
Appendix A – Publication Records

AFFIDAVIT OF PUBLICATION

Account #	Ad Number	Identification	PO	Cols	Lines
624948	0003686423	NOI TO WSJ IRWMP WORKSHOP KAITLIN PALYS	WSJ IRWMP WORKSHOP KAITLI	2	31

Attention:

PROVOST & PRITCHARD CONSULTING GROUP
 2505 ALLUVIAL AVE
 CLOVIS, CA 93611

NOTICE OF INTENT OF THE WESTSIDE-SAN JOAQUIN REGIONAL WATER MANAGEMENT GROUP TO PREPARE AN UPDATE TO THE WESTSIDE-SAN JOAQUIN INTEGRATED REGIONAL WATER MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the Westside-San Joaquin Regional Water Management Group intends to prepare an update of the Westside-San Joaquin Integrated Regional Water Management Plan (WSJ IRWMP) (formerly named the Westside-San Joaquin Integrated Water Resources Plan). The WSJ IRWMP is intended to encourage collaboration among participants to integrate regional strategies for management of water resources. The WSJ IRWMP update will ensure continued compliance with the most recent State IRWM guidelines released in 2016.

All interested persons are invited to attend a public workshop scheduled from 2:00 PM to 4:00 PM on Wednesday, June 13, 2018 at the San Luis & Delta-Mendota Water Authority's Administration Office located at 842 6th Street, Los Banos, CA 93635 for the purpose of notifying and informing the public about opportunities to participate in the update of the WSJ IRWMP. This meeting is an opportunity for residents to learn about the State's IRWM Program, to see a presentation summarizing the IRWMP update process, and to learn how they can participate in the Plan Update and submit projects or comments for incorporation into the Plan. The Call for Projects will also be discussed as project solicitation will occur from approximately May 23, 2018 through July 12, 2018. Information related to the public workshop and the update of the WSJ IRWMP will be posted at the San Luis & Delta-Mendota Water Authority (SLDMWA) website: <http://www.sldmwa.org/integrated-regional-water-management-plan/>. If you have any questions, please call Andrew Garcia at SLDMWA (209) 832-6229 any weekday from 8:00 a.m. to 5:00 p.m.
 MER- 3686423 5/30, 6/6

Declaration of Publication 2015.5 C.C.P.

STATE OF CALIFORNIA)
) ss.
 County of Merced)

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of the Merced Sun-Star, a newspaper of general circulation, printed and published in the city of Merced, County of Merced, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Merced, State of California, under the date of July 14, 1964 Case Number 33224 that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

May 30, 2018, June 06, 2018

I certify (or declare) under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Merced, California on:

Date: 6th, day of June, 2018

Cynthia A. Williams

Signature

NOTICE OF PUBLIC WORKSHOP
FOR THE WESTSIDE-SAN
JOAQUIN REGIONAL WATER
MANAGEMENT GROUP'S
UPDATE TO THE WESTSIDE-SAN
JOAQUIN INTEGRATED
REGIONAL WATER
MANAGEMENT PLAN

NOTICE IS HEREBY GIVEN that the public draft of the 2018 Westside-San Joaquin Integrated Regional Water Management Plan (WSJ IRWMP) is available for review. A copy of the WSJ IRWMP can be obtained on the San Luis and Delta-Mendota Water Authority's (SLDMWA) website at <http://www.sldmwa.org/integrated-regional-water-management-plan/> on or after October 29, 2018. The comment period will close on December 14, 2018. To request a hard copy of the WSJ IRWMP or if you have any questions, please call Andrew Garcia at SLDMWA (209) 832-6229 any weekday from 8:00 a.m. to 5:00 p.m. Comments may be submitted electronically to Mr. Garcia at andrew.garcia@sldmwa.org.

All interested persons are invited to attend the second public workshop for the 2018 WSJ IRWMP scheduled for December 6, 2018 at 1:30 p.m. at the SLDMWA Boardroom, 842 6th St, Los Banos, CA 93635. The intent of this workshop is to enable any interested persons to learn about and participate in the review of the 2018 Draft WSJ IRWMP and to solicit comments on the draft document. This workshop is an opportunity for residents to learn about the State's IRWM Program, see a presentation summarizing the Draft WSJ IRWMP, discuss its future implementation, and provide comments. Information related to the public workshop and the update of the WSJ IRWMP will be posted at the SLDMWA website at <http://www.sldmwa.org/integrated-regional-water-management-plan/>. If you have any questions, please contact Andrew Garcia at SLDMWA using the information provided above.

MER-3957976 11/21, 28

AFFIDAVIT OF PUBLICATION

Account #	Ad Number	Identification	PO	Cols	Lines
709654	0004020823	NOI WSJ IRWMP SLDMWA JENNIFER KIDSON	VSJ IRWMP SLDMWA JENNIFER	1	29

Attention:

WOODARD & CURRAN
 100 WEST SAN FERNANDO ST., SUITE 320
 SAN JOSE, CA 95113

Notice of Intent to Adopt the
 Updated Westside-San Joaquin
 Integrated Regional Water
 Management Plan

A public hearing will be held at 9:30 a.m. on January 10, 2019, at the San Luis & Delta-Mendota Water Authority (SLDMWA) Boardroom, 842 6th St, Los Banos, CA 93635 to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines for IRWM planning, which will enhance the Region's eligibility for state grants and promote regional water sustainability. For questions about or to view a copy of the proposed 2019 Westside-San IRWMP Update, please contact Andrew Garcia at SLDMWA at (209) 832-6229 any weekday from 8:00 a.m. to 5:00 p.m. The IRWMP may also be viewed online at <http://www.sldmwa.org/integrated-regional-water-management-plan/>.
 MER- 4020823 1/3, 9

Declaration of Publication 2015.5 C.C.P.

STATE OF CALIFORNIA)
) ss.
 County of Merced)

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of the Merced Sun-Star, a newspaper of general circulation, printed and published in the city of Merced, County of Merced, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Merced, State of California, under the date of July 14, 1964 Case Number 33224 that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

January 03, 2019, January 09, 2019

I certify (or declare) under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Merced, California on:

Date: 9th, day of January, 2019

Cynthia A. Mohammed

Signature

Ad Order Information

<u>Ad Number</u>	<u>Ad Type</u>	<u>Production Method</u>	<u>Production Notes</u>
0004195068-01	MER-Legal Liner	AdBooker	

<u>External Ad Number</u>	<u>Ad Attributes</u>	<u>Ad Released</u>	<u>Pick Up</u>
		No	

<u>Ad Size</u>	<u>Color</u>
1 X 30 li	

<u>Product</u>	<u>Placement</u>	<u>Times Run</u>	<u>Schedule Cost</u>
MER-Los Banos Enterprise	0300 - Legals Classified	2	\$88.20

<u>Run Schedule Invoice Text</u>	<u>Position</u>
NOI INT REG WATER MGMT PLAN CRYSTAL GUI	0301 - Legals & Public Notices

Run Dates
05/03/2019, 05/10/2019

<u>Product</u>	<u>Placement</u>	<u>Times Run</u>	<u>Schedule Cost</u>
MER-upsell.mercedsunstar.com	0300 - Legals Classified	2	\$30.00

<u>Run Schedule Invoice Text</u>	<u>Position</u>
NOI INT REG WATER MGMT PLAN CRYSTAL GUI	0301 - Legals & Public Notices

Run Dates
05/03/2019, 05/10/2019

PUBLIC NOTICE

Notice of Intent to Adopt the Updated Westside-San Joaquin Integrated Regional Water Management Plan. A public hearing will be held on Wednesday, May 22, 2019, at 8:30 a.m. at the Central California Irrigation District Main Office, located at 1335 West "I" Street, Los Banos, CA 93635, to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines for IRWM planning, which will enhance the Region's eligibility for state grants and promote regional water Inability. For questions about or to view a copy of the proposed 2019 Westside-San Joaquin IRWMP Update, please contact Jarrett Martin, Deputy General Manager of Central California Irrigation District, at (209) 826-1421. The IRWMP may also be viewed online at <http://www.sldmwa.org/integrated-regional-water-management-plan/>.
LB-4195068 5/3, 10

PROOF OF PUBLICATION
(2015.5 C.C.P)

STATE OF CALIFORNIA
County of Stanislaus

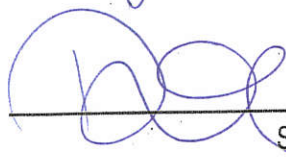
I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the Patterson Irrigator, a newspaper of general circulation, printed and published once a week on Thursdays, in the city of Patterson, California, County of Stanislaus, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court, of the County of Stanislaus, State of California, under the date of June 23, 1952, Case Number 47304; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

1/17, 24

all in the year 2019

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Patterson, California, this 24
day of January, 2019



Signature

This space is for the County Clerk's Filing stamp

Proof

NOTICE

Notice of Intent to Adopt the Updated Westside-San Joaquin Integrated Regional Water Management Plan

A public hearing will be held on Wednesday, February 20, 2019 at 8:30 a.m. at 17840 Ward Ave., Patterson, CA 95363, to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines for IRWM planning, which will enhance the Region's eligibility for state grants and promote regional water sustainability.

For questions about the proposed 2019 Westside-San Joaquin IRWMP Update, please contact Anthea G. Hansen, General Manager, at (209) 892-4470. The IRWMP may be viewed online at <http://www.sldmwa.org/integrated-regional-water-management-plan/>.

1/17,24-2019

PROOF OF PUBLICATION
(2015.5 C.C.P)

STATE OF CALIFORNIA
County of Stanislaus

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the Patterson Irrigator, a newspaper of general circulation, printed and published once a week on Thursdays, in the city of Patterson, California, County of Stanislaus, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court, of the County of Stanislaus, State of California, under the date of June 23, 1952, Case Number 47304; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to -wit:

1/10, 17

all in the year 2019

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Patterson, California, this 17
day of January, 2019

[Signature]
Signature

This space is for the County Clerk's Filing stamp

Proof of F

■ PUBLIC NOTICE ■

NOTICE

Notice of Intent to Adopt the Updated Westside-San Joaquin Integrated Regional Water Management Plan

A public hearing will be held on February 12th at 9:30 AM at the Westley Firehouse, 8598 Kern St, Westley, CA 95387, to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines for IRWM planning, which will enhance the Region's eligibility for state grants and promote regional water sustainability.

For questions about or to view a copy of the proposed 2019 Westside-San IRWMP Update, please contact Bobby Pierce, General Manager of West Stanislaus Irrigation District, at (209) 894-3091. The IRWMP may also be viewed online at <http://www.sld-mwa.org/integrated-regional-water-management-plan/>.

1/10,17

*** Proof of Publication ***

The Sentinel
Lee Central California Newspapers
P.O. Box 9
Hanford, CALIFORNIA 93232
PHONE 888-790-0915
Sentinel_Finance@lee.net

WESTLANDS WATER DISTRICT - LEGALS

PO BOX 6056
FRESNO CA 93703

ORDER NUMBER 93332

Publication- The Hanford Sentinel

State of California

County of Kings

I am a citizen of the United States and a resident of the county
for said; I am over the age of eighteen years, and not a part to or
interested in the above-entitled matter. I am the principal clerk of The
Hanford Sentinel, a newspaper of general circulation, printed and
published daily in the city of Hanford, County of Kings, and which
newspaper has been adjudged a newspaper of general circulation by
the superior court of the County of Kings, State of California, under
the date of October 23, 1951, case number 11623.

That I know from my own personal knowledge the notice, of which the
annexed is a printed copy (set in type not smaller than nonpareil), has
been published in each regular and entire issue of said newspaper and
not in any supplement thereof on the following dates, to wit:

Section: Legals

Category: 201 Public Notices

PUBLISHED ON: 09/27/2019, 10/04/2019, 10/11/2019

TOTAL AD COST: 271.85

FILED ON: 10/11/2019

I certify (or declare) under penalty of perjury that the foregoing is true
and correct.

Dated at Kings County, California

This Day 11 of October, 2019.

Signature [Signature]

AD# 93332

Notice of Intent to Adopt the Updated Westside-San Joaquin
Integrated Regional Water Management Plan

NOTICE IS HEREBY GIVEN that Westlands Water District will hold a
public hearing on October 15th, 2019 at Westlands Water District in
Fresno, 3130 N. Fresno St., Fresno, CA 93703, to consider the adoption of
the 2019 Westside-San Joaquin Integrated Regional Water Management
Plan (IRWMP) Update immediately following the hearing.

The IRWMP has been updated in accordance with the California
Department of Water Resources' Guidelines, which will enhance the
region's eligibility for state grants and promote regional water
sustainability. The IRWMP may also be viewed online at
http://slmwa.org/OHTDocs/pdf_documents/Groundwater/WSJ_IRWMP_2019_Final_w_appendices.pdf.

Written comments on the adoption of the IRWMP must be submitted within
14 days of the publication date of this notice to ANTONIO SOLORIO,
RESOURCES ENGINEER, WESTLANDS WATER DISTRICT, by mail to
P.O. Box 6056 Fresno, CA 93703, or by courier to the District Office at
3130 N Fresno St, Fresno, CA 93703.

PUBLISH SEPTEMBER 27, 2019
OCTOBER 4, 11, 2019

THE BUSINESS JOURNAL

FRESNO | KINGS | MADERA | TULARE

P.O. Box 126
Fresno, CA 93707
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

Notice of Intent to Adopt the Updated Westside-San Joaquin
Integrated Regional Water Management Plan

Written comments on the adoption of
the IRWMP must be submitted within
14 days of the publication date

DECLARATION OF PUBLICATION (2015.5 C.C.P.)

MISC. NOTICE

STATE OF CALIFORNIA

COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

SEPTEMBER 27, 2019

OCTOBER 4, 2019

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California,

OCTOBER 4, 2019

ON

Notice of Intent to Adopt the Updated Westside-San Joaquin Integrated Regional Water Management Plan

NOTICE IS HEREBY GIVEN that Westlands Water District will hold a public hearing on October 15th, 2019 at Westlands Water District in Fresno, 3130 N. Fresno St., Fresno, CA 93703, to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update immediately following the hearing. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines, which will enhance the region's eligibility for state grants and promote regional water sustainability. The IRWMP may also be viewed online at http://sldmwa.org/OHTDocs/pdf_documents/Groundwater/WSJ_IRWMP_2019_Final_w_appendices.pdf.

Written comments on the adoption of the IRWMP must be submitted within 14 days of the publication date of this notice to ANTONIO SOLORIO, RESOURCES ENGINEER, WESTLANDS WATER DISTRICT, by mail to P.O. Box 6056 Fresno, CA 93703, or by courier to the District Office at 3130 N Fresno St, Fresno, CA 93703.
09/27/2019, 10/04/2019

THE BUSINESS JOURNAL

FRESNO | KINGS | MADERA | TULARE

P.O. Box 126
Fresno, CA 93707
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

Notice of Intent to Adopt the Updated Westside-San Joaquin
Integrated Regional Water Management Plan

Written comments on the adoption of
the IRWMP must be submitted within
14 days of the publication date

DECLARATION OF PUBLICATION (2015.5 C.C.P.)

MISC. NOTICE

STATE OF CALIFORNIA

COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

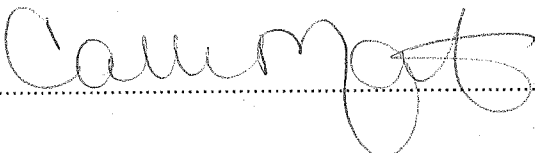
SEPTEMBER 27, 2019

OCTOBER 4, 2019

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California,

OCTOBER 4, 2019

ON



Notice of Intent to Adopt the Updated Westside-San Joaquin Integrated Regional Water Management Plan

NOTICE IS HEREBY GIVEN that Westlands Water District will hold a public hearing on October 15th, 2019 at Westlands Water District in Fresno, 3130 N. Fresno St., Fresno, CA 93703, to consider the adoption of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) Update immediately following the hearing. The IRWMP has been updated in accordance with the California Department of Water Resources' Guidelines, which will enhance the region's eligibility for state grants and promote regional water sustainability. The IRWMP may also be viewed online at http://sldmwa.org/OHTDocs/pdf_documents/Groundwater/WSJ_IRWMP_2019_Final_w_appendices.pdf.

Written comments on the adoption of the IRWMP must be submitted within 14 days of the publication date of this notice to ANTONIO SOLORIO, RESOURCES ENGINEER, WESTLANDS WATER DISTRICT, by mail to P.O. Box 6056 Fresno, CA 93703, or by courier to the District Office at 3130 N Fresno St, Fresno, CA 93703.
09/27/2019, 10/04/2019

Appendix B – WSJ IRWMP Adoption Records

SAN LUIS & DELTA-MENDOTA WATER AUTHORITY

RESOLUTION NO. 2019-433

RESOLUTION ADOPTING
SAN LUIS & DELTA-MENDOTA WATER AUTHORITY
2019 WESTSIDE-SAN JOAQUIN INTEGRATED REGIONAL WATER
MANAGEMENT PLAN, DETERMINING THAT THE CALIFORNIA ENVIRONMENTAL
QUALITY ACT DOES NOT APPLY TO PLAN ADOPTION, AND
AUTHORIZING RELATED ACTIONS

WHEREAS, an Integrated Regional Water Management Plan (“IRWMP”) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly-supported priority water resources projects and programs with multiple benefits.

WHEREAS, the adoption of an IRWMP is a prerequisite for any state funding of the water resources projects included in the IRWMP.

WHEREAS, by Resolution 2014-382, adopted September 8, 2014, the Board of Directors of the San Luis & Delta-Mendota Water Authority (the “Board” and the “Water Authority,” respectively) previously adopted the 2014 Westside Integrated Water Resources Plan (the “2014 WIWRP”), pursuant to which the Water Authority has taken on the role of regional water management group for the geographic area within the Westside-San Joaquin IRWM region that is served by the Water Authority.

WHEREAS, in order to ensure that the plan meets 2016 integrated water management guidelines adopted by the California Department of Water Resources, addresses current day conditions, and provides a living planning document that can help guide water resources planning in the region, staff of the Water Authority has prepared and posted a proposed plan on the Water Authority website a draft update, designated as the San Luis & Delta-Mendota Water Authority 2019 Westside-San Joaquin Integrated Water Resources Management Plan (“2019 WSJ IRWMP”), presented to the Board and filed within the Secretary hereof.

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the Water Authority published Notices of Intent to adopt the 2019 WSJ IRWMP in the Los Banos Enterprise on January 3, 2019, and January 9, 2019 and has now met the procedural requirements for adopting the 2019 WSJ IWRMP.

WHEREAS, the 2019 WSJ IRWMP currently references the soon to be completed Stanislaus County Storm Water Resources Plan (“SWRP”) being authored by Stanislaus County.

WHEREAS, the 2019 WSJ IRWMP will ultimately incorporate the SWRP by reference and through a future erratum, append the SWRP Executive Summary to the 2019 WSJ IRWMP, without requiring readoption by the Water Authority or its member agencies.

WHEREAS, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the Water Authority or any other party but represents administrative action with no potential to affect the environment, such that no review under the California Environmental Quality Act is required; further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review pursuant to the California Environmental Quality Act by the implementing agency and to the obtaining of all required permits before they are implemented.

WHEREAS, adoption of the plan is with respect to the public affairs of the Water Authority and in the interest thereof.

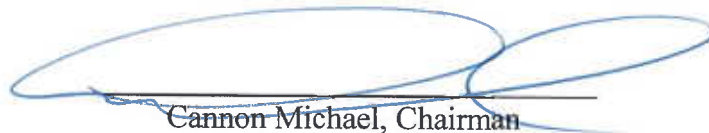
NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:

Section 1. The facts stated in the recitals above are true and correct, and the Board so finds and determines.

Section 2. The Board hereby approves and adopts the form of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan as the plan of the Water Authority, subject to such changes as the Executive Director approves in issuing the final 2019 WSJ IRWMP.

Section 3. The Executive Director, Assistant Executive Director, Water Policy Director, Senior Civil Engineer, and such other employees or consultants of the Authority as they may designate are hereby authorized and directed to take such actions as may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of this Resolution.

PASSED and ADOPTED this 10th day of January, 2019.



Cannon Michael, Chairman

Attest:



Federico Barajas, Secretary

I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of Directors of the San Luis & Delta-Mendota Water Authority at a regular meeting thereof held on the 10th day of January, 2019.



Federico Barajas, Secretary

RESOLUTION NO. 19-04

RESOLUTION ADOPTING THE 2019 WESTSIDE-SAN JOAQUIN
INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE

WHEREAS, an Integrated Regional Water Management Plan (IRWMP) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly supported priority water resources projects and programs with multiple benefits; and

WHEREAS, the benefits of integrated regional water management planning are intended to increase efficiencies and effectiveness of water resources planning, enhance collaboration across agencies and stakeholders, and improve responsiveness to regional needs and priorities; and

WHEREAS, the adoption of an IRWMP is a prerequisite for any state funding of the water resources projects included in the IRWMP; and

WHEREAS, the San Luis & Delta-Mendota Water Authority (SL&DMWA) acts as the Regional Water Management Group for the Westside-San Joaquin (WSJ) Region; and

WHEREAS, the Water Authority and stakeholders prepared the 2019 WSJ IRWMP Update based on the California Department of Water Resources Proposition 1 Integrated Regional Water Management Plan Guidelines; and

WHEREAS, the SL&DMWA intends to submit an application for Proposition 1 IRWM Implementation on behalf of parties within the WSJ Region, including the Central California Irrigation District, which grant application requires the Water Authority and any district submitting a proposed project to adopt the 2019 WSJ IRWMP prior to execution of a funding agreement.

WHEREAS, the Board has approved and submitted a proposed project to be considered for inclusion in the 2019 WSJ IRWMP, and the proposed project meets the goals and objectives of the 2019 WSJ IRWMP.

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the District published a Notice of Intenet to adopt the 2019 WSJ IRWMP in the Los Banos Enterprise on May 3, 2019 and May 10, 2019 and has now met the procedural requirements for adopting the 2019 WSJ IRWMP.

WHEREAS, the 2019 WSJ IRWMP currently references the soon to be completed Stanislaus County Storm Water Resources Plan (SWRP) being authored by Stanislaus County; and,

WHEREAS, the 2019 WSJ IRWMP will ultimately incorporate the SWRP by reference and through a future erratum, append the SWRP Executive Summary to the IRWMP Update, not requiring readoption by the Water Authority or its member agencies;

WHEREAS, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the District or any other party but represents administrative action with no potential to affect the environment, such that no review under the California Environmental Quality Act is required; further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review

pursuant to the California Environmental Quality Act by the implementing agency and to the obtaining of all required permits before they are implemented.

WHEREAS, adoption of the plan is with respect to the public affairs of the District and is in the interest thereof.

NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:

Section 1. The facts stated in the recitals above are true and correct, and the Board so finds and determines.

Section 2. The Board hereby approves and adopts the form of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan as presented to the Board, and subject to such changes as the Executive Director of the Water Authority approves in issuing the final 2019 WSJ IRWMP.

Section 3. The President, Secretary, General Manager, and such other employees or consultants of the District as they may designate are hereby authorized and directed to take such actions as may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of this Resolution.

PASSED AND ADOPTED THIS 22nd day of May, 2019 by the following vote:

AYES: KIRK JENSEN, ANDREW BLOOM, CHRIS FAGUNDES, JAMES O'BANION, ERIC FONTANA

NOES: None

ABSENT: None


JAMES O'BANION, President


ATTEST:


MARIANNE MARTIN, Secretary

-o0o-

I, MARIANNE MARTIN, Secretary of the Board of Directors of CENTRAL CALIFORNIA IRRIGATION DISTRICT, do hereby certify that the foregoing is a true and correct copy of a resolution adopted by said Board of Directors of said District at a regular meeting of the Board held on Wednesday, May 22, 2019.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said District this 22nd day of May, 2019.


MARIANNE MARTIN, Secretary of the
Board of Directors of the Central
California Irrigation District



**RESOLUTION ADOPTING THE 2019 WESTSIDE-SAN JOAQUIN
INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE**

WHEREAS, an Integrated Regional Water Management Plan (IRWMP) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly-supported priority water resources projects and programs with multiple benefits; and

WHEREAS, the benefits of integrated regional water management planning are intended to increase efficiencies and effectiveness of water resources planning, enhance collaboration across agencies and stakeholders, and improve responsiveness to regional needs and priorities; and

WHEREAS, the adoption of an IRWMP is a prerequisite for any state funding of the water resources projects included in the IRWMP; and

WHEREAS, the San Luis & Delta-Mendota Water Authority acts as the Regional Water Management Group for the Westside-San Joaquin (WSJ) Region; and

WHEREAS, the Water Authority and stakeholders prepared the 2019 WSJ IRWMP Update based on the California Department of Water Resources Proposition 1 Integrated Regional Water Management Plan Guidelines; and

WHEREAS, the San Luis & Delta-Mendota Water Authority intends to submit an Application for Proposition 1 IRWM Implementation on behalf of parties within the WSJ Region, including the Del Puerto Water District ("District"), which grant application requires the Water Authority and any district submitting a proposed project to adopt the 2019 WSJ IRWMP prior to execution of a funding agreement.

WHEREAS, the Board has approved and submitted proposed project(s) to be considered for inclusion in the 2019 WSJ IRWMP, and the proposed project(s) meet the goals and objectives of the 2019 WSJ IRWMP.

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the District published a Notice of Intent to adopt the 2019 WSJ IRWMP in the Patterson Irrigator on January 17, 2019 and January 24, 2019 and has now met the procedural requirements for adopting the 2019 WSJ IRWMP.

WHEREAS, the 2019 WSJ IRWMP currently references the soon to be completed Stanislaus County Storm Water Resources Plan (SWRP) being authored by Stanislaus County; and,

WHEREAS, the 2019 WSJ IRWMP will ultimately incorporate the SWRP by reference and through a future erratum, append the SWRP Executive Summary to the IRWMP Update, not requiring readoption by the Water Authority or its member agencies; and, **WHEREAS**, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the District or any other party but represents administrative action with no potential to affect the environment, such that no review under the

California Environmental Quality Act is required; further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review pursuant to the California Environmental Quality Act by the implementing agency and to the obtaining of all required permits before they are implemented.

WHEREAS, adoption of the plan is with respect to the public affairs of the District and is in the interest thereof.

NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:

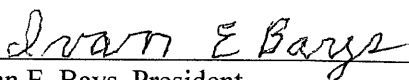
Section 1. The facts stated in the recitals above are true and correct, and the Board of Directors so finds and determines.

Section 2. The Board of Directors hereby approves and adopts the form of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan as presented to the Board, and subject to such changes as the Executive Director of the Water Authority approves in issuing the final 2019 WSJ IRWMP.


Section 3. The District's Secretary and General Manager, Anthea G. Hansen, and such other employees or consultants of the District as they may designated by the General Manager are hereby authorized and directed to take such actions as may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of this Resolution.

PASSED and ADOPTED by the Board of Directors of the Del Puerto Water District on this February 20, 2019 by the following vote:

AYES:	Jasper, Dompe, Lucich, Maring, Perez and Koster
NOES:	None
ABSENT:	None
ABSTAIN:	None


Ivan E. Bays, President
Del Puerto Water District

ATTEST:


Anthea G. Hansen, Secretary

I HEREBY CERTIFY that the foregoing is the resolution of said District as duly passed and adopted by the Del Puerto Water District, a public agency formed under the laws of the State of California, at a meeting of the Board of Directors thereof duly called and held at the office of the District on the 20th day of February, 2019.

WITNESS my hand and seal of said Board of Directors this 14th day of June, 2019.



Secretary of the Board of Directors

**WEST STANISLAUS IRRIGATION DISTRICT
RESOLUTION NO. 2019-02-01**

**RESOLUTION ADOPTING THE 2019 WESTSIDE-SAN JOAQUIN
INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE**

WHEREAS, an Integrated Regional Water Management Plan (IRWMP) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly-supported priority water resources projects and programs with multiple benefits; and

WHEREAS, the benefits of integrated regional water management planning are intended to increase efficiencies and effectiveness of water resources planning, enhance collaboration across agencies and stakeholders, and improve responsiveness to regional needs and priorities, and

WHEREAS, the adoption of an IRWMP is a prerequisite for any state funding of the water resources projects included in the IRWMP; and

WHEREAS, the San Luis & Delta-Mendota Water Authority acts as the Regional Water Management Group for the Westside-San Joaquin (WSJ) Region; and

WHEREAS, the Water Authority and stakeholders prepared the 2019 WSJ IRWMP Update based on the California Department of Water Resources Proposition 1 Integrated Regional Water Management Plan Guidelines, and

WHEREAS, the San Luis & Delta-Mendota Water Authority intends to submit an Application for Proposition 1 IRWM Implementation on behalf of parties within the WSJ Region, including the West Stanislaus Irrigation District, which grant application requires the Water Authority and any district submitting a proposed project to adopt the 2019 WSJ IRWMP prior to execution of a funding agreement.

WHEREAS, the Board has approved and submitted a proposed project to be considered for inclusion in the 2019 WSJ IRWMP, and the proposed project meets the goals and objectives of the 2019 WSJ IRWMP.

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the District published a Notice of Intent to adopt the 2019 WSJ IRWMP in the Patterson Irrigator on January 10, 2019 and January 17, 2019 and has now met the procedural requirements for adopting the 2019 WSJ IRWMP.

WHEREAS, the 2019 WSJ IRWMP currently references the soon to be completed Stanislaus County Storm Water Resources Plan (SWRP) being authored by Stanislaus County; and,

WHEREAS, the 2019 WSJ IRWMP will ultimately incorporate the SWRP by reference and through a future erratum, append the SWRP Executive Summary to the IRWMP Update, not requiring readoption by the Water Authority or its member agencies; and, **WHEREAS**, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the District or any other party but represents administrative action with no potential to affect the environment, such that no review under the California Environmental Quality Act is required; further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review pursuant to the California Environmental Quality Act by the implementing agency and to the obtaining of all required permits before they are implemented.

WHEREAS, adoption of the plan is with respect to the public affairs of the District and is in the interest thereof.

NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:

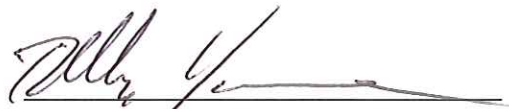
Section 1. The facts stated in the recitals above are true and correct, and the Board so finds and determines.

Section 2. The Board hereby approves and adopts the form of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan as presented to the Board, and subject to such changes as the Executive Director of the Water Authority approves in issuing the final 2019 WSJ IRWMP.

Section 3. The President, Secretary, General Manager, and such other employees or consultants of the District as they may designate are hereby authorized and directed to take such actions as may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of this Resolution.

PASSED and ADOPTED by the Board of Directors of the West Stanislaus Irrigation District on this 19th day of February by the following vote:

AYES:	Bays, DelDon, Goubert, Yamamoto
NOES:	None
ABSENT:	Petz
ABSTAIN:	None


Bobby Yamamoto, Board President

ATTEST:


Robert Pierce, Secretary



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RESOLUTION NO. 2019-44

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PATTERSON
APPROVING THE ADOPTION OF THE 2019 WESTSIDE-SAN JOAQUIN
INTEGRATED REGIONAL WATER MANAGEMENT PLAN UPDATE**

WHEREAS, an Integrated Regional Water Management Plan (IRWMP) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly supported priority water resources projects and programs with multiple benefits; and

WHEREAS, the benefits of integrated regional water management planning are intended to increase efficiencies and effectiveness of water resources planning, enhance collaboration across agencies and stakeholders, and improve responsiveness to regional needs and priorities, and

WHEREAS, the adoption of an IRWMP is a prerequisite for any state funding of the water resources projects included in the IRWMP; and

WHEREAS, the San Luis & Delta-Mendota Water Authority acts as the Regional Water Management Group for the Westside-San Joaquin (WSJ) Region; and

WHEREAS, the city of Patterson (CITY) (as an IRWM-MOA participant) and the San Luis & Delta-Mendota Water Authority have entered into an activity agreement for the purpose of this update and future IRWM activities; and

WHEREAS, the Water Authority and stakeholders prepared the 2019 WSJ IRWMP Update based on the California Department of Water Resources Proposition 1 Integrated Regional Water Management Plan Guidelines; and

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the City published a Notice of Intent to adopt the 2019 WSJ IRWMP in the Patterson Irrigator on June 6, 2019 and June 13, 2019, and has now met the procedural requirements for adopting the 2019 WSJ IRWMP; and

WHEREAS, the 2019 WSJ IRWMP currently references the soon to be completed Stanislaus County Storm Water Resources Plan (SWRP) being authored by Stanislaus County; and

WHEREAS, the 2019 WSJ IRWMP will ultimately incorporate the SWRP by reference and through a future erratum, append the SWRP Executive Summary to the IRWMP Update, not requiring re-adoption by the Water Authority or its member agencies; and, **WHEREAS**, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the City or any other party but represents administrative action with no potential to affect the environment, such that no review under the California Environmental Quality Act is required; further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review pursuant to the California Environmental Quality

1 Act by the implementing agency and to the obtaining of all required permits before they
2 are implemented; and
3

4 **WHEREAS**, adoption of the plan is with respect to the public affairs of the City
5 and is in the interest thereof.
6

7 **NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:**
8

9 Section 1. The facts stated in the recitals above are true and correct, and the
10 City Council so finds and determines.
11

12 Section 2. The City Council hereby approves and adopts the form of the 2019
13 Westside-San Joaquin Integrated Regional Water Management Plan as presented to
14 the city of Patterson City Council, and subject to such changes as the Executive
15 Director of the Water Authority approves in issuing the final 2019 WSJ IRWMP.
16

17 Section 3. The City Manager and such other employees or consultants of the
18 City as they may designate are hereby authorized and directed to take such actions as
19 may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of
20 this Resolution.
21

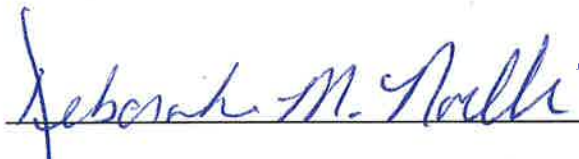
22 The foregoing resolution was passed by the City Council at a regular meeting
23 held on the 18th day of June 2019, by Councilmember Naranjo, who moved its
24 adoption, which motion was duly seconded by Councilmember Homen, and the
25 resolution adopted by the following roll call vote:

26 AYES: Councilmembers Naranjo, Homen and Mayor Pro Tem Farinha

27 NOES: None

28 EXCUSED: Councilmember McCord and Mayor Novelli
29

30 APPROVED:

31 
32 _____
33 Deborah M. Novelli, Mayor of the City of Patterson
34

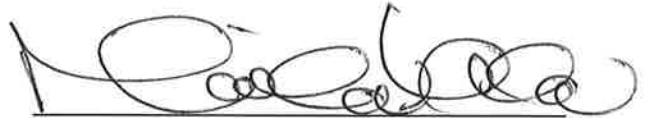
35 ATTEST:

36 
37 _____
38

39 Maricela L. Vela, City Clerk of the City of Patterson

1 I hereby certify that the foregoing is a full, correct and true copy of a resolution
2 passed by the City Council of the City of Patterson, a Municipal Corporation of the
3 County of Stanislaus, State of California, at a regular meeting held on the 18th day of
4 June 2019, and I further certify that said resolution is in full force and effect and has
5 never been rescinded or modified.

6 DATED: June 24, 2019
7

A handwritten signature in black ink, appearing to read 'Maricela L. Vela', written over a horizontal line.

8
9 City Clerk of the City of Patterson

10 Maricela L. Vela
11

RESOLUTION NO. 121-19

WESTLANDS WATER DISTRICT

**A RESOLUTION OF THE BOARD OF DIRECTORS ADOPTING THE 2019
WESTSIDE-SAN JOAQUIN INTEGRATED REGIONAL WATER MANAGEMENT
PLAN**

WHEREAS, an Integrated Regional Water Management Plan (IRWMP) is a voluntary and comprehensive non-regulatory planning document prepared on a region-wide scale that identifies broadly-supported priority water resources projects and programs with multiple benefits; and

WHEREAS, the benefits of integrated regional water management planning are intended to increase efficiencies and effectiveness of water resources planning, enhance collaboration across agencies and interested parties, and improve responsiveness to regional needs and priorities, and

WHEREAS, the adoption of an IRWMP by the Board of Directors of the Westlands Water District (District) is a prerequisite for any state funding of the water resources projects included in the IRWMP; and

WHEREAS, the District is an eligible grant applicant as defined in Water Code section 79712; and

WHEREAS, the San Luis & Delta-Mendota Water Authority (Authority) acts as the Regional Water Management Group for the Westside-San Joaquin (WSJ) Region; and

WHEREAS, the Authority and stakeholders prepared the 2019 WSJ IRWMP Update based on the California Department of Water Resources Proposition 1 IRWMP Guidelines, and

WHEREAS, the Authority intends to submit an Application for Proposition 1 IRWM Implementation on behalf of parties within the WSJ Region, including the District, which requires the Authority and any district submitting a proposed project, to adopt the 2019 WSJ IRWMP prior to execution of a funding agreement.

WHEREAS, in order to ensure that the plan meets 2016 integrated water management guidelines adopted by the California Department of Water Resources, addresses current day conditions, and provides a living planning document that can help guide water resources planning in the region, staff of the Authority has prepared and posted a proposed plan on the Water Authority's website, designated as the San Luis & Delta-Mendota Water Authority 2019 Westside-San Joaquin Integrated Water Resources

Management Plan ("2019 WSJ IRWMP"), which will be presented to the Board and, if adopted, filed with the Secretary hereof.

WHEREAS, pursuant to Water Code Section 10543(c) and Government Code Section 6066, the District published a Notice of Intent to adopt the 2019 WSJ IRWMP in the Fresno Business Journal and the Hanford Sentinel on September 27th, 2019 and October 4th, 2019 and has now met the procedural requirements for adopting the 2019 WSJ IRWMP.

WHEREAS, the 2019 WSJ IRWMP does not authorize any discrete or specific project by the District or any other party but represents administrative action with no potential to affect the environment, such that no review under the California Environmental Quality Act (CEQA) is required pursuant to CEQA Guideline Section 15378(b)(5); further, any projects implemented under the 2019 WSJ IRWMP shall be subject to review pursuant to CEQA by the implementing agency and to the obtaining of all required permits before they are implemented.

NOW, THEREFORE, BE IT RESOLVED, AS FOLLOWS:

1. The facts stated in the recitals above are true and correct, and the Board so finds and determines.
2. The Board hereby approves and adopts the form of the 2019 Westside-San Joaquin Integrated Regional Water Management Plan as presented to the Board.
3. The General Manager of the District, or his designee, is hereby authorized and directed to take such actions as may be reasonable or necessary to implement the 2019 WSJ IRWMP and the intent of this Resolution.


Adopted at a regular meeting of the Board of Directors in Fresno, California, this 15th day of October 2019.

AYES: Directors Anderson, Bourdeau, Coelho, Errotabere, Ferguson, Neves, Nunn and Peracchi

NOES: None

ABSENT: Director Enos




Bobbie Ormonde, Secretary

Appendix C – SLDMWA Member Agencies

San Luis Delta-Mendota Water Authority Member Agencies by Division

Division 1: Delta Division – Upper DMC

- 1) Banta-Carbona Irrigation District
- 2) Byron-Bethany Irrigation District
- 3) City of Tracy
- 4) Del Puerto Water District
- 5) Patterson Irrigation District
- 6) Westside Irrigation District
- 7) West Stanislaus Irrigation District

Division 2: San Luis Unit – SLC

- 8) Panoche Water District
- 9) Pleasant Valley Water District
- 10) San Luis Water District
- 11) Westlands Water District

Division 3: Exchange Contractors and Refuges

- 12) Central California Irrigation District
- 13) Columbia Canal Company
- 14) Firebaugh Canal Water District
- 15) Grassland Water District
- 16) Henry Miller Reclamation District #2131

Division 4: San Felipe Division

- 17) San Benito County Water District
- 18) Santa Clara Valley Water District

Division 5: Delta Division – Lower DMC & Mendota Pool

- 19) Broadview Water District
- 20) Eagle Field Water District
- 21) Fresno Slough Water District
- 22) James Irrigation District
- 23) Laguna Water District
- 24) Mercy Springs Water District
- 25) Oro Loma Water District
- 26) Pacheco Water District
- 27) Reclamation District 1606
- 28) Tranquillity Irrigation District
- 29) Turner Island Water District

Appendix D – Project Solicitation and Prioritization

Appendix D - Project Information and Prioritization

Appendix D contains materials summarizing the projects submitted during the 2018 WSJ IRWMP project solicitation period, as well as information on project prioritization and scoring.

Content	Page Number
Project Descriptions This section summarizes projects submitted, including proponent, project description, project type, primary benefit, and overall project score.	D-2
Project Prioritization Scoring This sheet shows the detailed scores assigned to each project for each criterion.	D-10
Project Prioritization Methodology Guidelines used for scoring projects.	D-11
DAC Projects List of projects benefitting disadvantaged communities.	D-14
Infrastructure Life Spans Lifespans used in the relative cost-benefit analysis.	D-15
B:C Ratio Score Calculations Full B:C Score calculations and cost information provided by project proponents.	D-16
Project Information Form Blank project information form showing the information requested from project proponents in Opti. (The same information is requested on the paper form provided to project proponents without internet access.)	D-20

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Althea Avenue Bridge Replacement	Central California Irrigation District	Ready to Proceed	Flood Management / Stormwater	The Althea Avenue bridge crosses the Delta Mendota Canal in western Fresno County. This area has been impacted by land subsidence. The replacement of the bridge is a mutual benefit to the County of Fresno the San Luis & Delta Mendota Water Authority (including its member agencies) and the general public. The proposed project will restore the flow capacity in the canal and provide safer driving conditions for the public.	Medium
Russell Avenue Bridge Replacement	Central California Irrigation District	Ready to Proceed	Flood Management / Stormwater	The Russell Avenue bridge crosses the Delta Mendota Canal in western Fresno County. This area has been impacted by land subsidence. The replacement of the bridge is a mutual benefit to the County of Fresno the San Luis & Delta Mendota Water Authority (including its member agencies) and the general public. The proposed project will restore the flow capacity in the canal and provide safer driving conditions for the public.	Medium
Del Puerto Canyon Reservoir	Del Puerto Water District	Planning	Water Supply / Demand	The Del Puerto Canyon Reservoir (DPCR) Project will construct a 270 foot tall earthfill dam at the mouth of Del Puerto Canyon providing 85000 AF of storage for Del Puerto Water District Central California Irrigation District Patterson Irrigation District and West Stanislaus Irrigation District. Water would be pumped into the DPCR from the Delta-Mendota Canal (DMC) during wet years when excess water is available and discharged back to the DMC during dry periods. Minimal seasonal storm flows through Del Puerto Canyon would be captured by the DPCR and discharged perennially to Del Puerto Creek.	High
North Valley Regional Recycled Water Program	Del Puerto Water District	Ready to Proceed	Water Supply / Demand	DPWD in cooperation with the City of Turlock is implementing the North Valley Regional Recycled Water Program (NVRWP). The primary objective is to use recycled water from the cities for use by 1) customers within and served by DPWD and 2) South of Delta Central Valley Project Improvement Act-designated Wildlife Refuges. The project is a pipeline from Turlock's Harding Drain Bypass pipeline to the City of Modesto WPCF. At the WPCF flows from the two cities will combine and be pumped through a pipeline to the DMC which is already constructed. DPWD provides water to approximately 45000 acres of productive farmland in western San Joaquin Stanislaus and Merced Counties. DPWD's current sole source of water is from a contract with the U.S. Bureau of Reclamation which provides up to 140210 AFY of Central Valley Project (CVP) water. However DPWD's annual CVP water allocation has been significantly reduced since the 1990's sometimes receiving 0% of its allocation in recent years.	High
Orestimba Creek Recharge and Recovery Project (OCRRP)	Del Puerto Water District	Ready to Proceed	Water Supply / Demand	Phase 1 is a pilot project that includes the construction of two 10-acre ponds enlarging the existing canal to convey 10 cfs construct two (2) monitoring wells (250 feet deep) and construction of one (1) production well scheduled for construction soon. Phase 2 includes the construction of 60 acres of additional recharge ponds a diversion point out of Orestimba Creek pipelines from Orestimba Creek and the Delta-Mendota Canal to the recharge facilities and 5 recovery wells and associated appurtenances and pipelines along the project site between the DMC and the Eastin Water District boundary and along the CCID Main Canal. The project would receive flood flows from both the San Joaquin and Kings Rivers together with surface water from Orestimba Creek CCID and/or Del Puerto Water District (DPWD). The DMC as well as a proposed pipeline from Orestimba Creek would be used to convey the water to the project site.	High
Grassland Bypass Project Capacity Enlargement	Panoche Drainage District	Planning	Flood Management / Stormwater	The Grassland Bypass Project currently is limited to a capacity of 100 cfs. Storm flows in the past have exceeded this capacity resulting in the discharge of excess flows of storm water mixed with shallow drainage flows (containing salt and selenium) into wetland supply channels contaminating the water supply for private state and federal wildlife preserves. The proposed project will increase the capacity of the Grassland Bypass Channel (GBC) to 300 cfs by enlarging the inlet and outlet connections of the system. Maximum historic storm flows are approximately 250 cfs. The project will: 1) Add a new culvert at the inlet of the GBC 2) Cleanout and enlarge the 4 mile GBC 3) Add a new culvert at the connection of the GBC to the San Luis Drain (SLD) 4) Enlarge the out of the SLD to Mud Slough North. Coordinates listed are for the inlet to the GBC.	Low

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Appendix D

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Delta-Mendota Canal Subsidence & Conveyance Capacity Study	San Luis & Delta-Mendota Water Authority	Planning	Water Supply / Demand	<p>The Delta-Mendota canal has subsided historically by varying degrees along length of the canal. . Subsidence of an intermediate section of the DMC reduces the ability of the canal to deliver water to water agencies in and below the affected area. Resolution of this subsidence problem is a subset of future capacity correction if necessary. It is assumed that the DMC could have restricted flow capacity due to subsidence and the reduction in capacity must be determined. Restricted flow capability has water delivery and economic impacts.</p> <ul style="list-style-type: none"> - The subsidence and conveyance capacity study would take place along the entire length of the Delta-Mendota Canal. - The Delta-Mendota Subbasin area including the Water Authority its member agencies along with a large portion of the 23 Groundwater Sustainability Agencies in the area will be affected. - The resources within the project boundary is CVP allocated water and other water deliveries. - No potential obstacle to limitation besides budget 	Low
Delta-Mendota Canal Turnout Flowmetering Improvement Pilot Program	San Luis & Delta-Mendota Water Authority	Ready to Proceed	Water Supply / Demand	<p>Because of the current inability to accurately measure water usage through each of the turnouts along the DMC there are water losses at each of these turnouts meaning water is being over-delivered. Farmers are receiving more than allotted and more than they are paying for. The water conserved through this project will either increase allocation to south of delta ad service contractors or kept in storage at the San Luis Reservoir. New flow meter will be installed in 10 turnouts along the DMC. Each new flow meter will be equipped with a data logger capable of transmitting data through a cell phone line giving near real time water usage. Data will be received electronically on a daily basis and be immediately available for water accounting. Remote data retrieval will save man hours and eliminate the possibility of human error and improve accuracy of measurements taken. Ultimately this project will reduce losses in the Delta Mendota Canal System.</p>	Medium
Groundwater Monitoring Program: Multi-Well Aquifer Monitoring	San Luis & Delta-Mendota Water Authority	Planning	Non-Infrastructure	<p>The monitoring sites will be constructed using the mud-rotary method and will be completed to a depth of about 500 feet below land surface. During the drilling operation cores will be collected in each borehole in the Corcoran clay and in other major clay units. After the Borehole has been drilled at each site it will be completed with three 2-inch diameter PVC piezometers. One piezometer will be installed at the water table a second installed in the aquifer system above the Corcoran Clay and a third piezometer will be installed in the aquifer system below the Corcoran Clay. A hydrologist should be onsite during the entire construction process to analyze and long the drill cuttings interpret the borehole geophysical logs and provide the final monitoring-site design. The USGS recommends that pressure transducers be installed in each piezometer to electronically measure hourly water-level changes at the site.</p>	Medium
Kaljia Drainwater Reuse Project	San Luis Water District	Planning	Water Supply / Demand	<p>The Project is located within the San Luis Water District approx. 9 miles south of the City of Los Banos. Within Project proximity are the Kaljia System; Charleston Drainage District comprised of the Charleston and A-Bar Drainage Ditches; San Luis Canal; Delta-Mendota Canal; and Pacheco Lift Canal.</p> <p>Project improvements include: re-grading and/or installing lift pumps within the drainage ditches; construction of a turnout and pipeline; modification of the Kaljia pump structure; restoration of the Fitji and Kaljia pump stations Kaljia pipeline and 1st Lift Canal.</p> <p>The Project will reclaim drain water from the Charleston Drainage District for blending and permit conveyance of other supplies for beneficial use. Project will augment the District's supply and increase reliability enable the conveyance of flood water for beneficial use reduce poor quality drain water discharges to the San Joaquin River (SJR) system and free up capacity in the SJR Water Quality Improvement Project.</p>	Medium

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Appendix D

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Los Banos Creek Recharge and Recovery	San Luis Water District	Under Design	Water Supply / Demand	The Los Banos Creek Recharge and Recovery Project is located in and adjacent to Los Banos Creek (LBC) south of Los Banos between the San Luis Canal and Central California Irrigation District's (CCID) Outside Canal. The project proposes to develop a recharge basin convert three rock quarry pits to temporary storage/recharge basins construct 3 storage recovery sump pumps construct 6 shallow groundwater recovery wells a bridge crossing of Los Banos Creek and a weir located just downstream of the outside canal. Project flood and surplus irrigation supply would be perked and temporarily stored in the pits/basin for beneficial use and flood mitigation purposes. Project beneficiaries include San Luis Water District CCID Grassland Water District regional groundwater users including the City of Los Banos Delta-Mendota SubBasin's SGMA GSAs. Water resources within the project boundaries include the Delta-Mendota Canal Los Banos Creek and CCID's outside canal.	High
Little Salado Creek Groundwater Recharge and Flood Control Basin	Stanislaus County	Under Design	Water Supply / Demand	Construction of a stormwater detention basin to partially divert retain and percolate up to 270 cubic feet per second (cfs) of flow from Little Salado Creek. This basin will be located in the future Crows Landing Industrial Business Park and will have a capacity of 380 acre-feet.	Medium
Terra Linda River Ranch Recharge Project	TBD--likely Southern DM GSA	Under Design	Water Supply / Demand	The project consists of a percolation basin located south of the Mendota Pool and adjacent to the Fresno Slough. The basin will be enclosed by earthen berms. Diversion structures from Fresno Slough are already in place. Flood waters from the Kings River will be delivered via the Fresno Slough. The land is currently farmed so environmental impacts will be minimal. The project will supplement efforts of the Southern DM GSA ("the GSA") to achieve groundwater sustainability. The GSA is the most likely public partner for the project. The project proponent is the majority landowner within "Management Area B" of the GSA. The project has been discussed with County/GSA staff but no determination has been made as to the degree of public participation at this time. The project will decrease groundwater salinity levels and can be managed to benefit domestic wells/City of Mendota. Project can also be managed as habitat for giant garter snake.	High
West Stanislaus Irrigation District Fish Screen Project	West Stanislaus Irrigation District	Ready to Proceed	Water Supply / Demand	The Proposed Project/Action consists of the following elements which are described in more detail below: (1) cone screens located at the mouth of the existing intake canal; (2) a low-lift pump station at the same location; (3) approximately 2100 feet of underground pipeline from the proposed pump station to the intake canal; (4) sediment removal and management along the length of the intake canal; (5) upgrading of existing roads along the intake canal; (6) two wildlife crossings of the intake canal one of which would also allow flood conveyance; (7) facilities for providing late fall-water deliveries to the Refuge; and (8) a flood connectivity structure to support the USFWS's management of the Refuge for floodplain reconnection; WSID will not operate the spillway structure as part of this project. The project footprint measures approximately 26.7 acres with an additional approximately 57.8 acres within areas designated operations and access routes.	High
West Stanislaus Irrigation District Pumping Plant 3 & 4 Modernization	West Stanislaus Irrigation District	Planning	Water Supply / Demand	This project would replace 95 year old existing pumps pump impellers and motors. There are a total of thirteen 250 HP units that will be replaced. This project would also improve hydraulic inefficiencies replace leaking discharge lines and incorporate SCADA for automatic control of the pumping plant.	Medium
Aquifer Storage and Recovery Project	Westlands Water District	Under Design	Water Supply / Demand	The proposed Aquifer Storage and Recovery (ASR) program will allow for temporary storage in the Westside Subbasin's aquifers. The District's ASR program consists of obtaining a permit from the Regional Water Quality Control Board and developing an on-farm operations plan and rehabilitating/retrofitting wells. The ASR program will target wells where the Corcoran Clay Layer is present and will provide up to 100,000 AF in aquifer storage South of the Delta. Operations includes injecting filtered surface water into the upper and lower aquifers for storage which is later recovered for use. Proposed water types include capturing flood flows and water types at risk for spill in the San Luis Reservoir.	Medium

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Appendix D

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Broadview Water District Drainage Water Treatment Project	Westlands Water District	Planning	Water Supply / Demand	This pilot project is being conducted in cooperation with a Westlands water user. The pilot project will extract groundwater from the Upper Aquifer using a private well and the water will be treated to remove dissolved solids from the product water. The goal is to produce product water with a total dissolved solids concentration equivalent to the water quality in the San Luis Canal. The water user will pump the product water into Lateral 7, and use the treated reject water to grow Jose Tall Wheat Grass on District owned land. The pilot project will not only evaluate the costs of treating Upper Aquifer groundwater, but also the feasibility of using District owned land to manage the treated reject water. In addition to the water supply benefits, this project will also track the reduction in shallow groundwater levels around the groundwater well and Jose Tall Wheat grass.	Medium
Cantua Creek Groundwater Replenishment Project	Westlands Water District	Planning	Water Supply / Demand	Westlands Water District (WWD) is proposing the Cantua Creek Groundwater Replenishment Project, proposed location is north of Mt. Whitney Avenue and .75 miles west of Derrick Avenue. The Project consists of an approximately 20-acre recharge basin, conveyance, and a groundwater well to recover the stored water as needed. Based on the soil types and nearby infiltration tests groundwater recharge is favorable. The recharge basin will convey and store excess flood flows which are available approximately every 4 or 5 years surplus water and any other type of eligible water available from local water conveyance facilities. This project will provide regional benefits, reduce groundwater overdraft, and enhance WWD's groundwater sustainability effort.	Medium
Crescent Canal Project	Westlands Water District	Planning	Water Supply / Demand	Westlands Water District (WWD) is proposing the Crescent Canal Project (Project) to enhance water supply reliability of WWD. The Crescent Canal is 22 miles long, and flows northwest from the Main Diversion off the Kings River. The purpose of the Project is to capture flood flows from the Kings River via the Crescent Canal and deliver flood flows in WWD to meet demands. The proposed Project improvements include Crescent Canal banks and structure, modifications, pipelines connecting the Crescent Canal to the WWD laterals, and construction of up to four reservoirs in WWD. The proposed Project will improve Crescent Canal's capacity to 330 cfs provide 15,500 AF in storage and results in average water supply of up to 13,500 AF.	Medium
Lateral 13 Intertie Project	Westlands Water District	Under Design	Water Supply / Demand	Westlands Water District's (WWD) Lateral 13 Intertie Project (Project) connects Lateral 13 to the Tranquility Irrigation District's (TID) Slough Canal for water supply reliability. WWD is proposing to convey transfers (up to 8,500 AF) from TID via the Project. The Lateral 13 Intertie is located at the intersection of Dinuba Avenue and Amador Avenue. The proposed pipeline intertie would connect TID with two sub laterals on WWD's Lateral 13 which are located 1 mile and 1.5 miles west of TID. The Project includes a third pipeline connection from WWD's Lateral 13 to 14 to increase operational flexibility of the Project. Replacement of TID's Lift Station #5, addition of a new tank, and two new booster pumps within Lateral 13 conveyance system are required to implement the proposed project effective and sustainable.	Medium
Lateral Inter-Connection Project	Westlands Water District	Under Design	Water Supply / Demand	Westlands Water District (WWD) is proposing the Lateral Inter-Connection project which connects laterals 4, 5, and 6 to achieve a higher efficiency distribution system for the area meet water demands and provide operational flexibility. Laterals 4, 5, and 6 run along North Ave Central Ave and American Ave respectively. The proposed interconnection Project consists of upgrading PP6-2 to reverse flow into the San Luis Canal and of two pipelines parallel to San Bernardino Ave connecting to Laterals 4 and 6 and Washoe Ave connecting all three laterals.	Medium
Panoche Creek Groundwater Replenishment Project	Westlands Water District	Planning	Water Supply / Demand	Westlands Water District (WWD) is proposing the Panoche Creek Groundwater Replenishment Project, proposed location is north of Mountain View Avenue and east of Newcomb Avenue. The project consists of a recharge basin conveyance, and a groundwater well to recover the stored water, as needed. Based on the soil types and nearby infiltration tests groundwater recharge is favorable in the area. The proposed project consists of conveying excess flood flows which are all available approximately every 4-5 years surplus water and any other type of eligible water available from local water conveyance facilities to a proposed recharge basin that will percolate into the groundwater aquifers for future use. This project will provide regional benefits, reduce groundwater overdraft, and enhance WWD's groundwater sustainability effort.	Medium

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Pasajero Groundwater Replenishment Project	Westlands Water District	Planning	Water Supply / Demand	Westlands Water District (WWD) is proposing the Pasajero Groundwater Replenishment Project, located near the city of Coalinga just north of Los Gatos Creek. The project location is 1.75 miles north of W. Jayne Avenue and .5 miles west of Interstate-5. The project is located on District owned land in the Los Gatos Creek watershed also known the Arroyo Pasajero. The project consists of a 60-acre recharge basin, conveyance, and a groundwater well to recover the stored water, as needed. Based on the soil types and nearby infiltration tests the Pasajero Groundwater Replenishment Project capacity is up to 10800 Acre-feet(AF) over a 6-month period. The recharge basin will store excess flood flows which are available approximately every 4-5 years surplus water and any other type of eligible water available. Giving WWD a reliable water source for drought resiliency. This project will provide regional benefits, reduce groundwater overdraft, and enhance WWD's groundwater sustainability effort.	Medium
Pumping Plant 7-1 Variable Frequency Drive Project	Westlands Water District	Ready to Proceed	Water Supply / Demand	Westlands Water District (WWD) is proposing the Pumping Plant 7-1 (PP7-1) VFD Improvement Project to improves energy and water use efficiencies during the low flow conveyance. The project site is located on Adams Avenue approximately 2.5 miles east of Highway 33 in Fresno County. PP7-1 currently has four 25 cubic feet per second (cfs) pumps. When demands are less than the 25 cfs pumped water is recirculated back to the channel with a modulating globe valve that regulate discharge into Lateral 7 resulting an inefficient use of energy. To improve the low flow conveyance WWD proposes to install a new 350 hp Low Flow pump (2 to 13 cfs) 2300-volt variable-frequency drive switchgear main metering and motor control center system to increase low flow efficiency. This improvement will yield a lower operational cost and energy usage.	High
Conceptual Projects					
Lift Canal Rehabilitation Project	Banta-Carbona Irrigation District	Conceptual	Water Supply / Demand	The Banta-Carbona Irrigation District (BCID) is situated south of the Delta between the San Joaquin River and the Delta Mendota Canal and is located entirely within San Joaquin County. BCID's northern boundary is near the City of Tracy and the southern boundary is on the San Joaquin-Stanislaus County line near the community of Vernalis. BCID delivers San Joaquin River water for agricultural purposes to lands west of the San Joaquin River. The concept explores the feasibility of replacing BCID's aging lift canal including its seven main line pumping plants with a 400 cfs pipeline and a single pump station located just downstream of BCID's Fish Screen on the San Joaquin River. This project would extend the full capacity of the proposed 400 cfs pipeline to the Delta-Mendota Canal.	N/A
Newman LID Water Quality and Conservation Project	City of Newman	Conceptual	Flood Management / Stormwater	The City of Newman has acquired and is proposing to develop 103 acres located near E. Inyo and Canal School Road to treat storm water agricultural tail water and urban water runoff such as nuisance water from parks and landscaped areas through a Low Impact Development (LID). The City plans to develop 78 acres for water treatment implementing LID applications such as vegetated swales constructed wetlands and bio retention basins. The project will include a trail system with educational signs for LID application. The remaining 25 acres will be used for the storage of the treated water which can be used for irrigation of city land maximizing groundwater recharge and water conservation by recycling and reusing treated water. The project will reduce discharge of sediment/pollutants; improve the quality of urban water runoff; re-use treated water for irrigation; and provide an attractive recreational area for use by residents with the added benefit of creating a natural habitat	N/A
Salado Creek Flood Management and Repair Project	City of Patterson	Conceptual	Flood Management / Stormwater	Widening of Salado Creek from the Delta Mendota Canal to the city limits and repair creek from damaged obtained during flood in February 2017. Prior to the February 2017 damage the original scope read: Widening of Salado Creek from Delta Mendota Canal (DMC) to the City Limits. Involves widening of Salado Creek from the Delta Mendota Canal (DMC) to the City limits which is approximately 6000 feet in length. The width of Salado Creek would be widened to accommodate 710 cubic feet per second to match the City's Storm Dain Master Plan sizing requirements. Additionally the project would also limit the DMC to the City Limits.	N/A
Salado Creek Landscape and Pedestrian Path Project	City of Patterson	Conceptual	Flood Management / Stormwater	Salado Creek Landscape and Pedestrian Path Project-This project involves revising the landscaping along the creek to reduce water consumption and introduce Non-potable water for irrigation. (The purpose of the landscaping is to help prevent overgrowth provide rodent control provide aesthetics incorporate LID to help with water quality flood control).	N/A

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Patterson Wellhead Treatment	City of Patterson	Conceptual	Water Supply / Demand	Although the MCL has since been rescinded it is anticipated the SWRCB will approve a new MCL for Chromium 6. If this occurs all seven of the city's potable wells would be out of compliance. This project would provide wellhead treatment for all of the system's seven (7) wells with either RCF SBA or WBA technology. A feasibility study was conducted as part of the city's Corrective Action Plan (CAV).	N/A
Storm Drainage Enhancements along Salado Creek	City of Patterson	Conceptual	Flood Management / Stormwater	Installation of reinforced pipeline under the California Northern Railroad wooden bridge to improve storm drainage flooding and water quality along Salado Creek. The inlet structure of the 96 Cured in Place Pipe (CIPP) just downstream of the California Northern Railroad (CNRR) wooden bridge has a limited capacity and includes a debris collection grate at the pipe inlet that is too small. These conditions contribute to frequent flooding within and upstream of this area and prevent the available capacity into the 96" CIPP from being fully utilized. The inlet structure needs to be enlarged at this location to reduce flooding and opt provide discharge capacity."	N/A
Percolation Ponds for Stormwater Capture and Recharge	City of Patterson	Conceptual	Flood Management / Stormwater	PP-1 Construct percolation ponds to capture and infiltrate storm water from Del Puerto Creek. The ponds should cover roughly 14 acres. Sizing of the percolation ponds was based on existing infiltration rate data and will be updated when field investigations are complete. The percolation pond project can be phased so that the ponds are constructed over a few years allowing for the increase of aquifer recharge capacity.	N/A
New Tertiary Filtration System at WQCF	City of Patterson	Conceptual	Water Supply / Demand	Construct a new tertiary filtration system at the WQCF to produce Title 22 compliant recycled water. This train will divert a portion of the total WQCF flow (roughly 1.5 MGD) for additional treatment and distribution through the city's non-potable system.	N/A
South Side Reservoir Pump Relocation	Patterson Irrigation District	Conceptual	Water Supply / Demand	Patterson Irrigation District (PID) has an existing recirculation system that captures tailwater agricultural drainage water and operational fluctuations and diverts it into their South Side Reservoir (SSR). This project will relocate the pump station from upstream of the SSR to inside the SSR and raise the embankment of the SSR by 1.5 feet. Raising the embankments of the SSR by 1.5 feet will increase its storage capacity by approximately 20 acre-feet to an approximate total storage of 65 acre-feet. This will allow for approximately 45 cfs of storm and flood water to be diverted off the San Joaquin River and stored for later use in the SSR. This water can be routed through the District's existing recirculation system and into the (SSR) for beneficial use as needed. Water stored in the SSR can be conveyed to meet demands in Laterals 2S 3S and 4S as opposed to just the lowest regions of 3S.	N/A
PID Groundwater Bank Phase 1 - Feasibility	Patterson Irrigation District	Conceptual	Non-Infrastructure	<p>Patterson Irrigation District wants to conduct a District-wide conceptual level feasibility study to evaluate if a groundwater bank is a viable option to pursue. Phase 1 of this project is the feasibility study. If it is determined that a groundwater banking project is feasible Phase 2 will involve the design and construction of the groundwater bank.</p> <p>A groundwater bank project could provide many benefits to Patterson ID and the surrounding regions. The project can: provide for more reliable water supply south of the Delta improve regional self-reliance for water promote the needs of the disadvantaged community of Patterson maximize the utility of regional aquifers while improving sustainability minimize the impacts of significant storm events capture stormwater for higher beneficial use protect and enhance the quality of water supply increase operational flexibility and enhance water conservation water use efficiency and sustainable water use.</p>	N/A
PID Groundwater Bank Phase 2 - Design and Construction	Patterson Irrigation District	Conceptual	Water Supply / Demand	<p>Patterson Irrigation District wants to conduct a District-wide conceptual level feasibility study to evaluate if a groundwater bank is a viable option to pursue. If it is determined that a groundwater banking project is feasible in Phase 1 Phase 2 will involve the design and construction of the groundwater bank.</p> <p>A groundwater bank project could provide many benefits to Patterson ID and the surrounding regions. The project could: provide for more reliable water supply south of the Delta improve regional self-reliance for water promote the needs of the disadvantaged community of Patterson maximize the utility of regional aquifers while improving sustainability minimize the impacts of significant storm events capture stormwater for higher beneficial use protect and enhance the quality of water supply increase operational flexibility and enhance water conservation water use efficiency and sustainable water use.</p>	

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Appendix D

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Technical Assistance Project	San Luis & Delta-Mendota Water Authority	Conceptual	Non-Infrastructure	<p>The Technical Assistance Project will be submitted for Category 1 funding for the Delta-Mendota Subbasin. The proposed work plan associated with the project include activities that serve and directly benefit Severely Disadvantaged Communities (SDACs) and are related to the planning and development of the six Groundwater Sustainability (Plans) GSPs for the Subbasin.</p> <p>The Technical Assistance Project will create a technical assistance fund accessible by SDACs to support active participation in regional groundwater sustainability planning efforts leading to a more inclusive and effective stakeholder engagement process. This project will provide direct funding SDAC community members to participate in GSP development activities and/or to hire a consultant with the sole purpose of representing their interests.</p>	
Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal - Phase 1.1. Prefeasibility Analysis	San Luis & Delta-Mendota Water Authority	Conceptual	Water Supply / Demand	<p>Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal: Development of pumping facilities to enable reverse flowing of the DMC and inter-connecting the CCID Outside and Main Canals to the DMC to convey flood water from the Mendota Pool to the San Luis Reservoir for storage and/or direct use or exchange. An analysis was made of up to 1000 cfs reverse flow in the DMC and 500 cfs of connections from CCID's system to the DMC. Wet year deliveries could reach over 200000 acre-feet with an average annual amount of 68000 acre-feet when combined with CCID Intertie. The estimated average annual yield is 68000 AF/yr at capital cost of \$200 Million (USBR Cost Basis). (costs are 2013 and need to be brought up to 2018).</p> <p>Phase 1: Prefeasibility Analysis: A potential upstream and downstream impacts analysis is needed to better understand the impacts to water rights holders and potential water rights holders.</p>	N/A
Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal - Phase 2. CCID Outside Canal s/o Check 14	San Luis & Delta-Mendota Water Authority	Conceptual	Water Supply / Demand	<p>Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal: Development of pumping facilities to enable reverse flowing of the DMC and inter-connecting the CCID Outside and Main Canals to the DMC to convey flood water from the Mendota Pool to the San Luis Reservoir for storage and/or direct use or exchange. An analysis was made of up to 1000 cfs reverse flow in the DMC and 500 cfs of connections from CCID's system to the DMC. Wet year deliveries could reach over 200000 acre-feet with an average annual amount of 68000 acre-feet when combined with CCID Intertie. The estimated average annual yield is 68000 AF/yr at capital cost of \$200 Million (USBR Cost Basis). (costs are 2013 and need to be brought up to 2018)</p> <p>Phase 2. CCID Outside Canal South of Check 14: This phase is related to the CCID Outside Canal (South of Check 14) activities' contribution to the total Project.</p>	N/A
Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal - Phase 3. DMC Pumpback	San Luis & Delta-Mendota Water Authority	Conceptual	Water Supply / Demand	<p>Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal (DMC): Development of pumping facilities to enable reverse flowing of the DMC and inter-connecting the CCID Outside and Main Canals to the DMC to convey flood water from the Mendota Pool to the San Luis Reservoir for storage and/or direct use or exchange. An analysis was made of up to 1000 cfs reverse flow in the DMC and 500 cfs of connections from CCID's system to the DMC. Wet year deliveries could reach over 200000 acre-feet with an average annual amount of 68000 acre-feet when combined with CCID Intertie. The estimated average annual yield is 68000 AF/yr at capital cost of \$200 Million (USBR Cost Basis). (costs are 2013 and need to be brought up to 2018)</p> <p>Phase 3. DMC Pumping - is related to the pump back activities along the DMC component of the Project.</p>	N/A

Westside-San Joaquin IRWMP Update 2018
Project Descriptions

Project Name	Responsible Agency	Project Status	Project Type	Project Description	Score
Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal - Phase 1.2. Pilot Project	San Luis & Delta-Mendota Water Authority	Conceptual	Water Supply / Demand	<p>Floodwater Utilization by Reverse Flow of the Delta-Mendota Canal: Development of pumping facilities to enable reverse flowing of the DMC and inter-connecting the CCID Outside and Main Canals to the DMC to convey flood water from the Mendota Pool to the San Luis Reservoir for storage and/or direct use or exchange. An analysis was made of up to 1000 cfs reverse flow in the DMC and 500 cfs of connections from CCID's system to the DMC. Wet year deliveries could reach over 200000 acre-feet with an average annual amount of 68000 acre-feet when combined with CCID Intertie. The estimated average annual yield is 68000 AF/yr at capital cost of \$200 Million (USBR Cost Basis). (costs are 2013 and need to be brought up to 2018)</p> <p>Phase 1.5 involves a Pilot Project with temporary pumps at 4 checks to convey floodwaters to the O'Neil Forebay.</p>	N/A
Generic Data Management System Framework and Santa Nella County Water District Data Management System Project	Santa Nella Water District with Assistance from San Luis & Delta-Mendota Water Authority	Conceptual	Non-Infrastructure	<p>The Generic Data Management System Framework and Santa Nella County Water District Data Management System Project grant proposal is developed for Category 1 funding in the Delta-Mendota Subbasin. The proposed work plan includes activities that serve and directly benefit Severely Disadvantaged Communities (SDACs) and are related to the Westside San-Joaquin IRWM Region.</p> <p>The Project includes the development of a data management system and operations and maintenance of this system to better assist monitoring and management of efforts associated with GSP efforts. The project provides financial assistance to SDACs that would otherwise not have the resources to fully maintain and contribute to the data management system.</p>	N/A
West Stanislaus Irrigation District Lateral 4-North Recapture and Recirculation Reservoir	West Stanislaus Irrigation District	Conceptual	Water Supply / Demand	<p>This project consists of purchasing a 7 acre parcel currently not in agricultural production or any other production. A reservoir would be design for construction on the parcel. The reservoir would collect operational spill from two distribution laterals and irrigation tailwater and stored for reliable use downstream. Estimated recapture amounts is roughly 1800 AF. This project would also provide flexible water delivery service to users during time of drought or in times of capacity constraints. The project will also improve water quality to downstream users because the water collected would mostly come from Delta-Mendota Canal deliveries and mix with water coming from the San Joaquin River usually of lesser quality than Delta-Mendota Canal water.</p>	N/A

Step 1: Eligibility Check					Step 2: Evaluation													Overall Project Score ¹
Project Title	Project is located in Region/has benefits within Region	Project meets Regional Objective	Project meets Statewide Priority	Project meets at least 2 RMS	1: Contribution to Plan Objectives	2: Relation to RMS	3: Technical Feasibility	4: Benefits to DACs	5: Benefits to Native American Tribal Communities	6: Environmental Justice Considerations	7: Costs and Financing (Local Funding Match)	8: Economic Feasibility	9: Project Status	10: IRWMP Implementation (Regional/Inter-agency Project)	11: Climate Change Adaptation	12: Climate Change Mitigation	13: Plan Adoption	
Althea Avenue Bridge Replacement	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	High	Low	High	High	Medium	Low	High	Medium
Aquifer Storage and Recovery Project	✓	✓	✓	✓	Medium	Medium	High	Low	Low	Medium	Medium	Medium	Medium	Medium	High	Medium	High	Medium
Broadview Water District Drainage Water Treatment Project	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	Low	Low	Low	Medium	Medium	Low	High	Medium
Cantua Creek Groundwater Replenishment Project	✓	✓	✓	✓	High	Medium	High	Low	Low	Medium	Low	Medium	Low	Medium	High	Low	High	Medium
Crescent Canal Project	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	Low	Low	Low	Medium	High	Low	High	Medium
Del Puerto Canyon Reservoir	✓	✓	✓	✓	High	High	High	Low	Low	Medium	Medium	Low	Low	High	High	Low	High	High
Delta-Mendota Canal Subsidence & Conveyance Capacity Study	✓	✓	✓	✓	Medium	Low	Medium	Low	Low	Medium	Medium	Medium	Low	Medium	Medium	Low	High	Low
Delta-Mendota Canal Turnout Flowmetering Improvement Pilot Program	✓	✓	✓	✓	Medium	Low	High	Low	Low	High	Low	Medium	High	Medium	Medium	Low	High	Medium
Grassland Bypass Project Capacity Enlargement	✓	✓	✓	✓	Medium	Medium	Medium	Low	Low	Medium	Medium	Low	Low	Medium	Medium	Low	High	Low
Groundwater Monitoring Program: Multi-Well Aquifer Monitoring	✓	✓	✓	✓	Medium	Medium	High	Medium	Low	High	Medium	Medium	Low	Medium	High	Medium	High	Medium
Kaljian Drainwater Reuse Project	✓	✓	✓	✓	High	Medium	High	Low	Low	Medium	Medium	Low	Low	Medium	High	Low	High	Medium
Lateral 13 Intertie Project	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	Low	Low	Medium	Medium	High	Low	High	Medium
Lateral Inter-Connection Project	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	Medium	Low	Medium	Medium	High	Low	High	Medium
Little Salado Creek Groundwater Recharge and Flood Control Basin	✓	✓	✓	✓	High	High	High	Low	Low	Medium	Low	Medium	Medium	Medium	Medium	Low	High	Medium
Los Banos Creek Recharge and Recovery	✓	✓	✓	✓	High	Medium	High	Low	Low	Medium	High	Low	Medium	High	High	High	High	High
North Valley Regional Recycled Water Program	✓	✓	✓	✓	High	Low	High	High	Low	High	High	Low	High	High	Medium	Low	High	High
Orestimba Creek Recharge and Recovery Project (OCRRP)	✓	✓	✓	✓	High	High	High	Low	Low	Medium	Medium	Medium	High	High	High	Low	High	High
Panoche Creek Groundwater Replenishment Project	✓	✓	✓	✓	High	Medium	High	Low	Low	Medium	Low	Medium	Low	Medium	High	Low	High	Medium
Pasajero Groundwater Replenishment Project	✓	✓	✓	✓	High	Medium	High	Medium	Low	Medium	High	Medium	Medium	Medium	High	Low	High	Medium
Pumping Plant 7-1 Variable Frequency Drive Project	✓	✓	✓	✓	Medium	Low	High	Low	Low	High	High	Low	High	Medium	High	Medium	High	High
Russell Avenue Bridge Replacement	✓	✓	✓	✓	Medium	Low	High	Low	Low	Medium	High	Low	High	High	Medium	Low	High	Medium
Terra Linda River Ranch Recharge Project	✓	✓	✓	✓	High	Medium	High	High	Low	High	High	Medium	Medium	High	Medium	Low	High	High
West Stanislaus Irrigation District Fish Screen Project	✓	✓	✓	✓	High	High	High	Medium	Low	High	Medium	Medium	High	Medium	Medium	Medium	High	High
West Stanislaus Irrigation District Pumping Plant 3 & 4 Modernization	✓	✓	✓	✓	High	Low	High	High	Low	Medium	High	Medium	Medium	Medium	Low	Medium	High	Medium

1. The project prioritization method awarded a score of Low for projects with 0-2 High scores in Step 2, a score of Medium for projects with 3-5 High scores in Step 2, and a score of High for projects with 6 or more High scores in Step 2.

Westside-San Joaquin Project Prioritization Methodology

Step 1: Eligibility Check

Eligibility Requirements	
✓	Project is located within the Westside-San Joaquin Region
✓	Project meets at least one Regional objective
✓	Project fulfills at least one Statewide Priority
✓	Project fulfills at least two Resource Management Strategies

Step 2: Evaluation

Criterion 1: Contribution to Plan Objectives	
High	Project received 45 or more points
Medium	Project received 11-44 points
Low	Project received 10 or fewer points

Criterion 1 Score Calculation Detail

The 14 WSJ IRWMP Objectives are ranked in order of priority. Each objective has a point value according to its priority level – Objective A is worth 14 points, Objective B is worth 13 points, etc. For every objective met, a project would receive the corresponding number of points. The total number of points then translates to a score of High, Medium, or Low as shown above.

Criterion 2: Relation to Resource Management Strategies (RMS)	
High	Project addresses 9 or more strategies
Medium	Project addresses 5 to 8 strategies
Low	Project addresses 0 to 4 strategies

Criterion 3: Technical Feasibility	
High	Documents exist demonstrating the technical feasibility of the project (feasibility study)
Medium	The project is of a type that is generally technically feasible
Low	No information provided

Criterion 4: Benefits to Disadvantaged Community (DAC) Water Issues	
High	Project provides direct benefits to DACs
Medium	Project provides indirect benefits to DACs
Low	No benefits to DACs

Criterion 5: Benefits to Native American Tribal Communities	
High	Project provides direct benefits to Native American Tribal Communities
Medium	Project provides indirect benefits to Native American Tribal Communities
Low	No benefits to Native American Tribal Communities

Criterion 6: Environmental Justice (EJ) Considerations	
High	Project will not have EJ impacts
Medium	Project's EJ impacts are uncertain
Low	Project will have EJ impacts

Criterion 7: Project Costs and Financing (relative to local funding match)	
High	Local funding match has been secured/Match not Required (DAC or SDAC project)
Medium	Potential source of local funding match has been identified
Low	Potential source of local funding match has not been identified

Criterion 8: Economic Feasibility	
High	Benefit:cost ratio is greater than 2
Medium	Benefit:cost ratio is between 1 and 2
Low	Benefit:cost ratio is less than 1

Criterion 8 Score Calculation Detail

Benefit:cost (B:C) Ratio scores are calculated by dividing the benefit score by the cost score. The benefit and cost scores are assigned as follows:

Benefit: The benefit score will be determined based on the total points scored by the project in the other categories. Benefit scores will be assigned based on the project score as follows:

Number of Objectives Met	Benefit Score
Project addresses 9 to 12 objectives	3
Project addresses 5 to 8 objectives	2
Project addresses 0 to 4 objectives	1

Cost: Present value (PV) cost of project will be calculated based on the capital cost, annual O&M cost (assumed to be 10% of total construction cost unless otherwise provided), and project lifespan, using a 6% discount rate (per DWR's Economic Analysis Handbook). Cost scores will be assigned based on the PV cost as follows:

PV Cost	Cost Score
<= \$2 million	1
> \$2 million, <= \$20 million	2
> \$20 million	3

Criterion 9: Project Status	
High	Project status is listed as Ready to Proceed
Medium	Project status is listed as Under Design
Low	Project status is listed as Planning or Conceptual

Note: DAC projects are exempt from this criterion and will automatically receive a Medium score if they are not considered ready to proceed.

Criterion 10: Strategic Consideration for IRWM Plan Implementation	
High	Project provides benefits on a regional scale <u>and</u> involves multiple agencies or community groups
Medium	Project provides benefits on a regional scale <u>or</u> involves multiple agencies or community groups
Low	Project does <u>not</u> provide benefits on a regional scale <u>nor</u> involve multiple agencies or community groups

Criterion 11: Climate Change Adaptation	
High	Project addresses 2 or 3 climate change adaptation questions
Medium	Project addresses 1 climate change adaptation question
Low	Project addresses 0 climate change adaptation questions

Criterion 12: Reducing GHG Emission as Compared to Project Alternatives	
High	Project addresses all 3 climate change mitigation questions
Medium	Project addresses 1 or 2 climate change mitigation questions
Low	Project addresses no climate change mitigation questions

Criterion 13: Plan Adoption	
High	Project sponsor will adopt Westside-San Joaquin IRWMP
Medium	Project sponsor may adopt Westside-San Joaquin IRWMP
Low	Project sponsor will not adopt Westside-San Joaquin IRWMP

Step 3: Prioritize Projects

Overall Project Prioritization	
High	Project received 6 or more “Highs” in Step 2
Medium	Project received 2 to 5 “Highs” in Step 2
Low	Project received 0 or 1 “Highs” in Step 2

		Output from Opti		Overall Project Score
Non-Concept Projects	Project Proponent	Project addresses critical water supply and water quality needs of DACs?	Explanation (required if “Yes,” optional if “No”):	
Althea Avenue Bridge Replacement	Central California Irrigation District	Yes	The Althea Avenue bridge crosses the Delta Mendota Canal in western Fresno County. This area has been impacted by land subsidence. The replacement of the bridge is a mutual benefit to the County of Fresno the San Luis & Delta Mendota Water Authority (including its member agencies) and the general public. The proposed project will restore the flow capacity in the canal and provide safer driving conditions for the public including Disadvantaged Communities that are within CCID and SLDMWA .	Medium
North Valley Regional Recycled Water Program	Del Puerto Water District	Yes	The ongoing drought and reduced CVP allocations have created a water crisis in the area to be served by the NVRRWP. DPWD provides irrigation water to approximately 45000 acres of highly productive farmland in Stanislaus San Joaquin and Merced Counties. As a south of the Sacramento-San Joaquin Delta user DPWD has experienced significant shortages and decreased reliability in the quantity of CVP water it has received in recent years under the terms of its federal service contract. Contractual limitations have the following impacts to the District and its customers: Increased land fallowing and shift Increased groundwater pumping which is unreliable in many areas and lacks the quality requirements for cropping Higher per unit delivery costs Economic hardship for users and local communities Crop loss and permanent crop damage The NVRRWP will address the critical water supply need of the DACs in the DPWD service area by delivering recycled water from Modesto & Turlock.	High
Pasajero Groundwater Replenishment Project	Westlands Water District	Yes	Huron located 6 miles east of the project site is a severely disadvantaged community that could benefit from the implementation of this project. The project may provide a more reliable water supply to the area. While Huron is not groundwater dependent the proposed recharge basin may reduce flooding potential in that area.	Medium
Russell Avenue Bridge Replacement	Central California Irrigation District	Yes	The proposed project will restore the flow capacity in the canal and provide safer driving conditions for the public including Disadvantaged Communities that are within CCID and SLDMWA .	Medium
Terra Linda River Ranch Recharge Project	TBD--likely Southern DM GSA	Yes	Project will decrease existing groundwater salinity levels and can be managed to benefit domestic wells/City of Mendota.	Medium
West Stanislaus Irrigation District Pumping Plant 3 & 4 Modernization	West Stanislaus Irrigation District	Yes	This project will improve water supply reliability to agricultural areas of the disadvantaged communities of Westley and Grayson.	Medium

**Infrastructure Life Spans
for Use in Benefit-Cost Analyses**

Item	Life Expectancy	Source
Water Treatment Plants	20 to 50 years	USEPA, Sustainable Infrastructure for Water and Wastewater, http://www.epa.gov/waterinfrastructure/basicinformation.html#five
Pipes	15 to >100 years	USEPA, Sustainable Infrastructure for Water and Wastewater, http://www.epa.gov/waterinfrastructure/basicinformation.html#five
Reservoirs and Dams	50 to 80 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Treatment Plants - Concrete Structures	60 to 70 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Treatment Plants - Mechanical and Electrical	15 - 25 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Trunk Mains	65 to 95 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Pumping Stations - Concrete Structures	60 to 70 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Pumping Stations - Mechanical and Electrical	25 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Distribution	60 to 95 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Interceptors	90 to 100 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Force Mains	25 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Collections	80 to 100 years	USEPA, Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002
Groundwater wells	30 to 50 years	Experience; Roscoe Moss <i>Case Study Increased Well Efficiency, Extended Lifetime and Reduced Maintenance through Selection of Stainless Steel Casing and Well Screen</i>
Pumps in new wells	10 years	Roscoe Moss <i>Case Study Increased Well Efficiency, Extended Lifetime and Reduced Maintenance through Selection of Stainless Steel Casing and Well Screen</i>
Study	5 years	
invasive species removal	3 to 5 years	
site restoration	50 to 100 years	

Simulated Benefit-Cost (B:C) Analysis and Scores

Project Title	Althea Avenue Bridge Replacement	Aquifer Storage and Recovery Project	Broadview Water District Drainage Water Treatment Project	Cantua Creek Groundwater Replenishment Project	Crescent Canal Project	Del Puerto Canyon Reservoir	Delta-Mendota Canal Subsidence & Conveyance Capacity Study
Responsible Agency	Central California Irrigation District	Westlands Water District	Westlands Water District	Westlands Water District	Westlands Water District	Del Puerto Water District	San Luis & Delta-Mendota Water Authority
Project Status	Ready to Proceed	Under Design	Planning	Planning	Planning	Planning	Planning
Year Basis for Estimates (2018?) ¹	2018	2018	2018	2018	2018	2018	2018
Estimated Project Life (Years) ²	60	25	25	100	95	100	20
Capital Cost: \$	\$ 7,500,000.00	\$ 1,500,000.00	\$ 4,700,000.00	\$ 1,430,000.00	\$ 45,745,000.00	\$ 491,300,000.00	\$ 85,000.00
Annual O&M Cost: \$	\$ 750,000.00	\$ 160,000.00	\$ 470,000.00	\$ 115,000.00	\$ 214,800.00	\$ 2,300,000.00	\$ 8,500.00
Possible Funding Sources:	Caltrans, CCID, SLDMWA, Fresno County	Westlands Water District	Westlands/Available Grant Funding			WIIN	San Luis & Delta-Mendota Water Authority EO&M budget
Source of Local funding secured							
Potential source of local funding identified	✓	✓				✓	✓
Potential local funding source not identified			✓	✓	✓		

Total Capital Cost (2018\$) ³	\$7,500,000	\$1,500,000	\$4,700,000	\$1,430,000	\$45,745,000	\$491,300,000	\$85,000
Annual O&M Cost (2018\$) ^{3,4}	\$750,000	\$160,000	\$470,000	\$115,000	\$214,800	\$2,300,000	\$8,500
Life of Project ²	60	25	25	100	95	100	20
Present Value Cost ⁵	\$19,621,071	\$3,545,337	\$10,708,177	\$3,341,018	\$49,310,880	\$529,520,356	\$182,494
Cost Score ⁶	2	2	2	2	3	3	1

# of Benefits (Objectives checked)	2	5	4	8	4	6	3
Benefits Score ⁷	1	2	1	2	1	2	1

Relative B:C Ratio ⁸	0.5	1	0.5	1	0.333333333	0.666666667	1
Economic Feasibility Score ⁹	Low	Medium	Low	Medium	Low	Low	Medium

Footnotes:

1. If no year is indicated, 2018 was assumed.
2. If no life was noted, the top of the range from the infrastructure lifespan reference sheet was selected. If a range was submitted, the top end of the range was selected.
3. Costs that were not originally provided in 2018 dollars were converted to 2018 dollars using the ENR CCI for San Francisco (annual averages used).
4. Assumes 10% of capital costs when O&M costs were not provided.
5. Discount factor of 6% assumed (based on previous IRWM guidance).
6. 1 point if PV < \$2M, 2 points if \$2M < PV < \$20M, 3 points if PV > \$20M.
7. 1 point if 4 or fewer objectives checked, 2 points if 5 to 8 objectives checked, and 3 points if 9 or more objectives checked.
8. Benefits score divided by cost score; generally, B:C > 1 preferred as the benefits outweigh the costs.
9. High: B:C ratio >2; Medium B:C ratio 1-2; Low B:C ratio <1.

Simulated Benefit-Cost (B:C) Analysis and Scores

Project Title	Delta-Mendota Canal Turnout Flowmetering Improvement Pilot Program	Grassland Bypass Project Capacity Enlargement	Groundwater Monitoring Program: Multi-Well Aquifer Monitoring	Kaljia Drainwater Reuse Project	Lateral 13 Intertie Project	Lateral Inter-Connection Project	Little Salado Creek Groundwater Recharge and Flood Control Basin
Responsible Agency	San Luis & Delta-Mendota Water Authority	Panoche Drainage District	San Luis & Delta-Mendota Water Authority	San Luis Water District	Westlands Water District	Westlands Water District	Stanislaus County
Project Status	Ready to Proceed	Planning	Planning	Planning	Under Design	Under Design	Under Design
Year Basis for Estimates (2018?) ¹	2018	2018	2018	2018	2018	2018	2018
Estimated Project Life (Years) ²	25	20	15	95	95	95	100
Capital Cost: \$	\$ 681,120.00	\$ 1,885,000.00	\$ 550,000.00	\$ 16,500,000.00	\$ 9,175,389.00	\$ 8,556,000.00	\$ 7,710,000.00
Annual O&M Cost: \$	\$ 6,000.00	\$ 40,000.00	\$ -	\$ 1,520,000.00	\$ 300,000.00	\$ 120,000.00	\$ 771,000.00
Possible Funding Sources:	WaterSMART: Water and Energy Efficiency Grants for FY2018		IRWM grant program possible matching funding from outside			Water Rates Bonds	
Source of Local funding secured							
Potential source of local funding identified		✓	✓	✓		✓	
Potential local funding source not identified	✓				✓		✓

Total Capital Cost (2018\$) ³	\$681,120	\$1,885,000	\$550,000	\$16,500,000	\$9,175,389	\$8,556,000	\$7,710,000
Annual O&M Cost (2018\$) ^{3,4}	\$6,000	\$40,000	\$0	\$1,520,000	\$300,000	\$120,000	\$771,000
Life of Project ²	25	20	15	95	95	95	100
Present Value Cost ⁵	\$757,820	\$2,343,797	\$550,000	\$41,733,417	\$14,155,669	\$10,548,112	\$20,522,128
Cost Score ⁶	1	2	1	3	2	2	3

# of Benefits (Objectives checked)	3	3	2	7	4	4	10
Benefits Score ⁷	1	1	1	2	1	1	3

Relative B:C Ratio ⁸	1	0.5	1	0.666666667	0.5	0.5	1
Economic Feasibility Score ⁹	Medium	Low	Medium	Low	Low	Low	Medium

Footnotes:

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5. Discount factor of 6% assumed (based on previous IRWM guidance).
6. 1 point if PV < \$2M, 2 points if \$2M < PV < \$20M, 3 points if PV > \$20M.
7. 1 point if 4 or fewer objectives checked, 2 points if 5 to 8 objectives checked, and 3 points if 9 or more objectives checked.
8. Benefits score divided by cost score; generally, B:C > 1 preferred as the benefits outweigh the costs.
9. High: B:C ratio >2; Medium B:C ratio 1-2; Low B:C ratio <1.

Simulated Benefit-Cost (B:C) Analysis and Scores

Project Title	Los Banos Creek Recharge and Recovery	North Valley Regional Recycled Water Program	Orestimba Creek Recharge and Recovery Project (OCRPP)	Panoche Creek Groundwater Replenishment Project	Pasajero Groundwater Replenishment Project	Pumping Plant 7-1 Variable Frequency Drive Project	Russell Avenue Bridge Replacement
Responsible Agency	San Luis Water District	Del Puerto Water District	Del Puerto Water District	Westlands Water District	Westlands Water District	Westlands Water District	Central California Irrigation District
Project Status	Under Design	Ready to Proceed	Ready to Proceed	Planning	Planning	Ready to Proceed	Ready to Proceed
Year Basis for Estimates (2018?) ¹	2018	2018	2018	2018	2018	2018	2018
Estimated Project Life (Years) ²	50	50	50	100	100	25	60
Capital Cost: \$	\$ 9,116,373.53	\$ 35,150,000.00	\$ 7,923,450.00	\$ 1,430,000.00	\$ 4,276,880.00	\$ 1,788,696.00	\$ 7,500,000.00
Annual O&M Cost: \$	\$ 911,637.35	\$ 350,000.00	\$ 500,000.00	\$ 115,000.00	\$ 340,000.00	\$ 25,000.00	\$ 750,000.00
Possible Funding Sources:	Office of Emergency Services (FEMA)	SRF, WRFP, WIIN, ratepayers	HMGP		WaterSMART Drought Response Program		CCID, SLDMWA, Fresno County, CalTrans
Source of Local funding secured	✓	✓				✓	
Potential source of local funding identified			✓		✓		✓
Potential local funding source not identified				✓			
Total Capital Cost (2018\$) ³	\$9,116,374	\$35,150,000	\$7,923,450	\$1,430,000	\$4,276,880	\$1,788,696	\$7,500,000
Annual O&M Cost (2018\$) ^{3,4}	\$911,637	\$350,000	\$500,000	\$115,000	\$340,000	\$25,000	\$750,000
Life of Project ²	50	50	50	100	100	25	60
Present Value Cost ⁵	\$23,485,474	\$40,666,651	\$15,804,380	\$3,341,018	\$9,926,846	\$2,108,280	\$19,621,071
Cost Score ⁶	3	3	2	2	2	2	2
# of Benefits (Objectives checked)	7	5	6	9	10	4	2
Benefits Score ⁷	2	2	2	3	3	1	1
Relative B:C Ratio ⁸	0.666666667	0.666666667	1	1.5	1.5	0.5	0.5
Economic Feasibility Score ⁹	Low	Low	Medium	Medium	Medium	Low	Low

Footnotes:

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5. Discount factor of 6% assumed (based on previous IRWM guidance).
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7. 1 point if 4 or fewer objectives checked, 2 points if 5 to 8 objectives checked, and 3 points if 9 or more objectives checked.
8. Benefits score divided by cost score; generally, B:C > 1 preferred as the benefits outweigh the costs.
9. High: B:C ratio >2; Medium B:C ratio 1-2; Low B:C ratio <1.

Simulated Benefit-Cost (B:C) Analysis and Scores

Project Title	Terra Linda River Ranch Recharge Project	West Stanislaus Irrigation District Fish Screen Project	West Stanislaus Irrigation District Pumping Plant 3 & 4 Modernization
Responsible Agency	TBD--likely Southern DM GSA	West Stanislaus Irrigation District	West Stanislaus Irrigation District
Project Status	Under Design	Ready to Proceed	Planning
Year Basis for Estimates (2018?) ¹	2018	2017	2011
Estimated Project Life (Years) ²	30	80	50
Capital Cost: \$	\$ 3,500,000.00	\$ 36,000,000.00	\$ 6,000,000.00
Annual O&M Cost: \$	\$ 350,000.00	\$ 46,000.00	\$ 270,000.00
Possible Funding Sources:	under review	Federal and State Grants	Grant funds
Source of Local funding secured			
Potential source of local funding identified		✓	
Potential local funding source not identified	✓		✓

Total Capital Cost (2018\$) ³	\$3,500,000	\$36,607,984	\$7,086,226
Annual O&M Cost (2018\$) ^{3,4}	\$350,000	\$46,777	\$318,880
Life of Project ²	30	80	50
Present Value Cost ⁵	\$8,317,691	\$37,380,229	\$12,112,371
Cost Score ⁶	2	3	2

# of Benefits (Objectives checked)	7	9	6
Benefits Score ⁷	2	3	2

Relative B:C Ratio ⁸	1	1	1
Economic Feasibility Score ⁹	Medium	Medium	Medium

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8. Benefits score divided by cost score; generally, B:C > 1 preferred as the benefits outweigh the costs.
9. High: B:C ratio >2; Medium B:C ratio 1-2; Low B:C ratio <1.



Westside-San Joaquin IRWM Plan



Project Name:



Description:

Contact:

Partner(s):



Total Cost: \$

Last Update: Tuesday Sep 18, 2018

[Instructions](#) [Project Information](#) [Eligibility](#) [Project Description](#)

Instructions [Top](#)

The Westside-San Joaquin Integrated Regional Water Management (IRWM) Region has initiated an update of the Westside-San Joaquin Integrated Regional Water Management Plan (WSJ IRWMP) (formerly named the Westside-San Joaquin Integrated Water Resources Plan). The Region is seeking projects to be included in the 2018 WSJ IRWMP. The WSJ Region is an official IRWM planning region approved by the California Department of Water Resources (DWR).

If you have a project that you would like to be included in the 2018 WSJ IRWMP, please complete the Project Information, Eligibility, and Project Description tabs.

For consideration and inclusion in the WSJ IRWMP, project information forms MUST BE submitted by 5:00 PM on July 12, 2018.

Instructions

Please provide the most complete project information possible. Projects may be at any stage of development, from conceptual to shovel-ready. Construction projects, planning projects (such as paper studies or outreach projects), feasibility studies, and pilot studies are all eligible for inclusion in the WSJ IRWMP. Required fields are indicated with red asterisks throughout the project information form. Not all fields are required, but blank fields may result in a lower score as the project will not be fully assessed against project prioritization methodology. The project may be saved before submitting, so you can work on it over multiple sessions.

Thank you for your participation. If you have questions or comments, please visit our website at <http://www.sldmwa.org/integrated-regional-water-management-plan/> or contact Andrew Garcia, Associate Civil Engineer, at the San Luis & Delta-Mendota Water Authority, at andrew.garcia@sldmwa.org or (209) 832-6229.

Important Items to Note Regarding Future Grant Funding

This project solicitation process is for the purpose of compiling projects to be included in the WSJ IRWMP, not for the purpose of applying to DWR for IRWM grant funding at this time. Per DWR's IRWM Guidelines, all project proponents with projects included in an IRWM grant application must adopt the IRWMP. At this time, DWR anticipates having an IRWM Implementation Grant solicitation in late 2018. In order to be eligible for grant funding, the WSJ IRWMP must be reviewed and approved by DWR through the Plan Review Process (PRP). In order for projects to be eligible for funding, they must be included in the adopted IRWMP. Submitting your project for consideration for inclusion in the WSJ IRWMP now will make it eligible for future IRWM grant cycles. However, inclusion of your project in the IRWMP will not guarantee that it is included in a grant application or that it receives grant funding. Projects submitted for consideration through this project solicitation process will be prioritized; only the top-ranked projects and those meeting required application criteria (as stipulated in individual Proposal Solicitation Packages released by DWR prior to grant solicitations) will likely get submitted for IRWM implementation grant funding. Projects may move up through the ranking process over time as they are further developed or as DWR and/or the WSJ Region's goals and objectives, and program preferences change.

Please be aware of the following as it relates to receiving future grant funding. This is a high-level summary of eligibility requirements. Full eligibility requirements can be found in the [2016 IRWM Planning Guidelines](#).

Plan Adoption: Proponents of projects included in an IRWM Implementation proposal must adopt the IRWM Plan. **Public Utilities and Mutual Water Companies:** A project proposed by a public utility that is regulated by the Public Utilities Commission or a mutual water company shall have a clear and definite public purpose and shall benefit the customers of the water system and not the investors (Water Code §79712 (b)(1)). **Nitrate, Arsenic, Perchlorate, or Hexavalent Chromium**

Contamination: Water Code §10544.5 requires the Regional Water Management Group, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, to include in the grant application information regarding how a project or projects in the application help to address the contamination or an explanation why the application does not include that kind of project or projects. **Climate Change:** Water Code §79742(e) requires applicants seeking Proposition 1, Chapter 7, project funding to demonstrate that the IRWM Plan that the applicants project implements contributes to addressing the risks in the region to water supply and water infrastructure arising from climate change. **Groundwater Management Plan Compliance:** Due to the recent passage of the Sustainable Groundwater Management Act (SGMA), there will be a transition period between groundwater management plans (GWMPs) and SGMA. Therefore, the 2016 Proposition 1 IRWM Guidelines note that grant eligibility will have to consider both GWMP eligibility and Groundwater Sustainability Agency (GSA)/Groundwater Sustainability Plan (GSP) progress. For groundwater management and recharge projects and for projects with potential groundwater impacts, the applicant or the project proponent responsible for such projects must demonstrate that they comply with the following regulations:

Water Code §10720 et seq.: Groundwater project proponents must demonstrate that their project is consistent with SGMA efforts in the basin. Groundwater Management Plan compliance for groundwater projects or other projects having a direct effect on groundwater levels or quality, the applicant or project proponent must meet one of the following conditions (Water Code §10753.7 (b)(1)):

They conform to the requirements of an adjudication of water rights in the subject groundwater basin They have prepared and implemented a GWMP in compliance with CWC §10753.7 They participate or consent to be subject to a GWMP, basin-wide management plan, or other IRWM program or plan that meets the requirements of CWC §10753.7(a) For projects located in low or very low priority groundwater basins without an existing GWMP, the proposal commits to adopting a GWMP compliant with Water Code §10753.7 or a GSP compliant with Water Code §10727 et seq.

Water Code § 10920 Compliance: For high and medium priority basins without a California Statewide Groundwater Elevation Monitoring (CASGEM) monitoring entity, grant applicants and project proponents that have been identified as potential monitoring entities will not be eligible for grant funding. Counties whose jurisdictions include unmonitored high and medium priority basins will not be eligible for grant funding. If the entire service area of the grant applicant or the individual project

proponents service area is demonstrated to be a DAC, the project will be considered eligible. **SB 985 and Stormwater Resource Plans:** A stormwater resource plan must be prepared, compliant with Water Code §10562 (b) (7), to receive grants for stormwater and dry weather runoff capture projects. **Requirements for Urban Water Suppliers:** An Urban Water Supplier is a supplier, either publicly or privately owned, that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually (CWC § 10617). Urban water suppliers must comply with the following: Urban Water Management Planning Act Compliance Water suppliers who were required by the Urban Water Management Planning Act (CWC § 10610 et seq.) to submit an Urban Water Management Plan (UWMP) to DWR must have submitted a complete UWMP to be eligible for IRWM Grant Program funding. Applicants and project proponents that are urban water suppliers and have projects that would receive funding through the IRWM grant program must have a complete UWMP by the time a grant is awarded to be eligible to receive funding. In order to be eligible for funding, urban water suppliers must comply with the requirements of Part 2.55 (commencing with §10608) of Division 6, related to sustainable water use and demand reduction. SB X7-7 Compliance Requires all water suppliers to increase water use efficiency and sets an overall goal of reducing per capita water use by 20% by December 31, 2020. Urban water suppliers must prepare an Urban Water Management Plan (UWMP) that includes documentation of compliance with interim water use targets. In order to qualify for funding, urban water suppliers must have a UWMP approved by DWR. CWC § 529.5 Compliance - Requires on or after January 1, 2010, any urban water supplier applying for state grant funds for wastewater treatment projects, water use efficiency projects, drinking water treatment projects, or for a permit for a new or expanded water supply, shall demonstrate that they meet the water meter requirements in CWC § 525 et seq.

Requirement for Agricultural Water Suppliers: In accordance with CWC §10608.56, an agricultural water supplier is ineligible for funding unless it complies with requirements of Part 2.55 (commencing with §10608) of Division 6. This requires that the agricultural water supplier measure the volume of water delivered, adopt a pricing strategy based at least partially on quantity delivered, and implement additional efficient management practices. The supplier must prepare an Agricultural Water Management Plan (AWMP) which must be approved by DWR in order to qualify for funding. SB X7-7 also requires preparation of an AWMP for grant eligibility.

Requirement for Surface Water Diverters: A diverter of surface water is not eligible for a water grant or loan awarded or administered by the State unless it complies with surface water diversion reporting requirements outlined in Part 5.1 (commencing with §5100) of Division 2 of the Water Code.

Project Information [Top](#)

Project Information

Project Title: *

Project Location: *

Responsible Agency: *

Responsible Agency Contact: *

Title: *

Address: *

Phone: * Ext:

Email: *

Other Participating Agencies (if applicable):

Eligibility [Top](#)

Eligibility

In order to be considered for inclusion in the Westside-San Joaquin Integrated Regional Water Management Plan (WSJ IRWMP), the project must meet at least one WSJ IRWMP Objective, at least one Statewide Priority, and address at least two Resource Management Strategies. If your project does not meet these minimum requirements it will not be included in the Plan Update.

WSJ IRWMP Objectives*

Please check all that apply. The project must address at least one WSJ IRWMP Objective in order to be eligible for inclusion in the Plan Update.

For every selected Objective, please describe how your project advances that Objective.

- ☐ Objective A: Provide for more reliable water supply south of the Delta.
- ☐ Objective B: Improve regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts.
- ☐ Objective C: Provide reasonable opportunity to advance ecosystem restoration through balanced project implementation.
- ☐ Objective D: Provide potential for environmental and habitat improvement, including wetlands.
- ☐ Objective E: Promote projects that meet the needs of disadvantaged communities.
- ☐ Objective F: Promote and enhance water conservation, water use efficiency, and sustainable water use.
- ☐ Objective G: Promote and enhance water recycling.
- ☐ Objective H: Maximize utility of Regional aquifers while improving sustainability.
- ☐ Objective I: Minimize risk of loss of life, infrastructure, and resources caused by significant storm events by utilizing uncontrolled flow beneficially.
- ☐ Objective J: Capture stormwater for higher beneficial use whenever practicable.
- ☐ Objective K: Develop Regional solutions that protect and enhance the quality of water supply, particularly in disadvantaged communities that are unable to meet water quality standards.
- ☐ Objective L: Consider recreational potential in project development.
- ☐ Objective M: Minimize energy consumption and associated GHG emissions, including use of renewable energy when appropriate.
- ☐ Objective N: Promote projects that increase operational flexibilities and supply management tools.

Statewide Priorities*

Please check all that apply. The project must address at least one statewide priority in order to be eligible for inclusion in the Plan Update. For more detailed information on the statewide priorities, please see pages 8-10 of the [2016 IRWM Planning Guidelines](#).

- ☐ Make Conservation a California Way of Life
- ☐ Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government
- ☐ Achieve the Co-Equal Goals for the Delta
- ☐ Protect and Restore Important Ecosystems
- ☐ Manage and Prepare for Dry Periods
- ☐ Expand Water Storage Capacity and Improve Groundwater Management
- ☐ Provide Safe Water for All Communities
- ☐ Increase Flood Protection
- ☐ Increase Operational and Regulatory Efficiency
- ☐ Identify Sustainable and Integrated Financing Opportunities

Resource Management Strategies*

Please select all that apply to your project. The project must address at least two Resource Management Strategies in order to be eligible for inclusion in the Plan Update.

- ☐ Agricultural Water Use Efficiency
- ☐ Urban Water Use Efficiency
- ☐ Conveyance — Delta
- ☐ Conveyance — Regional/local
- ☐ System Reoperation
- ☐ Water Transfers
- ☐ Conjunctive Management & Groundwater
- ☐ Desalination — Brackish & Seawater
- ☐ Precipitation Enhancement
- ☐ Recycled Municipal Water
- ☐ Surface Storage — CALFED
- ☐ Surface Storage — Regional/Local
- ☐ Drinking Water Treatment and Distribution
- ☐ Groundwater and Aquifer Remediation
- ☐ Sediment Management
- ☐ Matching Quality to Use
- ☐ Pollution Prevention
- ☐ Salt and Salinity Management
- ☐ Urban Stormwater Runoff Management
- ☐ Agricultural Land Stewardship
- ☐ Economic Incentives (Loans, Grants and Water Pricing)
- ☐ Ecosystem Restoration
- ☐ Forest Management
- ☐ Land Use Planning and Management
- ☐ Recharge Area Protection
- ☐ Water-Dependent Recreation
- ☐ Watershed Management
- ☐ Flood Management
- ☐ Outreach and Engagement
- ☐ Water and Culture
- ☐ Crop Idling for Water Transfers
- ☐ Dewvaporation or Atmospheric Pressure Desalination
- ☐ Fog Collection
- ☐ Irrigated Land Retirement
- ☐ Rainfed Agriculture
- ☐ Waterbag Transport/Storage Technology

Project Description [Top](#)

Project Description

Please provide a description of your project, including the project location, area and/or entities that will be affected by or will benefit from your project, related water and environmental resources within the project boundaries, and any potential obstacles to implementation. Further documentation (such as project studies) may be uploaded after the project has been submitted to supplement, but not replace, the information

in this form.*

Project Location

Project Coordinates: Enter decimal latitude and longitude below or

Latitude: * Longitude: *

Project Area:

File Name

Project Status

Select a project status from the dropdown list below. Project Status options are defined as follows:

Conceptual: Project concept not included in any documents to date **Planning:** Project concept included in a planning document to date **and** project-specific planning document has been initiated and/or prepared (e.g. Recycled Water Facilities Plan) **Under Design:** Project design has started but is not yet complete (e.g. Basis of Design Report, pre-design, 30%, 60%, 90%, or Final Design) **Ready to Proceed:** 100% plans and specs complete

For **non-construction** projects (e.g. paper study), please use the following definitions:

Conceptual: Project concept not included in any documents to date **Planning:** Project concept included in a planning document to date **Under Design:** Work plan/scope is in draft form **Ready to Proceed:** Final work plan/scope exists

Project Status: * Select

Project Type

Select a project type from the dropdown list below. (Non-infrastructure projects may include plan development, education, monitoring, research, etc.)

Project Type: * Select

Readiness to Proceed

Please discuss project readiness and anticipated start date. Include a description of the status of design, bid package, permitting, and securing required matching funds.*

Environmental Documentation

Describe the environmental documentation required (e.g. Environmental Impact Report or Negative Declaration) for the proposed project and the status of the required documentation. If environmental documentation is required but has not been started, please provide the estimated

timeframe for completing the required documentation.*

Multi-Entity Integration and Benefits

Is your project linked to or combined with another project? If yes, please describe the linked / integrated projects and other possible project participants. Describe entities that benefit from the project and describe the benefits to each entity.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Does the project provide benefits on a regional scale? If yes, please describe how the benefit(s) will have a regional impact.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Technical Feasibility

Is the project technically feasible? If yes, please explain.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Do you have background information, studies or other documentation (including author and year) that detail the technical feasibility of the project? If yes, please explain.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Economic Feasibility

Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life. If no annual O&M costs are provided, the annual O&M cost will be assumed to be 10% of the project cost. Project cost information is not required but must be provided in order to receive points for economic feasibility. If no cost information is provided, the lowest score will be awarded for the Economic Feasibility criterion.

Capital Cost: \$

Annual O&M Cost: \$

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 5 years):

Estimated Project Life (Years) (click [here](#) for a list of general infrastructure life spans):

Cost Basis (if not 2018 dollars):

Possible Funding Sources:

Has a source of local funding match been identified and/or secured for the project?*

- ☐ Local funding match has been secured / Match Not Required (DAC or SDAC Project)
- ☐ Potential source of local funding match has been identified.
- ☐ Potential source of local funding match has not been identified.

Dependence on the Sacramento-San Joaquin Delta

Will the project help reduce dependence on the Sacramento-San Joaquin Delta for water supply? If yes, describe how this will be achieved.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Disadvantaged Communities

Will the project help address critical water supply and water quality needs of disadvantaged communities (DACs)? If yes, describe how this will be achieved. (The DAC status of communities may be determined using DWRs DAC Mapping Tool, available at <https://gis.water.ca.gov/app/dacs/>. DACs may be identified at the census designated place, census tract, or block group level. A community may also be considered a DAC if an income survey has been completed demonstrating that the community meets DAC criteria.).

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Environmental Justice

Environmental justice can be defined as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. Environmental justice seeks to redress inequitable distribution of environmental burdens (e.g. pollution, industrial facilities) and access to environmental goods (e.g. clean water and air, parks, recreation, nutritious foods, etc.).

Have the environmental justice impacts of the projects been evaluated? If yes, describe the potential impacts or benefits and efforts to mitigate environmental justice concerns.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Native American Tribal Communities

Will the project benefit Federally- or State-recognized Native American Tribal communities? If yes, describe how Native American Tribal communities will benefit.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Climate Change Adaptation

Climate change adaptation includes activities to adjust to the actual or expected future climate.

Does the project help the water system adapt to vulnerabilities to climate change effects? If yes, describe how adaptation(s) are achieved.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Does the project provide adaptation to changes in the amount, intensity, timing, quality, and/or variability of runoff and recharge? If yes, describe how adaptation is achieved.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Does the project provide an adaptation to sea level rise (either direct or indirect adaptations)? If yes, describe how adaptation is achieved.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Climate Change Mitigation

Climate change mitigation includes activities to reduce and stabilize the levels of greenhouse gases in the atmosphere.

Does the project consider the contribution of the project to reducing greenhouse gas emissions as compared to project alternatives? If so, describe how this was considered.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Does the project consider the ability of the project to help the Westside-San Joaquin Region reduce greenhouse gas emissions as new projects

are implemented over the 20-year planning horizon? If so, describe how this was considered.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

Does the project reduce energy consumption and/or greenhouse gas emissions? If yes, describe how energy consumption or emissions are reduced.

☐ No ☐ Yes *

Explanation (required if Yes, optional if No):

WIWRP Update Adoption

Does the responsible agency plan to formally adopt the WSJ IRWMP Update (e.g., at a city council or board of directors meeting)? If the responsible agency is a nonprofit organization, does it plan to follow an equivalent process to formally approve or accept the plan?

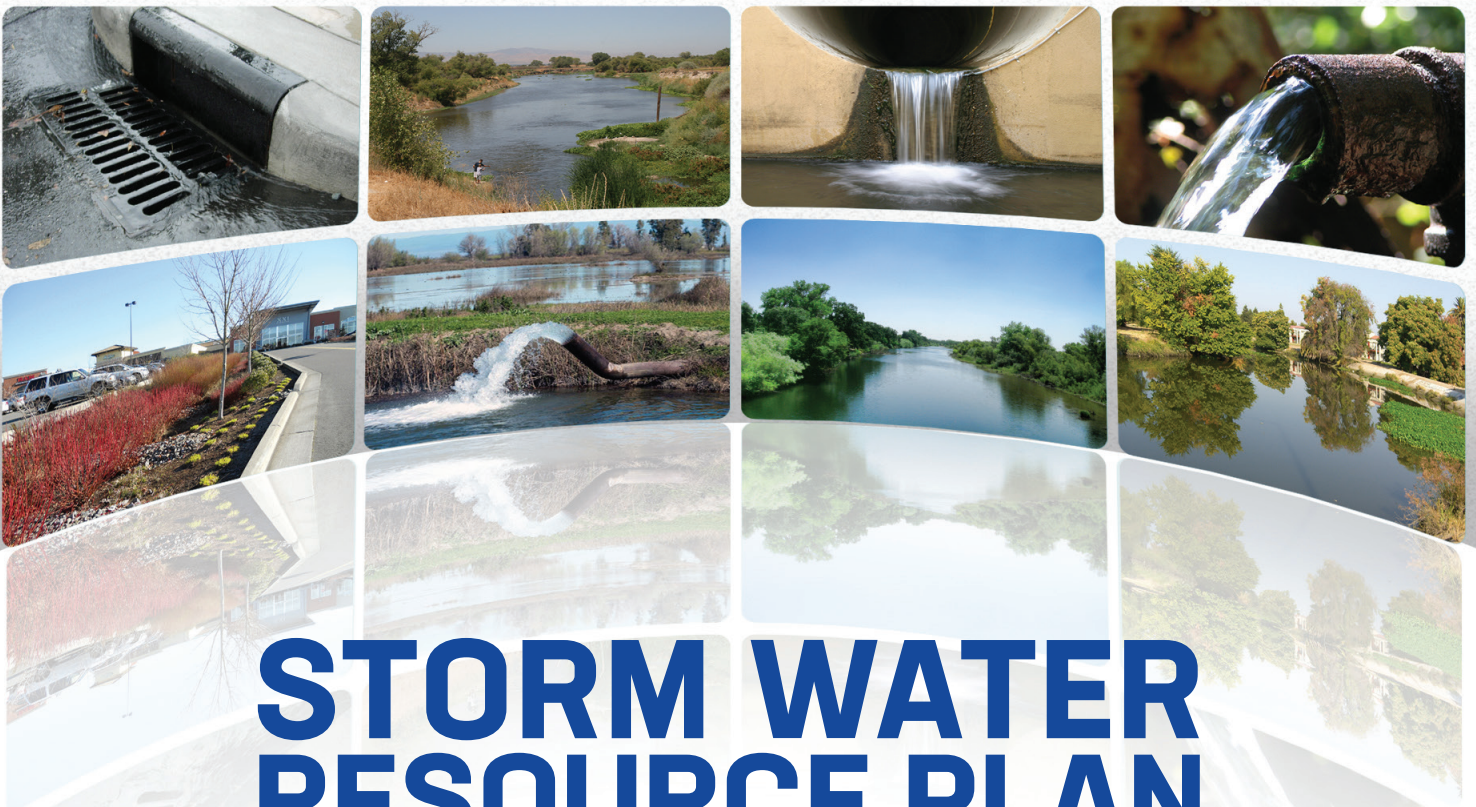
☐ No ☐ Yes *

* Minimum Required Information for Project Submission

Appendix E –
Stanislaus Multi-Agency Regional Stormwater Resource Plan
Executive Summary
and
Westside-San Joaquin Stormwater Resource Plan Executive Summary



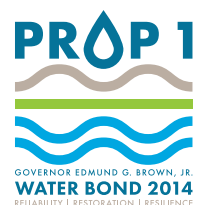
Stanislaus Multi-Agency Regional



STORM WATER RESOURCE PLAN

August 2019

Prepared by:



STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS

**Stanislaus Multi-Agency Regional
Storm Water Resource Plan**

Final

August 2019

Prepared by:



Acknowledgements

The development of the Stanislaus Multi-Agency Regional Storm Water Resource Plan was led by Stanislaus County. The Project Partners (Stanislaus County, City of Modesto, City of Oakdale, City of Patterson, City of Waterford, and the Eastside Water District) contributed financially to the Plan.

The Technical Advisory Committee provided valuable input throughout development of the Plan.

The Stanislaus Multi-Agency Regional Storm Water Resource Plan was funded by Proposition 1, through a Planning Grant under the State Water Resources Control Board's Storm Water Grant Program (Grant Agreement No. D1612618).

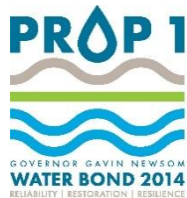


Table of Contents

Executive Summary	ES-1
ES-1 Planning Area Overview	ES-1
ES-2 Watershed Collaboration, Coordination, and Outreach	ES-4
ES-3 Integrated Metrics-Based Benefits Analysis	ES-4
ES-4 Project Identification and Prioritization Process	ES-7
ES-5 Plan and Project Implementation	ES-8
Section 1. Introduction.....	1-1
1.1 Background	1-1
1.2 SWRP Purpose and Goals	1-2
1.3 Development of the SWRP	1-3
Section 2. Planning Area Description	2-1
2.1 Description of Watersheds	2-2
2.1.1 Middle San Joaquin-Lower Merced-Lower Stanislaus Description	2-3
2.1.2 Panoche-San Luis Reservoir Description.....	2-4
2.2 Jurisdictional Boundaries and Service Areas	2-4
2.3 Watershed Processes	2-8
2.4 Surface Water Resources	2-13
2.4.1 Surface Water Bodies.....	2-13
2.4.2 Surface Water Quality.....	2-14
2.5 Groundwater Resources	2-16
2.5.1 Turlock Subbasin	2-17
2.5.2 Modesto Subbasin	2-18
2.5.3 Eastern San Joaquin Subbasin.....	2-18
2.5.4 Delta Mendota Subbasin	2-18
2.6 Water Supply.....	2-19
2.7 Water Quality Conditions	2-20
2.7.1 Applicable TMDLs and 303(d)-Listed Impaired Waterbodies	2-22
2.7.2 Stormwater Outfall Monitoring Results.....	2-28
2.7.3 Water Quality Priorities	2-29
2.7.4 Other Priorities	2-30
Section 3. Water Quality Compliance	3-1
3.1 Pollutant-Generating Activities.....	3-1
3.1.1 Agriculture	3-1

3.1.2	Municipalities and Industries	3-1
3.1.3	Mineral Extraction	3-1
3.2	Applicable Permits and Regulations	3-2
3.2.1	Discharge Permits	3-2
3.2.2	Total Maximum Daily Loads	3-3
3.2.3	Local Regulations	3-6
3.2.4	Other Regulations	3-6
3.3	NPDES and TMDL Compliance and Support	3-6
Section 4.	Organization, Coordination, and Collaboration	4-1
4.1	Coordination with Local Planning Organizations.....	4-1
4.1.1	Memorandum of Understanding	4-1
4.1.2	Technical Advisory Committee (TAC).....	4-1
4.1.3	Other Coordination	4-3
4.1.4	Implementation Authority	4-3
4.1.5	Nonprofits	4-5
4.2	Public Engagement and Community Participation	4-5
4.3	Relation to Other Planning Documents.....	4-5
4.4	Collaboration.....	4-7
Section 5.	Quantitative Methods	5-1
5.1	Benefit Metrics.....	5-1
5.2	Technical Studies Supporting Quantitative Benefits Assessments	5-5
5.2.1	Stormwater Outfall Monitoring.....	5-5
5.2.2	Groundwater Recharge Study	5-5
5.2.3	Other Studies.....	5-5
5.3	Available Tools for Quantitative Assessment of Benefits	5-6
5.3.1	EPA System for Urban Stormwater Treatment and Analysis Integration Model	5-6
5.3.2	EPA Storm Water Management Model	5-6
5.3.3	Central Valley Hydrologic Study	5-7
5.4	Integrated Metrics-Based Analysis	5-7
5.4.1	Water Quality Projects Analysis	5-8
5.4.2	Stormwater Capture and Use/Water Supply Projects Analysis	5-12
5.4.3	Flood Control Projects Analysis	5-16
5.4.4	Environmental and Community Benefits Analysis.....	5-18
5.4.5	Disadvantaged Community (DAC) Benefits Analysis.....	5-22

5.5	Information and Data Management	5-24
Section 6.	Identification and Prioritization of Projects.....	6-1
6.1	Project Solicitation	6-1
6.2	Project Eligibility	6-2
6.3	Project Prioritization	6-3
6.4	SWRP Priority Project Opportunities	6-5
6.5	Design Criteria and BMPs for New Development and Redevelopment	6-6
Section 7.	Implementation Strategy and Schedule	7-1
7.1	Implementation Strategy	7-1
7.1.1	SWRP Implementation Method	7-1
7.1.2	Governance Structure.....	7-2
7.1.3	Responsible Entities	7-2
7.1.4	Decision Support Tools.....	7-3
7.1.5	Community Participation Strategy in Plan Implementation	7-3
7.1.6	Permitting Strategy	7-4
7.1.7	Schedule	7-4
7.2	Financing.....	7-6
7.3	IRWMP Submittal.....	7-9
7.4	Implementation Performance Measures and Tracking.....	7-10
7.4.1	Project Performance	7-10
7.4.2	SWRP Performance	7-11
7.4.3	Adaptive Management	7-11
Section 8.	Education, Outreach, and Public Participation	8-1
8.1	Outreach and Participation Methods	8-1
8.1.1	Initial Public Engagement and Education Schedule	8-2
8.2	Outreach Efforts	8-3
8.2.1	SWRP Audience	8-3
8.2.2	Public Outreach During SWRP Development	8-3
8.2.3	Public Outreach During SWRP Implementation	8-4
8.2.4	Additional Outreach Considerations	8-4
8.3	Disadvantaged Community Outreach and Environmental Justice	8-5
Section 9.	References	9-1

List of Figures

Figure ES-1. Planning Area	ES-2
Figure ES-2. Watersheds	ES-3
Figure ES-3. SWRP Projects	ES-5
Figure ES-4. Example Project Progression.....	ES-9
Figure 1-1. SWRP Planning Area Overview	1-2
Figure 2-1. Watersheds in Stanislaus County	2-3
Figure 2-2. Incorporated Areas in Stanislaus County	2-5
Figure 2-3. Water Purveyor Service Areas in Stanislaus County	2-6
Figure 2-4. Wastewater Service Areas in Stanislaus County.....	2-7
Figure 2-5. IRWM Regions in Stanislaus County	2-8
Figure 2-6. Land Use in the Stanislaus County Area.....	2-11
Figure 2-7. Open Space and Natural Areas within Stanislaus County.....	2-12
Figure 2-8. Major Surface Water Bodies in Stanislaus County	2-16
Figure 2-9. Groundwater Subbasins in Stanislaus County.....	2-17
Figure 2-10. 303(d)-Listed Impaired Water Bodies in Stanislaus County.....	2-28
Figure 5-1. Projects with Water Quality Benefits to Support TMDLs and 303(d)-Listed Water Bodies.....	5-10
Figure 5-2. Projects Providing SWRP Water Quality Benefits	5-11
Figure 5-3. Projects Supporting Stormwater Capture and Recharge Regional Watershed Priority.....	5-14
Figure 5-4. Projects with Water Supply Benefits	5-15
Figure 5-5. Projects with Flood Management Benefits	5-17
Figure 5-6. Projects with Environmental Benefits	5-19
Figure 5-7. Projects with Community Benefits	5-21
Figure 5-8. Projects with Benefits to DACs	5-23
Figure 7-1. Example Project Progression	7-4
Figure 7-2. TMDL Schedules	7-5
Figure 7-3. Adaptive Management of the SWRP and SWRP Projects.....	7-12
Figure 8-1. Disadvantaged Communities.....	8-6

List of Tables

Table ES-1. SWRP Main and Additional Benefits	ES-6
Table ES-2. Project Prioritization Scoring System	ES-8
Table 2-1. Watershed Areas Present in Stanislaus County	2-2
Table 2-2. Land Use Area within Stanislaus County	2-10
Table 2-3. Water Use in Stanislaus County as of 2010 ¹	2-20
Table 2-4. Beneficial Uses of Surface Water in Stanislaus County	2-21
Table 2-5. 303(d)-Listed Impaired Water Bodies in Stanislaus County	2-23
Table 2-6. Priority Pollutants and Source	2-30
Table 3-1. TMDLs Relevant to Stanislaus County	3-4
Table 4-1. TAC Members and Affiliations	4-2
Table 4-2. TAC and Outreach Meetings	4-2
Table 5-1. SWRP Main Benefits and Quantitative Metrics	5-2
Table 5-2. SWRP Additional Benefits and Quantitative Metrics	5-3
Table 5-3. Relationship Between Quantitative Metrics and SWRP Priorities	5-4
Table 5-4. Number of Projects Providing SWRP Water Quality Benefits	5-9
Table 5-5. Total Quantitative Water Quality Benefits	5-12
Table 5-6. Number of Projects Providing SWRP Water Supply Benefits	5-13
Table 5-7. Total Quantitative Water Supply Benefits	5-16
Table 5-8. Number of Projects Providing SWRP Flood Management Benefits	5-16
Table 5-9. Total Quantitative Flood Management Benefits	5-18
Table 5-10. Number of Projects Providing SWRP Environmental Benefits	5-18
Table 5-11. Total Quantitative Environmental Benefits	5-20
Table 5-12. Number of Projects Providing SWRP Community Benefits	5-20
Table 5-13. Total Quantitative Community Benefits	5-22
Table 5-14. Number of Projects Providing SWRP Benefits to DACs	5-22
Table 6-1. Points Awarded Per SWRP Main Benefit and Additional Benefit	6-3
Table 6-2. Points Awarded for Addressing Regional Watershed Priorities	6-4
Table 6-3. Points Awarded Based on Status of Project Implementation	6-4
Table 7-1. SWRP Projects Contributing to TMDL Goals	7-6
Table 7-2. SWRP Project Costs for Ready-to-Proceed Projects	7-8
Table 7-3. Schedule Overview for Potential Funding Sources	7-9
Table 8-1. Agencies/Organizations Represented on Stakeholder Contact List	8-1
Table 8-2. Summary of Stakeholder and Public Meetings	8-2

List of Appendices

Appendix A – SWRP Checklist

Appendix B – Annotated List of Data and Reports

Appendix C – Supplemental Maps

Appendix D – Stormwater Quality Monitoring Report

Appendix E – Stormwater Capture/Groundwater Recharge Site Assessment

Appendix F – Project Information and Prioritization

Appendix G – Public Draft Comments Summary

List of Acronyms

ACS	American Community Survey
AF	Acre-feet
AFY	Acre-feet per year
ASBS	Areas of Special Biological Significance
AWMP	Agricultural Water Management Plan
Bay-Delta Plan	Water Quality Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CSD	Community Services District
CVRWQCB	Central Valley Regional Water Quality Control Board
CVHS	Central Valley Hydrology Study
CWA	Clean Water Act
DAC	Disadvantaged community
Delta	Sacramento–San Joaquin Delta
DSC	Delta Stewardship Council
DWR	California Department of Water Resources
DWSC	Deep Water Shipping Channel
EDA	Economically Distressed Area
GHG	Greenhouse gas
GIS	Geographic Information System
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HEC-RAS	Hydrologic Engineering Center's River Analysis System
ID	Irrigation District
IGP	Industrial General Permit
ILRP	Irrigated Lands Regulatory Program
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
kWh	Kilowatt-hours
LID	Low-Impact Development

LSJR	Lower San Joaquin River
MAD	Mosquito Abatement District
Mgd	Million gallons per day
Mg/L	Milligrams per liter
MID	Modesto Irrigation District
MOU	Memorandum of Understanding
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer Systems
µmhos/cm	Microsiemens per centimeter
NDPES	National Pollutant Discharge Elimination System
NEPA	National Environmental Policy Act
NOA	Notice of Applicability
OID	Oakdale Irrigation District
O&M	Operation and maintenance
PID	Patterson Irrigation District
PSLR	Panoche-San Luis Reservoir
QA/QC	Quality Assurance/Quality Control
RCD	Resource Conservation Districts
RTP	Ready-To-Proceed
RWMG	Regional Water Management Group
SB	Senate Bill
SDWIS	Safe Drinking Water Information System
SED	Substitute Environmental Document
SGMA	Sustainable Groundwater Management Act
SJRECWA	San Joaquin River Exchange Contractors Water Authority
SJRNWR	San Joaquin River National Wildlife Refuge
SLDMWA	San Luis & Delta-Mendota Water Authority
STRGBA	Stanislaus and Tuolumne Rivers Groundwater Basin Association
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plans
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resource Plan

TAC	Technical Advisory Committee
TDS	Total Dissolved Solids
TGBA	Turlock Groundwater Basin Association
TID	Turlock Irrigation District
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
U.S.	United States
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
WD	Water District
WDR	Waste Discharge Requirements
WLAs	Waste Load Allocations
WSID	West Stanislaus Irrigation District
WSJ	Westside-San Joaquin

Executive Summary

The Stanislaus Multi-Agency Regional Storm Water Resource Plan (SWRP) is a regional watershed-based stormwater and dry weather runoff planning document that integrates water resource management strategies and priorities in Stanislaus County. Led by Stanislaus County, the SWRP was developed in collaboration with the Cities of Modesto, Turlock, Oakdale, Patterson, Ceres, and Waterford, Eastside Water District, as well as the nonprofit organizations River Partners and the Tuolumne River Trust. The primary purpose of the SWRP is to provide watershed-based planning throughout the Stanislaus County SWRP planning area. The SWRP aims to address challenges and opportunities for managing stormwater and dry weather runoff and to identify and assess multi-benefit stormwater projects, prioritizing those projects that can best address the identified water resource management goals.

In 2017, Stanislaus County was awarded a planning grant through the Proposition 1 Storm Water Grant Program to develop the Stanislaus Multi-Agency Regional SWRP. Matching funds and staff support to develop the plan were provided by Stanislaus County, Eastside Water District, and the Cities of Modesto, Oakdale, and Patterson. The SWRP was developed to be consistent with the Storm Water Resource Plan Guidelines (SWRCB, 2015) and the requirements of the Stormwater Resource Planning Act, Water Code Sections 10560 *et seq.* A checklist documenting compliance with the Water Code and SWRP Guidelines is provided as Appendix A.

ES-1 Planning Area Overview

The Stanislaus Multi-Agency Regional SWRP planning area (Figure ES-1) aligns with the Stanislaus County boundaries, which encompasses 1,515 square miles in California's San Joaquin Valley. The planning area is bordered in the west by the Coast Range, southwest of the San Francisco Bay, and extends east to the Sierra Nevada foothills. This planning area was chosen to facilitate regional stormwater management based on the significant overlap with the County boundaries and the East Stanislaus and Westside-San Joaquin Integrated Regional Water Management Plan (IRWMP) areas, as well as the Modesto, Turlock and Delta-Mendota groundwater subbasin management planning areas. The cities of Modesto, Turlock, Hughson, Ceres, Oakdale, Newman, Waterford, Riverbank and Patterson, 10 water and irrigation districts, and a number of Community Service Districts are contained within the planning area.

The SWRP planning area is entirely within the San Joaquin River Hydrologic Region and includes the bulk of two major watersheds, the Middle San Joaquin-Lower Merced-Lower Stanislaus and the Panoche-San Luis Reservoir watersheds, as shown in Figure ES-2. The Middle San Joaquin-Lower Merced-Lower Stanislaus Watershed covers most of the planning area. Three major rivers, the Stanislaus, Tuolumne, and San Joaquin Rivers, run through the Middle San Joaquin-Lower Merced-Lower Stanislaus Watershed. The watershed also contains several reservoirs used for water supply, flood control, and hydroelectric power production. The Panoche-San Luis Reservoir Watershed covers the westernmost portion of the County and includes the eastern portion of the Coast Range, the highest point in the County (approximately 3,800 feet above sea level). Water quality concerns in the planning area include organophosphate pesticides (diazinon and chlorpyrifos) and organic carbon (which contributes to low downstream dissolved oxygen levels), total suspended solids (TSS), pyrethroids, mercury, and bacteria which may impair water bodies and limit beneficial uses. Improving water quality and protecting and enhancing impaired water bodies is a priority for the planning area.

Stanislaus County overlies the San Joaquin Valley Groundwater Basin and four individual groundwater subbasins: the Eastern San Joaquin, Modesto, Turlock, and Delta-Mendota Subbasins. Consideration of groundwater supply and quality is crucial in the planning area due to the high reliance on groundwater for both domestic and agricultural uses.

Water quality and stormwater management priorities for the planning area were identified as part of the SWRP planning process. Nine priority pollutants were selected based on 303(d) list impairments to local waterbodies and TMDLs applicable to Stanislaus County. These water quality priorities include: TSS, mercury, diazinon, chlorpyrifos, selenium, diuron bacteria, pyrethroids, and total nitrogen. Other stormwater management priorities identified in the SWRP include identification of conjunctive use strategies to maximize the use of both surface water and groundwater. This strategy would include groundwater recharge and the protection of groundwater quality. Issues beyond groundwater contamination from within the County include salinity, land subsidence, and overdraft. Additional water quality priorities may include goals such as maintaining favorable wildlife habitat and aesthetic value to the community.

Figure ES-1. Planning Area

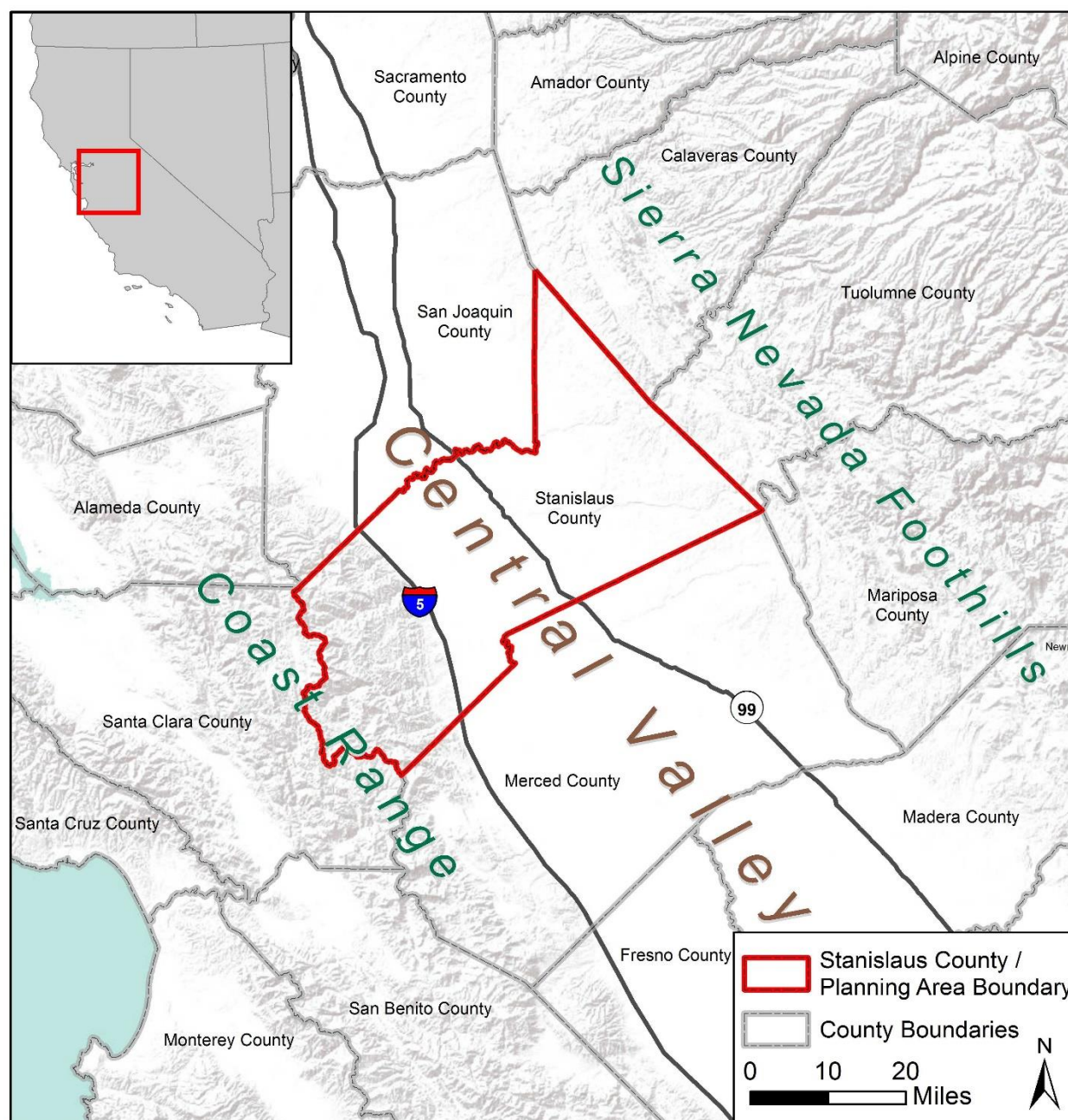
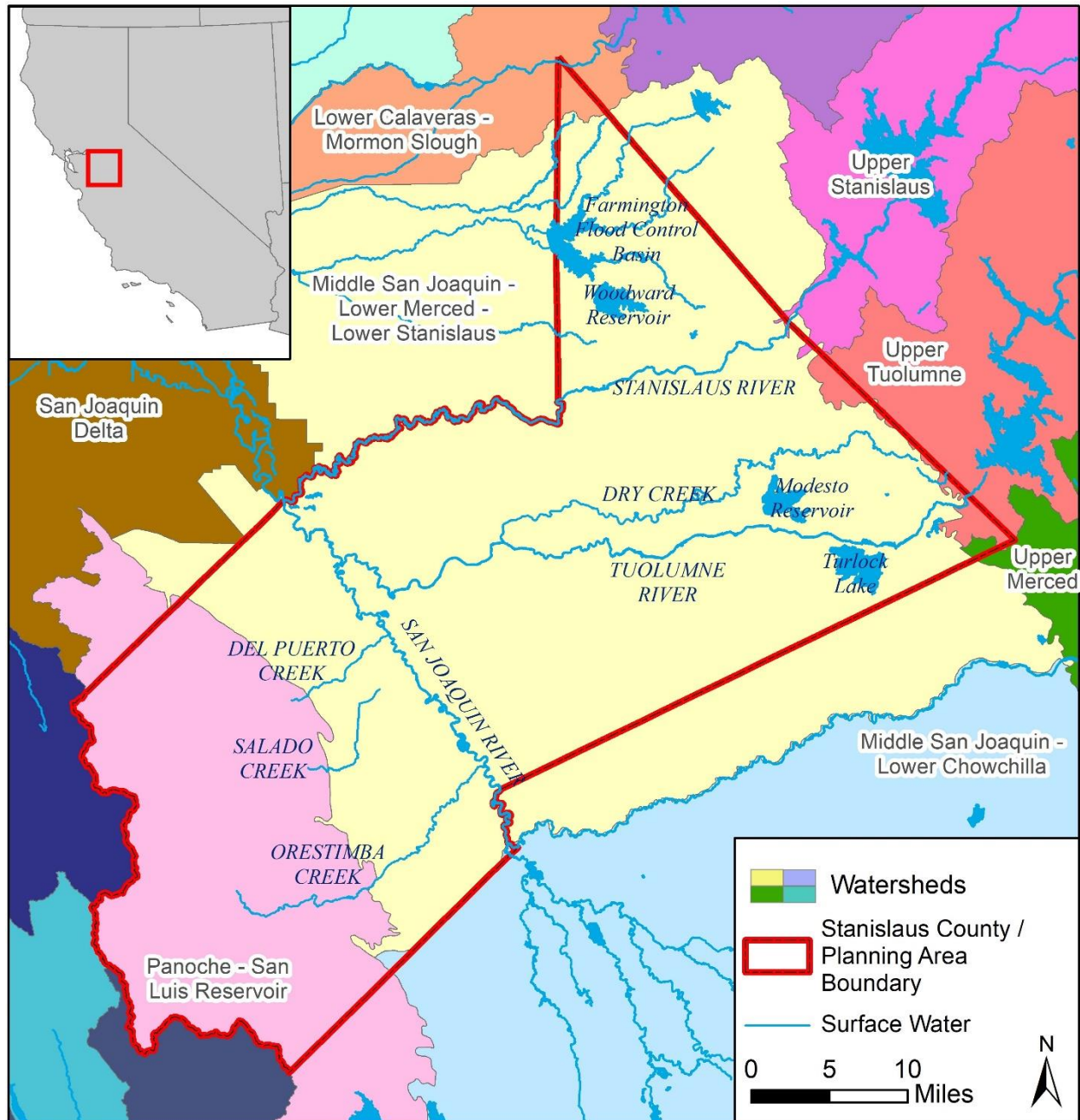


Figure ES-2. Watersheds



ES-2 Watershed Collaboration, Coordination, and Outreach

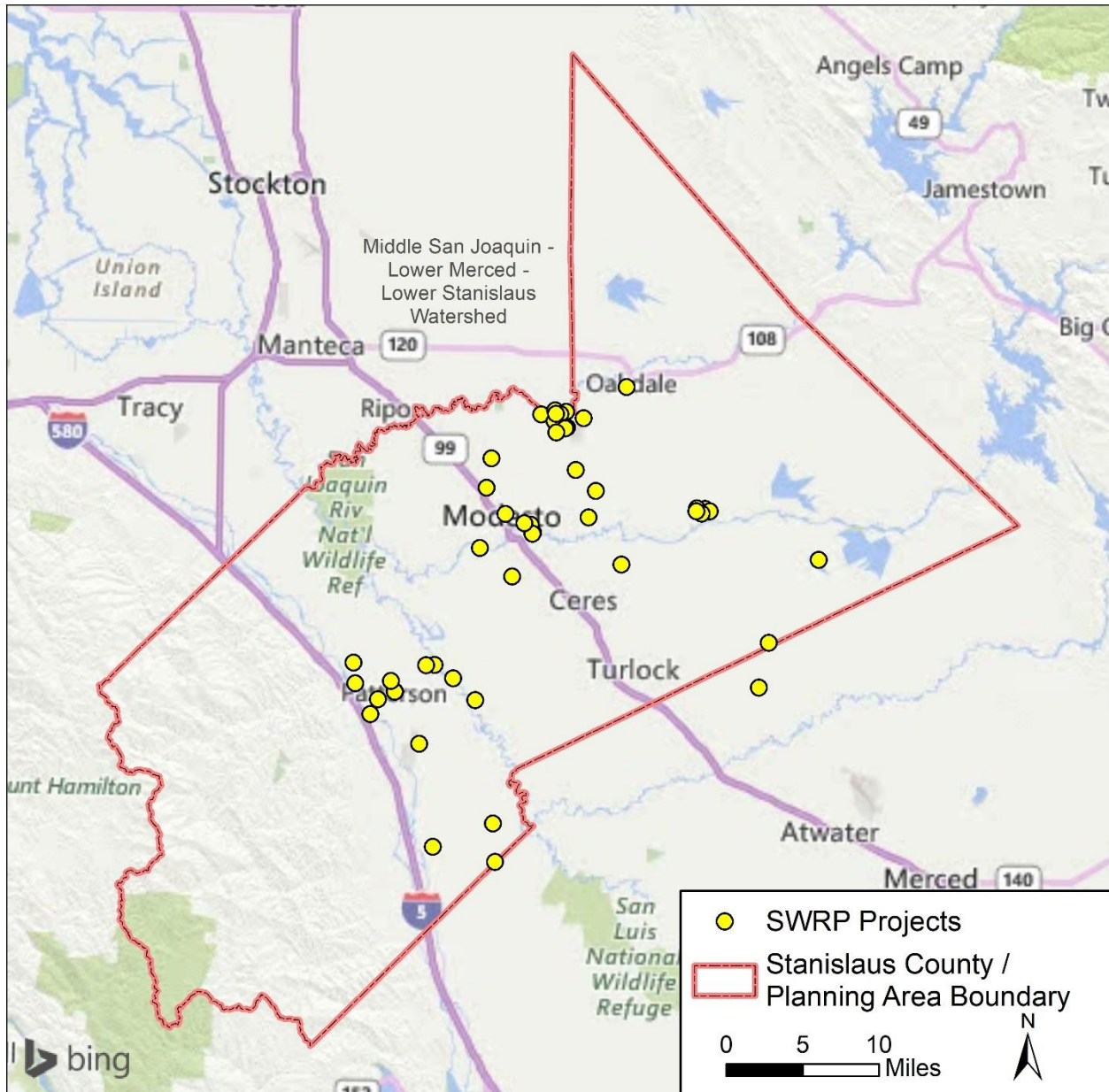
The SWRP was developed as a collaborative effort between Stanislaus County, local planning organizations that contributed both time and funds to development of the plan, and other key stakeholders identified and contacted through the SWRP planning effort. A Technical Advisory Committee (TAC), composed of agency and nonprofit representatives, was developed to provide input on planning components and support review of the plan. TAC meetings and public outreach meetings were held throughout the SWRP development to coordinate and collaborate with agencies, organizations, and nonprofit organizations. A number of disadvantaged community (DAC) representatives were identified at meetings and coordinated with directly to bolster DAC involvement in the plan development. Additional outreach occurred through development and use of the SWRP stakeholder contact list and the SWRP website.

The SWRP incorporates past management and research efforts, existing plans, as well as stormwater quality and groundwater recharge technical studies performed as part of and alongside development of this SWRP. Concurrent collaboration and planning efforts of the East Stanislaus IRWMP and Westside-San Joaquin IRWMP updates were leveraged, with the integration of stakeholders, resources and projects when applicable. Relevant information and projects resulting from the Groundwater Sustainability Plans (GSPs) to be developed for the Modesto, Turlock, Eastern San Joaquin, and Delta-Mendota groundwater subbasins will be assessed and integrated into future SWRP efforts and projects, where feasible.

ES-3 Integrated Metrics-Based Benefits Analysis

A metrics-based analysis helps illustrate how the multi-benefit projects included in the SWRP will collectively address the water resource management goals of the planning area. Projects with quantified benefits were aggregated across the planning area to estimate total SWRP benefits and assess progress toward reaching water resource management goals. The quantified benefits discussed in the SWRP are based on information provided by the project proponents to date. Quantitative information was not provided for every project, which may result in underestimation of the aggregated benefits of all SWRP projects. The locations of the projects are shown in Figure ES-3.

Figure ES-3. SWRP Projects



Stormwater benefits are evaluated within five different categories: water quality, water supply, flood management, environmental, and community benefits. Within each category, specific main and additional benefits have been identified. These categories and benefits align with those presented in the SWRP Guidelines (SWRCB, 2015) and are listed in Table ES-1.

Table ES-1. SWRP Main and Additional Benefits

Benefit Category		Benefit
Main Benefits	Water Quality Benefits	Increased filtration and/or treatment of runoff
	Water Supply Benefits	Water supply reliability
		Conjunctive use
	Flood Management Benefits	Decreased flood risk by reducing runoff rate and/or volume
	Environmental Benefits	Environmental habitat protection and improvement, including wetland enhancement/creation, riparian enhancement, and/or instream flow improvement
		Increased urban green space
	Community Benefits	Employment opportunities provided
		Public education
Additional Benefits	Water Quality Benefits	Nonpoint source pollution control
		Reestablished natural water drainage and treatment
	Water Supply Benefits	Water conservation
	Flood Management Benefits	Reduced sanitary sewer overflows
	Environmental Benefits	Reduced energy use, greenhouse gas emissions, or provides a carbon sink
		Reestablishment of natural hydrograph
		Water temperature improvements
	Community Benefits	Community involvement
		Enhance and/or create recreational and public use areas

The SWRP water quality priorities for the planning area prioritize reducing pollutant loading to 303(d)-listed water bodies and supporting existing TDMLs. Water quality benefits provided by stormwater and dry weather runoff projects in the planning area include increased filtration and/or treatment of runoff, nonpoint source pollution control, and reestablished natural water drainage and treatment. The majority of water quality projects included in the SWRP increase infiltration of stormwater to reduce specific pollutants of concern in Stanislaus County. It is estimated that by implementing all SWRP projects with water quality benefits (both conceptual and ready to proceed), there could be a reduction in TSS loading of approximately 205,000 lbs/yr and approximately 5,200 lbs/yr of trash removed from entering waterways throughout the County.

Stormwater capture for groundwater basin recharge to augment water supply was identified as a regional watershed priority during the preparation of the SWRP. SWRP projects providing supply benefits through stormwater capture and use were aggregated across the planning area to analyze how collectively the stormwater capture projects and programs could provide water supply benefits of approximately 167,000 AFY of direct recharge, direct use, and/or in-lieu recharge/conjunctive use.

Flood management projects in the planning area can also provide water augmentation benefits by diverting flood flows to increase recharge. The SWRP projects providing flood management benefits through a reduction in potential flood volume can capture almost 28,000 AFY.

Environmental and community benefits could also be quantified as part of the SWRP. Projects providing energy reduction benefits could reduce energy consumed by over 1,500,000 kWh/year when analyzed collectively. Projects may also protect or improve over 3,500 acres of habitat. Community benefits resulting from the combined project include over 30,000 estimated visits per year to parks or other recreational areas developed or improved by the projects.

ES-4 Project Identification and Prioritization Process

The primary purpose of the SWRP is to identify and assess multiple-benefit stormwater projects, prioritizing those projects that can best address the water resource management goals in the SWRP planning area of Stanislaus County. The project identification and quantitative assessment process for the plan included: project solicitation, project submission, eligibility screening, and the metrics-based project assessment and prioritization.

Project solicitation was the process by which public agencies, nonprofits, and members of the public submitted projects to the SWRP. The project submission process for the SWRP was built on the strategy developed during the East Stanislaus IRWMP using a web-based project submittal and data management system called Opti. The Opti system allows project information to be submitted, reviewed, organized, and regularly updated electronically by project proponents. Project summaries are also available for review to all interested parties at <http://irwm.rmcwater.com/es>.

Submitted projects were screened for four eligibility characteristics in order to qualify for inclusion in the SWRP. The eligibility requirements ensure that (1) projects would be submitted by applicants eligible to receive funding, (2) the project is of the appropriate type, and the project provides multiple benefits as required by the SWRP Guidelines, (3) providing at least two or more categories of Main Benefits and (4) providing at least one category of Additional Benefits. Main and Additional Benefit categories are listed in Table ES-1.

A project prioritization process was developed to prioritize individual projects and programs for implementation based on an integration of measurable factors to assure the greatest water quality, water supply, conservation, and community needs are addressed. The prioritization process was based on watershed and planning area-level water resource management priorities identified during SWRP development and was created to be a simple, objective, metrics-based tool for assessing projects. Projects were prioritized based on a system of points, allocated to reflect those priorities.

The SWRP scoring system follows guidance provided in the SWRP Guidelines, which encourage projects to be prioritized based on factors such as providing multiple benefits, ability to secure ongoing funding, use of a metrics-driven approach, location on public lands, augmentation of local water supplies, and habitat restoration.

During the 2017 solicitation period, 58 projects were submitted, of which 41 were Conceptual projects and 17 were Ready-to-Proceed (RTP) projects. A detailed list of the submitted project and project prioritization is provided in Appendix F including information about project sponsors, project descriptions, prioritization results, and benefits provided. Table ES-2 summarizes the prioritization scoring system based on the SWRP

main and SWRP additional benefits provided by the project. Additional points were awarded if a quantitative metric was provided for either a main or additional benefit.

Table ES-2. Project Prioritization Scoring System

Providing SWRP Main Benefits and Additional Benefits	Points
Providing SWRP Main Benefits	
Points per benefit provided	4
Additional points if a quantitative metric can be provided for that benefit	2
Providing SWRP Additional Benefits	
Points per benefit provided	2
Additional points if a quantitative metric can be provided for that benefit	1
Addressing Regional Watershed Priorities	Points
Implements water quality improvements to help achieve the goals of an existing TMDL?	4
Reduces pollutant discharges into a 303(d)-listed Impaired Water Body?	2
Augments water supply by capturing stormwater or dry weather runoff for recharge into a groundwater basin?	4
Does the project provide a SWRP Main or Additional Benefit to a disadvantaged community or an economically distressed area?	4
Progress Towards Project Implementation	Points
Is the project supported by entities that have created permanent, local or regional funding?	4
Is the project located on public land? If not, is there an existing easement or right of way agreement with a local land owner?	4
Readiness of project to proceed (award points for each one completed):	
Planning Study or Feasibility Study	1
Environmental Assessment/EIR	1
Preliminary Project Design	2
Acquisition of all required environmental permits	2

ES-5 Plan and Project Implementation

Implementation of the SWRP will be completed through cooperation between Stanislaus County, the TAC, the project proponents, and stakeholders. For the SWRP to be successful, projects included in the SWRP must continue to move from conceptual and planning phases toward construction and implementation. The SWRP relies on individual projects and programs to collectively achieve the water supply, water quality, flood management, environmental, and community benefits identified in the plan.

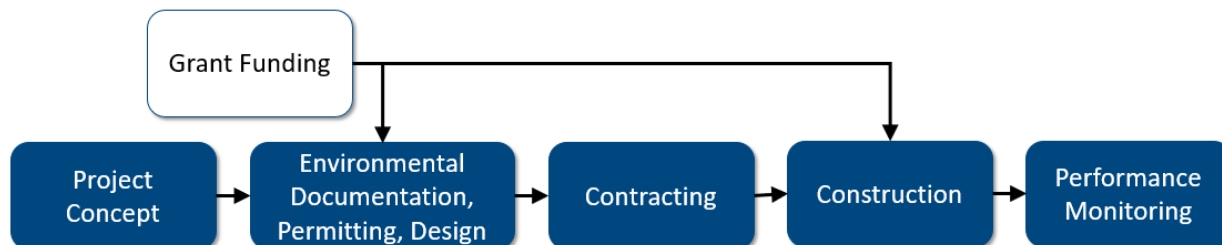
Implementing the SWRP consists of three main elements:

- Completing the design, permitting and implementation of projects included in the SWRP
- Monitoring the benefits produced by the projects included in the SWRP to ensure that project goals are being met and that SWRP objectives are being advanced
- Evaluating the SWRP at regular intervals to assess cumulative progress toward meeting the SWRP objectives and adapting the plan as necessary to ensure that objectives continue to be met

The projects included in the SWRP range from conceptual projects (which will require additional planning and design work prior to construction) to RTP projects (which may be ready for construction as soon as funding is secured). While inclusion in the SWRP does not obligate project proponents to implement projects as submitted, it is the intent of the SWRP that projects will be implemented to meet stormwater

objectives in the planning area. Project proponents are responsible for securing their own project funding and developing and implementing individual projects. A typical project lifespan is shown in Figure ES-4.

Figure ES-4. Example Project Progression



The SWRP is intended to be a living document and implemented as an ongoing, adaptive program. The plan identifies water resource management priorities and recommends projects based on current knowledge, as well as lays the framework for incorporating forthcoming information and future projects resulting from continued plan implementation.

Opti is publicly accessible and will serve as both a data repository and distribution mechanism. The use of Opti allows project proponents to update project information as details are solidified and benefits are further quantified. Eligible projects can be added at any time. Project performance data may also be uploaded to Opti where it can be viewed by stakeholders and members of the public. Project performance will be evaluated based on how well the targets established in the monitoring plan are met. This project information can be collectively managed in Opti and fed back into the plan's management structure to adapt the plan and projects to better meet overall objectives. Feedback obtained from community participation and public perception of individual project benefits is also expected to be an integral part of the adaptive management process for project proponents and plan partners.

This SWRP will be evaluated at regular intervals to assess cumulative progress toward meeting the SWRP objectives and the plan adapted, as necessary, to ensure that stormwater management objectives continue to be relevant and addressed.

WESTSIDE-SAN JOAQUIN Stormwater Resource Plan

May 2020



Prepared by:



**PROVOST &
PRITCHARD**
CONSULTING GROUP

Westside-San Joaquin Stormwater Resource Plan

May 2020

Prepared for San Luis & Delta-Mendota Water Authority



Prepared by Woodard & Curran and Provost & Pritchard



Table of Contents

Executive Summary.....	ES-1
Chapter 1 Introduction	1-1
1.1 Legislative Background	1-1
1.2 West-Side San Joaquin Region Watershed Planning Area.....	1-2
1.3 Document Organization.....	1-4
Chapter 2 Watershed Identification	2-1
2.1 Region Overview	2-1
2.1.1 Major Water-Related Infrastructure.....	2-3
2.1.2 Flood Management.....	2-3
2.1.3 Major Land Uses.....	2-3
2.1.4 Counties	2-3
2.2 Watersheds	2-6
2.2.1 Watershed Descriptions.....	2-6
2.3 Quality and Quantity of Water Resources	2-6
2.3.1 CVP Supplies.....	2-7
2.3.2 Surface Water Resources and Quality	2-7
2.3.3 Groundwater Resources and Quality.....	2-8
2.3.4 Recycled and Reclaimed Water	2-14
2.4 Water Supplies and Demands.....	2-15
2.4.1 City of Tracy	2-15
2.4.2 City of Patterson	2-16
2.4.3 City of Newman.....	2-16
2.4.4 City of Los Banos	2-17
2.4.5 West Stanislaus ID.....	2-17
2.4.6 Patterson ID	2-18
2.4.7 James ID	2-18
2.4.8 Banta-Carbona ID	2-19
2.4.9 Central California ID	2-19
2.4.10 Columbia Canal Company	2-19

2.4.11	Del Puerto WD	2-20
2.4.12	Firebaugh Canal WD.....	2-20
2.4.13	Panoche WD.....	2-20
2.4.14	San Luis WD.....	2-20
2.4.15	Westlands WD.....	2-21
Chapter 3	Water Quality Compliance	3-1
3.1	Water Quality Regulations.....	3-1
3.1.1	Basin Plan and 303(d) List	3-1
3.1.2	Total Maximum Daily Loads (TMDLs).....	3-8
3.1.3	National Pollutant Discharge Elimination System (NPDES)	3-12
3.1.4	Waste Discharge Requirements (WDR) Program	3-14
3.2	Pollutant-Generating Activities.....	3-14
3.2.1	Agricultural Activities	3-14
3.2.2	Resource Extraction	3-15
3.2.3	Municipal and Industrial Activities.....	3-15
3.2.4	Urban Activities.....	3-15
Chapter 4	Organization, Coordination, and Collaboration.....	4-1
4.1	Coordination during Plan Development	4-1
4.1.1	SLDMWA Organization and Coordination.....	4-1
4.1.2	Technical Advisory Committee	4-2
4.1.3	Other Coordination	4-4
4.2	Community Participation During Plan Development.....	4-5
Chapter 5	Quantitative Methods.....	5-1
5.1	Project Eligibility	5-1
5.2	Project Prioritization	5-2
5.3	Benefit Metrics.....	5-4
5.4	Tools for Quantitative Benefit Assessment	5-6
5.4.1	EPA System for Urban Stormwater Treatment and Analysis Integration Model	5-6
5.4.2	EPA Storm Water Management Model	5-7
5.4.3	Central Valley Hydrologic Study.....	5-7
5.5	Integrated Metrics-Based Analysis	5-7

5.5.1	Water Quality Project Analysis	5-8
5.5.2	Stormwater Capture and Use/Water Supply Projects Analysis	5-10
5.5.3	Flood Management Projects Analysis	5-11
5.5.4	Environmental Benefits Analysis	5-11
5.5.5	Community Benefits Analysis	5-12
Chapter 6	Identification and Prioritization of Projects	6-1
6.1	Project Solicitation	6-1
6.2	Project List	6-2
6.3	SWRP Priority Project Opportunities	6-4
6.4	Design Criteria and BMPs for New Development and Redevelopment	6-7
Chapter 7	Implementation Strategy and Schedule	7-1
7.1	SWRP Projects and Programs	7-1
7.2	Decision Support Tools	7-2
7.3	Adaptive Management	7-2
7.4	IRWMP Submittal	7-2
Chapter 8	Education, Outreach, and Public Participation	8-1
8.1	Outreach Mechanisms and Processes	8-1
Chapter 9	References	9-1

List of Figures

Figure 1-1: SLDMWA Member Agencies in the Westside-San Joaquin Region	1-3
Figure 2-1: Westside-San Joaquin Region Watersheds and Principal Waterways	2-2
Figure 2-2: Major Water-Related Infrastructure in the WSJ Region.....	2-4
Figure 2-3: 100-Year Floodplain	2-5
Figure 2-4: CVP Allocations 1990-2017 for South of Delta Agricultural Contractors (USBR, 2018)	2-7
Figure 2-5: Groundwater Basins	2-10

List of Tables

Table 1-1: SLDMWA Member Agencies	1-2
Table 2-1: Groundwater Basin Priority	2-11
Table 2-2: City of Tracy Projected Water Demands.....	2-15
Table 2-3: City of Patterson Projected Water Demands.....	2-16
Table 2-4: City of Newman Projected Water Supplies and Demand	2-17
Table 2-5: City of Los Banos Projected Water Supplies and Demand.....	2-17
Table 3-1: Beneficial Uses of Surface Water	3-3
Table 3-2: Beneficial Uses of Groundwater	3-4
Table 3-3: 303(d)-Listed Impaired Water Bodies in the WSJ Region	3-5
Table 3-4: TMDLs Relevant to the WSJ Region	3-8
Table 4-1: SWRP Development Schedule	4-1
Table 4-2: Technical Advisory Committee Members.....	4-3
Table 4-3: Technical Advisory Committee Meetings	4-4
Table 5-1: Points Awarded Per SWRP Main Benefit and Additional Benefit	5-3
Table 5-2: Points Awarded for Addressing Regional Watershed Priorities	5-3
Table 5-3: SWRP Main Benefits and Quantitative Metrics	5-5
Table 5-4: SWRP Additional Benefits and Quantitative Metrics.....	5-6
Table 5-5: Number of Projects Providing Water Quality Benefits and Quantitative Benefits Provided by SWRP Projects	5-9
Table 5-6: Number of Projects Providing Water Supply Benefits and Quantitative Benefits Provided by SWRP Projects	5-10
Table 5-7: Number of Projects Providing Flood Management Benefits and Quantitative Benefits Provided by SWRP Projects	5-11
Table 5-8: Number of Projects Providing Environmental Benefits and Quantitative Benefits Provided by SWRP Projects	5-12
Table 5-9: Number of Projects Providing Community Benefits and Quantitative Benefits Provided by SWRP Projects.....	5-13
Table 6-1: List of Projects.....	6-3
Table 6-2: Priority Project Opportunities.....	6-5

List of Appendices

Appendix A: SWRP Checklist

Appendix B: Stakeholder Contact List

Appendix C: Project Information

Appendix D: Public Draft Comments

Acronyms and Abbreviations

AF	Acre-feet
AFY	Acre-feet per year
AWMP	Agricultural Water Management Plan
BHC	Benzenhexachloride
BMP	Best Management Practice
CASGEM	California Statewide Groundwater Elevation
CASQA	California Stormwater Quality Association
CCR	California Code of Regulations
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CVHS	Central Valley Hydrology Study
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CVRWQCB	Central Valley Regional Water Quality Control Board
DAC	Disadvantage Community
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DMC	Delta-Mendota Canal
DOI	Department of Interior
DWR	California Department of Water Resources
DWSC	Deep Water Ship Channel
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCB	Hexachlorobenzene
HCH	Hexachlorocyclohexane
HEC	Hydrologic Engineering Center
HEC-RAS	Hydrologic Engineering Center's River Analysis System
HEC-ResSim	Hydrologic Engineering Center's Reservoir System Simulation
ID	Irrigation District

ILRP	Irrigated Lands Regulatory Program
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
KWH	Kilowatt-hour
LID	Low-Impact Development
M&I	Municipal & Industrial
MCL	Maximum Contaminant Level
MEP	Maximum Extent Practicable
MPN	Most Probable Number
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works
QSD	Qualified SWPPP Developer
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SLDWMA	San Luis and Delta-Mendota Water Authority
SUSTAIN	Urban Stormwater Treatment and Analysis Integration
SWMM	Storm Water Management Model
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resources Plan
TAC	Technical Advisory Committee
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers
USBR	United States Bureau of Reclamation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

UWMP	Urban Water Management Plan
WD	Water District
WQO	Water Quality Objective
WSJ	Westside-San Joaquin

Executive Summary

The Westside-San Joaquin Regional Storm Water Resource Plan (SWRP) is an integrated document focusing on regional watershed-based stormwater and dry weather runoff management priorities along the western side of California's San Joaquin River Valley. The San Luis and Delta-Mendota Water Authority (SLDMWA) is the Regional Water Management Group for the Westside-San Joaquin (WSJ) Integrated Regional Water Management (IRWM) Region and led development of this SWRP. The effort represents a collaboration with SLDMWA member agencies, as well as other regional partners and the public. The primary purpose of the SWRP is to identify and assess multiple-benefit stormwater projects, prioritizing those projects that can best address the stormwater management goals in the SWRP planning area.

The SWRP is intended to be a living document and implemented as an ongoing, adaptive program. Therefore, this plan identifies watershed priorities and recommends projects based on current knowledge, as well as lays the framework for incorporating forthcoming information and future projects resulting from continued plan implementation.

ES-1 Planning Area Overview

The WSJ Region is located on the west side of the San Joaquin Valley. The WSJ Region falls within the San Joaquin River and Tulare Lake Hydrologic Regions, as defined by the California Department of Water Resources (DWR, n.d.b). The San Joaquin River Hydrologic Region encompasses the northern portion of the San Joaquin Valley, and the Tulare Lake Hydrologic Region covers the southern portion. The San Joaquin Valley itself is 200 miles long and 70 miles wide, lying between the Sierra Nevada Mountain Range and the Pacific Coast Range of California. The San Joaquin River is the principal river of the region, and accepts drainage from both the Sierra Nevada and Pacific Coast Mountain Ranges, running from south to north and eventually emptying into the Sacramento-San Joaquin River Delta.

The WSJ Region boundary generally aligns with the SLDMWA service area boundary, which includes agencies that receive water from the Delta-Mendota Canal (Figure 1-1). However, the WSJ Region also includes adjacent agencies and cities that expressed interest in joining the WSJ Region and becoming involved in regional planning efforts such as the Integrated Regional Water Management Plan (IRWMP) and SWRP. These include Stratford Irrigation District (ID), Empire West Side ID, and the Cities of Avenal, Stratford, and Mendota (all disadvantaged communities [DACs]).

ES-2 Watershed Collaboration, Coordination, and Outreach

The WSJ SWRP represents a collaborative effort that sought and received input from multiple entities throughout the WSJ Region. Collaboration and coordination increase the ability of agencies and governments to implement stormwater projects with wide benefits that can provide the greatest impact on the WSJ Region. SLDMWA member agencies have been working together since 1992 and this strong relationship forms a foundation of collaboration that allowed the SWRP to reach additional stakeholders.

The development of the Westside-San Joaquin SWRP was led by SLDMWA, which serves the needs of 28 member agencies (Table 1-1). The water usage of the SLDMWA member agencies is predominantly agricultural, but also includes some Municipal & Industrial (M&I) and environmental uses. SLDMWA is governed by a Board of Directors and performs coordination and outreach functions on behalf of the WSJ Region.

Extensive participation by SLDMWA member agencies not only informs SLDMWA's actions but provides a feedback loop through which ideas and planning efforts, such as the WSJ SWRP, may be vetted. Additionally, many of these SLDMWA members participate in groups outside the realm of stormwater,

such as commodity bargaining associations, governmental associations, redevelopment agencies, planning commissions, and non-profit organizations. Participation in external organizations provides SLDMWA stakeholders, and thus the SWRP, perspective on intricate regional interests that are relevant to the prioritization of projects in the SWRP and the WSJ Region. SLDMWA's extensive communication with stakeholders throughout the WSJ Region also aided in raising awareness of the SWRP and soliciting input from multiple entities.

A Technical Advisory Committee (TAC) was convened in order to facilitate the preparation of the WSJ SWRP. The TAC provides feedback and direction on day-to-day aspects of SWRP development, such as draft documents, project solicitation, and project prioritization. Additionally, the TAC provides recommendations to the SLDMWA Board of Directors as necessary. The TAC also provides local knowledge for such tasks as updating stakeholder contact lists and identifying contacts to represent DACs.

ES-3 Integrated Metrics-Based Benefits Analysis

During the Call for Projects (discussed further in ES-4), project proponents provided information on their project benefits and quantified benefits expected to be realized by their projects, to the extent possible. Projects with quantified benefits were prioritized for future implementation in the SWRP's ranking of projects. A point system was developed that encouraged proponents to identify projects with a greater range of benefits, and to estimate project benefits. All projects were submitted into Opti, the WSJ Region's online data management system, which was used to facilitate project submission. Quantified benefits were then aggregated to understand the overall benefits that could be achieved by implementing the SWRP. SWRP benefits are quantified within each of the five SWRP benefit categories: water quality, water supply, flood management, environment, and community.

Benefits that would be achieved through complete implementation of all projects in the SWRP include:

- Reduced pollutant loading, including total suspended solids (TSS), total nitrogen, and coliform bacteria
- Increase in water supply via groundwater recharge, direct use, and/or conjunctive use
- Reduction in peak flow discharge rate
- Reduction in volume of potential flood water
- Reduced greenhouse gas emissions
- Habitat protection
- Creation of urban green space
- Community outreach and involvement
- Job creation

Chapter 5 provides details on quantitative and qualitative benefits of the projects included in the SWRP.

ES-4 Project Identification and Prioritization Process

Public agencies, nonprofits, and members of the public submitted projects to the SWRP. All project submittals that met the criteria of the SWRP were encouraged as long as proponents coordinated with a public agency, nonprofit, or other eligible entity that would act as the project lead. Submitting a project to the SWRP provides several benefits, including improved project visibility and community support, identification of opportunities for improvement, and positioning the project for potential funding

opportunities. The Call for Projects for the SWRP was held from January 21, 2020 to February 20, 2020 and was advertised to the WSJ Region stakeholder contact list via email and through the SLDMWA website. A total of 26 projects were submitted to the WSJ SWRP.

The project prioritization process was developed to prioritize projects and programs based on measurable factors to ensure the greatest benefits to the WSJ Region. The process was developed by the TAC based on watershed and planning area-level water resource management priorities. The process was created to be a simple, quantitative, and objective tool for assessing projects. Projects were prioritized through a point system that assigned each project points based on its ability to provide multiple benefits and to quantify those benefits. Points were awarded to projects that provided water quality, water supply, flood management, environment, and community benefits, as well as groundwater recharge, water quality benefits, and benefits to DACs. The quantitative scoring methodology is described in detail in Chapter 5.

Projects were submitted to the SWRP at various stages of completeness from the conceptual stage to ready to proceed. Projects at all stages of development were prioritized for the SWRP, though those with additional available had the opportunity to score higher, as they were more likely to be able to quantify benefits.

ES-5 Plan and Project Implementation

Future updates to the SWRP may benefit from additional watershed analyses to further develop project opportunities and needs. SLDMWA aims to continue investigating stormwater management needs in the WSJ Region to help expand the SWRP project list and ensure implementation of the SWRP and SWRP projects.

The primary decision support tool used in the SWRP is Opti and its project prioritization method. Opti allows for project data to be collected in a cohesive, user-friendly, and transparent online platform. The prioritization methodology, approved by the TAC, was developed to help the WSJ Region identify projects that would help meet the stormwater management priorities of the WSJ Region. However, the SWRP prioritization methodology and scoring is not intended to impede project implementation for projects that may not receive a high score. Opti is intended to stay open to allow project proponents to update project information over time at any point.

The SWRP is intended to be a living document, which means that projects will be updated and added beyond the initial timeframe for development of the SWRP. New project solicitations would likely occur before funding solicitation periods, or as needed. By using Opti, the WSJ Region maintains a dynamic project list. Additionally, Opti makes it easy for project proponents to update their project's progress and benefits or add new information or benefits altogether. Opti provides a more robust analysis of benefits as projects continue to update their progress or new projects are added.

Appendix F – Stakeholder Contact List

Westside-San Joaquin IRWM Region Stakeholder Contact List

Stakeholder Organization	Contact Name
Adams Ashby Group	Paul Ashby
Aliso Water District	Roy Catania
Aliso Water District GSA	Rick Iger
Aliso WD/Wonderful Orchards	Kimberly Brown
Alta Irrigation District	Chad Wegley
American River Basin	Rob Swartz
Angiola Water District	Matthew Hurley
Azcal Management Co.	Ted Sheely
Ballico Community Water Service District	Manuel Jimenez
Ballico-Cortez Water District	Victor Yamamoto
Banta-Carbona ID	David Weisenberger
Banta-Carbona ID	James McLeod
Blewett Mutual Water Company	Richard Bettencourt
Britz/Colusa	Quentin Kiggins
Britz/Colusa; Britz/Five Point System	Joey Sagariballa
Broadview WD	Jose Gutierrez
Broadview WD	Thomas Birmingham
Bureau of Reclamation (Central Valley Operations Office)	Jeff Rieker
Byron Bethany ID/CVPSA	Rick Gilmore
California Division of Drinking Water - District 23 (Fresno)	Jose Robledo
Cantua Creek Vineyards, IV, LLC	Frank Canela
Cardno	Mark Horne
Casaca Vineyards	Bobbie Kinser
Central California ID	Chris White
Central California ID	Jarrett Martin
Central California ID	Tracey Rosin
Central Delta Water Agency	Dante John Nomellini
Central Delta-Mendota Multi-Agency GSA	Amy Montgomery
Central Delta-Mendota Multi-Agency GSA	Bill Soares
Central Delta-Mendota Multi-Agency GSA	Christine Guzman
Central Delta-Mendota Multi-Agency GSA	Danny Wade
Central Delta-Mendota Multi-Agency GSA	Frances Mizuno
Central Delta-Mendota Multi-Agency GSA	Juan Cadena
Central Delta-Mendota Region Multi-Agency GSA	Aaron Barcellos
Central Valley Regional Water Quality Control	Bethany Soto
Chowchilla Water District	Doug Welch
Chowchilla-Red Top Resource Conservation District	Jeannie Habben
City of Avenal	Fernando Santillan
City of Dos Palos	Garth Pecchenino
City of Dos Palos GSA	Ricky Marshall
City of Firebaugh	Ben Gallegos
City of Firebaugh	Mario Gouveia
City of Gustine	Doug Dunford
City of Gustine WSA	Steve Wright
City of Huron	Jack Castro

Stakeholder Organization	Contact Name
City of Los Banos	Mark Fachin
City of Los Banos	Royal Lloyd
City of Mendota	Cristian Gonzalez
City of Mendota	Vince Dimaggio
City of Newman	Michael Holland
City of Patterson	Ken Irwin
City of Patterson	Maria Encinas
City of Patterson GSA	Fernando Ulloa
City of Patterson GSA	Mike Willett
City of San Joaquin	Elizabeth Nunez
City of Tracy	Steve Bayley
Coit Ranch Corporation	William Coit
Columbia CC	Randy Houk
Community of Crows Landing and Community of Grayson	Connie Payan
Community Water Center	Heather Lukacs
Consolidated Irrigation District	Phil Desatoff
Contra Costa County Water Agency	Ryan Hernandez
County of Fresno/Cantua Creek CDP/Three Rocks	Sebastian Artal
Crows Landing CSD	Ignacio Lopez
Crows Landing CSD	Lance Perry
Crows Landing CSD and Westley CSD	Coleen Sanguinetti
CV-Salts Coalition	Daniel Cozad
Dbeso	Kurtis Keller
Del Puerto WD	Adam Scheuber
Del Puerto WD	Anthea Hansen
Delhi County Water District	Stephany Perry
Department of Fish and Wildlife	Andy Gordus
Department of Water Resources	Jason Preece
Diablo WD	Mike Yeraka
Dos Palos Y Auction Yard (CDP)	
Eagle Field WD and White Area	Randall Miles
East Acres Mutual Water Company	
East Contra Costa County	Maggie Dutton
East Contra Costa County	Mark Seedall
East Contra Costa ID	Pat Corey
East Stanislaus IRWM - Steering Committee Member	Jim Alves
East Stanislaus Resources Conservation District	Chester Anderson
Eastin WD	Grant Craven
El Solyo WD	Janice Trinkle
Environmental Defense Fund	Lucia Garcia
Environmental Justice Coalition for Water	Colin Bailey
ESA (Consultant for SJR RFMP)	Minta Schaefer
Farmers Water District	Jim Stilwell
Farmers Water District and Sierra Valley Almonds, LLC	Mark Turmon
Farming D	Scott Schmidt
Firebaugh Canal WD	Madison Medeiros
Firebaugh CWD	Jeff Bryant
Firebaugh CWD	Michael Stearns

Stakeholder Organization	Contact Name
Five Points Ranch	Armando Galvan
Fresno County	Glen Allen
Fresno County Farm Bureau	
Fresno Irrigation District	Gary Serrato
Grassland WD	Mike Gardner
Grasslands Groundwater Sustainability Agency	Ric Ortega
Gravelly Ford WD	Don Roberts
Griffiths & Masuda	Roger Masuda
Harris Farms Headquarters Harris Farms South #101-144	Mike Casey
Helm School	Aurora Ramirez
Henry Miller R.D. 2131	Chase Hurley
Henry Miller R.D. 2131	Michael Cannon
Herum, Crabtree, Suntag LLP	Jeanne Zolezzi
James ID	Steve Stadler
James ID	Thomas W. Chaney
James Irrigation District; Reclamation District 1606	John Mallyon
Kern County IRWM Region	
Kings Basin IRWM Region	
Laguna ID	Scott Sills
Las Deltas Mutual Water Co.	Tim Ward
Lawer/City of Antioch	Matt Emrick
Linden County Water District	Clifford Powell
Linneman Law, LLP	Phil McMurray
Linneman Law/Panoche WD	Gabriel del Gado
Local Government Commission	Laura Podolsky
Luhdorff & Scalmanini	Will Halligan
Madera	Carl Janzen
Madera	Sean Smith
Madera County	Annette Kephart
Madera County	Stephanie Anagnoson
Madera ID	Thomas Greci
Manufacturer's Council of the Central Valley (MCCV)	Jennifer Shipman
MCDC Board Member	Denny Jackman
Mendota Pool Group	Bill Pipes
Merced County	Lacey Kiriakou
Merced County	Ron Rowe
Merced County	Steve Maxey
Merced County Ag Commissioner	David A. Robinson
Merced County Farm Bureau	Breanne Ramos
Merced ID	Hicham ElTal
Mercy Springs WD	Brad Gleason
Midway Community Services District	Dora Campos/Abby Hunter
Midway Community Services District	
Murrieta/Hernandez Farms	Tyler Thomas
Naglee Burk ID	Robert Mehlhaff
Nature Conservancy	Laura Jensen

Stakeholder Organization	Contact Name
Newman Drainage District	Dennis L. Hay
North Fork Kings	Eric Osterling
Northwestern Delta-Mendota GSA	Walter Ward
Oak Flat WD	John Beltran
Oakdale ID	Steve Knell
O'Laughlin & Paris LLP	Valerie Kincaid
Orchard Restaurant RV Park	
Oro Loma Water District	Steve Sloan
Pacheco WD	Lance LeVake
Pacific Gas & Electric	
Panoche WD	Ara Azhderian
Panoche WD	John Bennett
Panoche WD	Michael Linneman
Pappas & Co (Coalinga)	George Pappas
Patterson ID	Steve Trinta
Patterson ID	Vince Lucchesi
Patterson Irrigation District GSA	Marc Vanden
Peck Ranch	David Baker
Peters Engineering	David Peters
Pleasant Valley WD	Rod Stiefvater
Provost & Pritchard	Joe Hopkins
Provost & Pritchard	Kait Palys
RD 2031 (aka Elliot)	William Lyons, Jr
RD 2063 (aka Crows Landing)	Joe Sallaberry
RD 2091 (aka Chase)	Wendel Trinkler
RD 2101 (aka Blewett)	James Coddington
Reclamation District 1606	John Wiersma
Red Fern Ranch	Steve Fausone
River Islands	Ryan Alameda
River Partners	Maggie Boberg
Root Creek WD	Julia Berry
Root Creek WD	Nick Bruno
San Andreas Farms	Stan Nunn
San Joaquin County	Mike Callahan
San Joaquin County—Tracy & D-M	Brandon Nakagawa
San Joaquin River Exchange Contractors Water Authority	Steve Chedester
San Luis Canal Company	Alejandro Paolini
San Luis WD	Ben Fenters
San Luis WD	Lon Martin
San Luis WD	William Diedrich
SHE	Maria Herrera
SHE	Sal Alhomedi
SLDMWA	Andrew Garcia
Sommerville Almond Tree Owner	Joginer Singh
South Delta Water Agency	John Herrick
South Dos Palos County Water District	Jeannine Montes
South San Joaquin ID	Peter Rietkerk
Stanislaus County	Dhyan Gilton

Stakeholder Organization	Contact Name
Stanislaus County	Matt Machado
Stanislaus County Ag Commissioner	
Stanislaus County Farm Bureau	
Stanislaus Local Agency Formation Commission	Sara Lytle-Pinhey
Stantec	Kirsten Pringle
State Water Resources Control Board	Spencer Joplin
Storm Water Consulting, Inc.	James Nelson
Summers Engineering, Inc.	Chris Linneman
Terra Linda Farms	Joe Coelho
Terra Nova Ranch	Don Cameron
Tranquility ID	Bill Pucheu
Tranquility ID	Liz Reeves
Tranquillity Irrigation District	Rodney Wade
Tranquillity Public Utility District	Laurie Siliznoff
Turner Island WD	Donald Skinner
Twin Oaks ID; RD 1602 (aka Del Puerto)	Dan Roberts
Underrepresented community (not covered by IRWM Region)	Jennifer Cozart
Underrepresented community (not covered by IRWM Region)	Jim Lopes
Underrepresented community (not covered by IRWM Region)	Joe Azevedo
Underrepresented community (not covered by IRWM Region)	John Stockman
Underrepresented community (not covered by IRWM Region)	Julie Lara
Underrepresented community (not covered by IRWM Region)	
Landowner	Jeff Arambel
US Fish and Wildlife Service (Region 8)	Mike Fris
Volta Community Services District and Hillview Homes	Johnny Leonard
Water Wrights	Don Wright
West Stanislaus ID	Bobby Pierce
West Stanislaus ID	
Westlands WD	Dan Pope
Westlands WD	Don Peracchi
Westlands WD	Israel Sanchez
Westlands WD	Kiti Campbell
Westlands WD	William Bourdeau
Westley CSD	Tony Bravo
Westside Harvesting	Mike Hannah
Westside ID	David Kaiser
Westside-San Joaquin	Rebecca Akroyd
White Lake MWC	Leroy DelDon
Widren ID and White Area	Jean Sagouspe
Widren Water District GSA	Damian Aragona
Woodard & Curran	Jennifer Kidson
Woodard & Curran	Lindsey Wilcox
Woodard & Curran	Lyndel Melton
Woodbridge ID	Anders Christensen
Zone 7 Water Agency	Carol Mahoney
Community member	Bill Jacoby
Community member	Burta Herger
Community member	Jason Dean

Stakeholder Organization	Contact Name
Community member	Jeff Beecher
Community member	John Beam
Community member	Lauren Layne
Community member	Marvin Meyers
Community member	Melissa Whitten
Community member	Mica Nitschke (Home)
Community member	Michael Wackman
Community member	Patrick Cerutti
Community member	Peter Martin
Community member	Philip Martin
Community member	Reid Roberts
Community member	Roger Skinner
Community member	Steve Kaiser
Community member	Tony Whitehurst
Community member	Vince Roos

Appendix G – Climate Change Vulnerability Checklist

Westside-San Joaquin IRWM Region Climate Change Vulnerability Assessment Checklist

Category/Vulnerability	Yes	No	Notes
Water Demand			
Are there major industries that require cooling/process water in your planning region?	✓		Agricultural process water is required in the Region.
Does water use vary by more than 50% seasonally in parts of your region?	✓		Water use varies seasonally due to agriculture in the Region.
Are crops grown in your region climate-sensitive? Would shifts in daily heat patterns, such as how long heat lingers before night-time cooling, be prohibitive for some crops?	✓		Crops in the Region would require more water under such conditions.
Do groundwater supplies in your region lack resiliency after drought events?	✓		Due to extensive groundwater use, groundwater levels can be slow to rise after droughts.
Are water use curtailment measures effective in your region?	✓		Water use curtailment measures have generally been effective.
Are some instream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?	✓		No instream flow requirements have been identified in the Region. However, increases in instream flow requirements in the Delta may increase demands on the Delta and potentially impact water supply in the Region.
Water Supply			
Are increased wildfires a threat in your region? If so, does your region include reservoirs with fire-susceptible vegetation nearby which could pose a water quality concern from increased erosion?	✓		Increased wildfires are not a direct threat in the Region due to the agricultural uses that cover most of the Region. However, wildfires outside of the Region could impact water quality in the rivers within the region (e.g., increased turbidity).
Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents potentially exacerbated by climate change?	✓		Some agencies within the Region hold rights to San Joaquin River water, which can be susceptible to eutrophication due to agricultural nutrient input.
Are seasonal low flows decreasing for some waterbodies in your region? If so, are the reduced low flows limiting the waterbodies' assimilative capacity?		✓	No, current data does not indicate that seasonal low flows are decreasing, with the exception of drought years.

Category/Vulnerability	Yes	No	Notes
Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues?	✓		Yes. For example, municipal and domestic supply is identified as a beneficial use for groundwater in the Region's groundwater basins, but arsenic and uranium levels have caused closure of some municipal wells.
Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation?		✓	The Region does not observe water quality shifts of a magnitude that impact treatment facility operation.
Sea Level Rise			
Has coastal erosion already been observed in your region?		✓	The Region is not in a coastal area.
Are there coastal structures, such as levees or breakwaters, in your region?		✓	The Region is not in a coastal area.
Is there significant coastal infrastructure, such as residences, recreation, water and wastewater treatment, tourism, and transportation) at less than six feet above mean sea level in your region?		✓	The Region is not in a coastal area.
Are there climate-sensitive low-lying coastal habitats in your region?		✓	The Region is not in a coastal area.
Are there areas in your region that currently flood during extreme high tides or storm surges?		✓	The Region is not in a coastal area.
Is there land subsidence in the coastal areas of your region?		✓	The Region is not in a coastal area.
Do tidal gauges along the coastal parts of your region show an increase over the past several decades?		✓	The Region is not in a coastal area.
Flooding			
Does critical infrastructure in your region lie within the 200-year floodplain?	✓		Infrastructure such as the Patterson and Newman WWTPs lie just outside the 200-year floodplain. Many levees also exist in the floodplain. ¹
Does part of your region lie within the Sacramento-San Joaquin Drainage District?	✓		Portions of the region along the San Joaquin River lie within this District.
Does aging critical flood protection infrastructure exist in your region?	✓		Aging levees exist in the region.

¹ Map of 200-year floodplain is available online via California Department of Water Resources Best Available Maps: <http://gis.bam.water.ca.gov/bam/>

Category/Vulnerability	Yes	No	Notes
Have flood control facilities (such as impoundment structures) been insufficient in the past?		✓	Flood control facilities have not been insufficient in the past.
Are wildfires a concern in parts of your region?		✓	Land use in the Region is largely agricultural, and wildfire is not a concern within the Region.
Ecosystem and Habitat Vulnerability			
Does your region include inland or coastal aquatic habitats vulnerable to erosion and sedimentation issues?	✓		Aquatic fish in the Region may be sensitive to sedimentation issues.
Does your region include estuarine habitats which rely on seasonal freshwater flow patterns?	✓		The northernmost extent of the Region includes the City of Tracy, which is within the legal boundary of the Bay-Delta. The Bay-Delta is an estuarine habitat which is sensitive to seasonal freshwater flow patterns.
Do climate-sensitive fauna or flora populations live in your region?	✓		Yes. Aquatic fish are vulnerable to changes in water temperature and other climate change effects (such as turbidity). The Region also includes vernal pool habitats which are sensitive to climate change.
Do endangered or threatened species exist in your region? Are changes in species distribution already being observed in parts of your region?	✓		Endangered or threatened species such as steelhead trout, giant garter snake, and Swainson's hawk exist in the Region. Changes in species distribution are unknown.
Does the region rely on aquatic or water-dependent habitats for recreation or other economic activities?	✓		Wetlands in the region attract hunters, naturalists, and bird-watchers.
Are there rivers in your region with quantified environmental flow requirements or known water quality/quantity stressors to aquatic life?	✓		There are no instream flow requirements for any rivers in the Region. ² Rising water temperatures and sedimentation changes may cause additional stressors to aquatic organisms.
Do estuaries, coastal dunes, wetlands, marshes, or exposed beaches exist in your region? If so, are coastal storms possible/frequent in your region?		✓	The Region is not in a coastal area.

² California Department of Fish and Wildlife Instream Flow Recommendations Map. Available at: <https://www.wildlife.ca.gov/Conservation/Watersheds/Instream-Flow/Recommendations>

Category/Vulnerability	Yes	No	Notes
Does your region include one or more of the habitats described in the Endangered Species Coalition's Top 10 habitats vulnerable to climate change?	✓		Yes, the northernmost portion of the Region encompasses the City of Tracy, which is within the legal boundaries of the Bay-Delta habitat. ³
Are there areas of fragmented estuarine, aquatic, or wetland wildlife habitat within your region? Are there movement corridors for species to naturally migrate? Are there infrastructure projects planned that might preclude species movement?	✓		Wetlands do exist within the Region. Some areas are fragmented and some are larger, such as the San Luis National Wildlife Refuge and San Joaquin River National Wildlife Refuge.
Hydropower			
Is hydropower a source of electricity in your region?	✓		The O'Neill Pumping-Generating Plant, about 12 miles west of Los Banos, lifts water from the Delta-Mendota Canal into the O'Neill forebay. The Plant can also operate as a generator and is able to produce up to 24,000 kilowatts per hour.
Are energy needs in your region expected to increase in the future? If so, are there future plans for hydropower generation facilities or conditions for hydropower generation in your region?	✓		Energy needs are expected to increase in the future because of increasing temperatures and a corresponding increase in irrigation demands. Plans for hydropower generation facilities are unknown at this time.

Source: Vulnerability assessment checklist adapted from California Department of Water Resources' *Climate Change Handbook for Regional Water Planning* (2009), Appendix B, available at:

<https://www.water.ca.gov/LegacyFiles/climatechange/docs/Appendix%20B%20Vulnerability%20Assessment%20Checklist-Final.pdf>.

³ US Fish and Wildlife Service, San Francisco Bay-Delta Fish and Wildlife Office. *Jurisdictional Boundary and Legal Delta*. Map available at https://www.fws.gov/sfbaydelta/Maps/BDFWO_Boundary_with_LegalDelta_073015.pdf