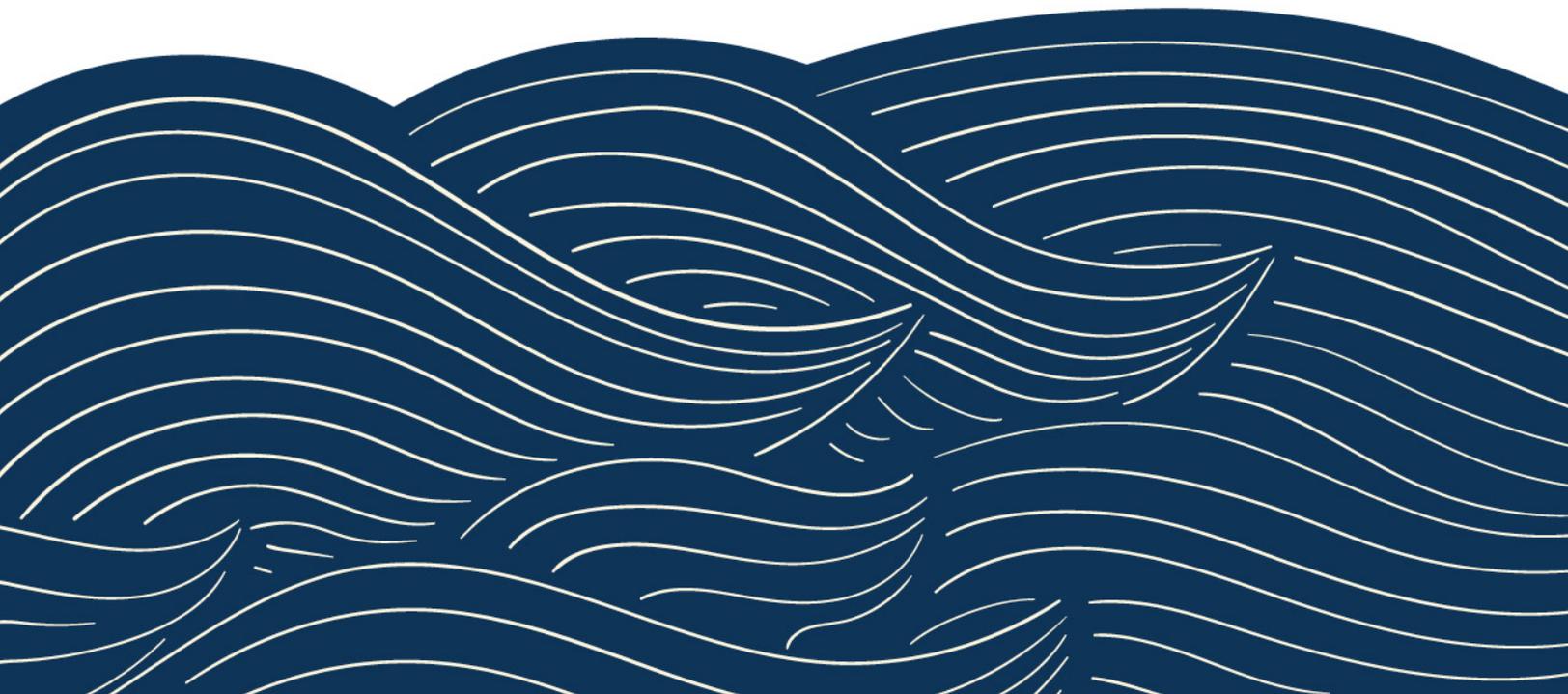


# G

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## Appendix G: Demonstration of Reduced Delta Reliance



# Quantifying Regional Self-Reliance and Reduced Reliance on Water Supplies from the Delta Watershed

## 1. Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Delta, prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council. Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

*(a) Water shall not be exported from, transferred through, or used in the Delta if all the following apply:*

- (1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
- (2) That failure has significantly caused the need for the export, transfer, or use; and*
- (3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

*(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*

- (A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
- (B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
- (C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-*

*reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).*

The analysis and documentation provided below include all the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

## 2. Methodology

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for improved regional self-reliance and measurable reduction in Delta reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta. The expected outcomes for the City of Morro Bay's (City's) regional self-reliance and reduced Delta reliance were developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2020 issued in March 2021 (Guidebook Appendix C).

The methodology used to determine the City's improved regional self-reliance is consistent with the approach detailed in DWR's UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying the City's demonstration of reduced reliance include:

- All data were obtained from the current 2020 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the service area level, and all data reflect the total contributions of the City and its customers.
- Future projects that are covered actions requiring a certification of consistency with the Delta Plan were excluded from this analysis.

To calculate the expected outcomes for improved regional self-reliance and reduced Delta reliance, the outcomes need to be compared to a baseline. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from the City's 2005 UWMP, as UWMPs generally do not provide normal water year data for the year that they are adopted (i.e., 2005 UWMP forecasts begin in 2010, 2010 UWMP forecasts begin in 2015, and so on).

Consistent with the 2010 baseline data approach, the expected outcomes for improved regional self-reliance and reduced Delta reliance for 2015 and 2020 were taken from the City's 2010 and 2015 UWMPs, respectively. Expected outcomes for 2025-2045 are from the current 2020 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

## 3. Demonstration of Regional Self-Reliance

### Service Area Demands without Water Use Efficiency

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands, rather than normal water year supplies to calculate expected outcomes in terms of the percentage of water used. Normal water year demands serve as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill the requirements of the UWMP Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

Because WR P1 considers water use efficiency savings a source of water supply, water suppliers can calculate their embedded water use efficiency savings based on changes in forecasted per capita water

use compared to the baseline. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise, the effect of water use efficiency savings on regional self-reliance would be overestimated. Table 1 shows the results of this adjustment for the City. Supporting narratives and documentation for all the data shown in Table 1 are provided below.

### **Service Area Demands with Water Use Efficiency**

The service area water demands shown in Table 1 represent the total municipal and industrial (M&I) water demands for the City's retail service area.

The M&I demand data shown in Table 1 were collected from the following sources:

- Baseline (2010): City's 2005 UWMP, Table 4-3
- 2015: City's 2010 UWMP, Table 3-7
- 2020: City's 2015 UWMP, Table 4-2
- 2025-2045: City's 2020 UWMP, Table 4-4

### **Service Area Population**

The population data shown in Table 1 were collected from the following sources:

- Baseline (2010): City's 2010 UWMP, Table 2-1
- 2015: City's 2015 UWMP, Table 3-1
- 2020-2045: City's 2020 UWMP, Table 3-2

### **Estimated Water Use Efficiency Since Baseline**

The "Estimated Water Use Efficiency Since Baseline" was calculated using "Potable Service Area Demands with Water Use Efficiency" divided by "Service Area Population" and then comparing with 2010 Per Capita Water Use.

### **Service Area Water Demands without Water Use Efficiency**

In Table 2, the "Service Area Demands with Water Use Efficiency" was added to the "Estimated Water Use Efficiency Since Baseline" to obtain the "Service Area Water Demands without Water Use Efficiency Accounted For".

### **Supplies Contributing to Regional Self-Reliance**

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table 3 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table 3 represent efforts to improve regional self-reliance for the City's entire service area. Supporting narratives and documentation for all the data provided in Table 3 are described below.

### **Water Use Efficiency**

The water use efficiency information shown in Table 3 is taken directly from Table 1.

### **Advanced Water Technologies**

In the past, the City has used desalinated water as a supply. However, the City's desalination plant has been used minimally over the last decade. The desalination plant provides a source of backup and emergency water supply in case of future State Water Project (SWP) supply reductions or service outages. Currently, the facility is in a state of needed repair and is not in use and is therefore not included as a future supply source. The City's advanced water technologies shown in Table 3 refer to desalinated water and were from the following sources:

- Baseline (2010): City's 2005 UWMP, assumed consistent with supply identified for the next three years (2006-2009) in Table ES-10.
- 2015: City's 2010 UWMP, Table 4-1
- 2020: City's 2015 UWMP, Table 6-9
- 2025-2045: Not applicable at this time.

### Local and Regional Water Supply and Storage Projects

Other programs and projects that contribute to regional self-reliance shown in Table 3 include the City's local groundwater supply. These values come from the following sources:

- Baseline (2010): City's 2005 UWMP, Table 5-3
- 2015: City's 2010 UWMP, Table 4-1
- 2020: City's 2015 UWMP, Table 6-9
- 2025-2045: City's 2020 UWMP, Table 6-9

## 4. Summary of Expected Outcomes for Reduced Reliance on the Delta

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The expected outcomes for the City's reduced Delta reliance and regional self-reliance were developed using the approach and guidance described in Guidebook Appendix C issued in March 2021.

### Regional Self-Reliance

The results shown in Table 3 demonstrate that the City's service area is improving its regional self-reliance. The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for City's Delta reliance on supplies from the Delta watershed:

- Near-term (2025) – Normal water year regional self-reliance is expected to increase by about 400 AFY from the 2010 baseline (Table 3).
- Long-term (2045) – Normal water year regional self-reliance is expected to increase by approximately 430 AFY from the 2010 baseline (Table 3).

## 5. UWMP Implementation

In addition to the analysis and documentation described above, WR P1 subsection (c)(1)(B) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1 (c)(1)(B) states that:

*(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta[.]*

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, including a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.

Chapter 6 of the City's 2020 UWMP summarizes the implementation plan and water portfolio to meet the region's water needs.

**Table 1. Optional Calculation of Water Use Efficiency**

Service Area Water Use Efficiency Demands (Acre-Feet)		Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For		1,600	1,334	1,298	1,333	1,366	1,400	1,445	1,445
Non-Potable Water Demands									
Potable Service Area Demands with Water Use Efficiency Accounted For		1,600	1,334	1,298	1,333	1,366	1,400	1,445	1,445

Total Service Area Population		Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Population		10,608	10,224	10,757	11,213	11,525	11,837	12,149	12,169

Water Use Efficiency Since Baseline (Acre-Feet)		Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)		135	116	108	106	106	106	106	106
Change in Per Capita Water Use from Baseline (GPCD)			(18)	(27)	(29)	(29)	(29)	(28)	(29)
Estimated Water Use Efficiency Since Baseline			208	324	358	372	385	387	390

**Table 2. Calculation of Service Area Water Demands Without Water Use Efficiency**

Total Service Area Water Demands (Acre-Feet)		Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For		1,600	1,334	1,298	1,333	1,366	1,400	1,445	1,445
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		-	208	324	358	372	385	387	390
Service Area Water Demands without Water Use Efficiency Accounted For		1,600	1,542	1,622	1,691	1,738	1,785	1,832	1,835

**Table 3. Calculation of Supplies Contributing to Regional Self-Reliance**

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Use Efficiency	-	208	324	358	372	385	387	390
Water Recycling			-					
Stormwater Capture and Use								
Advanced Water Technologies	106	645	645					
Conjunctive Use Projects								
Local and Regional Water Supply and Storage Projects	262	1,724	1,724	407	407	407	407	407
Other Programs and Projects the Contribute to Regional Self-Reliance								
<b>Water Supplies Contributing to Regional Self-Reliance</b>	<b>368</b>	<b>2,577</b>	<b>2,693</b>	<b>765</b>	<b>779</b>	<b>792</b>	<b>794</b>	<b>797</b>

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	1,600	1,542	1,622	1,691	1,738	1,785	1,832	1,835

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	368	2,577	2,693	765	779	792	794	797
Change in Water Supplies Contributing to Regional Self-Reliance		2,209	2,325	397	411	424	426	429

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	23.0%	167.1%	166.0%	45.2%	44.8%	44.4%	43.4%	43.4%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		144.1%	143.0%	22.2%	21.8%	21.4%	20.4%	20.4%

**Table 4. Calculation of Reliance on Water Supplies from the Delta Watershed**

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
CVP/SWP Contract Supplies	1,313	1,313	1,313	1,313	1,313	1,313	1,313	1,313
Delta/Delta Tributary Diversions								
Transfers and Exchanges								
Other Water Supplies from the Delta Watershed								
<b>Total Water Supplies from the Delta Watershed</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>	<b>1,313</b>

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	1,600	1,542	1,622	1,691	1,738	1,785	1,832	1,835

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	1,313	1,313	1,313	1,313	1,313	1,313	1,313	1,313
Change in Water Supplies from the Delta Watershed		-	-	-	-	-	-	-

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies from the Delta Watershed	82.1%	85.1%	80.9%	77.6%	75.5%	73.5%	71.7%	71.5%
Change in Percent of Water Supplies from the Delta Watershed		3.1%	-1.1%	-4.4%	-6.5%	-8.5%	-10.4%	-10.5%

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