4), Withdrawn (4).
- **Duplicate Projects were screened out.** If multiple submissions exist in the module for the same phase of the same project, all but the most recent submission were screened out.
- **Null values or "N/A" values were excluded from the analysis**. The module data included null volume capture and/or null water supply cost-effectiveness for some projects. Scores for those criteria were not computed for projects with missing data.
- **Scores were recalculated using module outputs data.** A number of projects had scores assigned different than what the scoring criteria would assign. For consistency and objectivity, project scores under current scoring criteria were calculated rather than using raw module outputs.
- **Module-exported cost-effectiveness values were used.** For some projects, dividing the exported lifecycle cost by the exported capture returned a different value than what was proposed in the module data; this is likely due to use of user-define inputs, which were not available in the module-exported data. For consistency and objectivity, the raw water supply magnitude and cost-effectiveness values exported from the module were used for all subsequent analyses.
- **Scores were analyzed assuming proposed volume capture counted as a Water Supply Benefit.** This assumption was made so that all projects could be objectively compared based on the physical processes they are performing, regardless of whether the captured volume was confirmed a Water Supply Benefit by the Scoring Committee. It was also assumed that the exported capture volume included any potable offset resulting from runoff capture.
- **One outlier was removed from historical data used to calibrate scoring metrics**. The Rory M. Shaw Wetlands Park Project captures an annual average volume of over 32,000 acre-feet per year. This capture volume is so high because this project assumes that all runoff from its large drainage area will infiltrate to groundwater via large infiltration basins. This is significantly greater than three times the standard deviation of all project capture volumes and was removed avoid skewing the historically calibrated scoring criteria.

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Historical Water Supply Benefit Scoring Trends

The histograms shown below in Figure 3 and Figure 4 show that just 24 percent of submitted projects earned cost-effectiveness points, while 71 percent earned magnitude points. Figure 5 and Figure 6 below display the distribution of historical project water supply cost-effectiveness and capture volumes compared to the Water Supply Benefits scoring criteria. These data suggest that typical projects submitted to the Program are challenged to earn cost-effectiveness points. Figure 7 illustrates the overlap of projects scoring both cost-effectiveness and magnitude scores, which shows that only 24% of projects earned scores in both categories. Figure 8 shows the average Water Supply Benefits scores earned by Watershed Area, which shows that cost-effectiveness points are earned less than magnitude points, and that some Watershed Areas have more of a challenge in earning points.

Figure 3. Histogram of Historical Cost-Effectiveness Scores Under Current Rubric

Figure 4. Histogram of Historical Magnitude Scores Under Current Rubric

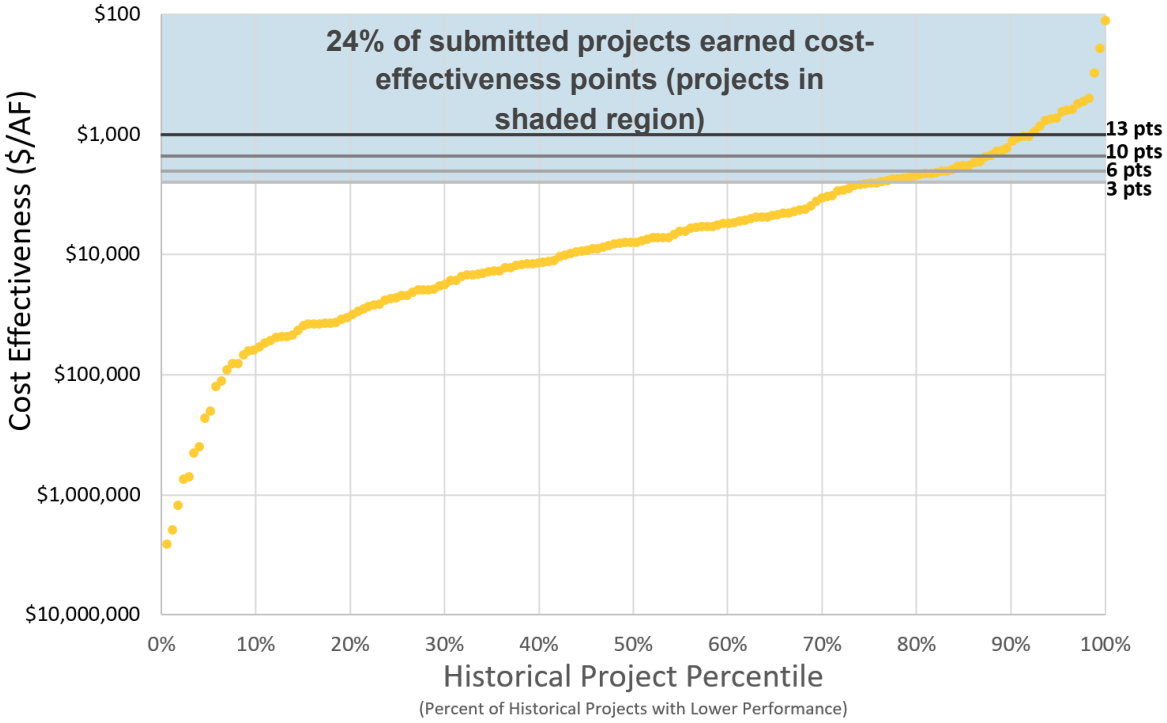

Figure 5. Distribution of Historical Project Cost-Effectiveness Compared to Scoring Criteria (note logarithmic scale)

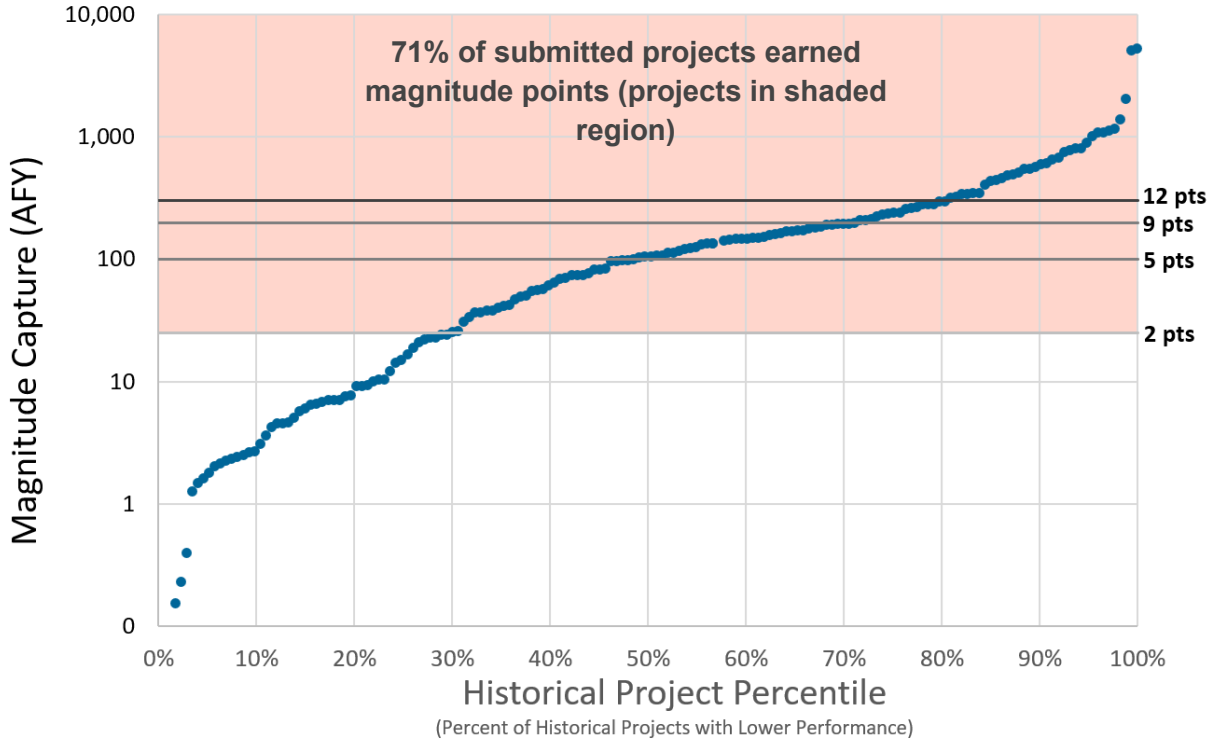

Figure 6. Distribution of Historical Project Magnitude Capture Compared to Scoring Criteria (note logarithmic scale)

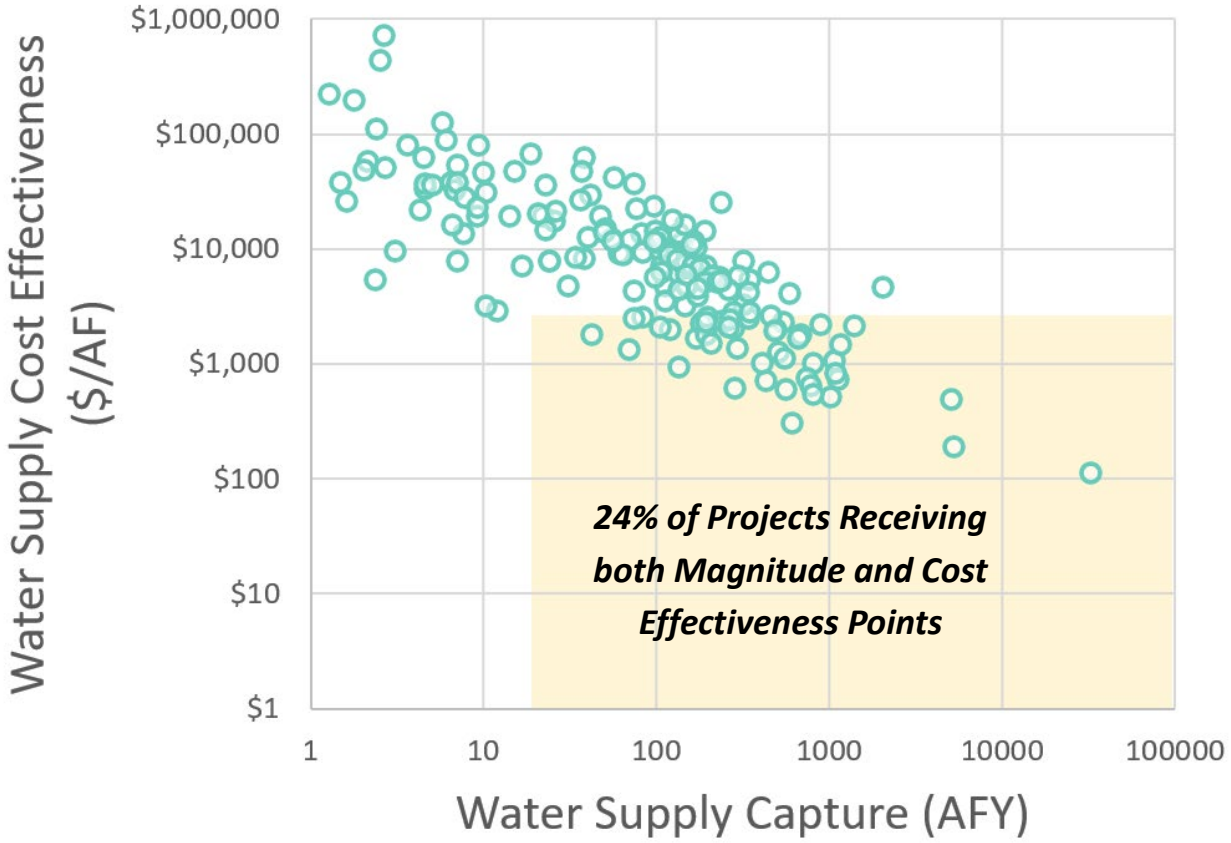

Figure 7. Proposed Infrastructure Program Project Water Supply Benefits Compared to Current Scoring Criteria Ranges

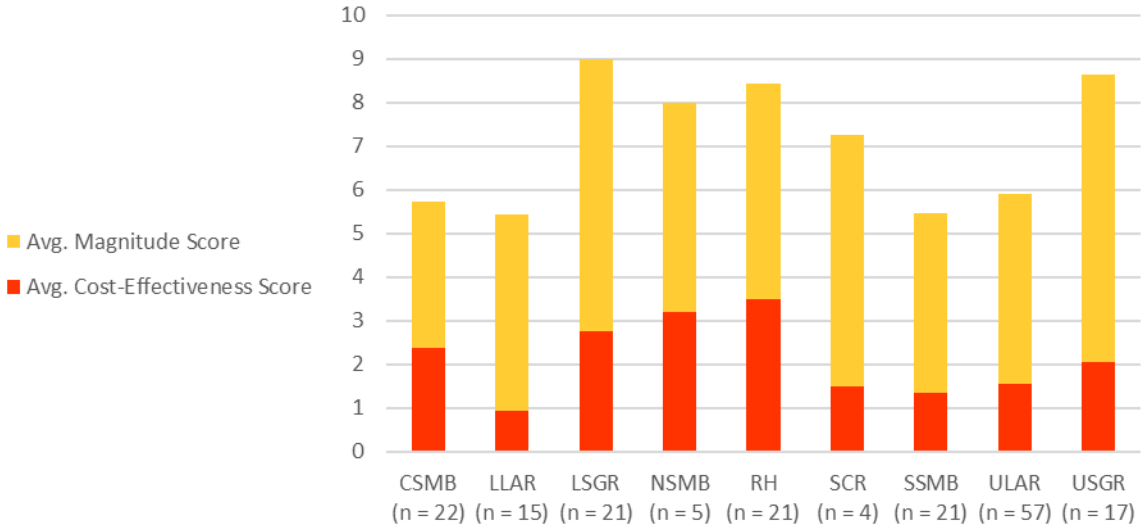

Figure 8. Average Cumulative Water Supply Points for Infrastructure Program Projects, by Watershed Area

Calibrating Scoring Criteria to Historical Trends

The current Water Supply Benefit scoring criteria were originally developed by benchmarking the cost and performance of stormwater capture projects developed prior to 2018, whereas **the actual projects submitted to the Program to date adhere to different and more comprehensive rules and guidelines to provide multiple benefits and thus have inherently different costs and performance.** The historical project costs and performance presented in the previous section demonstrate what is possible throughout the Watershed Areas and also what is desired by project developers within the context of actual watershed opportunities and constraints, and within the bounds of the Program's rules and guidelines.

Approach 1: Calibrating Current Score Ranges to Historical Projects

To calibrate the Water Supply Benefit scoring criteria to accommodate the range of historical Program projects, the rubric was evenly scaled using the historical project cost-effectiveness and magnitude percentiles reported above in Figure 5 and Figure 6. For example, 50 percent of projects submitted to the Program to date claimed capture magnitude exceeding 104 AFY, so projects capturing up to 104 AFY would earn 50 percent of the maximum points (6 out of 12 magnitude points); similarly, 75 percent of projects submitted to date claim capture magnitude of 237 AFY or less, so projects in the 75th percentile (capturing up to 237 AFY) would earn 75 percent of the total possible points (9 out of 12 magnitude points).

Next, these ranges were constrained to only the point values currently awarded for cost-effectiveness (3, 6, 10, and 13) and magnitude (2, 5, 9, and 12). The calibrated rubric for cost-effectiveness is shown in Table 3 and Figure 9, and for magnitude in Table 4 and Figure 10. Figure 11 and Figure 12 are histograms showing the counts of historical projects with both current scoring and this calibrated rubric applied at current point values.

Table 3. Alternative Cost-Effectiveness Scoring Rubric Calibrated to Historical Project Data, Constrained to Current Point Values

Total Life-Cycle Cost per Unit of Acre Foot of Stormwater and/or Urban Runoff Volume Captured for Water Supply[1] ($/AF)	Points
≥$11,950.00	3
$11,949.99 – $3,590.00	6
$3,589.99 – $963.00	10
< $963.00	13

Table 4. Alternative Magnitude Scoring Rubric Calibrated to Historical Project Data, Constrained to Current Point Values

Yearly Additional Water Supply Volume Resulting from the Project (AFY)	Points
<38.0	2
38.0–179.9	5
180.0–667.9	9
≥ 668.0	12

[1] Total life-cycle cost: the annualized value of all capital, planning, design, land acquisition, construction, and total life O&M costs for the Project for the entire life span of the Project (e.g., 50-year design life span should account for 50-years of O&M). The annualized cost is used over the present value to provide a preference to projects with longer life spans. The Regional Program module applies a constant 3.375% discount rate per year to compute the present value annualized total life-cycle cost.

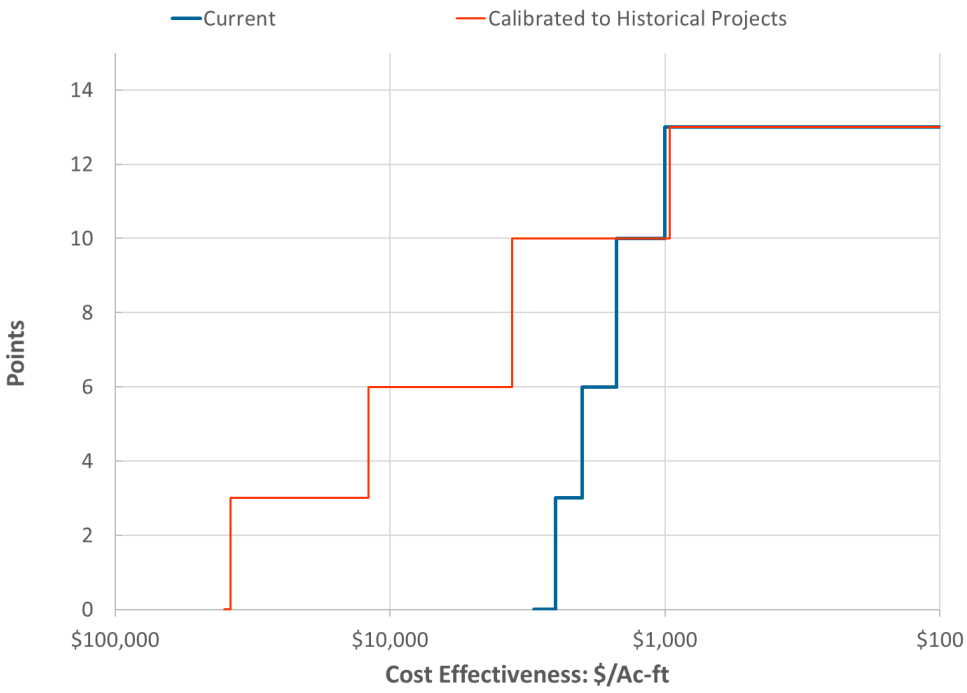

Figure 9. Alternative Cost-Effectiveness Scoring Rubric Calibrated to Historical Projects

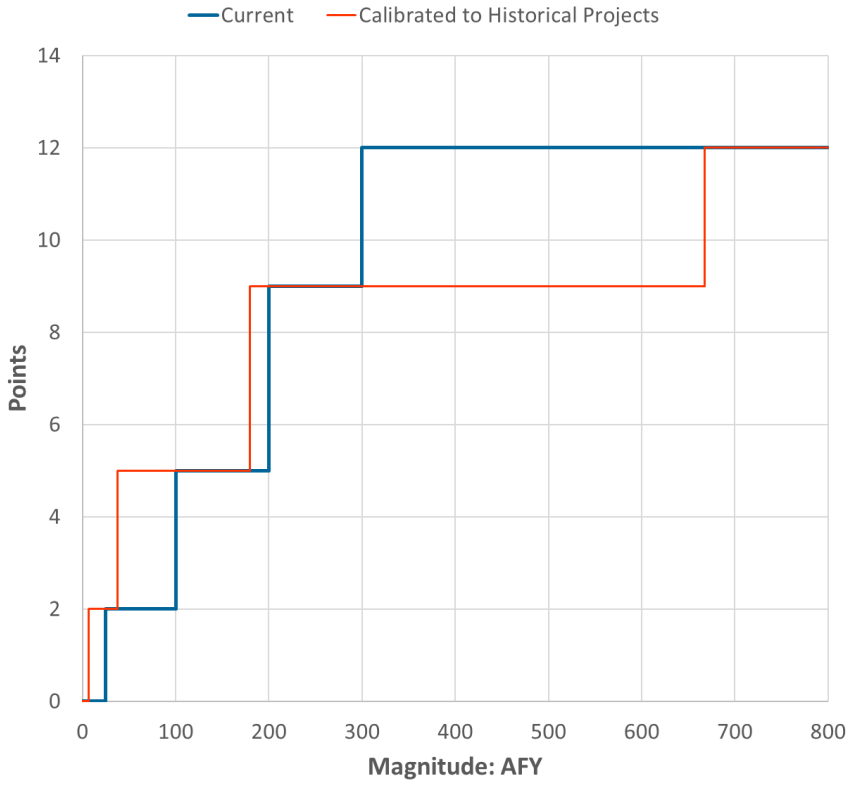

Figure 10. Alternative Magnitude Scoring Rubric Calibrated to Historical Projects

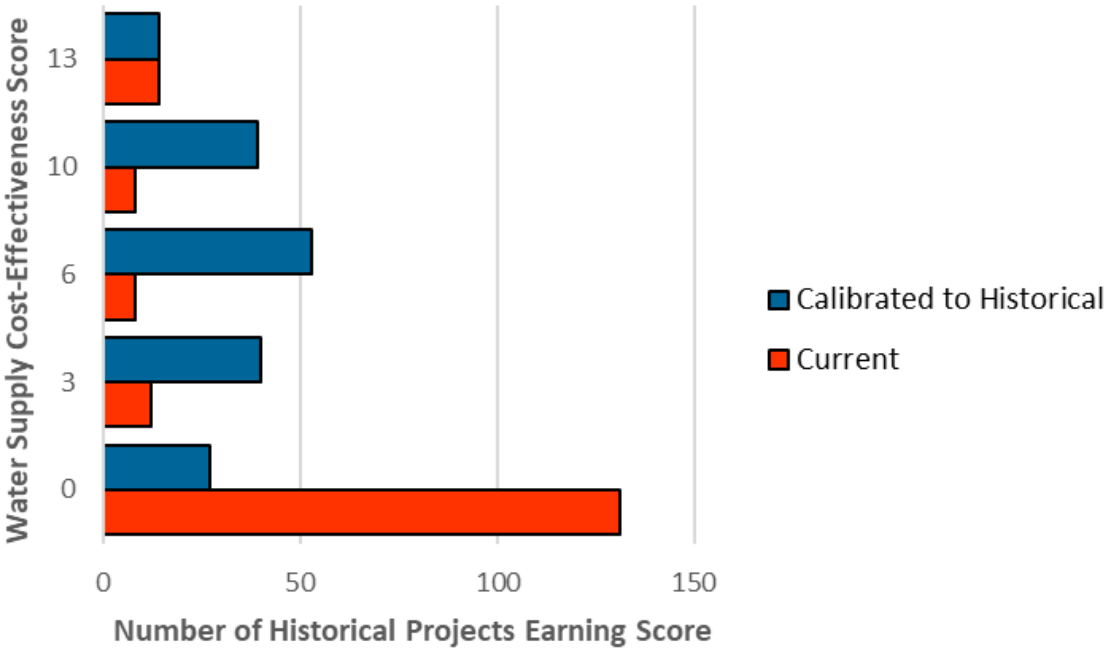

Figure 11. Histogram of historical cost-effectiveness scores under current rubric and calibrated rubric

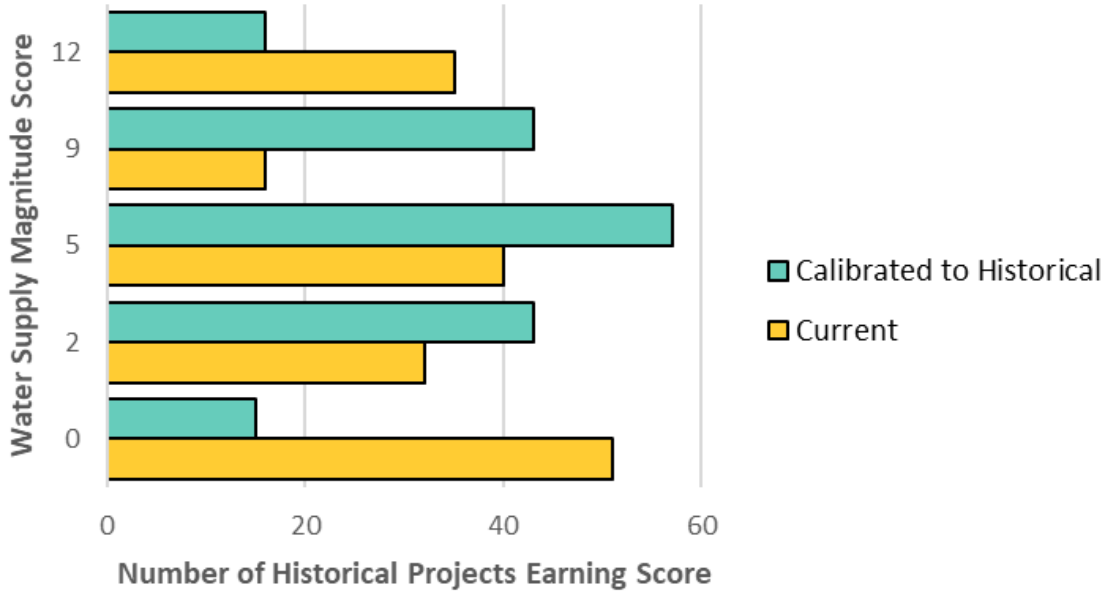

Figure 12. Histogram of historical magnitude scores under current rubric and calibrated rubric

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Programmatic Impact

The projects historically submitted to the Program were re-scored using the calibrated Water Supply Benefit scoring criteria above to evaluate how the alternative criteria could impact Program-wide scoring trends. Figure 13 charts average scores by Watershed Area. Figure 14 and Figure 15 show how the calibrated criteria align with the distribution of historical project performance.

Table 5 reports statistics on the change in project scores across all analyzed projects when the alternative criteria are applied. **On average, the alternative criteria could substantially increase cost-effectiveness scores by 6.0 points and modestly increase magnitude scores by 0.7 points. The application of these calibrated score criteria may result in 0 out of 183 project's final scores dropping below the 60 point threshold, and 4 projects increasing from below to above the 60 point threshold.**

Projects not earning final 60-point threshold under current scoring that benefit from this alternate scoring rubric:

4

Table 5. Change in Score Under Alternative Criteria with Added Gradation

Change from Current Criteria	Calibrating to Historical Data: Cost-Effectiveness	Calibrating to Historical Data: Magnitude
Minimum	0.0	-3.0
Mean	6.0	0.7
Maximum	10.0	4.0

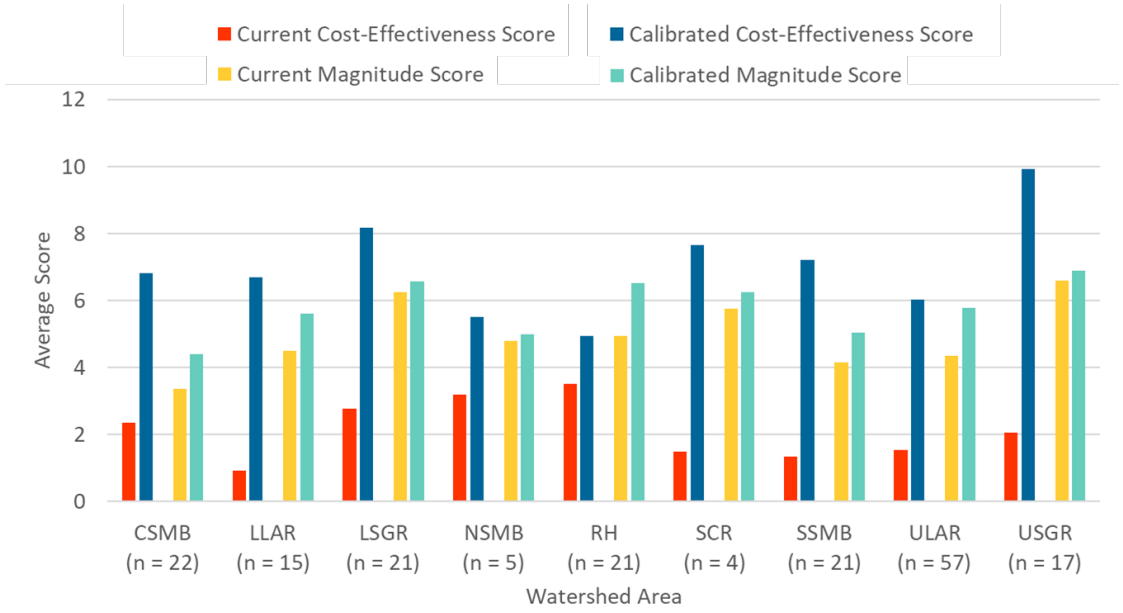

Figure 13. Average Scores Using Criteria Calibrated with Historical Projects Compared to Current Criteria, by Watershed Area

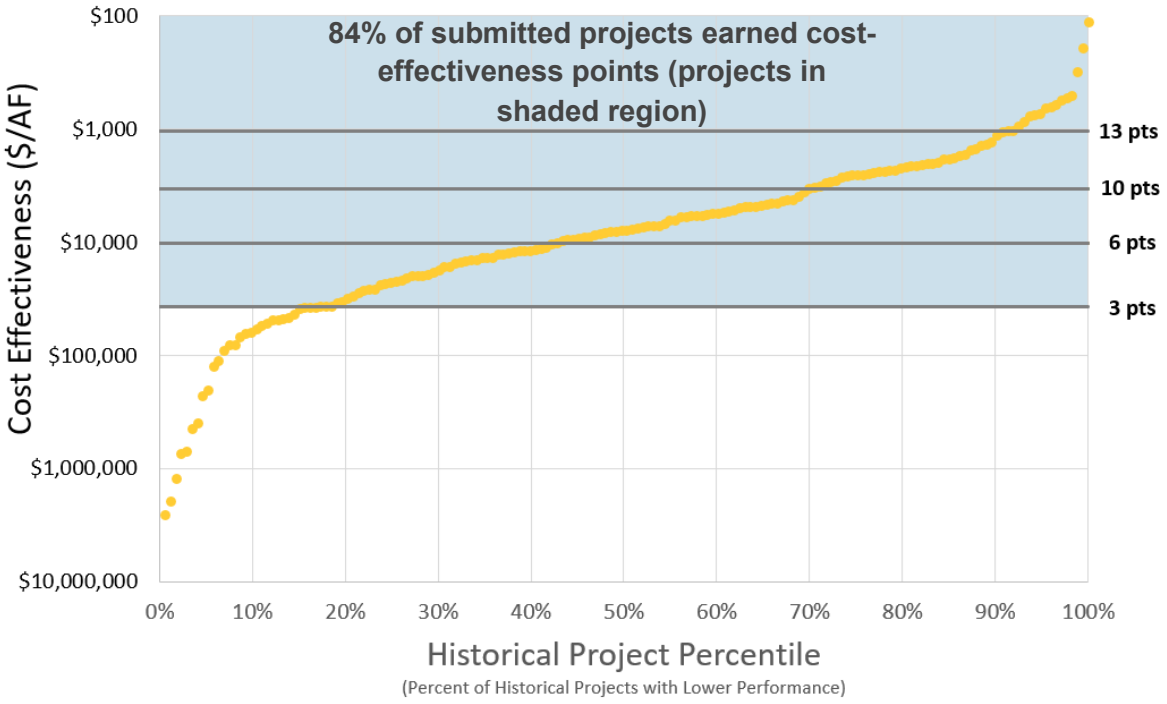

Figure 14. Distribution of historical project cost-effectiveness compared to calibrated scoring criteria awarded at current point values (note logarithmic scale)

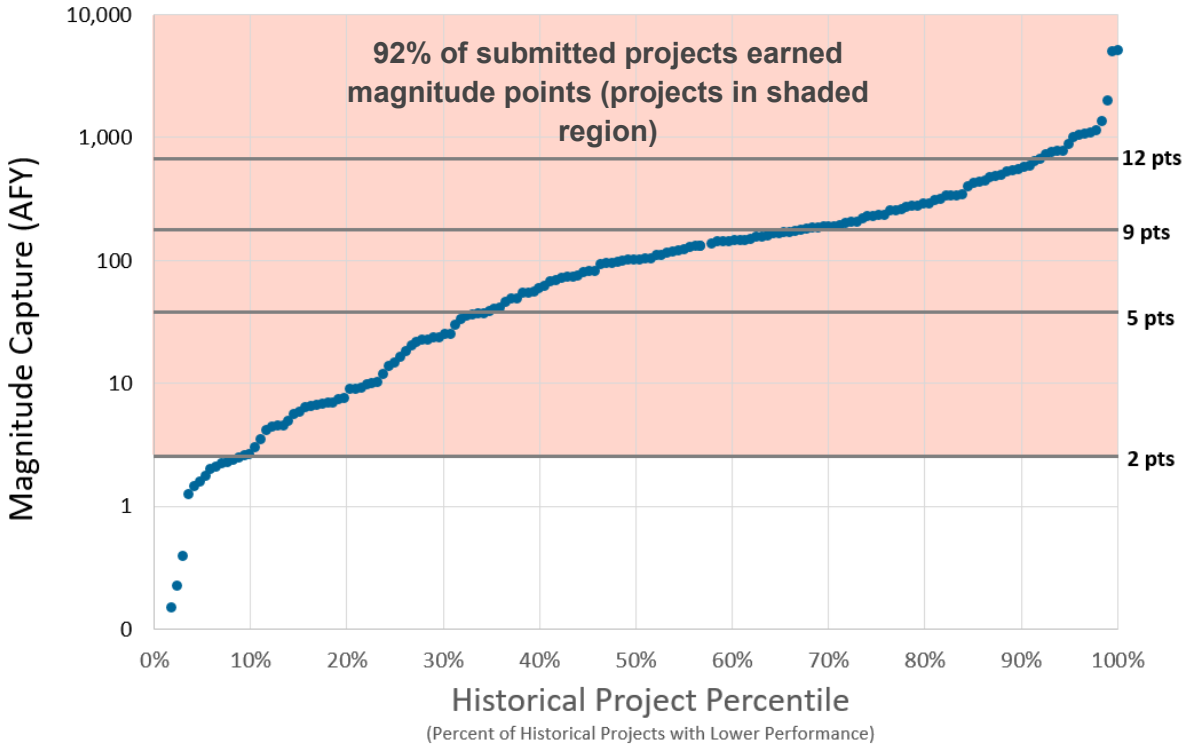

Figure 15. Distribution of historical project magnitude capture compared to calibrated scoring criteria awarded at current point values (note logarithmic scale)

Approach 2: Adding Gradation to Scoring Rubrics

To calibrate the Water Supply Benefit scoring criteria to accommodate the range of historical Regional Program projects, the rubric was evenly scaled using the historical project cost-effectiveness and magnitude percentiles reported above in Figure 14 and Figure 15, the same way as was done for Approach 1. For this approach, however, points were awarded at single point increments across the full point ranges. These alternate scoring rubrics allow for gradation between the point values currently assigned. The calibrated rubric for cost-effectiveness is shown in Table 6 and Figure 16, and for magnitude in Table 7 and Figure 17.

Table 6. Alternative Cost-Effectiveness Scoring Rubric Calibrated to Historical Project Data with Gradation

Total Life-Cycle Cost per Unit of Acre Foot of Stormwater and/or Urban Runoff Volume Captured for Water Supply ($/AF)	Points
≥ $77,910.00	1
$77,909.99 – $37,950.00	2
$37,949.99 – $24,280.00	3
$24,279.99 – $16,300.00	4
$16,299.99 – $11,950.00	5
$11,949.99 – $8,850.00	6
$8,849.99 – $6,930.00	7
$6,929.99 – $5,280.00	8
$5,279.99 – $3,590.00	9
$3,589.99 – $2,390.00	10
$2,389.99 – $1,830.00	11
$1,829.99 – $963.00	12
< $963.00	13

[1] Total life-cycle cost: the annualized value of all capital, planning, design, land acquisition, construction, and total life O&M costs for the Project for the entire life span of the Project (e.g., 50-year design life span should account for 50-years of O&M). The annualized cost is used over the present value to provide a preference to projects with longer life spans. The Regional Program module applies a constant 3.375% discount rate per year to compute the present value annualized total life-cycle cost

Table 7. Alternative Magnitude Scoring Rubric Calibrated to Historical Project Data with Gradation

Yearly Additional Water Supply Volume Resulting from the Project (AFY)	Points
< 3.0	1
3.0 – 6.9	2
7.0 – 16.9	3
17.0 – 37.9	4
38.0 – 71.9	5
72.0 – 103.9	6
104.0 – 144.9	7
145.0 – 178.9	8
179.0 – 236.9	9
237.0 – 343.9	10
344.0 – 667.9	11
≥ 668.0	12

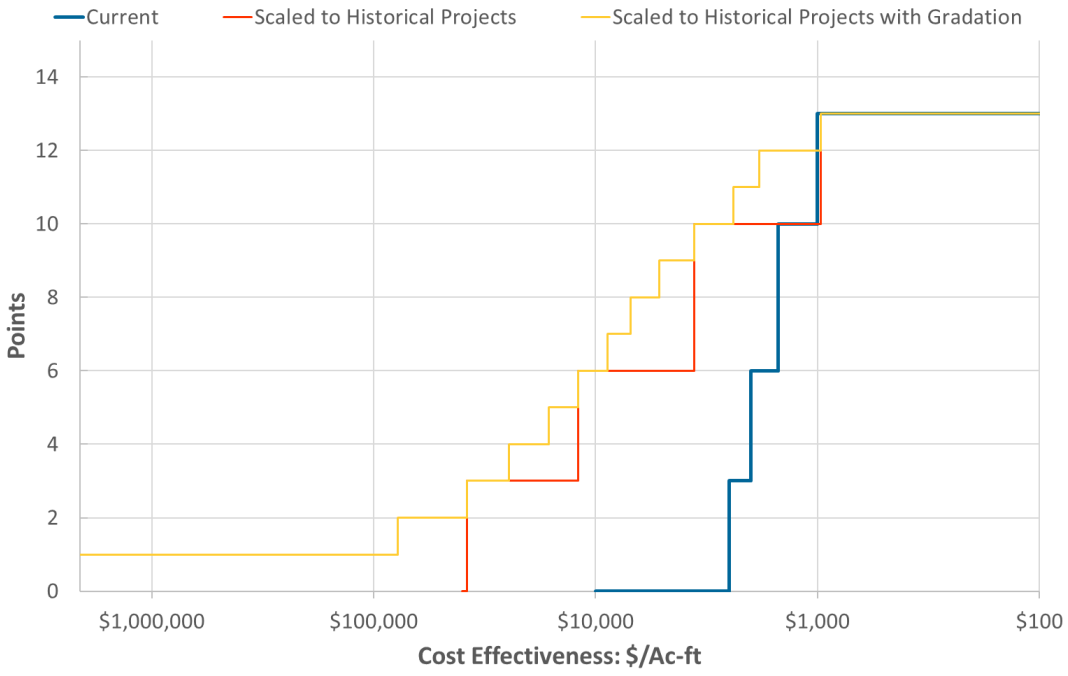

Figure 16. Alternative Cost-Effectiveness Scoring Rubric Calibrated to Historical Projects with added gradation

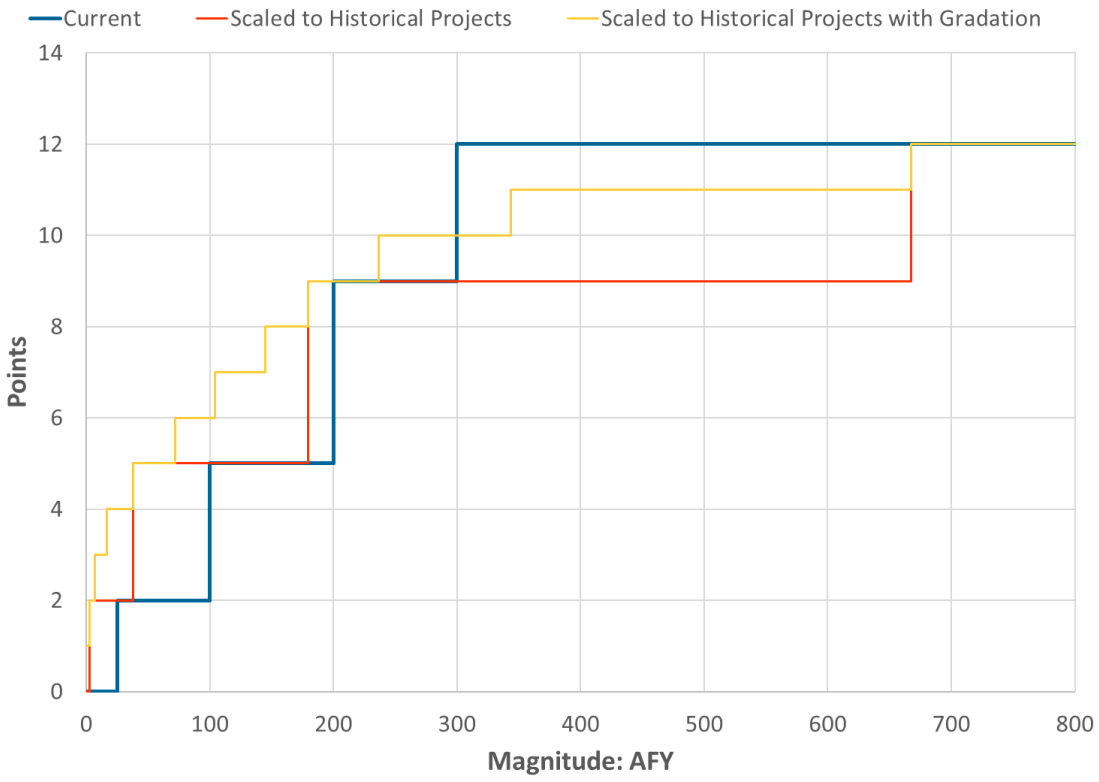

Figure 17. Alternative Magnitude Scoring Rubric Calibrated to Historical Projects with added gradation

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Programmatic Impact

The projects historically submitted to the Program were re-scored using the calibrated Water Supply Benefit scoring criteria above to evaluate how the alternative criteria could impact Program-wide scoring trends. Figure 18 charts average scores by Watershed Area. Figure 19 and Figure 20 show how the calibrated criteria align with the distribution of historical project performance; note that under this alternative scoring rubric, 100% of projects receive Water Supply Benefit points.

Table 8 reports statistics on the change in project scores across all analyzed projects when the alternative criteria are applied. **On average, the alternative criteria could substantially increase cost-effectiveness scores by 5.0 points and significantly increase magnitude scores by 1.8 points. The application of these calibrated score criteria may result in 0 out of 183 project's final scores dropping below the 60 point threshold, and 6 projects increasing from below to above the 60 point threshold.**

Projects not earning final 60-point threshold under current scoring that benefit from this alternate scoring rubric:

6

Table 8. Change in Score Under Alternative Criteria with Added Gradation

Change from Current Criteria	Add Gradation + Historically Calibrated: Cost-Effectiveness	Add Gradation + Historically Calibrated: Magnitude
Minimum	0.0	-2.0
Mean	5.0	1.8
Maximum	10.0	4.0

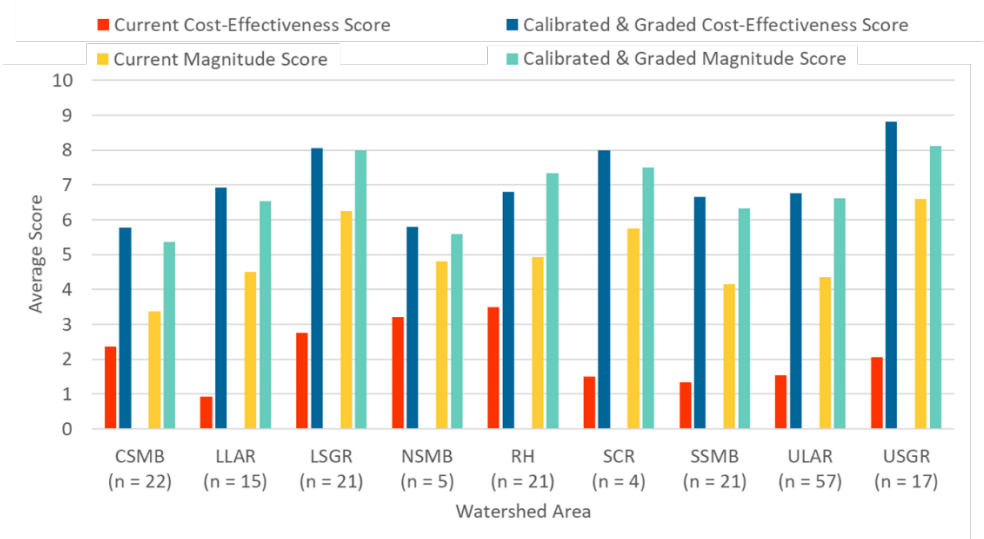

Figure 18. Average Scores Using Criteria Calibrated with Historical Projects Compared to Current Criteria, by Watershed Area

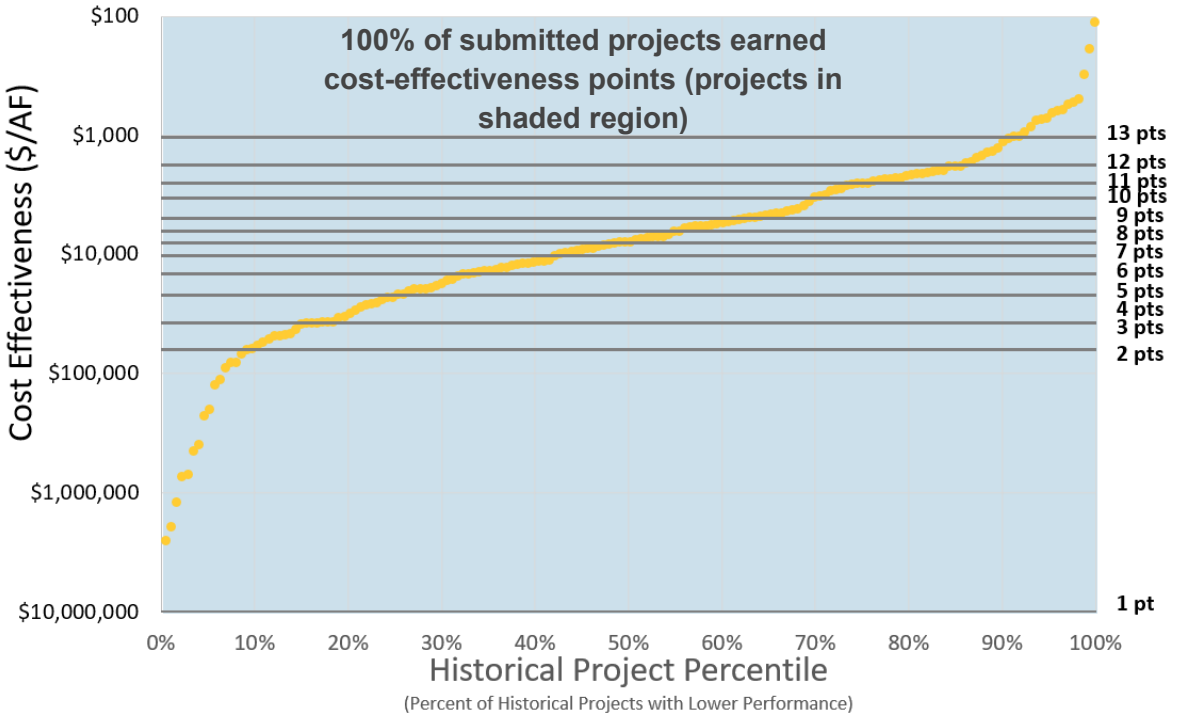

Figure 19. Distribution of historical project cost-effectiveness compared to calibrated scoring criteria (note logarithmic scale)

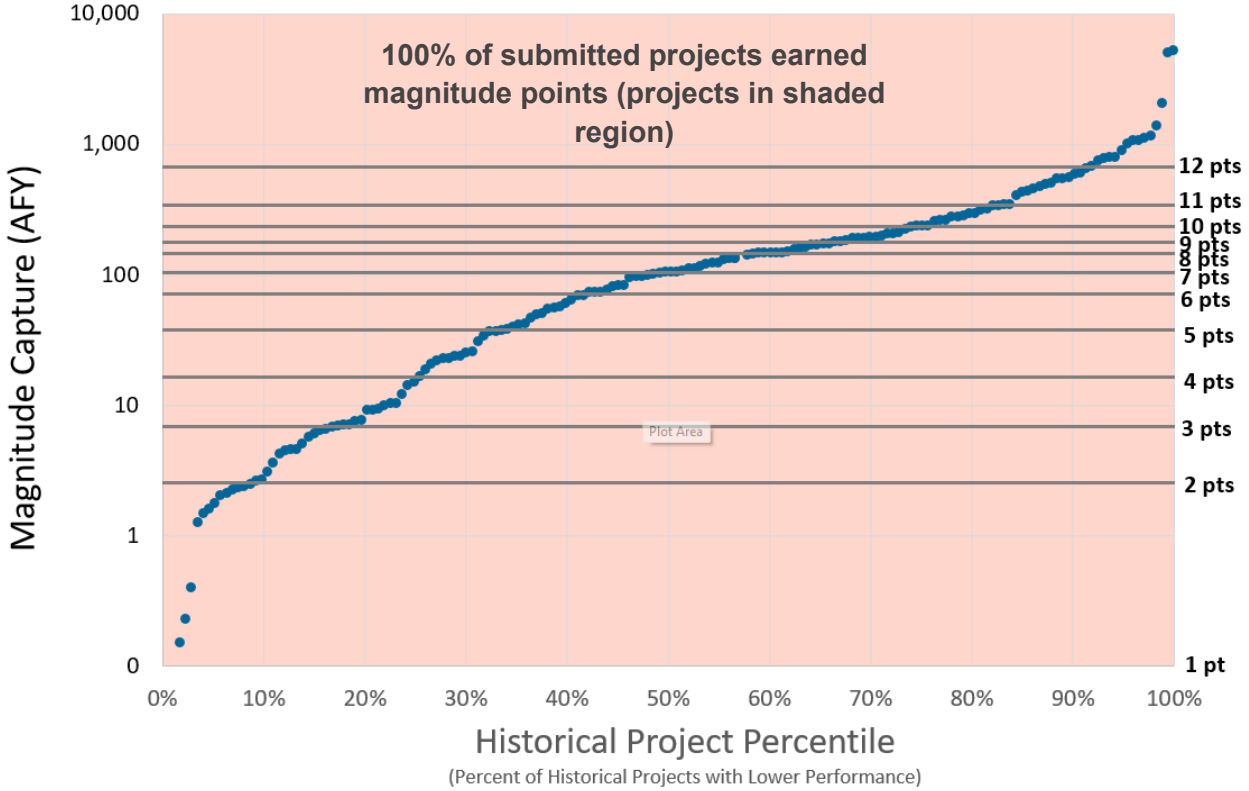

Figure 20. Distribution of historical project magnitude capture compared to calibrated scoring criteria (note logarithmic scale)

Summary of Alternative Scoring Criteria Analysis

The histograms below display the number of projects that would earn each point category under the alternative criteria. Figure 21 shows the distribution of cost-effectiveness scores and highlights how, even under historically calibrated criteria, it is challenging for submitted projects to earn points for water supply cost-effectiveness at the currently awarded point values. The historically calibrated rubric with gradation, on the other hand, uniformly distributes points across the range of projects.

Figure 22 shows the distribution of magnitude scores and highlights how the historically calibrated criteria with gradation result in substantially more projects earning maximum points for magnitude of water supply capture. Both the added-gradation and historically-calibrated criteria are more uniformly spread.

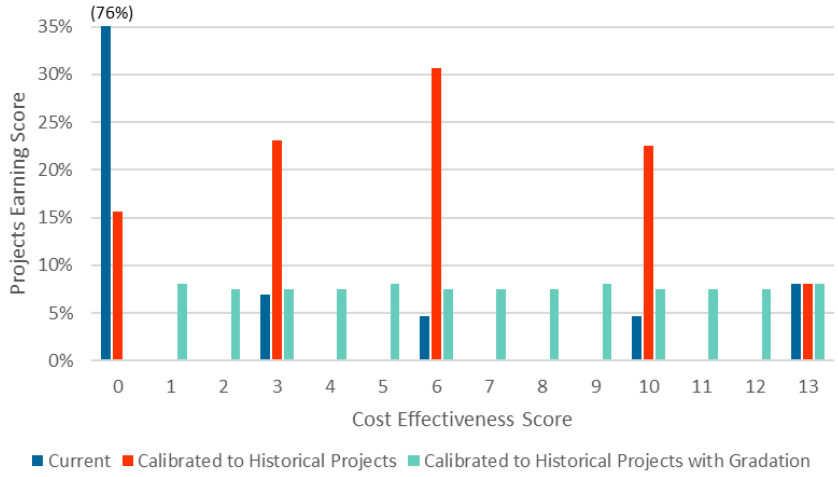

Figure 21. Histogram of cost-effectiveness scores under each alternative scoring rubric

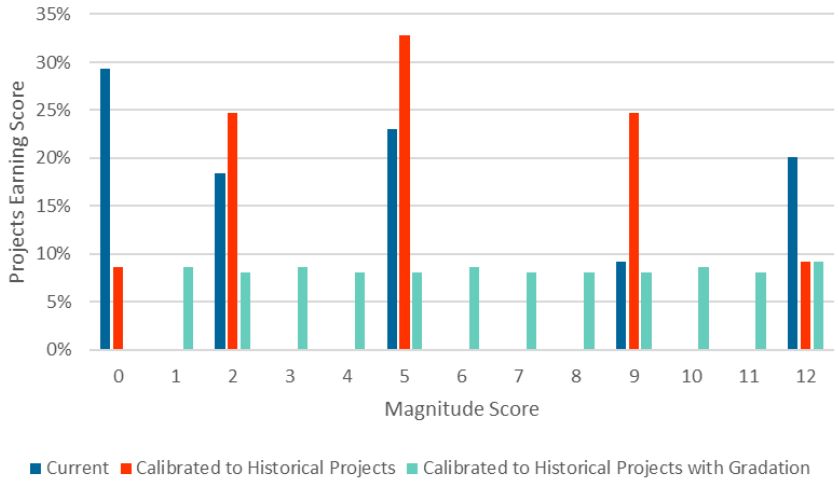

Figure 22. Histogram of capture magnitude scores under each alternative scoring rubric

Recommendation

Public Works should consider implementing Water Supply Benefit scoring criteria that are calibrated to the historic range of submitted project data. This approach better aligns the cost-effectiveness and magnitude scoring with the true range of Program-worthy multi-benefit project efficiencies and performance, and inherently accounts for regional opportunities, constraints, and economic changes over time. The alternative criteria also provide additional point scale gradation so that project scores can be tallied at one-point increments (as compared to the current stepwise criteria) and would enable projects managing smaller drainage areas to earn points.

The rubrics could be updated on a rolling basis so that long-term trends in project performance and efficiency can be incorporated over time (especially as more projects are implemented and opportunities become more competitive for available runoff). This calibration could be done yearly using the proposed performance of projects submitted two rounds prior; there would need to be a two-year lag because the updated criteria would need to be made available at the call for projects in August of each year, whereas there would not be time to confirm and summarize performance data from the previous round's projects submitted in July.

Finally, the preceding analyses did not address the definition of "what counts" towards Water Supply Benefits, as clarified in the 2022 and 2025 Interim Guidance. Project developer should justify claimed Water Supply Benefits based on the latest guidance, including the concurrent Supplemental Guidance to Support Feasibility Study Guidelines.

Attachment A - Recommended Water Supply Scoring Updates

Exhibit A – Infrastructure Program Project Scoring Criteria

Section	Score Range	Scoring Standards
B. Significant Water Supply Benefits	25 points max	The Project provides water re-use and/or water supply enhancement benefits
	13 points max	B1. Water Supply Cost Effectiveness. The Total Life-Cycle Cost[2] per unit of acre foot of Stormwater and/or Urban Runoff volume captured for water supply is: • ≥ $77,910.00/ac-ft = 1 point • $77,909.99 – $37,950.00/ac-ft = 2 points • $37,949.99 – $24,280.00/ac-ft = 3 points • $24,279.99 – $16,300.00/ac-ft = 4 points • $16,299.99 – $11,950.00/ac-ft = 5 points • $11,949.99 – $8,850.00/ac-ft = 6 points • $8,849.99 – $6,930.00/ac-ft = 7 points • $6,929.99 – $5,280.00/ac-ft = 8 points • $5,279.99 – $3,590.00/ac-ft = 9 points • $3,589.99 – $2,390.00/ac-ft = 10 points • $2,389.99 – $1,830.00/ac-ft = 11 points • $1,829.99 – $963.00/ac-ft = 12 points • < $963.00/ac-ft = 13 points *[2]. Total Life-Cycle Cost: The annualized value of all Capital, planning, design, land acquisition, construction, and total life O&M costs for the Project for the entire life span of the Project (e.g. 50-year design life span should account for 50-years of O&M). The annualized cost is used over the present value to provide a preference to Projects with longer life spans.*
	12 points max	B2. Water Supply Benefit Magnitude. The yearly additional water supply volume resulting from the Project is: • < 3.0 ac-ft/year = 1 point • 3.0 – 6.9 ac-ft/year = 2 points • 7.0 – 16.9 ac-ft/year = 3 points • 17.0 – 37.9 ac-ft/year = 4 points • 38.0 – 71.9 ac-ft/year = 5 points • 72.0 – 103.9 ac-ft/year = 6 points • 104.0 – 144.9 ac-ft/year = 7 points • 145.0 – 178.9 ac-ft/year = 8 points • 179.0 – 236.9 ac-ft/year = 9 points • 237.0 – 343.9 ac-ft/year = 10 points • 344.0 – 667.9 ac-ft/year = 11 points • ≥ 668.0 ac-ft/year = 12 points