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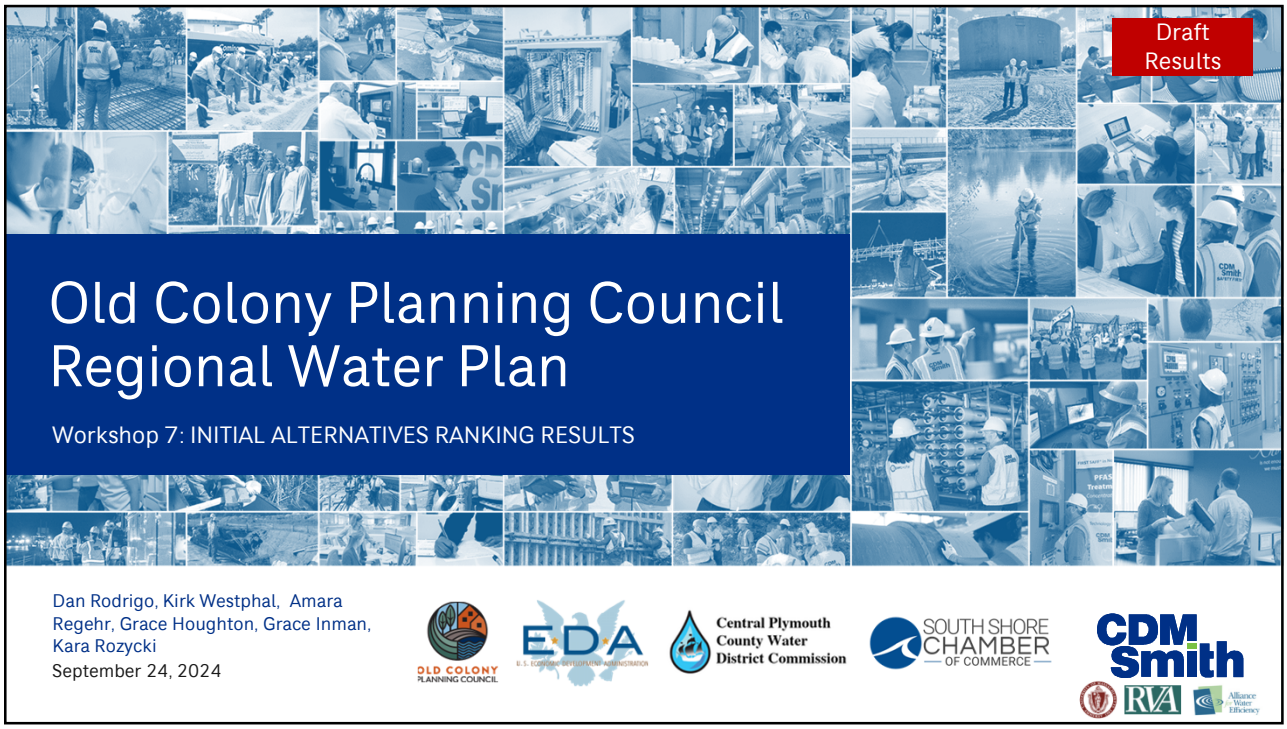

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Agenda

1. Alternatives Prioritization Background

BREAK

2. Summary of DRAFT Scoring and Ranking Results and Considerations for Portfolio Development
3. Supporting Climate Risk Assessment – Dr. Casey Brown, UMass Amherst
4. Next Workshop

2

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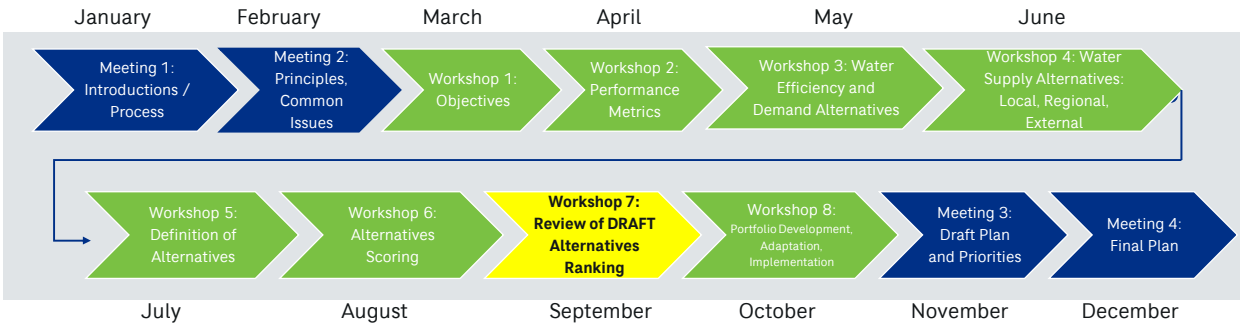
3

Overview of Regional Water Plan Process



OCPC Regional Water Plan 4

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Important Factors for Today's Discussion

Regional Results

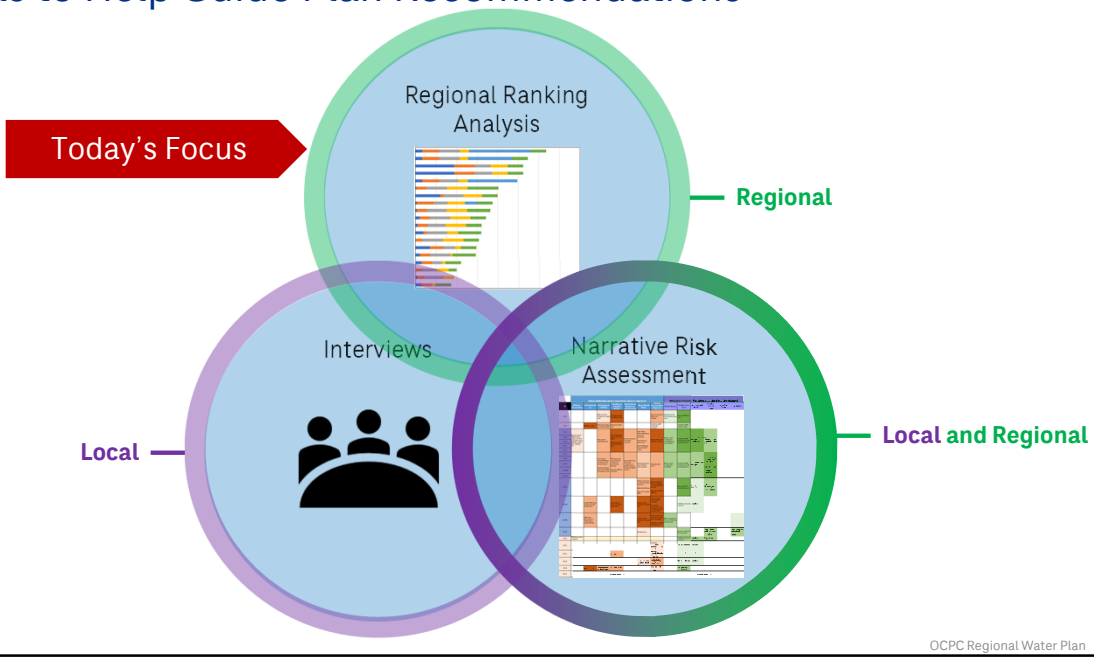
- Benefits consider region-wide benefit
- Not necessarily consistent in all communities
- Costs are total costs for projects, not allocated to beneficiaries
- Interviews and Risk Assessment information will help solidify local recommendations

Draft Results

- We want your input
- What surprises you?
- What do you see that makes intuitive sense?
- Do you see a need to adjust scores or metrics?
- What sensitivity analysis would be most useful?

5

Tools to Help Guide Plan Recommendations



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Alternatives Prioritization Background

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Review of Alternatives- Changes Made

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Change from 8/27 Workshop
Long-Term Local Alternatives	LT-1	Access to Clean Water for Private Well Owners - Connection to Public Water Supply	All but Plympton	Removed Plympton after 9/6 roundtable clarified plympton primarily interested in additional water supply as emergency supply and not developing water distribution system.
Short Term Local Alternatives	ST-2	Rebates for Leak Detection Devices for Customer-Side Leak Detection after Meter	All but Plympton	Clarify that this alternative refers to devices after the meter. Include grant funding for staff in the notes
	ST-5	New Public Wells	Bridgewater, Pembroke, Plymouth, Kingston	Added Hanson to this since they indicated in an interview they were pursuing development of another well.
	ST-6	Brockton to purchase and/or use aquaria desalination plant	Brockton	Recommend linking this alternative with identification of reservoir management strategies. Requested removal of "Pave Way Toward Regional Use" from project description

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Review of Alternatives – Changes Made

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Change from 8/27 Workshop
Long-Term Regional Alternatives	LT-3	MWRA For Entire OCPC Region with Public Water Supply - Replacing Entire Permitted Amount	Abington, Avon, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Hanson, Kingston, Pembroke, Plymouth, Stoughton, West Bridgewater, Whitman	After workshop: CDM Smith split into two alternatives
	LT-4	MWRA For Entire OCPC Region with Public Water Supply - Supplying Requested Amount	Abington, Avon, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Hanson, Kingston, Pembroke, Plymouth, Stoughton, West Bridgewater, Whitman	After workshop: CDM Smith split into two alternatives
	LT-12	Expand and/or Rehabilitate Interconnections with Inter-Municipal Agreements	Abington, Plympton, Easton, East Bridgewater, West Bridgewater, Stoughton, Plymouth	CDM Smith after workshop reviewed past notes and removed Abington from this alternative since previously indicated only interested in an interconnection with Brockton for desalination water, which is captured by other alternatives. Likewise, Bridgewater expressed interest in connecting to Taunton or Brockton for Desal but not as emergency?

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Review of Alternatives – Changes Made

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Change from 8/27 Workshop
Long-Term Regional Alternatives	LT-14	Reclaimed Water for Non-Potable Uses	Bridgewater, Easton, Kingston, Plymouth	Removed West Bridgewater since there is virtually no sewer service in the town. Agricultural uses removed following agriculture roundtable and concerns of food safety procedures, added as an option to redundant water supply alternative.
	LT-15	Redundant Water Supply For Agriculture	Agricultural users	Following agriculture roundtable, CDM Smith decided to not evaluate as part of the framework, and instead list constraints and considerations for different types of water supplies for agricultural users, as decisions for additional water supply will be decided on a case by case basis.
	LT-16	Regional Coordination for Local PFAS Treatment Implementation	All but Plympton	Changed from "Regional PFAS Treatment" to "Regional Coordination for Local PFAS Treatment Implementation" based off feedback on feasibility. CDM Smith upon update thinks this should be included in the plan as a non-scored recommendation (as long as some communities will continue to pursue local PFAS)

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Review of Objectives and Metrics

Objective	Theme	Metric	Units	Details on Metric Calculation
Meet all current and future peak water demands with climate resilient supply side and demand side strategies	**Reliable Municipal Supply**	New water supply added or demand reduced	MGD	CDM Smith held individual conversations with communities and used requested volumes as the new target supply. The volume is the sum of annual average new supply for all participating communities.
Improve ecosystem health	**Ecological Health**	Connectivity of natural waters	Qualitative (see Table 2)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-5.
		Quantity and/or quality of natural waters at the right time for ecological needs.	Qualitative (see Table 2)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-5.
		Reduction in net export of water from originating OCPC basins	Binary 0/1	CDM Smith evaluated which alternatives would reduce inter-basin transfers of water for watersheds within the OCPC region.
High Benefit: Cost value	**Cost Effectiveness**	Volume of water supply added or demand reduced divided by cost	$M/MGD	CDM Smith calculated the benefit cost value by dividing the volume provided or demand reduced by the capital costs associated with each alternative.
Consider innovative and alternative solutions such as stormwater capture, wastewater reuse and water use efficiency	**Innovation**	Beneficial addition of water or reduction of demand that is considered innovative	MGD	CDM Smith calculated the volume provided by alternatives considered innovative, including those falling in the following categories: desalination water, reclaimed water, and demand side management strategies considered innovative

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Review of Objectives and Metrics

Objective	Theme	Metric	Units	Details on Metric Calculation
Promote environmental justice and equity between communities	**Fairness**	Percent of MA designated environmental justice block groups served by alternative	% of environmental justice block groups	CDM Smith used ArcGIS to evaluate the number of environmental justice block groups that could be served by each alternative.
		Percent of MA designated environmental justice block groups impacted by construction (higher score is bad)	% of environmental justice block groups	CDM Smith used ArcGIS to evaluate the number of environmental justice block groups that could be impacted by construction activities for each alternative.
Meet current and future drinking water quality standards	**Drinking Water Quality**	Volume of PFAS impacted supply reduced	MGD	CDM Smith calculated the volume of additional water supply that would be able to replace the portion of water at risk from water quality issues, on a community-by-community basis. Considers the requirement of meeting PFAS MCLs by 2029.
Encourage sustainable water use to meet the needs for housing and economic prosperity	**Efficiency & Adaptability**	Flexibility in phasing and supply capacity	Qualitative (see Table 3)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-3.
		Implementation Feasibility	Qualitative (see Table 3)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-3.

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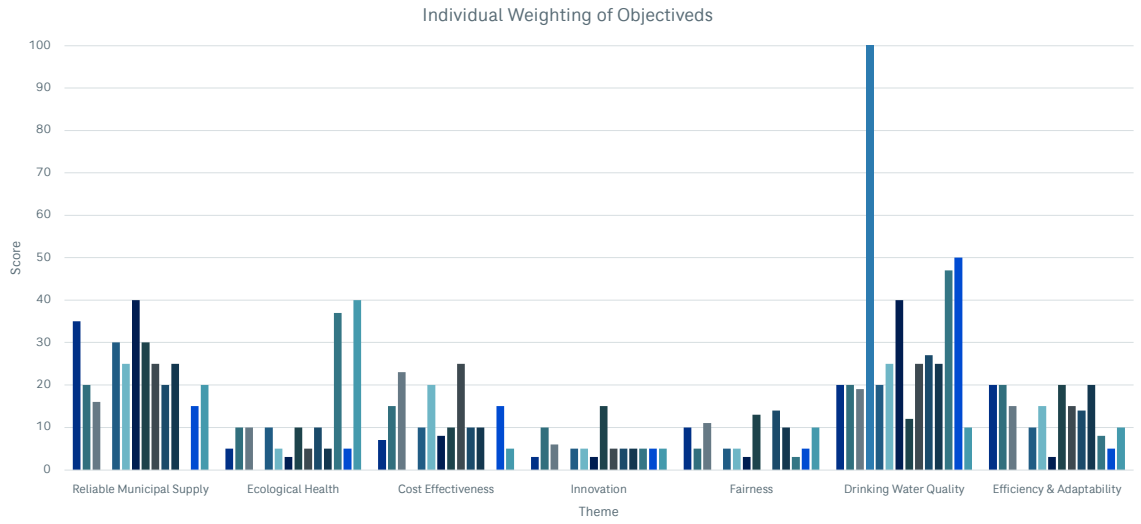
Weighting of Objectives By Stakeholders

Draft Results



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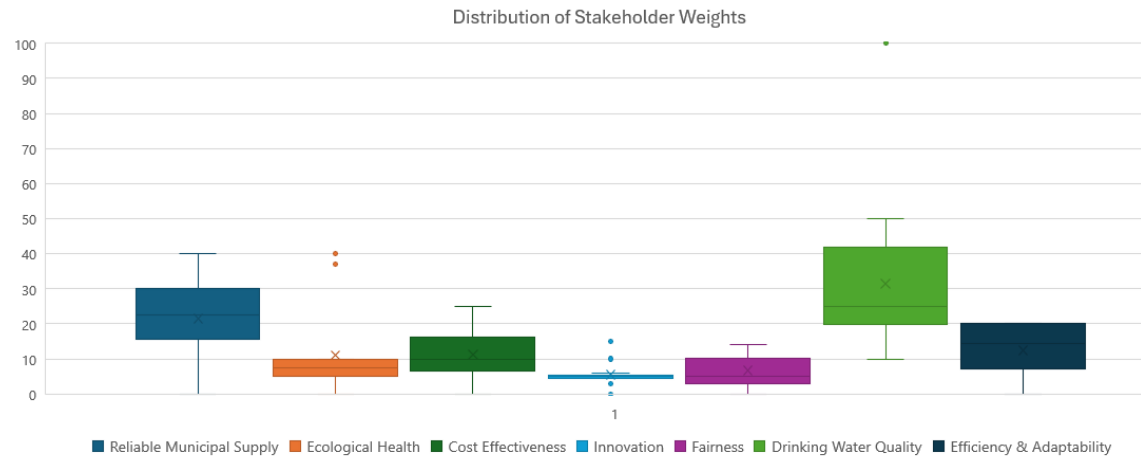
Distribution of Stakeholder Weights

Draft Results



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Example Alternative Scoring Process: **Reliable Municipal Supply**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation
Meet all current and future peak water demands with climate resilient supply side and demand side strategies	**Reliable Municipal Supply**	New water supply added, or demand reduced	MGD	CDM Smith held individual conversations with communities and used requested volumes as the new target supply. The volume is the sum of annual average new supply for all participating communities.

Draft Metric Score Calculation

If community provided CDM Smith a target supply, that is the volume used, otherwise, the supply is one half of 2022 demand.
Total volume supplied: 17.77 MGD

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Example Alternative Scoring Process: **Ecological Health**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation	Draft Metric Score Calculation: Metric Score
Improve ecosystem health	**Ecological Health**	Connectivity of natural waters	Qualitative (see Table 2)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-5.	**2 (Minor detrimental impact to connectivity)**
		Quantity and/or quality of natural waters at the right time for ecological needs.	Qualitative (see Table 2)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-5.	**2 (Minor detrimental impact to quantity and/or quality)**
		Reduction in net export of water from originating OCPC basins	Binary 0/1	CDM Smith evaluated which alternatives would reduce inter-basin transfers of water for watersheds within the OCPC region.	**0 (Alternative does not impact the net export of water from OCPC region)**

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Example Alternative Scoring Process: **Cost Effectiveness**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation
High Benefit: Cost value	**Cost Effectiveness**	Volume of water supply added, or demand reduced divided by cost	$/1000 gal	CDM Smith calculated the benefit cost value by dividing the volume provided or demand reduced by the capital costs associated with each alternative.

Draft Metric Score Calculation

1. Calculated typical capital cost ($/MGD) of new wells with chemical feed pump station building using costs provided by Kingston, Hanson, and Pembroke.
2. Calculated typical capital cost ($/MGD) of PFAS treatment using costs provided by Bridgewater and Easton
3. Summed these costs for total $/MGD for new well, including PFAS treatment and converted into $/1000 gal, assuming 25-yr lifespan: **$1.3 /1000 gal estimated capital costs**

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Example Alternative Scoring Process: **Innovation**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation
Consider innovative and alternative solutions such as stormwater capture, wastewater reuse and water use efficiency	**Innovation**	Beneficial addition of water or reduction of demand that is considered innovative	MGD	CDM Smith calculated the volume provided by alternatives considered innovative, including those falling in the following categories: desalination water, reclaimed water, and demand side management strategies considered innovative

Draft Metric Score Calculation

0 MGD considered innovative.

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Example Alternative Scoring Process: **Fairness**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation
Promote environmental justice and equity between communities	**Fairness**	Percent of MA designated environmental justice block groups served by alternative	% of environmental justice block groups	CDM Smith used ArcGIS to evaluate the number of environmental justice block groups that could be served by each alternative.
		Percent of MA designated environmental justice block groups impacted by construction (higher score is less preferred)	% of environmental justice block groups	CDM Smith used ArcGIS to evaluate the number of environmental justice block groups that could be impacted by construction activities for each alternative.

Draft Metric Score Calculation

Assumed that additional development of wells would support access to clean water and would be a benefit to environmental justice communities. Assumed limited construction impacts.

- **83% block groups that are designated as environmental justice would be served**
  - The remaining 17% are environmental justice block groups within Avon and Stoughton that are not included in this alternative

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Example Alternative Scoring Process: **Drinking Water Quality**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

Objective and Metric

Objective	Theme	Metric	Units	Details on Metric Calculation
Meet current and future drinking water quality standards	**Drinking Water Quality**	Volume of PFAS impacted supply reduced	MGD	CDM Smith calculated the volume of additional water supply that would be able to replace the portion of water at risk from water quality issues, on a community-by-community basis. Considers the requirement of meeting PFAS MCLs by 2029.

Draft Metric Score Calculation

Assumes new well with PFAS treatment doesn't treat current water supply sources impacted by PFAS: **0 MGD volume of PFAS impacted supply reduced**

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Example Alternative Scoring Process: **Efficiency and Adaptability**

Alternative

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply
Long-Term Regional Alternatives	LT-2	New Public Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater

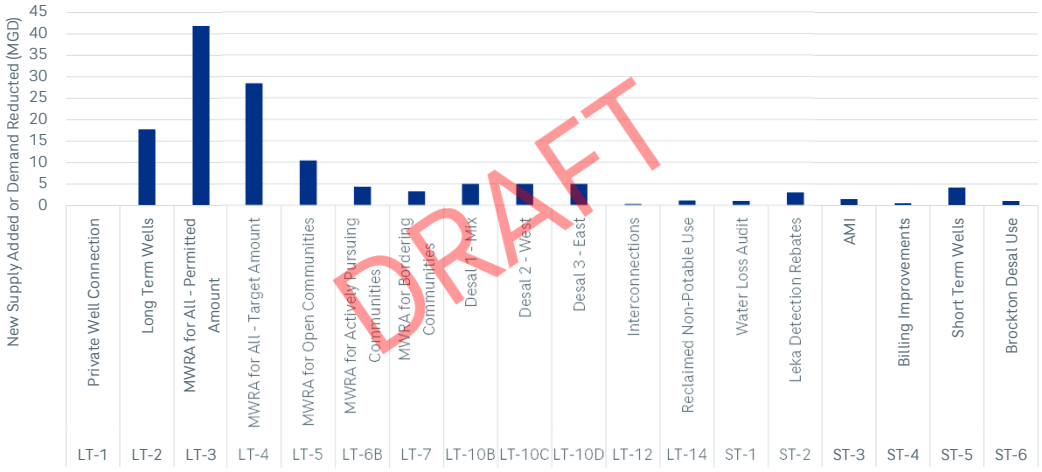
Objective and Metric

Draft Metric Score Calculation

Objective	Theme	Metric	Units	Details on Metric Calculation	Draft Metric Score
Encourage sustainable water use to meet the needs for housing and economic prosperity	**Efficiency & Adaptability**	Flexibility in phasing and supply capacity	Qualitative (see Table 3)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-3	**3 (Fully able to meet anticipated future needs)**
		Implementation Feasibility	Qualitative (see Table 3)	Evaluated by steering committee small group during 8/27 workshop. Scored 1-3	**1 (High difficulty in implementation)**

Reliable Municipal Supply Metric Scoring

New water supply added or demand reduced



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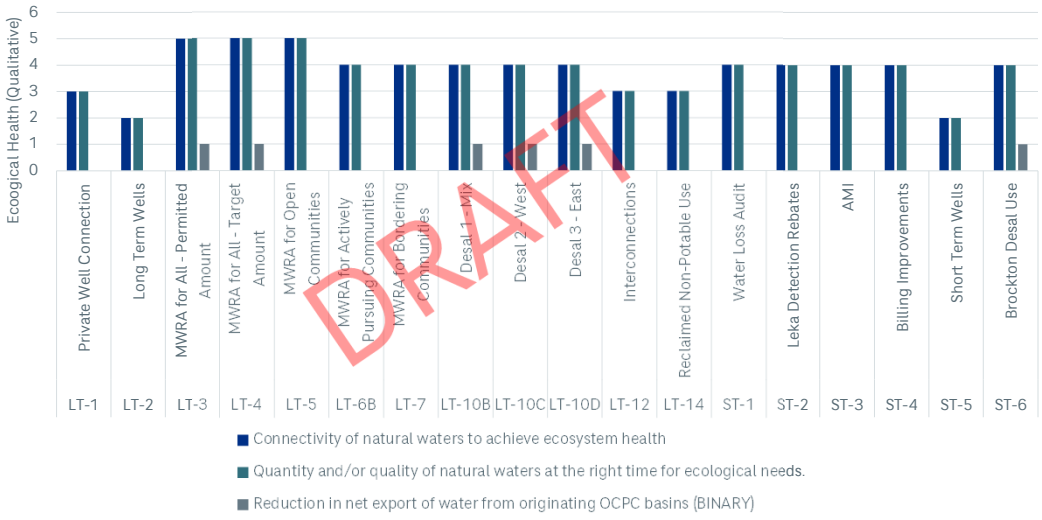
Ecological Health Metric Scoring



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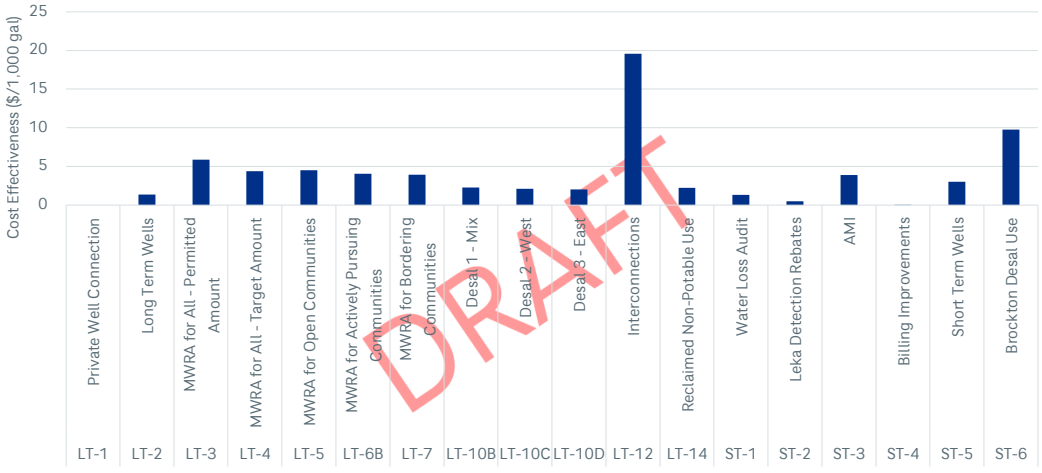
Cost Effectiveness Metric Scoring

Volume of water supply added or demand reduced divided by cost



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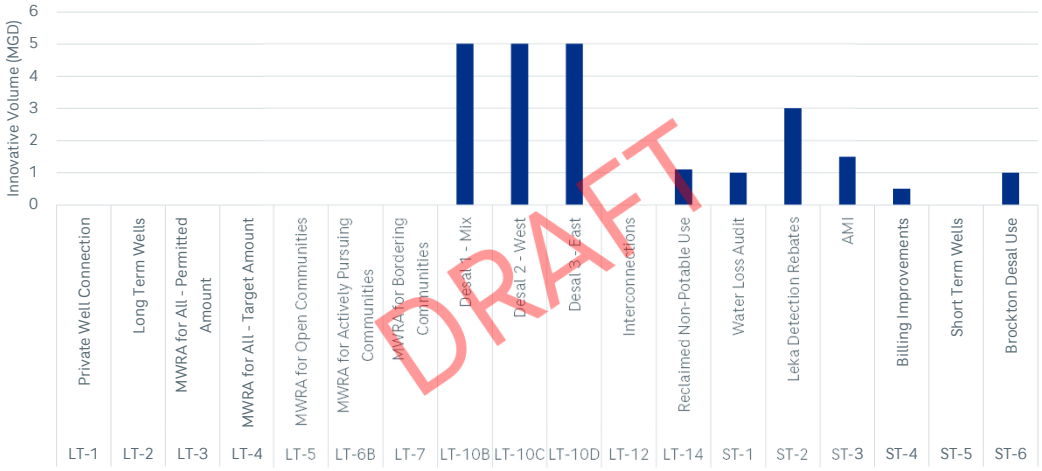
Innovation Metric Scoring

Beneficial addition of water or reduction of demand that is considered innovative



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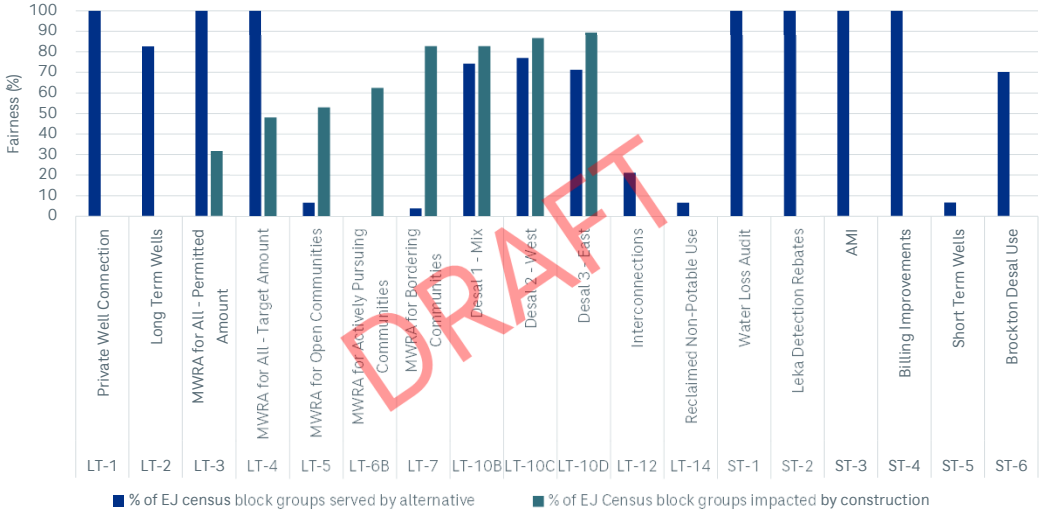
Fairness Metric Scoring



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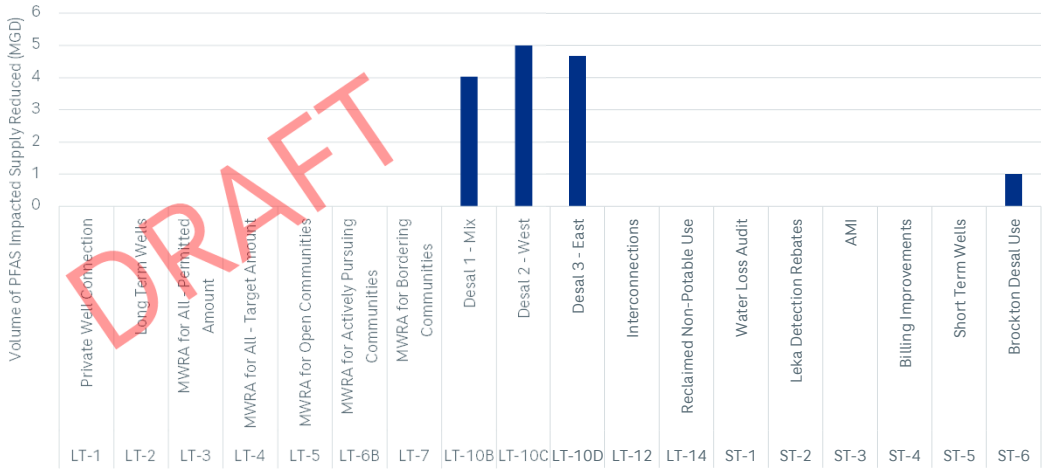
Drinking Water Quality Metric Scoring

Volume of PFAS Impacted Supply Reduced



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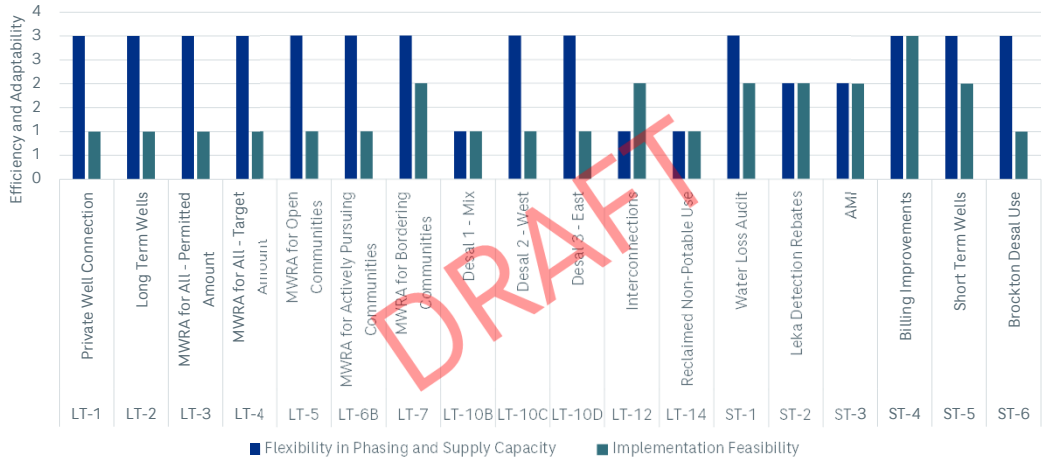
Efficiency and Adaptability Metric Scoring



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Alternative Scores

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Meet Supply	Ecosystem Health			Cost	Innovation	Fairness		Water Quality	Flexibility and Feasibility	
				New Supply Added or Demand Reduced	Connectivity of natural waters	Quantity and/or quality of natural waters at the right time for ecological needs.	Reduction in net export of water from originating OCPC basins	Volume of supply gap reduced per unit cost	Volume supplied or demand reduced considered innovative	% of EJ census block groups served by alternative	% of EJ Census block groups impacted by construction	Volume of PFAS Impacted Supply Reduced	Flexibility in phasing and supply capacity	Implementation Feasibility
				MGD	Qual 1-5	Qual 1-5	Binary 0/1	$/1,000gal	MGD	%	%	MGD	Qual 1-3	Qual 1-3
Long-Term Local Alternatives	LT-1	Private Well Connection	All but Plympton	0.00	3	3	0	$0.0	0	100.00	0.00	0.00	3	1
	LT-2	Long Term Wells	Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Kingston, Pembroke, Plympton, Plymouth, West Bridgewater	17.77	2	2	0	$1.3	0	82.69	0.00	0.00	3	1

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Draft Alternative Scorecard

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Meet Supply	Ecosystem Health			Cost	Innovation	Fairness		Water Quality	Flexibility and Feasibility	
				MGD	Qual 1-5	Qual 1-5	Binary 0/1	$/1,000gal	MGD	%	%	MGD	Qual 1-3	Qual 1-3
Long-Term Regional Alternatives	LT-3	MWRA for All - Permitted Amount	All but Plympton	41.87	5	5	1	$5.9	0	100.00	31.73	0.00	3	1
	LT-4	MWRA for All - Target Amount	All but Plympton	28.37	5	5	1	$4.4	0	100.00	48.08	0.00	3	1
	LT-5	MWRA for Open Communities	Abington, Avon, Bridgewater, Easton, Pembroke, Plympton, West Bridgewater	10.41	5	5	0	$4.5	0	6.73	52.88	0.00	3	1
	LT-6B	MWRA for Actively Pursuing Communities	Abington, Avon, Hanover	4.29	4	4	0	$4.0	0	0.00	62.50	0.00	3	1
	LT-7	MWRA for Bordering Communities	Avon, Easton	3.25	4	4	0	$3.9	0	3.85	82.69	0.00	3	2

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Draft Alternative Scorecard

Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Communities/ Stakeholders to whom this could apply	Meet Supply	Ecosystem Health			Cost	Innovation	Fairness		Water Quality	Flexibility and Feasibility	
				MGD	Qual 1-5	Qual 1-5	Binary 0/1	$/1,000gal	MGD	%	%	MGD	Qual 1-3	Qual 1-3
Short Term Local Alternatives	ST-1	Water Loss Audit	Abington, Avon, Bridgewater, Brockton, Duxbury, East Bridgewater, Easton, Halifax, Hanover, Hanson, Kingston, Pembroke, Plymouth, Stoughton, West Bridgewater, Whitman	1.00	4	4	0	$1.3	1	100.00	0.00	0.00	3	2
	ST-2	Leak Detection Rebates	All but Plympton	3.00	4	4	0	$0.5	3	100.00	0.00	0.00	2	2
	ST-3	AMI	All but Plympton	1.50	4	4	0	$3.9	1.5	100.00	0.00	0.00	2	2
	ST-4	Billing Improvements	Abington, East Bridgewater, Halifax, Whitman	0.51	4	4	0	$0.0	0.51	100.00	0.00	0.00	3	3
	ST-5	Short Term Wells	Bridgewater, Pembroke, Plymouth, Kingston	4.13	2	2	0	$3.0	0	6.73	0.00	0.00	3	2

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DRAFT Prioritization Results & Discussion

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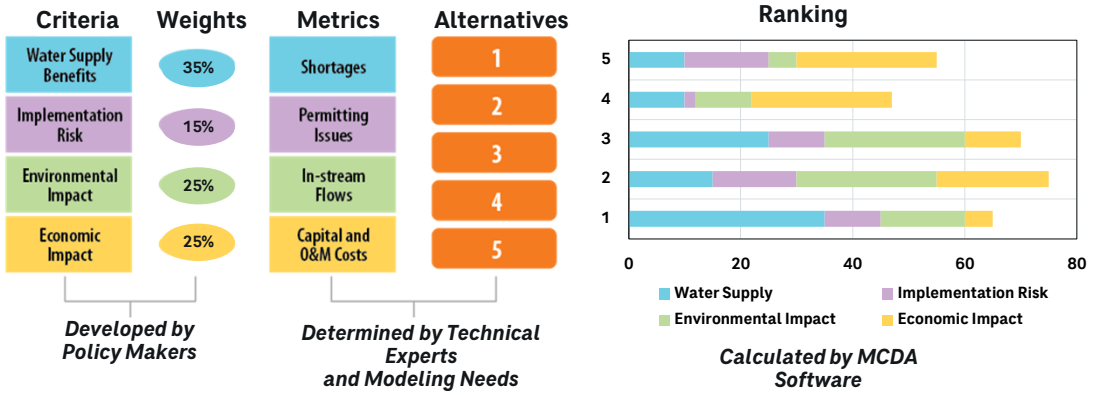
Multi-Criteria Decision Analysis

- Transparent method for comparing and ranking alternatives, showing trade-offs in achieving multiple objectives



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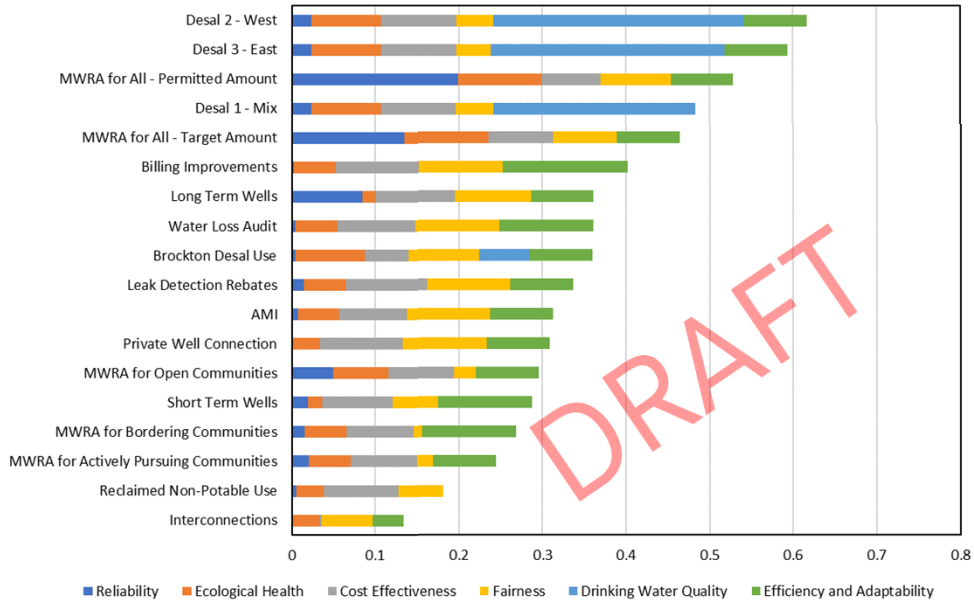
Results using Average Stakeholder Weights



Draft Results

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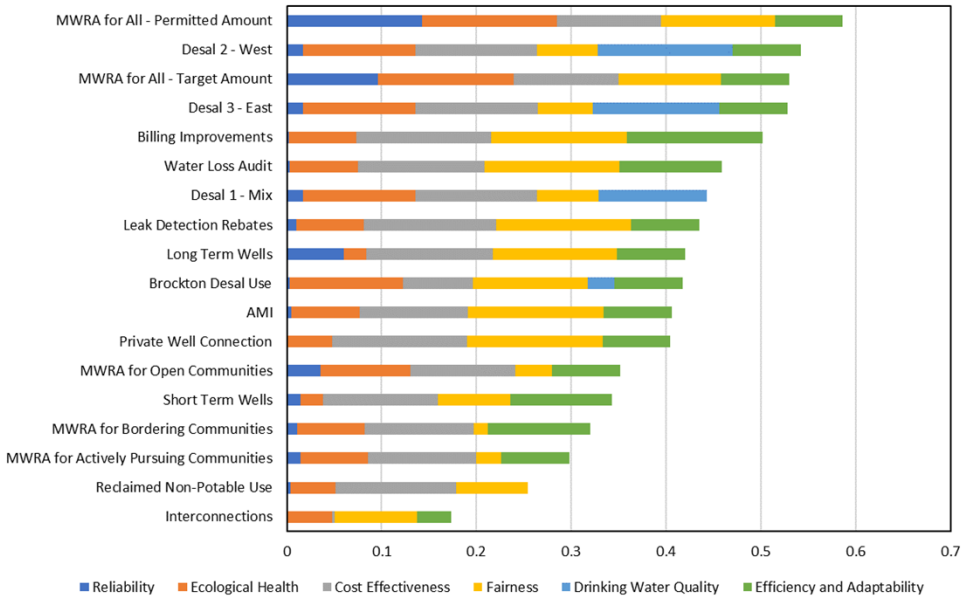
Results Using Equal Weights



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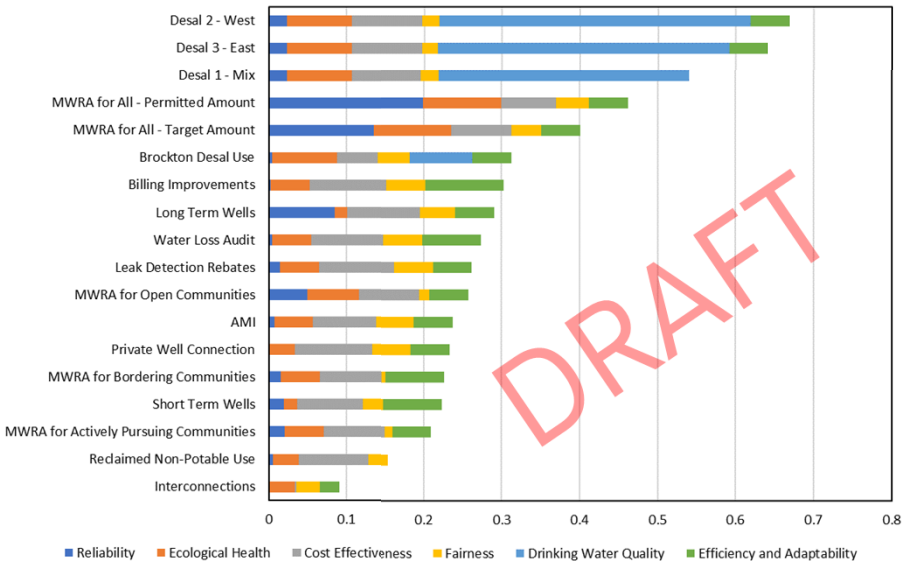
Sensitivity Bar Graph – Emphasizing Water Quality



Draft Results

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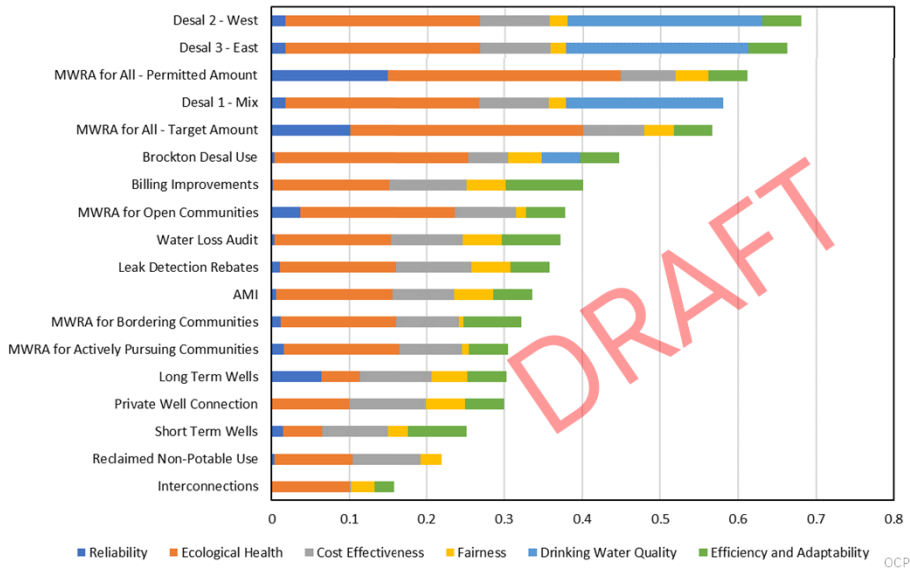
Sensitivity Bar Graph - Emphasizing Ecosystem



Draft Results

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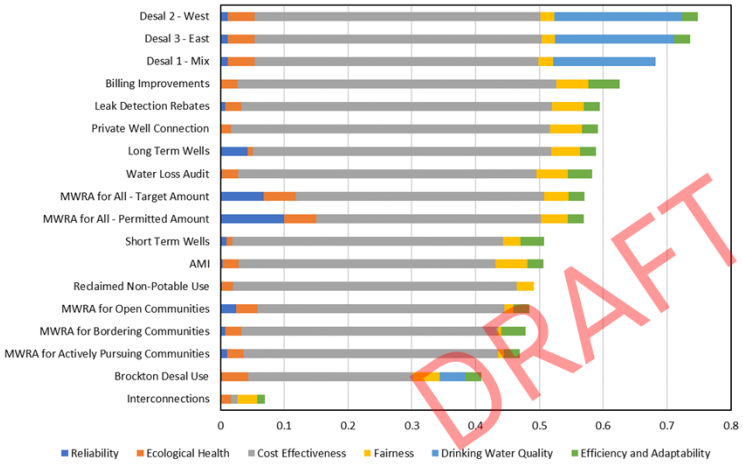
Sensitivity Bar Graph – Emphasizing Cost



Draft Results

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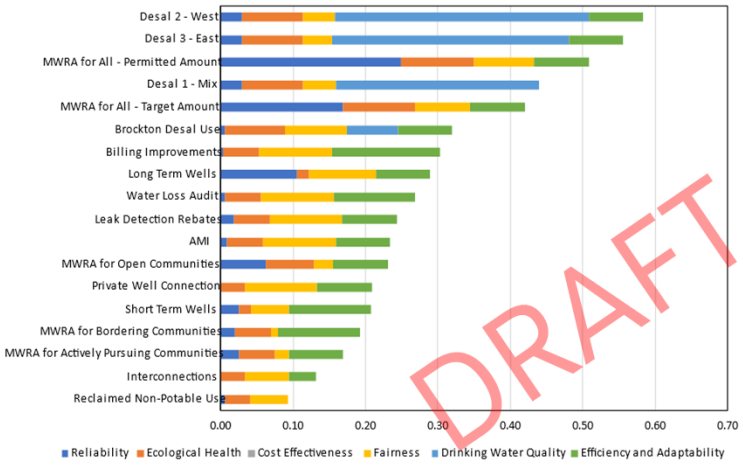
Sensitivity Bar Graph – Removing Cost



Draft Results

Sensitivity to Weights

Alternative Name	Abbreviation	Mean	Equal	Sensitivity Water Quality	Sensitivity Ecosystem Health	Sensitivity Cost
Desal 2 - West	LT-10C	0.62	0.54	0.67	0.68	0.75
Desal 3 - East	LT-10D	0.59	0.53	0.64	0.66	0.74
MWRA for All - Permitted Amount	LT-3	0.53	0.59	0.46	0.61	0.57
Desal 1 - Mix	LT-10B	0.48	0.44	0.54	0.58	0.68
MWRA for All - Target Amount	LT-4	0.46	0.53	0.40	0.57	0.57
Billing Improvements	ST-4	0.40	0.50	0.30	0.40	0.63
Long Term Wells	LT-2	0.36	0.42	0.29	0.30	0.59
Water Loss Audit	ST-1	0.36	0.46	0.27	0.37	0.58
Brockton Desal Use	ST-6	0.36	0.42	0.31	0.45	0.41
Leak Detection Rebates	ST-2	0.34	0.44	0.26	0.36	0.59
AMI	ST-3	0.31	0.41	0.24	0.34	0.51
Private Well Connection	LT-1	0.31	0.40	0.23	0.30	0.59
MWRA for Open Communities	LT-5	0.30	0.35	0.26	0.38	0.48
Short Term Wells	ST-5	0.29	0.34	0.22	0.25	0.51
MWRA for Bordering Communities	LT-7	0.27	0.32	0.23	0.32	0.48
MWRA for Actively Pursuing Communities	LT-6B	0.24	0.30	0.21	0.30	0.47
Reclaimed Non-Potable Use	LT-14	0.18	0.25	0.15	0.22	0.49
Interconnections	LT-12	0.13	0.17	0.09	0.16	0.07

Draft Results

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Sensitivity to Different Stakeholder Weights

		Community Weightings													
Alternative Name	Abbreviation	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Desal 2 - West	LT-10C	0.49	0.56	0.62	1.00	0.53	0.60	0.57	0.44	0.62	0.60	0.56	0.83	0.74	0.60
Desal 3 - East	LT-10D	0.47	0.55	0.61	0.93	0.52	0.58	0.55	0.43	0.60	0.58	0.54	0.80	0.71	0.59
MWRA for All - Permitted Amount	LT-3	0.63	0.55	0.59	0.00	0.62	0.56	0.53	0.61	0.55	0.56	0.55	0.44	0.37	0.77
Desal 1 - Mix	LT-10B	0.35	0.42	0.51	0.80	0.43	0.47	0.48	0.33	0.49	0.48	0.41	0.70	0.62	0.53
MWRA for All - Target Amount	LT-4	0.52	0.49	0.55	0.00	0.52	0.49	0.40	0.52	0.49	0.49	0.47	0.43	0.33	0.70
Billing Improvements	ST-4	0.40	0.45	0.54	0.00	0.34	0.43	0.16	0.44	0.43	0.43	0.43	0.29	0.28	0.45
Long Term Wells	LT-2	0.41	0.39	0.48	0.00	0.37	0.42	0.29	0.41	0.42	0.39	0.40	0.13	0.28	0.34
Water Loss Audit	ST-1	0.35	0.39	0.49	0.00	0.31	0.38	0.15	0.39	0.38	0.39	0.37	0.27	0.26	0.43
Brockton Desal Use	ST-6	0.31	0.35	0.41	0.20	0.31	0.32	0.20	0.34	0.30	0.38	0.33	0.47	0.29	0.52
Leak Detection Rebates	ST-2	0.32	0.36	0.47	0.00	0.30	0.36	0.17	0.36	0.36	0.37	0.34	0.25	0.26	0.41
AMI	ST-3	0.29	0.33	0.43	0.00	0.27	0.32	0.14	0.34	0.31	0.35	0.31	0.25	0.23	0.40
Private Well Connection	LT-1	0.29	0.33	0.45	0.00	0.26	0.34	0.13	0.33	0.34	0.34	0.32	0.19	0.24	0.33
MWRA for Open Communities	LT-5	0.30	0.35	0.39	0.00	0.31	0.34	0.20	0.32	0.36	0.30	0.30	0.29	0.23	0.43
Short Term Wells	ST-5	0.31	0.34	0.40	0.00	0.26	0.34	0.15	0.32	0.36	0.30	0.32	0.14	0.21	0.26
MWRA for Bordering Communities	LT-7	0.27	0.34	0.37	0.00	0.26	0.32	0.14	0.29	0.36	0.27	0.29	0.25	0.20	0.34
MWRA for Actively Pursuing Communities	LT-6B	0.24	0.30	0.35	0.00	0.24	0.29	0.14	0.26	0.33	0.25	0.25	0.23	0.19	0.33
Reclaimed Non-Potable Use	LT-14	0.14	0.20	0.30	0.00	0.18	0.23	0.11	0.18	0.25	0.20	0.17	0.14	0.18	0.24
Interconnections	LT-12	0.13	0.12	0.14	0.00	0.10	0.09	0.04	0.15	0.06	0.16	0.13	0.16	0.06	0.22

Draft Results

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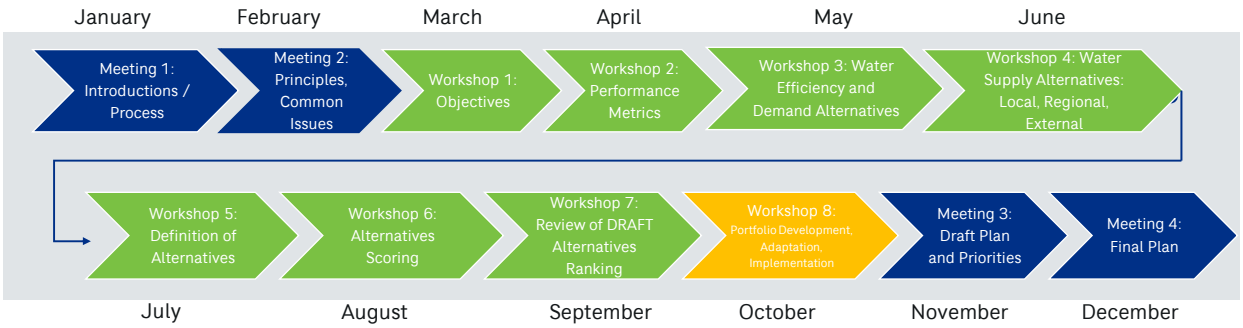
Next Workshop



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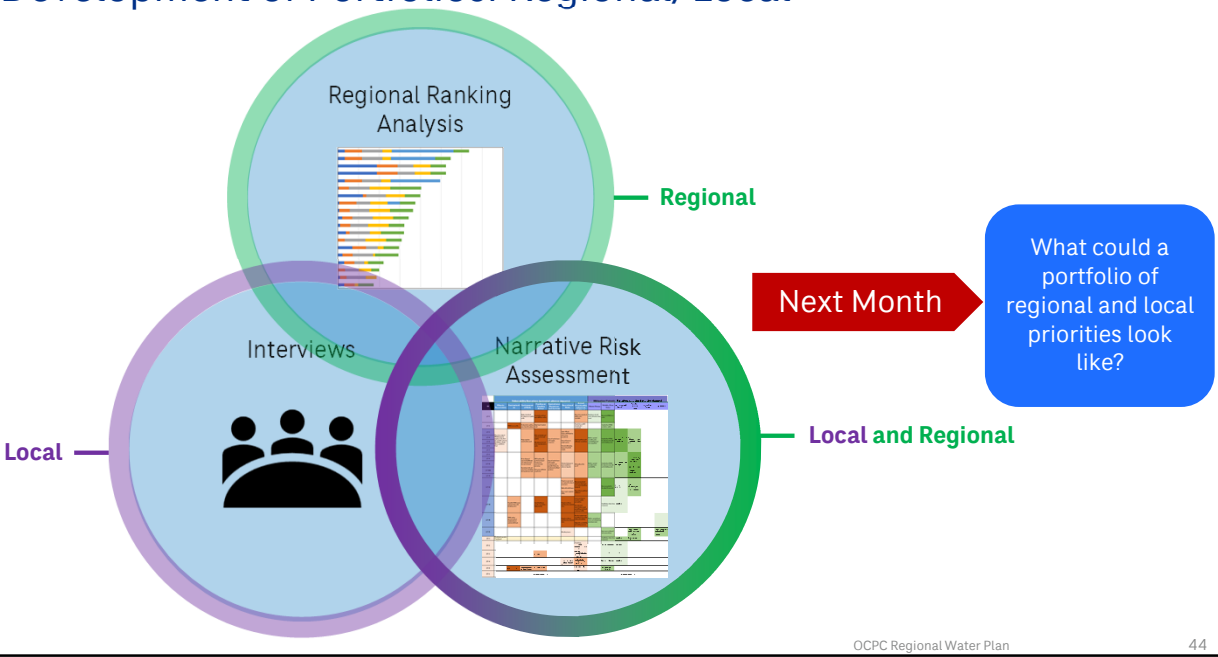
Development of Portfolios: Regional/Local



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Narrative Risk Assessment (Example for Long-Term Regional)

			Vulnerability Narratives (potential adverse impacts)							Mitigation Potential Narratives (additional positive changes)					
Relevance to Framework	ID	Project - GENERALIZED DESCRIPTION	Climate Uncertainty	Contamination	Environmental Risks	Funding or Funding Delays	Control over Resources and Systems	Operational Risks	Actual Practicality (physical, political	Climate Change	Reliable, Clean Water	Environmental Benefits	Planning/ Funding In Process	Retains Local Control	Operational
Long-Term Regional Alternatives	LT-3	MWRA For Entire OCPC Region with Public Water Supply - Replacing Entire Permitted Amount	Uncertain risks if MWRA begins to supply nearly all of its available water to North Shore, South Shore, and Metro West		Major pipeline construction work	Extremely high cost and uncertain cost models Abandonment of all prior investments in water	Loss of control over self-supply resources	Cyber Attack Vulnerability (going after large providers) Overreliance on single source Potential Blending Issues if not full supply	Limited political will with some exceptions	Buffer against variable water availability if not overcommitted	Could offset PFAS treatment needs with safe drinking water	Less intervention and less stress on regional water resources			
	LT-4	MWRA For Entire OCPC Region with Public Water Supply - Supplying Requested													
	LT-5	MWRA For Communities Who Indicated Openness to MWRA													
	LT-6	MWRA For Communities Actively Exploring MWRA Connection													
	LT-7	MWRA for Communities Bordering Existing MWRA Connection (Stoughton)													
	LT-8	Aquaria Desalination Under Brockton Ownership For Communities Open To			Brine disposal uncertainty (though already processes for current use) Spawning needs and uncertain reliability during short periods	SRF funding with partial principal forgiveness uncertain, but pursuing. Sale price still to be negotiated.	Loss of control over self-supply resources, and possible 3rd party involvement without purchase	Chemical changes in pipes could have adverse impacts	All months of the year?	Buffer a...		...vention ...ess on regional water resources.	Cost models already under development and potentially agreeable. Ongoing discussions of potential supply for several communities.		
	LT-9	Aquaria Desalination Under Brockton Ownership For Communities with Existing													
	LT-10	Aquaria Desalination Continues Under Private Ownership with Brockton Supplying Water For Communities Open To Considering													
	LT-10B	Aquaria Desalination Continues Under Private Ownership with Brockton Supplying Water For Communities													
	LT-11	Aquaria Desalination Under Regional Ownership For Communities Open To													
	LT-12	Expand and/or Rehabilitate Interconnections with Inter-Municipal Agreements						Requires agree...	...ning May not have political willpower		Emergency buffer for short-term need.	May help avoid new wells or other sources.	Many interconnections already exist and could be improved.		
	LT-14	Reclaimed Water for Non-Potable Uses		Possible PFAS cross-contamination with drinking water.				Requires all new pipelines for isolated uses.	Last resort due to negative public perception. Great deal of uncertainty around		Could help reduce demand on natural resources.				
	LT-15	Redundant Water Supply For Agriculture		PFAS and/or pharmaceutical contmination in contact with food.				Requires all new pipelines for isolated uses.	Need to include food providions in permits with no flexibility. Subject to availability of	Buffer against local water scarcity during growing season					Flexibility in sources
	LT-16	Regional Coordination for Local PFAS Treatment Implementation						Blending issues			Increases realism of interconnections		Coordination for local treatment could improve grant/loan opportunities		Coordination of local treatment could increase ease of blending

EXAMPLE – IN PROGRESS

Public Outreach