

# Table of Contents

## Chapter 1 Executive Summary

1.0 Introduction .....	1-1
1.1 The Yuba County IRWM Plan Area .....	1-2
1.2 2015 IRWM Plan Update Process .....	1-2
1.2.1 Elements of the 2015 IRWM Plan .....	1-3
1.2.2 Stakeholders and Outreach .....	1-8
1.2.3 Climate Change .....	1-11
1.3 Project Development Process .....	1-13
1.3.1 Project Solicitation Process .....	1-13
1.3.2 Creating the Final IRWM Plan Project List .....	1-14
1.4 Financing Strategies .....	1-15
1.4.1 Plan Funding .....	1-15
1.4.2 Project Funding .....	1-16
1.5 Plan Implementation .....	1-16
1.5.1 Plan-related Implementation Action .....	1-16
1.5.2 Project-related Implementation Action .....	1-17

## Chapter 2 Plan Development Process

2.0 Introduction .....	2-1
2.1 Regional Water Management Group .....	2-1
2.2 Development of a Governance Structure .....	2-2
2.3 Circuit-Riding Activities .....	2-2
2.4 Tribal Outreach .....	2-2
2.5 Latino Outreach .....	2-3
2.6 Project Development Activities .....	2-3
2.7 Climate Change Analyses .....	2-3
2.8 Coordination with Adjacent IRWM Regions .....	2-4

## Chapter 3 Stakeholder Involvement

3.0 Introduction .....	3-1
3.1 Overview .....	3-1
3.2 Stakeholder Composition .....	3-3
3.2.1 2008 Plan Adoptees .....	3-4
3.3 Process Used to Identify, Recruit Participation of, and Involve Stakeholders .....	3-5
3.3.1 Phase 1 – Recruitment of Stakeholders .....	3-5
3.3.2 Phase 2 – Project and Plan Development Outreach .....	3-7

3.4 Technical and Information Access ..... 3-8

3.5 Decision-making Process..... 3-9

3.6 Disadvantaged Communities ..... 3-10

**Chapter 4 Coordination**

4.0 Introduction..... 4-1

4.1 Coordination and Communication – Local Agencies and Stakeholders..... 4-1

4.2 Adjacent IRWM Coordination and Communication Efforts ..... 4-2

    4.2.1 Identification of Adjacent IRWM Efforts ..... 4-2

    4.2.2 Coordination and Communication with Adjacent IRWM Efforts..... 4-2

4.3 Coordination with State and/or Federal Agencies ..... 4-3

    4.3.1 State Water Resources Control Board..... 4-3

    4.3.2 US Forest Service ..... 4-5

    4.3.3 Feather River Region – Regional Flood Management Plan..... 4-5

    4.3.4 Levee Improvement Projects ..... 4-5

    4.3.5 Forecast-Coordinated Operations of Lake Oroville and New Bullards Bar Reservoir..... 4-6

    4.3.6 Lower Yuba River Accord..... 4-6

    4.3.7 Groundwater Management and Monitoring..... 4-7

**Chapter 5 Disadvantaged Communities, Environmental Justice, and Native American Tribal Considerations**

5.0 Introduction..... 5-1

5.1 Overview of Disadvantaged, Latino and Hmong, and Tribal Community Involvement..... 5-1

5.2 DAC Involvement..... 5-3

    5.2.1 DAC Identification ..... 5-3

    5.2.2 DAC Outreach..... 5-4

    5.2.3 DAC Project Development..... 5-4

5.3 Environmental Justice Outreach ..... 5-4

    5.3.1 Latino/Hispanic Outreach..... 5-5

5.4 Native American Tribal Involvement..... 5-9

**Chapter 6 Region Description**

6.0 Introduction ..... 6-1

6.1 Valley, Foothill, and Mountain Areas..... 6-1

6.2 Communities and Planning Areas ..... 6-4

6.3 Yuba County Region and Overlapping Integrated Regional Water Management Regions ..... 6-4

    6.3.1 Rationale for Yuba County Region Internal Boundaries ..... 6-4

    6.3.2 Overlap with Nearby IRWM Regions ..... 6-4

6.4 Land Use..... 6-7

6.4.1 Major Land Uses .....	6-7
6.4.2 Agricultural Land Use .....	6-9
6.4.3 Recreation .....	6-10
6.4.4 Conservation Areas .....	6-13
6.5 Economic and Social Environment.....	6-14
6.5.1 Regional Economic Conditions and Trends.....	6-14
6.5.2 Population and Demographics.....	6-15
6.5.3 Disadvantaged Communities .....	6-15
6.5.4 California Native American Tribes.....	6-18
6.6 Environmental Setting .....	6-18
6.6.1 Climate and Precipitation .....	6-18
6.6.2 Hydrology and Groundwater .....	6-20
6.6.3 Hydrology and Surface Water Resources .....	6-20
6.6.4 Vegetation Communities .....	6-26
6.6.5 Wildlife and Habitat .....	6-28
6.6.6 Yuba River Fisheries Resources.....	6-29
6.7 Likely Climate Change Impacts.....	6-34
 <b>Chapter 7 Water Supply</b>	
7.0 Introduction .....	7-1
7.1 Surface Water Supplies .....	7-4
7.1.1 Yuba River .....	7-4
7.1.2 Other Rivers that Contribute to Water Supply.....	7-5
7.1.3 Recycled Water .....	7-6
7.1.4 Return Irrigation Flows.....	7-6
7.2 Groundwater Supplies.....	7-6
7.2.1 Upper Watershed.....	7-6
7.2.2 Valley Floor.....	7-7
7.2.3 Groundwater Levels .....	7-7
7.2.4 Groundwater Flow Direction.....	7-7
7.2.5 Groundwater Level Trends .....	7-8
7.2.6 Groundwater Recharge and Transfers.....	7-9
7.3 Land Use Factors Affecting Water Supply and Demand.....	7-10
7.4 Summary of Supplies and Demands .....	7-12
7.4.1 Municipal/Domestic Water Supplies .....	7-12
7.4.2 Municipal/Domestic Water Demands.....	7-14
7.4.3 Agricultural Water Supply and Demand .....	7-14
7.4.4 Environmental Water Demand .....	7-16

7.5 Surface and Groundwater Infrastructure..... 7-17

    7.5.1 Yuba River Watershed..... 7-19

    7.5.2 Upstream Reservoirs..... 7-19

    7.5.3 Downstream Infrastructure ..... 7-20

7.6 Administration and Management..... 7-20

    7.6.1 Water Conservation ..... 7-20

7.7 Water Supply and Climate Change..... 7-22

**Chapter 8 Water Quality**

8.0 Introduction ..... 8-1

8.1 Water Quality Regulatory Framework..... 8-1

    8.1.1 Basin Plan for the Sacramento River Basin ..... 8-1

    8.1.2 Central Valley Salinity Coalition ..... 8-3

    8.1.3 Irrigated Lands Regulatory Program ..... 8-4

    8.1.4 Watershed Management Initiative for the Sacramento Hydrologic Region (2003)..... 8-5

8.2 Current Water Quality Conditions ..... 8-6

    8.2.1 Yuba County IRWMP Region Drinking Water Quality ..... 8-6

    8.2.2 Clean Water Act Section 303(d) List ..... 8-6

    8.2.3 Water Quality Based on FERC Relicensing Studies ..... 8-11

    8.2.4 Groundwater Quality, Imported Water Quality, and Water Quality from Storage Facilities ..... 8-11

    8.2.5 Wastewater and Recycled Water Quality..... 8-13

8.3 Regulatory Compliance ..... 8-13

    8.3.1 Discharge and Basin Management Objectives ..... 8-13

    8.3.2 Drinking Water Standards..... 8-13

    8.3.3 Yuba County Groundwater Management Plan (2010) Goals and Objectives..... 8-13

8.4 Water Quality Protection and Improvement Needs in the Yuba County IRWMP Region ..... 8-13

    8.4.1 Future Water Quality Conditions..... 8-14

    8.4.2 Water Quality Monitoring..... 8-14

    8.4.3 Sedimentation and Erosion..... 8-15

    8.4.4 Mercury Methylation..... 8-16

    8.4.5 Other Contamination ..... 8-18

    8.4.6 Water Temperature ..... 8-18

    8.4.7 Aquatic Invasive Species ..... 8-19

    8.4.8 Wildfire and Water Quality..... 8-20

**Chapter 9 Flood Management**

9.0 Introduction ..... 9-1

9.1 Yuba County IRWMP Region Flood Management History..... 9-1

9.2 Regional Flood Management Plans .....	9-3
9.3 FEMA Floodplain Mapping in the Region.....	9-5
9.3.1 Flood Insurance Costs .....	9-6
9.4 Overview of Yuba County IRWMP Region Flood Management.....	9-7
9.4.1 Flood Management Infrastructure .....	9-7
9.4.2 Flood Management Systems.....	9-10
9.4.3 Flood Management Channel Capacities .....	9-10
9.4.4 Summary of Flood Management Challenges and Opportunities .....	9-11
9.5 Summary of Yuba County IRWMP Region Flood Impacts.....	9-12
9.5.1 Localized Flooding from Severe Winter Storm Events.....	9-13
9.5.2 Recent Major Flood Events .....	9-14
9.6 Recent Flood Protection Efforts.....	9-15

**Chapter 10 *Water and Land Use Planning***

10.0 Introduction .....	10-1
10.1 Local Planning Relationship to the IRWMP.....	10-2
10.1.1 IRWMP Relation to Local Water Planning & Implementation.....	10-3
10.2 Coordination between Local Land Use and Water Planning .....	10-25
10.2.1 IRWMP Relation to Local Land Use Planning.....	10-26
10.3 Plan Relation to Neighboring Regional Planning Efforts.....	10-32
10.4 Coordination with State and Federal Planning Efforts .....	10-32
10.5 Recommendations to Improve Coordination .....	10-33

**Chapter 11 *Climate Change***

11.0 Introduction and Overview .....	11-1
11.1 Process for Preparing This Chapter .....	11-2
11.1.1 The Role of the Robust Decision Support Process in IRWMP Preparation .....	11-3
11.1.2 State Climate Strategies/Documents .....	11-4
11.2 Current Climate Trends and Impacts.....	11-6
11.2.1 Climate Trends .....	11-7
11.2.2 Environmental Effects of Climate Changes .....	11-8
11.2.3 Regional Population Trends in the Climate Context.....	11-11
11.2.4 Modeled and Simulated Projections.....	11-11
11.3 Climate Vulnerabilities .....	11-12
11.3.1 Projected and Anticipated Vulnerabilities .....	11-19
11.3.2 Prioritizing Climate Vulnerabilities for the Region .....	11-27
11.4 Adaptive Management Strategies.....	11-33

11.4.1 Adaptation Strategies Developed by SEI/Climate Core Team ..... 11-33

11.5 Strategies Elevated To Programs or Projects in This Plan ..... 11-37

    11.5.1 Risks of the Region Taking No Action ..... 11-37

11.6 Climate Change Mitigation/Greenhouse Gas Reduction ..... 11-38

    11.6.1 Mitigation Strategies ..... 11-38

    11.6.2 GHG Reduction Considerations for Project Design and Alternatives ..... 11-40

    11.6.3 Environmental Compliance ..... 11-41

11.7 Climate Change Discussion Elsewhere In This Plan ..... 11-42

11.8 Future Program for Data Gathering and Analysis of Prioritized Vulnerabilities ..... 11-42

    11.8.1 Data Analysis and Information Sharing ..... 11-43

    11.8.2 Reducing GHG Emissions ..... 11-43

**Chapter 12 Goals, Objectives, Issues, and Conflicts**

12.0 Introduction ..... 12-1

12.1 Building the Foundation for Effective Plan Implementation ..... 12-1

12.2 Describing the Process for Determination of Objectives ..... 12-1

    12.2.1 Addressing Regional Issues and Conflicts ..... 12-1

    12.2.2 Aligning Regional Objectives with Existing Plans, Policies, and Regulations ..... 12-4

    12.2.3 Regionally Identified Goals and Objectives ..... 12-6

12.3 Prioritization of Objective ..... 12-8

12.4 Integration of Issues, Goals, and Objectives into the Project Development Process ..... 12-8

12.5 Goals, Objectives, and Performance Measures ..... 12-9

**Chapter 13 Resource Management Strategies**

13.0 Introduction ..... 13-1

13.1 Defining Resource Management Strategies ..... 13-1

13.2 California Water Plan Resource Management Strategies ..... 13-1

13.3 Documenting the Process for RMS Determination ..... 13-2

    13.3.1 Rationale for RMS Determination ..... 13-11

13.4 Regional RMSs that Address Climate Change Vulnerabilities ..... 13-16

13.5 Integrating RMSs into Project Application, Development, and Review ..... 13-19

**Chapter 14 Project Application, Development, and Review**

14.0 Introduction ..... 14-1

14.1 Project Application Process ..... 14-1

    14.1.1 Project Application Materials ..... 14-2

    14.1.2 Updating Existing Projects from the 2008 Yuba County IRWMP ..... 14-4

14.2 Project Review Process ..... 14-4

    14.2.1 Establishment of a Revised Project Review Criteria ..... 14-4

    14.2.2 A Revised Approach to Project Ranking ..... 14-5

14.3 Project Selection for Yuba County IRWMP Inclusion ..... 14-5

14.4 Procedures for Communicating Selected Projects..... 14-6

**Chapter 15 Finance**

15.0 Introduction ..... 15-1

15.1 Funding of Ongoing Plan Implementation ..... 15-1

15.2 Ongoing Costs and Potential Funding Sources..... 15-1

15.3 Project-Level Funding..... 15-3

15.3.1 Federal, State, Regional, and Private Grant and Loan Sources ..... 15-3

15.3.2 Special Districts ..... 15-3

15.3.3 User Fees..... 15-3

15.4 Project-Level Financing ..... 15-5

15.4.1 Certainty of Project Funding ..... 15-5

15.5 Financing Operations and Maintenance ..... 15-14

15.5.1 Sewer and Water Systems and Flood Protection (Community Infrastructure..... 15-14

15.5.2 Agricultural Water Delivery/Efficiency..... 15-14

15.5.3 Natural Resource Restoration ..... 15-14

**Chapter 16 Governance**

16.0 Introduction..... 16-1

16.1 2009 IRWMP: Governance, Adoption, and Implementation ..... 16-1

16.1.1 Governance Structure Established During 2009 IRWMP ..... 16-1

16.1.2 Process for Adoption of 2009 IRWMP..... 16-2

16.1.3 Activities after Adoption of 2009 Plan..... 16-2

16.2 Yuba County IRWMP Update 2015 Governance Process..... 16-3

16.2.1 Governance Structure Revisited and Refined ..... 16-3

16.2.2 Memorandum of Understanding ..... 16-4

16.3 Process Used to Develop Objectives..... 16-7

16.4 Coordination with Adjacent IRWM Regions..... 16-7

16.5 Long-term Implementation ..... 16-7

16.5.1 Interim and Formal Changes to the IRWMP ..... 16-7

16.5.2 Project Updates, Additions, and Funding..... 16-8

16.6 Notice of Intent to Prepare an IRWMP..... 16-8

**Chapter 17 Plan Performance and Monitoring**

17.0 Introduction..... 17-1

17.1 Plan-level Performance Measures ..... 17-1

17.1.1 Evaluation of Implementation Performance under 2008 IRWMP ..... 17-2

17.1.2 Process for Plan Evaluation ..... 17-2

17.2 Project-level Performance Measures ..... 17-3  
    17.2.1 Development of Project-level Monitoring Plans..... 17-4

**Chapter 18 Impacts and Benefits**

18.0 Introduction ..... 18-1  
18.1 Programmatic-level Impacts and Benefits ..... 18-1  
    18.1.1 Identification of Funding Sources ..... 18-3  
    18.1.2 Venue to Address Policy-related and Regulatory Processes ..... 18-3  
18.2 Project-level Impacts and Benefits ..... 18-3  
    18.2.1 Impacts from Failure to Implement the Plan..... 18-4  
18.3 Impacts and Benefits – Assessing Progress..... 18-5  
18.4 Impacts and Benefits to Disadvantaged Communities and Native American Tribes ..... 18-5  
18.5 Interregional Benefits and Impacts..... 18-6

**Chapter 19 Technical Analysis and Data Management**

19.0 Introduction ..... 19-1  
19.1 Technical Analysis..... 19-2  
    19.1.1 Background ..... 19-2  
    19.1.2 Analyses by the Project Team ..... 19-2  
19.2 Data Management ..... 19-4  
    19.2.1 Data Collection Techniques, Policies, and Procedures..... 19-4  
    19.2.2 Data Collection, Management, and Contributions to State Data ..... 19-4  
    19.2.3 How Stakeholders Contribute and Share Data..... 19-6  
    19.2.4 DMS Support..... 19-6  
    19.2.5 Responsibility for Maintaining Data..... 19-6  
19.3 Data Needs and Gaps..... 19-6  
    19.3.1 200-Year Floodplain Mapping for the Region ..... 19-6  
    19.3.2 Groundwater ..... 19-7  
    19.3.3 Agricultural Water Efficiency..... 19-8  
19.4 Quality Assurance of Datasets and Information ..... 19-8

**Chapter 20 Works Cited**..... 20-1 to 20-8

**List of Appendices**..... i

**List of Figures**..... i

**List of Tables**..... ii

**List of Acronyms**..... iv



## List of Appendices

- Appendix 2-1 Environmental Justice/Disadvantaged Communities/Findings and Recommendations
- Appendix 4-1 Inter-IRWMP Coordination Reports
- Appendix 5-1 Hispanic Outreach
- Appendix 5-2 Tribal Outreach
- Appendix 6-1 CNDDDB Maps
- Appendix 6-2 CNDDDB List
- Appendix 10-1 General Plan Relation to IRWMP
- Appendix 11-1 Climate Vulnerability Checklist
- Appendix 11-2 Robust Decision Support for the Yuba County IRWMP
- Appendix 14-1 Completed Project Solicitation Forms
- Appendix 14-2 Project Solicitation Form
- Appendix 14-3 Completed Economic Feasibility Questionnaires
- Appendix 14-4 Completed Greenhouse Gas Inventories
- Appendix 16-1 Memorandum of Understanding
- Appendix 16-2 Notices of Intent to Prepare an IRWMP

## List of Figures

- Figure 2-1 The IRWMP Process
- Figure 6-1 Yuba County IRWMP Map – Location
- Figure 6-2 Yuba County IRWMP Map – Watersheds and Groundwater Subbasins within IRWMP Area
- Figure 6-3 Map – Neighboring IRWM Regions
- Figure 6-4 Map – Land Ownership
- Figure 6-5 Map – Disadvantaged Communities
- Figure 6-6 Map – Average Annual Precipitation
- Figure 6-7 Map – Vegetation
- Figure 7-1 Map – Water Management Agencies
- Figure 7-2 Map – Water Supply Infrastructure
- Figure 8-1 Map of 303(d)-listed water bodies in California that may be addressed through the proposed Statewide Mercury Policy (from State Water Resources Control Board)
- Figure 9-1 Map – Reclamation Districts
- Figure 11-1 The RDS Process
- Figure 11-2 Increasing Variability in Annual Precipitation
- Figure 16-1 Governance Structure
- Figure 16-2 Decision-Making Process

## List of Tables

Table 3-1	Entities Contacted and Recruited for Participation in the RWMG in 2013
Table 3-2	Level of Involvement of Yuba County IRWMP Update Stakeholders Recruited in 2013-2015
Table 3-3	Adoptees of the 2008 Yuba County IRWMP
Table 5-1	Communities in the Yuba County IRWMP Region Designated as Disadvantaged
Table 5-2	Latino, Hmong, and Native American Tribal Communities Contacted During Preparation of the Yuba County IRWMP Update
Table 6-1	Land Ownership Distribution in Yuba County
Table 6-2	Communities in the Yuba County IRWMP Region Designated as Disadvantaged
Table 6-3	Tribal Distribution List
Table 6-4	Major Subwatersheds in the Yuba County IRWMP Region
Table 6-5	Eligible Rivers for the National Wild and Scenic Rivers System
Table 6-6	Vegetation and Land Cover
Table 7-1	Normal and Multiple-Dry-Year Water Supplies by Agency
Table 7-2	Total Agricultural Applied Water Use in the Yuba County IRWMP Region
Table 7-3	Major Reservoirs and Lakes in the Yuba County IRWMP Region
Table 7-4	Yuba County IRWMP Region Urban Water Suppliers' Conservation Targets
Table 8-1	2010 Clean Water Act Section 303(d) List of Water Quality-Limited Segments within the Yuba County IRWMP Region
Table 8-2	Impaired Water Bodies and Fish Advisories Inside and Downstream of the Yuba County IRWMP Region
Table 9-1	Summary of Major Floods on the Yuba and Feather Rivers
Table 9-2	Local Maintaining Agencies for State Plan of Flood Control Levees in the Yuba County IRWMP Region
Table 9-3	US Army Corps of Engineers Flood System Design Flows
Table 10-1	Water and Land Use Planning Documents and Programs in the Yuba County IRWMP Region
Table 10-2	Yuba County IRWMP Region Water Purveyors, Planning Documents, and Participation in IRWMP Process
Table 10-3	Comparison of Groundwater Management Plan Basin Management Objectives and IRWMP Groundwater Objectives
Table 11-1	State Plans' Influence on the Climate Change Analysis
Table 11-2	Summary of Cal-Adapt Climate Projections for Northern Central Valley
Table 11-3	Selected Population Data for the North Central Valley Region and Yuba County
Table 11-4	Climate Vulnerabilities and Strategies to Increase Climate Resiliency
Table 11-5	Yuba County IRWMP Climate Vulnerability Prioritization
Table 11-6	Climate Change Discussion Elsewhere in this IRWMP

## List of Tables, *continued*

Table 12-1	Regionally Identified Issues
Table 12-2	Regionally Identified Conflicts
Table 12-3	Statewide Priorities for Integrated Regional Water Management
Table 12-4	Regionally Identified Goals and Objectives
Table 12-5	The Relationship between Objectives and Performance Measures
Table 13-1	State of California RMSs and Management Objectives
Table 13-2	The Relationship between Goals and Objectives and RMSs
Table 13-3	Resource Management Strategies Applicable to the Yuba County IRWM Region
Table 13-4	Regional Resource Management Strategies that Address Climate Change Vulnerabilities
Table 14-1	Yuba County IRWMP Project Development Process Timeline
Table 14-2	Yuba County IRWMP Project List and Project Review Criteria
Table 15-1	Options for Project-specific Implementation Funding
Table 15-2	Project Financing
Table 16-1	Stakeholders in Management Group – 2009 IRWMP
Table 17-1	Yuba County IRWMP Update – Goals-Objectives-Performance Metrics
Table 18-1	Impacts and Benefits of Plan Implementation
Table 19-1	A Summary of Primary Studies and Data Sets Used in Preparing the Yuba County IRWMP

## List of Acronyms

ACWA	Association of California Water Agencies
af	acre-feet
af/ac	acre-feet per acre
af/yr	acre-feet per year
AFRP	Anadromous Fish Restoration Program
AHA	Alliance for Hispanic Advancement
AIS	Aquatic Invasive Species
AML	Abandoned Mine Lands
ARB	American River Basin
Basin Plan	Regional Water Quality Control Basin Plan
Beale AFB	Beale Air Force Base
BMO	Basin Management Objectives
BMPs	Best Management Practices
BVID	Browns Valley Irrigation District
BYLT	Bear Yuba Land Trust
BYSWQC	Butte-Yuba-Sutter Water Quality Coalition
CABY	Cosumnes, American, Bear, Yuba
CAKE	Climate Adaptation Knowledge Exchange
Cal/EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring Database
CDEC	California Data Exchange Center
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CERES	California Environmental Resource Evaluation System
CESA	California Endangered Species Act
cfs	cubic feet per second
CFWID	Camp Far West Irrigation District
CNDDB	California Natural Diversity Database
CSC	California Species of Special Concern
CV	Central Valley
CVCWA	Central Valley Clean Water Association
CVFPP	Central Valley Flood Protection Plan
CVP	Central Valley Project
CV-SALTS	Central Valley Salinity Alternatives for Long-term Sustainability
CVSC	Central Valley Salinity Coalition
CWA	Clean Water Act
CWD	County Water District
DAC	Disadvantaged Communities
Delta	Sacramento-San Joaquin Delta
DMS	Data Management System
DWR	Department of Water Resources

## List of Acronyms, *continued*

EEMP	Environmental Enhancement Mitigation Program
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	US Environmental Protection Agency
ESA	Federal Endangered Species Act
ESFPP	External Source Flood Protection Plan
EWA	Environmental Water Account
EWMP	Efficient Water Management Practices
F-CO	Forecast-Coordinated Operations
FDA	Food and Drug Administration FDA
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
Flow Criteria	Development of Flow Criteria for the Sacramento-San Joaquin Delta
FOR	Friends of the River
FRAQMD	Feather River Air Quality Management District
FRRFMP	Feather River Regional Flood Management Plan
FRTs	Federally Recognized Tribes
FRWP	Feather River West Project
GAMA	Groundwater Ambient Monitoring and Assessment (California)
GAMT	Groundwater Adaptive Management Tool
GHG	Greenhouse Gases
GIS	Geographic Information Systems
GMP	Groundwater Management Plan
gpcd	gallons per capita per day
HU	Hydro Unit
ILRP	Irrigated Lands Regulatory Program
IRWIS	Integrated Regional Water Information Systems
IRWMP	Integrated Regional Water Management Plan
IVID	Imperial Valley Irrigation District
LEP	Limited English Proficiency
LID	Low-Impact Development
LMA	Levee Maintaining Agency
maf	million acre-feet
MCL	Maximum Contaminant Levels
MHI	Median Household Income
MJMHP	Multi-Jurisdictional Multi-Hazard Mitigation Plan
MLC	Marysville Levee Commission
MOU	Memorandum of Understanding
msl	mean sea level
MSR	Municipal Service Review
NCWA	Northern California Water Alliance
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NFRTS	Non-federally Recognized Tribes

## List of Acronyms, *continued*

NGO	Non-governmental Organization
NGVD	National Geodetic Vertical Datum
NID	Nevada Irrigation District
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRWA	National Rural Water Association
NWIS	National Water Information System
NYWD	North Yuba Water District
O&M	Operations and Maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OHV	Off-highway Vehicles
Orders	Conditional waivers of Waste Discharge Requirements
PG&E	Pacific Gas & Electric
PIER	Public Interest Energy Research
Plan	referring to IRWM Plan
PRC	Public Resource Code
PUD	Public Utilities District
RCBs	Rural Community Boundaries
RCD	Resource Conservation District
RCP	Regional Conservation Plan
RD	Reclamation District
RDS	Robust Decision Support
Reclamation	US Bureau of Reclamation
RFMP	Regional Flood Management Plan
RMSs	Resource Management Strategies
RMT	River Management Team
RTCA	Rivers, Trails, and Conservation Assistance
RWMG	Regional Water Management Group
RWMP	Regional Water Management Plan
SBFCA	Sutter Butte Flood Control Agency
SCP	Strategic Conservation Plan
SEI	Stockholm Environmental Institute
SNMP	Salt and Nutrient Management Plan
SPFC	State Plan of Flood Control
SRF	State Revolving Fund
SRHR	Sacramento River Hydrologic Region
SSID	South Sutter Irrigation District
SWAMP	Surface Ambient Water Monitoring Program
SWMP	Storm Water Management Plan
SWP	State Water Project
SWRCB	State Water Resources Control Board
SYRCL	South Yuba River Citizens League
TBI	The Bay Institute

## List of Acronyms, *continued*

TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Loads
TNF	Tahoe National Forest
TPL	Trust for Public Land
TRLIA	Three Rivers Levee Improvement Authority
TU	Trout Unlimited
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFS	US Forest Service
USFWS	US Fish & Wildlife Service
USGS	US Geological Survey
UWMP	Urban Water Management Plan
VOCs	Volatile Organic Compounds
WDL	Water Data Library (DWR)
WDRs	Waste Discharge Requirements
WEAP	Water Evaluation and Planning
WMI	Watershed Management Initiative
WPIC	Western Pacific Interceptor Canal
WSA	Water Supply Assessment
YCWA	Yuba County Water Agency
YRDP	Yuba River Development Project
Yuba Accord	Lower Yuba River Accord