

INDEX

13. Index

Because of the length and complexity of the CALFED Bay-Delta Program Programmatic EIS/EIR, two types of indexes are provided. The first, “Section Titles,” is based on the document’s format. The reader can find specific information listed under section headings. The second is the more familiar “subject index”; page numbers are listed for all occurrences of a specific term in the document. Because of repetitive headings, most of the section titles are not repeated in the subject index. For example, “Ecosystem Restoration Program” is listed extensively in the first section and therefore is not included in the subject index.

13.1	SECTION TITLES	13-1
13.2	SUBJECT INDEX	13-41



13. Index

13.1 SECTION TITLES

Chapter 1. Program Description

PROGRAM DESCRIPTION	1-1
Background	1-1
Development of the CALFED Bay-Delta Program	1-2
Structure of the Program	1-4
PROJECT DESCRIPTION AND PROGRAM PURPOSE AND NEED	1-6
Ecosystem Quality	1-7
Water Supply Reliability	1-7
Water Quality	1-8
Levee System Integrity	1-8
Ecosystem Quality	1-8
Water Supply Reliability	1-9
Water Quality	1-9
Levee System Integrity	1-10
PROGRAM GEOGRAPHIC SCOPE	1-10
CALFED Problem and Solution Areas	1-10
Description of the Study Area	1-11
Delta Region	1-11
Bay Region	1-11
Sacramento River Region	1-12
San Joaquin River Region	1-12
Other SWP and CVP Service Areas	1-12
PROGRAM ALTERNATIVES DEVELOPMENT PROCESS	1-13
The Development, Review, and Refinement of Alternatives	1-13
Fisheries and Diversions	1-13
Habitat and Land Use and Flood Protection	1-14
Water Supply Availability and Beneficial Uses	1-14
Water Quality and Land Use	1-14
Identification of the Preferred Program Alternative	1-17
NEXT STEPS	1-18
Actions That Will Be Taken Based on This Document	1-19
RELATIONSHIP WITH OTHER ONGOING PROGRAMS	1-19
Water Rights Process for CVP and SWP	1-19
Central Valley Project Improvement Act	1-20



Place of Use EIR for CVP Water Supplies	1-20
Trinity River Studies	1-20
Bulletin 160-98, California Water Plan Update	1-20
Sacramento and San Joaquin River Basins Comprehensive Study	1-21
Long-Term Management Strategy	1-21
Vernalis Adaptive Management Plan	1-22
Category III	1-22
Other Actions	1-23
<i>California 4.4 Plan</i>	1-23
<i>Imperial Irrigation District and San Diego County Water Authority Water Transfer</i>	1-24

Chapter 2. Alternative Descriptions

PROGRAM ALTERNATIVES	2-1
Summary	2-1
Overview of the Eight Program Elements	2-2
Ecosystem Restoration Program	2-7
Water Quality Program	2-8
Drinking Water Parameters	2-8
Pesticides	2-8
Organochlorine Pesticides	2-8
Trace Metals	2-8
Mercury	2-8
Selenium	2-9
Salinity	2-9
Turbidity and Sedimentation	2-9
Low Dissolved Oxygen	2-9
Toxicity of Unknown Origin	2-9
Levee System Integrity Program	2-9
Delta Levee Base Level Protection Plan	2-9
Delta Levee Special Improvement Projects	2-9
Delta Levee Subsidence Control Plan	2-9
Delta Levee Emergency Management and Response Plan	2-10
Delta Levee Risk Assessment	2-10
Suisun Marsh Levees	2-10
Water Use Efficiency Program	2-10
Water Transfer Program	2-11
Watershed Program	2-12
Storage	2-13
Conveyance	2-14
Alternative 1 - Existing System Conveyance	2-14
South Delta Improvements	2-14
Operating Assumptions	2-15
Alternative 2 - Modified Through-Delta Conveyance	2-15
South Delta Improvements	2-15
North Delta Improvements	2-15
Operating Assumptions	2-16
Alternative 3 - Dual-Delta Conveyance	2-16
South Delta Improvements	2-16



<i>North Delta Improvements</i>	2-16
<i>Operating Assumptions</i>	2-16
Preferred Program Alternative - Through-Delta Conveyance	2-16
<i>South Delta Improvements</i>	2-17
<i>North Delta Improvements</i>	2-17
<i>Operating Assumptions</i>	2-18
NO ACTION ALTERNATIVE	2-18
ENVIRONMENTALLY PREFERABLE ALTERNATIVE	2-19
ALTERNATIVES NOT CARRIED FORWARD FOR FURTHER EVALUATION	2-22
Elimination of Alternative Configurations prior to the March 1998 Draft	
Programmatic EIS/EIR	2-22
Configuration 2C	2-23
Configuration 3C	2-23
Configuration 3D	2-23
Configuration 3F	2-23
Configuration 3G	2-24
Elimination of Alternative Configurations after the March 1998 Draft	
Programmatic EIS/EIR	2-24
Configuration 1A	2-24
Configuration 1B	2-24
Configuration 2A	2-24
Configuration 2D	2-24
Configuration 2E	2-25
Configuration 3A	2-25
Configuration 3B	2-25
Configuration 3H	2-25
Configuration 3I	2-25

Chapter 3. Summary Comparison of Environmental Consequences

ENVIRONMENTAL RESOURCE IMPACTS AND ECONOMIC AND SOCIAL EFFECTS	3-1
Summary Comparison of Environmental Impacts	3-1
Summary of Beneficial Impacts	3-2
Summary of Potentially Significant Adverse Environmental Impacts	3-2
Summary of Economic and Social Effects	3-2
SUMMARY OF GROWTH-INDUCING IMPACTS	3-3
SUMMARY OF SHORT- AND LONG-TERM RELATIONSHIPS	3-4
SUMMARY OF IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS	3-4
SUMMARY OF CUMULATIVE IMPACTS	3-5
Delta Region	3-6
Bay Region	3-6
Sacramento River and San Joaquin River Regions	3-6
Other SWP and CVP Service Areas	3-7
MITIGATION STRATEGIES FOR CUMULATIVE IMPACTS	3-7

Chapter 4. Guide to Impact Analyses and Description of Land Use Assumptions

GUIDE TO IMPACT ANALYSES	4-1
Summary	4-2



Areas of Controversy	4-3
Affected Environment/Existing Conditions	4-3
Assessment Methods	4-4
Significance Criteria	4-4
No Action Alternative	4-4
Program Alternatives	4-5
Program Elements with Consequences Common to All Alternatives	4-5
Program Elements with Consequences That Differ Among Alternatives	4-5
Program Alternatives Compared to Existing Conditions	4-5
Additional Impact Analysis	4-6
Cumulative Impacts	4-6
Growth-Inducing Impacts	4-7
Relationship Between Short-Term Uses and Long-Term Productivity	4-7
Irreversible and Irretrievable Commitments	4-7
Mitigation Strategies	4-8
Potentially Significant Unavoidable Impacts	4-8
CEQA DOCUMENT REQUIREMENTS	4-8
ESTIMATED LAND USE CHANGES DUE TO THE PROGRAM	4-9
Ecosystem Restoration Program	4-10
Water Quality Program	4-11
Levee System Integrity Program	4-12
Storage	4-12
Conveyance	4-13
Important Farmland	4-13

Chapter 5.1 Water Supply and Water Management

SUMMARY	5.1-1
Preferred Program Alternative	5.1-1
Alternatives 1, 2, and 3	5.1-2
<i>Summary of Impacts and Mitigation Strategies</i>	5.1-2
AREAS OF CONTROVERSY	5.1-2
Uncertainties in the Assessment	5.1-3
Addressing Uncertainty	5.1-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	5.1-4
Delta Region	5.1-5
Bay Region	5.1-6
Sacramento River Region	5.1-6
Sacramento River	5.1-7
Feather River	5.1-8
American River	5.1-10
San Joaquin River Region	5.1-11
Upper San Joaquin River	5.1-11
Stanislaus River	5.1-12
Tuolumne River	5.1-13
Merced River	5.1-14
South-of-Delta SWP and CVP Service Areas	5.1-15
ASSESSMENT METHODS	5.1-16
Tools	5.1-16
Project Operations Modeling	5.1-17



Bay-Delta Hydrodynamic and Water Quality Modeling	.....	5.1-17
Addressing Uncertainty	.....	5.1-18
Modeling Assumptions	.....	5.1-21
Approach	.....	5.1-21
SIGNIFICANCE CRITERIA	.....	5.1-24
NO ACTION ALTERNATIVE	.....	5.1-24
Delta Region	.....	5.1-25
Bay Region	.....	5.1-26
Sacramento River and San Joaquin River Regions	.....	5.1-26
Water Use	.....	5.1-27
Surface Storage	.....	5.1-27
South-of-Delta SWP and CVP Service Areas	.....	5.1-28
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	.....	5.1-29
Delta Region	.....	5.1-30
Ecosystem Restoration Program	.....	5.1-31
Levee System Integrity Program	.....	5.1-31
Water Use Efficiency Program	.....	5.1-31
Bay Region	.....	5.1-31
Sacramento River and San Joaquin River Regions	.....	5.1-33
South-of-Delta SWP and CVP Service Areas	.....	5.1-34
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	.....	5.1-36
Alternative 1	.....	5.1-36
Alternative 2	.....	5.1-42
Alternative 3	.....	5.1-48
Preferred Program Alternative	.....	5.1-55
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	.....	5.1-64
ADDITIONAL IMPACT ANALYSIS	.....	5.1-64
MITIGATION STRATEGIES	.....	5.1-66
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	.....	5.1-67

Chapter 5.2 Bay-Delta Hydrodynamics and Riverine Hydraulics

SUMMARY	.....	5.2-1
Preferred Program Alternative	.....	5.2-1
Alternatives 1, 2, and 3	.....	5.2-1
AREAS OF CONTROVERSY	.....	5.2-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	.....	5.2-2
Delta Region	.....	5.2-3
Bay Region	.....	5.2-4
Sacramento River Region	.....	5.2-6
San Joaquin River Region	.....	5.2-8
Other SWP and CVP Service Areas	.....	5.2-10
ASSESSMENT METHODS	.....	5.2-10
Tools	.....	5.2-10
Modeling Assumptions	.....	5.2-10
Approach	.....	5.2-10
Delta Region	.....	5.2-11
Bay Region	.....	5.2-12
Sacramento River and San Joaquin River Regions	.....	5.2-12
SIGNIFICANCE CRITERIA	.....	5.2-12



NO ACTION ALTERNATIVE	5.2-13
Delta Region	5.2-14
Channel Flows	5.2-14
<i>Sacramento River Flow at Rio Vista</i>	5.2-14
<i>QWEST Flow</i>	5.2-14
<i>Cross-Delta Flow</i>	5.2-14
<i>Old River Flow at Bacon Island</i>	5.2-15
<i>San Joaquin River Flow at Antioch</i>	5.2-15
Mass Fate	5.2-15
Bay Region	5.2-15
Sacramento River and San Joaquin River Regions	5.2-15
River Flows	5.2-16
Existing Reservoir Releases	5.2-16
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.2-16
Delta Region	5.2-17
Ecosystem Restoration Program	5.2-17
Levee System Integrity Program	5.2-17
Water Use Efficiency Program	5.2-18
Conveyance	5.2-18
Storage	5.2-18
Bay Region	5.2-19
Ecosystem Restoration Program	5.2-19
Water Use Efficiency Program	5.2-19
Water Transfer Program	5.2-19
Storage	5.2-19
Sacramento River and San Joaquin River Regions	5.2-20
Ecosystem Restoration Program	5.2-20
Water Use Efficiency Program	5.2-20
Water Transfer Program	5.2-20
Watershed Program	5.2-20
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.2-21
Alternative 1	5.2-22
Delta Region	5.2-22
Channel Flows	5.2-22
<i>Sacramento River Flow at Rio Vista</i>	5.2-22
<i>QWEST Flow</i>	5.2-23
<i>Cross-Delta Flow</i>	5.2-23
<i>Old River Flow at Bacon Island</i>	5.2-23
<i>San Joaquin River Flow at Antioch</i>	5.2-24
Mass Fate	5.2-24
Bay Region	5.2-24
Sacramento River and San Joaquin River Regions	5.2-24
River Flows	5.2-24
Existing Reservoir Releases	5.2-25
New Reservoir Diversions and Releases	5.2-25
Alternative 2	5.2-26
Delta Region	5.2-26
Channel Flows	5.2-26
<i>Sacramento River Flow at Rio Vista</i>	5.2-26
<i>QWEST Flow</i>	5.2-26
<i>Cross-Delta Flow</i>	5.2-27



<i>Old River Flow at Bacon Island</i>	5.2-27
<i>San Joaquin River Flow at Antioch</i>	5.2-27
Mass Fate	5.2-28
Bay Region	5.2-28
Sacramento River and San Joaquin River Regions	5.2-28
River Flows	5.2-28
Existing Reservoir Releases	5.2-28
New Reservoir Diversions and Releases	5.2-28
Alternative 3	5.2-30
Delta Region	5.2-30
Channel Flows	5.2-30
<i>Sacramento River Flow at Rio Vista</i>	5.2-30
<i>QWEST Flow</i>	5.2-31
<i>Cross-Delta Flow</i>	5.2-31
<i>Old River Flow at Bacon Island</i>	5.2-31
<i>San Joaquin River Flow at Antioch</i>	5.2-31
Mass Fate	5.2-32
Bay Region	5.2-32
Sacramento River and San Joaquin River Regions	5.2-32
River Flows	5.2-32
Existing Reservoir Releases	5.2-33
New Reservoir Diversions and Releases	5.2-33
Preferred Program Alternative	5.2-34
Delta Region	5.2-34
Channel Flows	5.2-34
<i>Sacramento River Flow at Rio Vista</i>	5.2-34
<i>QWEST Flow</i>	5.2-35
<i>Cross-Delta Flow</i>	5.2-36
<i>Old River Flow at Bacon Island</i>	5.2-37
<i>San Joaquin River Flow at Antioch</i>	5.2-37
Mass Fate	5.2-37
Bay Region	5.2-37
Sacramento River and San Joaquin River Regions	5.2-39
Existing Reservoir Releases	5.2-40
New Reservoir Diversions and Releases	5.2-41
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.2-41
ADDITIONAL IMPACT ANALYSIS	5.2-42
Cumulative Impacts	5.2-42
Growth-Inducing Impacts	5.2-43
Short- and Long-Term Relationships	5.2-43
Irreversible and Irretrievable Commitments	5.2-43
MITIGATION STRATEGIES	5.2-44
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.2-44
Chapter 5.3 Water Quality	
SUMMARY	5.3-1
Preferred Program Alternative	5.3-1
Alternatives 1, 2, and 3	5.3-3
<i>Summary of Impacts and Mitigation Strategies</i>	5.3-4



AREAS OF CONTROVERSY	5.3-5
Total Organic Carbon Drinking Water Concerns	5.3-5
Pathogens	5.3-6
Bromide	5.3-6
Good Samaritan Protection	5.3-6
Drinking Water Regulations	5.3-7
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	5.3-7
Delta Region	5.3-7
Activities and Sources That Affect Water Quality in the Delta	5.3-7
Beneficial Uses, Water Quality Objectives, and Pollutants of Concern	5.3-9
Factors That Affect Variability of Water Quality in the Delta	5.3-9
Water Quality Issues in the Delta	5.3-10
Summary of Data for Key Water Quality Constituents	5.3-11
Bromide	5.3-11
Total and Dissolved Organic Carbon	5.3-12
Salinity, Total Dissolved Solids, and Electrical Conductivity	5.3-13
Pathogens	5.3-13
Mercury	5.3-14
Pesticides (Diazinon and Chloryrifos)	5.3-14
Organochlorine Pesticides	5.3-14
Selenium	5.3-15
Trace Metals	5.3-15
Bay Region	5.3-15
Sacramento River Region	5.3-16
San Joaquin River Region	5.3-16
Other SWP and CVP Service Areas	5.3-17
ASSESSMENT METHODS	5.3-18
SIGNIFICANCE CRITERIA	5.3-20
NO ACTION ALTERNATIVE	5.3-20
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.3-23
Ecosystem Restoration Program	5.3-23
Water Quality Program	5.3-25
Levee System Integrity Program	5.3-26
Water Use Efficiency Program	5.3-27
Water Transfer Program	5.3-27
Watershed Program	5.3-28
Impacts Related to Construction for Storage and Conveyance Elements	5.3-28
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.3-30
Preferred Program Alternative	5.3-31
Delta Region	5.3-31
Bay Region	5.3-34
Sacramento River Region	5.3-34
San Joaquin River Region	5.3-35
Other SWP and CVP Service Areas	5.3-36
Alternative 1	5.3-36
Delta Region	5.3-36
Bay Region	5.3-38
Sacramento River Region	5.3-38
San Joaquin River Region	5.3-39
Other SWP and CVP Service Areas	5.3-39
Alternative 2	5.3-40



Delta Region	5.3-40
Bay Region	5.3-42
Sacramento River Region	5.3-42
San Joaquin River Region	5.3-42
Other SWP and CVP Service Areas	5.3-42
Alternative 3	5.3-43
Delta Region	5.3-43
Bay Region	5.3-45
Sacramento River Region	5.3-45
San Joaquin River Region	5.3-46
Other SWP and CVP Service Areas	5.3-46
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.3-47
Preferred Program Alternative	5.3-47
Alternative 1	5.3-48
Delta Region	5.3-48
Bay Region	5.3-49
Sacramento River Region	5.3-50
San Joaquin River Region	5.3-50
Other SWP and CVP Service Areas	5.3-50
Alternative 2	5.3-51
Delta Region	5.3-51
Bay Region	5.3-52
Sacramento River Region	5.3-52
San Joaquin River Region	5.3-52
Other SWP and CVP Service Areas	5.3-52
Alternative 3	5.3-52
ADDITIONAL IMPACT ANALYSIS	5.3-53
Cumulative Impacts	5.3-53
Growth-Inducing Impacts	5.3-54
Short- and Long-Term Relationships	5.3-54
Irreversible and Irretrievable Commitments	5.3-54
MITIGATION STRATEGIES	5.3-55
Ecosystem Restoration Program	5.3-55
Levee System Integrity Program	5.3-55
Water Use Efficiency Program	5.3-56
Water Transfer Program	5.3-56
Storage	5.3-56
Sediment Dredging and In-Channel Earth Movement	5.3-56
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.3-59

Chapter 5.4 Groundwater Resources

SUMMARY	5.4-1
Preferred Program Alternative	5.4-1
Alternatives 1, 2, and 3	5.4-2
<i>Summary of Impacts and Mitigation Strategies</i>	5.4-2
AREAS OF CONTROVERSY	5.4-3
AFFECTED ENVIRONMENT/ EXISTING CONDITIONS	5.4-4
Groundwater Hydrology	5.4-4
Groundwater Rights	5.4-5



Groundwater Management	5.4-6
<i>Local Agencies</i>	5.4-6
<i>Special Legislation Districts</i>	5.4-6
<i>Assembly Bill 3030</i>	5.4-6
<i>City and County Ordinances</i>	5.4-7
Groundwater Regulation	5.4-7
Delta Region	5.4-7
Bay Region	5.4-8
Sacramento River Region	5.4-9
San Joaquin River Region	5.4-12
Other SWP and CVP Service Areas	5.4-14
ASSESSMENT METHODS	5.4-15
Tools	5.4-16
Addressing Uncertainty	5.4-16
Modeling Assumptions	5.4-17
CVGSM Modeling Results	5.4-17
SIGNIFICANCE CRITERIA	5.4-18
NO ACTION ALTERNATIVE	5.4-19
Delta Region	5.4-19
Bay Region	5.4-19
Sacramento River Region	5.4-19
San Joaquin River Region	5.4-20
Other SWP and CVP Service Areas	5.4-21
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.4-22
Delta Region	5.4-22
Ecosystem Restoration Program	5.4-22
Water Quality Program	5.4-22
Levee System Integrity Program	5.4-22
Water Use Efficiency Program	5.4-22
Water Transfer Program	5.4-23
Watershed Program	5.4-23
Storage	5.4-23
Bay Region	5.4-23
Ecosystem Restoration Program	5.4-23
Water Quality Program	5.4-24
Water Use Efficiency Program	5.4-24
Water Transfer Program	5.4-24
Watershed Program	5.4-24
Storage	5.4-24
Sacramento River Region	5.4-24
Ecosystem Restoration Program	5.4-24
Water Quality Program	5.4-25
Water Use Efficiency Program	5.4-25
Water Transfer Program	5.4-26
Watershed Program	5.4-27
Storage	5.4-27
San Joaquin River Region	5.4-29
Ecosystem Restoration Program	5.4-29
Water Quality Program	5.4-30
Water Use Efficiency Program	5.4-30
Water Transfer Program	5.4-30



Storage	5.4-31
Other SWP and CVP Service Areas	5.4-31
Ecosystem Restoration Program	5.4-31
Water Quality Program	5.4-31
Water Use Efficiency Program	5.4-31
Water Transfer Program	5.4-31
Watershed Program and Storage	5.4-31
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.4-31
Preferred Program Alternative	5.4-32
Alternative 1	5.4-33
Alternative 2	5.4-33
Alternative 3	5.4-33
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.4-33
ADDITIONAL IMPACT ANALYSIS	5.4-34
Cumulative Impacts	5.4-34
Growth-Inducing Impacts	5.4-35
Short- and Long-Term Relationships	5.4-35
Irreversible and Irretrievable Commitments	5.4-36
MITIGATION STRATEGIES	5.4-36
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.4-37

Chapter 5.5 Geology and Soils

SUMMARY	5.5-1
Preferred Program Alternative	5.5-1
Alternatives 1, 2, and 3	5.5-1
<i>Summary of Impacts and Mitigation Strategies</i>	5.5-2
AREAS OF CONTROVERSY	5.5-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	5.5-4
Overview	5.5-4
Delta Region	5.5-4
Soils	5.5-5
Soil Subsidence	5.5-5
Delta Seismicity	5.5-5
Soil Salinity	5.5-6
Wind Erosion	5.5-6
Sedimentation and Fluvial Erosion in the Delta	5.5-6
Bay Region	5.5-7
Soils and Sediment Conditions	5.5-7
San Francisco Bay Seismicity	5.5-8
Sedimentation and Erosion in San Francisco Bay	5.5-8
Sacramento Region	5.5-8
Soils	5.5-9
Geologic Conditions	5.5-10
Geomorphologic Conditions	5.5-10
Soil Subsidence	5.5-10
Seismicity	5.5-10
In-Stream Gravel Mining	5.5-11
Wind Erosion	5.5-11



San Joaquin River Region	5.5-11
Soils	5.5-12
Geologic Conditions	5.5-12
Geomorphologic Conditions	5.5-12
Soil Subsidence	5.5-13
Seismicity	5.5-13
Soil Salinity	5.5-14
Selenium Concentrations	5.5-14
Other SWP and CVP Service Areas	5.5-14
ASSESSMENT METHODS	5.5-14
SIGNIFICANCE CRITERIA	5.5-15
NO ACTION ALTERNATIVE	5.5-16
Delta Region	5.5-16
Bay Region	5.5-16
Sacramento River Region	5.5-16
San Joaquin River Region	5.5-17
Other SWP and CVP Service Areas	5.5-17
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.5-17
Delta Region	5.5-17
Ecosystem Restoration Program	5.5-17
Water Quality Program	5.5-18
Levee System Integrity Program	5.5-18
Water Use Efficiency Program	5.5-18
Water Transfer and Watershed Programs	5.5-19
Storage	5.5-19
Bay Region	5.5-20
Ecosystem Restoration and Water Quality Programs	5.5-20
Levee System Integrity Program	5.5-20
Water Use Efficiency and Water Transfer Programs	5.5-20
Watershed Program	5.5-20
Storage	5.5-21
Sacramento River and San Joaquin River Regions	5.5-21
Ecosystem Restoration Program	5.5-21
Water Quality Program	5.5-22
Levee System Integrity Program	5.5-22
Water Use Efficiency Program	5.5-22
Water Transfer Program	5.5-22
Watershed Program	5.5-23
Storage	5.5-23
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.5-24
Preferred Program Alternative	5.5-24
Alternative 1	5.5-24
Alternative 2	5.5-25
Alternative 3	5.5-25
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.5-25
ADDITIONAL IMPACT ANALYSIS	5.5-26
Cumulative Impacts	5.5-26
Growth-Inducing Impacts	5.5-26
Short- and Long-Term Relationships	5.5-27
Irreversible and Irretrievable Commitments	5.5-27
MITIGATION STRATEGIES	5.5-27

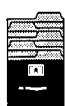


Chapter 5.6 Noise

SUMMARY	5.6-1
Preferred Program Alternative	5.6-1
Alternatives 1, 2, and 3	5.6-1
<i>Summary of Impacts and Mitigation Strategies</i>	5.6-2
AREAS OF CONTROVERSY	5.6-3
All Regions	5.6-3
ASSESSMENT METHODS	5.6-3
SIGNIFICANCE CRITERIA	5.6-4
NO ACTION ALTERNATIVE	5.6-4
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.6-5
Delta Region	5.6-5
Ecosystem Restoration Program	5.6-5
Water Quality, Water Transfer, and Watershed Programs	5.6-5
Levee System Integrity Program	5.6-5
Water Use Efficiency Program	5.6-6
Storage	5.6-6
Bay Region	5.6-6
Ecosystem Restoration Program	5.6-6
Water Quality, Water Use Efficiency, and Water Transfer Programs, and Storage	5.6-6
Watershed Program	5.6-6
Sacramento River and San Joaquin River Regions	5.6-7
Ecosystem Restoration and Watershed Programs	5.6-7
Water Quality Program	5.6-7
Levee System Integrity, Water Use Efficiency, and Water Transfer Programs	5.6-7
Storage	5.6-7
Other SWP and CVP Service Areas	5.6-7
Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs, and Storage	5.6-7
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.6-8
Preferred Program Alternative	5.6-8
Alternative 1	5.6-8
Alternative 2	5.6-8
Alternative 3	5.6-8
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.6-9
ADDITIONAL IMPACT ANALYSIS	5.6-9
Cumulative Impacts	5.6-9
Growth-Inducing Impacts	5.6-10
Short- and Long-Term Relationships	5.6-10
Irreversible and Irretrievable Commitments	5.6-10
MITIGATION STRATEGIES	5.6-10
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.6-11

Chapter 5.7 Transportation

SUMMARY	5.7-1
Preferred Program Alternative	5.7-1
Alternatives 1, 2, and 3	5.7-1



<i>Summary of Impacts and Mitigation Strategies</i>	5.7-2
AREAS OF CONTROVERSY	5.7-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	5.7-3
Delta Region	5.7-3
Bay Region	5.7-3
Sacramento River Region	5.7-4
San Joaquin River Region	5.7-4
Other SWP and CVP Service Areas	5.7-5
ASSESSMENT METHODS	5.7-5
SIGNIFICANCE CRITERIA	5.7-5
NO ACTION ALTERNATIVE	5.7-6
Delta and Bay Regions	5.7-6
Sacramento River and San Joaquin River Regions	5.7-6
Other SWP and CVP Service Areas	5.7-7
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.7-7
Delta Region	5.7-7
Ecosystem Restoration Program	5.7-7
Water Quality, Water Use Efficiency, Water Transfer, and Watershed Programs	5.7-7
Levee System Integrity Program	5.7-7
Storage	5.7-7
Bay Region	5.7-7
Sacramento River and San Joaquin River Regions	5.7-9
Ecosystem Restoration Program	5.7-9
Water Quality, Levee System Integrity, Water Use Efficiency, and	
Water Transfer Programs	5.7-9
Watershed Program	5.7-9
Storage	5.7-9
Other SWP and CVP Service Areas	5.7-7
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.7-10
Preferred Program Alternative	5.7-10
Alternative 1	5.7-11
Alternative 2	5.7-11
Alternative 3	5.7-11
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.7-11
ADDITIONAL IMPACT ANALYSIS	5.7-12
Cumulative Impacts	5.7-12
Growth-Inducing Impacts	5.7-13
Short- and Long-Term Relationships	5.7-13
Irreversible and Irretrievable Commitments	5.7-13
MITIGATION STRATEGIES	5.7-13
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.7-14

Chapter 5.8 Air Quality

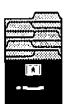
SUMMARY	5.8-1
Preferred Program Alternative	5.8-1
Alternatives 1, 2, and 3	5.8-2
<i>Summary of Impacts and Mitigation Strategies</i>	5.8-2
AREAS OF CONTROVERSY	5.8-3



AFFECTED ENVIRONMENT/EXISTING CONDITIONS	5.8-3
Delta Region	5.8-5
Bay Region	5.8-5
Sacramento River Region	5.8-5
San Joaquin River Region	5.8-6
Other SWP and CVP Service Areas	5.8-7
ASSESSMENT METHODS	5.8-8
SIGNIFICANCE CRITERIA	5.8-8
NO ACTION ALTERNATIVE	5.8-9
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	5.8-9
Delta Region	5.8-9
Ecosystem Restoration Program	5.8-9
Water Quality Program	5.8-9
Levee System Integrity Program	5.8-9
Water Use Efficiency Program	5.8-9
Water Transfer Program	5.8-10
Watershed Program	5.8-10
Storage	5.8-10
Bay Region	5.8-11
Ecosystem Restoration and Levee System Integrity Programs	5.8-11
Water Quality, Water Transfer, and Water Use Efficiency Programs	5.8-11
Watershed Program	5.8-11
Storage	5.8-11
Sacramento River and San Joaquin River Regions	5.8-12
Ecosystem Restoration, Water Use Efficiency, Water Transfer, and Watershed Programs	5.8-12
Water Quality Program	5.8-12
Storage	5.8-12
Other SWP and CVP Service Areas	5.8-12
All Programs	5.8-12
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	5.8-13
Preferred Program Alternative	5.8-13
Alternative 1	5.8-13
Alternative 2	5.8-14
Alternative 3	5.8-14
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	5.8-14
ADDITIONAL IMPACT ANALYSIS	5.8-15
Cumulative Impacts	5.8-15
Growth-Inducing Impacts	5.8-15
Short- and Long-Term Relationships	5.8-15
Irreversible and Irretrievable Commitments	5.8-16
MITIGATION STRATEGIES	5.8-16
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	5.8-17

Chapter 6.1 Fisheries and Aquatic Ecosystems

SUMMARY	6.1-1
All Alternatives	6.1-1
Preferred Program Alternative	6.1-2
Alternatives 1, 2, and 3	6.1-3
<i>Summary of Impacts and Mitigation Strategies</i>	6.1-4



AREAS OF CONTROVERSY	6.1-5
Uncertainty in the Assessment	6.1-5
Addressing Uncertainty	6.1-6
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	6.1-7
Delta Region	6.1-7
Bay Region	6.1-8
Sacramento River Region	6.1-9
San Joaquin River Region	6.1-11
Other SWP and CVP Service Areas	6.1-11
ASSESSMENT METHODS	6.1-12
Ecosystem-Level Analysis	6.1-13
Flow	6.1-13
Water Temperature	6.1-13
Sediment and Nutrient Input and Movement	6.1-14
Contaminant Input and Movement	6.1-15
Productivity	6.1-16
Structure	6.1-17
Species-Specific Analysis	6.1-18
Physical Habitat Relationships	6.1-18
Water Quality Relationships	6.1-20
Entrainment Relationships	6.1-20
Water Surface-Level Relationships	6.1-21
Movement Relationships	6.1-21
Species Interactions	6.1-22
Artificial Production	6.1-23
Harvest	6.1-23
SIGNIFICANCE CRITERIA	6.1-24
NO ACTION ALTERNATIVE	6.1-24
Delta Region	6.1-24
Bay Region	6.1-25
Sacramento River Region	6.1-25
San Joaquin River Region	6.1-26
Other SWP and CVP Service Areas	6.1-26
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	6.1-27
Delta Region	6.1-27
Ecosystem Restoration Program	6.1-27
Water Quality Program	6.1-29
Levee System Integrity Program	6.1-29
Water Use Efficiency Program	6.1-30
Water Transfer Program	6.1-30
Watershed Program	6.1-31
Storage	6.1-31
Bay Region	6.1-32
Ecosystem Restoration Program	6.1-32
Water Quality Program	6.1-34
Levee System Integrity Program	6.1-34
Water Use Efficiency Program	6.1-34
Water Transfer Program	6.1-34
Watershed Program	6.1-34
Storage	6.1-35



Sacramento River and San Joaquin River Regions	6.1-35
Ecosystem Restoration Program	6.1-35
Water Quality Program	6.1-37
Levee System Integrity Program	6.1-37
Water Use Efficiency Program	6.1-37
Water Transfer Program	6.1-38
Watershed Program	6.1-38
Storage	6.1-39
Other SWP and CVP Service Areas	6.1-39
All Programs	6.1-39
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	6.1-40
Preferred Program Alternative	6.1-40
Delta Region	6.1-41
Delta Cross Channel	6.1-41
Delta Channel Capacity	6.1-41
South Delta Intake Facilities	6.1-41
South Delta Flow Control	6.1-42
Sacramento River to Mokelumne River Channel	6.1-43
Bay Region	6.1-45
Sacramento River and San Joaquin River Regions	6.1-45
Other SWP and CVP Service Areas	6.1-45
Alternative 1	6.1-45
Alternative 2	6.1-45
Alternative 3	6.1-46
Delta Cross Channel	6.1-46
Delta Channel Capacity	6.1-46
South Delta Flow Control Barriers	6.1-46
Isolated Facility	6.1-47
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	6.1-48
ADDITIONAL IMPACT ANALYSIS	6.1-49
Cumulative Impacts	6.1-49
Growth-Inducing Impacts	6.1-50
Short- and Long-Term Relationships	6.1-50
Irreversible and Irretrievable Commitments	6.1-50
MITIGATION STRATEGIES	6.1-51
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	6.1-52

Chapter 6.2 Vegetation and Wildlife

SUMMARY	6.2-1
Preferred Program Alternative	6.2-1
Alternatives 1, 2, and 3	6.2-2
<i>Summary of Impacts and Mitigation Strategies</i>	6.2-2
AREAS OF CONTROVERSY	6.2-3
Success of Habitat Restoration Efforts	6.2-4
Mitigation vs. Ecosystem Restoration Program Implementation	6.2-4
Conflicts with Current National and State Environmental Policies	6.2-4
Potential for Change in the Salinity Regime of the San Francisco Estuary	6.2-4



Improvements to Water Supply and Reliability Leading to Induced Growth or Planned Growth	6.2-4
Location of Storage Facilities	6.2-5
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	6.2-5
Delta Region	6.2-5
Natural and Agricultural Communities	6.2-6
Special-Status Species	6.2-7
Waterfowl and Shorebirds	6.2-8
Bay Region	6.2-8
Natural and Agricultural Communities	6.2-9
Special-Status Species	6.2-9
Waterfowl and Shorebirds	6.2-10
Sacramento River Region	6.2-10
Natural and Agricultural Communities	6.2-11
Special-Status Species	6.2-11
Waterfowl and Shorebirds	6.2-11
San Joaquin River Region	6.2-12
Natural and Agricultural Communities	6.2-12
Special-Status Species	6.2-12
Waterfowl and Shorebirds	6.2-13
Other SWP and CVP Service Areas	6.2-13
Natural and Agricultural Communities	6.2-13
Special-Status Species	6.2-13
ASSESSMENT METHODS	6.2-14
SIGNIFICANCE CRITERIA	6.2-16
NO ACTION ALTERNATIVE	6.2-16
Delta Region	6.2-16
Bay Region	6.2-17
Sacramento River Region	6.2-18
San Joaquin River Region	6.2-18
Other SWP and CVP Service Areas	6.2-18
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	6.2-19
Delta Region	6.2-19
Ecosystem Restoration Program	6.2-19
Water Quality Program	6.2-21
Levee System Integrity Program	6.2-22
Water Use Efficiency Program	6.2-22
Water Transfer Program	6.2-23
Watershed Program	6.2-24
Storage	6.2-24
Bay Region	6.2-25
Ecosystem Restoration Program	6.2-25
Water Quality Program	6.2-25
Levee System Integrity Program	6.2-25
Water Use Efficiency and Water Transfer Programs	6.2-26
Watershed Program	6.2-26
Storage	6.2-26
Sacramento River and San Joaquin River Regions	6.2-27
Ecosystem Restoration Program	6.2-27
Water Quality Program	6.2-28
Water Use Efficiency and Water Transfer Programs	6.2-28



Watershed Program	6.2-28
Storage	6.2-30
Other SWP and CVP Service Areas	6.2-31
All Programs	6.2-31
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	6.2-31
Preferred Program Alternative	6.2-31
Alternative 1	6.2-34
Alternative 2	6.2-34
Alternative 3	6.2-34
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	6.2-35
ADDITIONAL IMPACT ANALYSIS	6.2-36
Cumulative Impacts	6.2-36
Growth-Inducing Impacts	6.2-36
Short- and Long-Term Relationships	6.2-37
Irreversible and Irretrievable Commitments	6.2-37
MITIGATION STRATEGIES	6.2-38
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	6.2-40

Chapter 7.1 Agricultural Land and Water Use

SUMMARY	7.1-1
Preferred Program Alternative	7.1-1
Alternatives 1, 2, and 3	7.1-2
<i>Summary of Impacts and Mitigation Strategies</i>	7.1-2
AREAS OF CONTROVERSY	7.1-4
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.1-4
All Regions	7.1-4
Agricultural Land Use	7.1-4
Agricultural Water Use	7.1-5
Central Valley Project	7.1-5
State Water Project	7.1-6
Local Surface Water	7.1-6
Groundwater	7.1-7
Agricultural Habitats	7.1-7
Delta Region	7.1-7
Agricultural Land Use	7.1-7
Agricultural Water Use	7.1-8
Bay Region	7.1-8
Agricultural Land Use	7.1-8
Agricultural Water Use	7.1-8
Sacramento River Region	7.1-8
Agricultural Land Use	7.1-8
Agricultural Water Use	7.1-9
San Joaquin River Region	7.1-9
Agricultural Land Use	7.1-9
Agricultural Water Use	7.1-9
Other SWP and CVP Service Areas	7.1-10
Agricultural Land Use	7.1-10
Agricultural Water Use	7.1-10
Summary	7.1-10



ASSESSMENT METHODS	7.1-11
SIGNIFICANCE CRITERIA	7.1-12
NO ACTION ALTERNATIVE	7.1-12
Delta Region	7.1-12
Bay Region	7.1-13
Sacramento River and San Joaquin River Regions	7.1-13
Other SWP and CVP Service Areas	7.1-14
Summary	7.1-14
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.1-14
All Regions	7.1-15
Delta Region	7.1-16
Ecosystem Restoration Program	7.1-16
Water Quality Program	7.1-17
Levee System Integrity Program	7.1-17
Water Use Efficiency Program	7.1-17
Water Transfer Program	7.1-18
Watershed Program	7.1-18
Storage	7.1-18
Bay Region	7.1-18
Ecosystem Restoration Program	7.1-18
Watershed, Water Transfer, Water Quality, and Water Use Efficiency Programs	7.1-19
Storage	7.1-19
Sacramento River Region	7.1-19
Ecosystem Restoration Program	7.1-19
Water Quality Program	7.1-19
Water Transfer Program	7.1-19
Water Use Efficiency Program	7.1-20
Watershed Program	7.1-20
Storage	7.1-20
San Joaquin River Region	7.1-21
Ecosystem Restoration Program	7.1-21
Water Quality Program	7.1-21
Water Use Efficiency Program	7.1-22
Water Transfer Program	7.1-22
Watershed Program	7.1-22
Storage	7.1-22
Other SWP and CVP Service Areas	7.1-23
Ecosystem Restoration, Water Quality, and Watershed Programs	7.1-23
Water Use Efficiency Program	7.1-23
Water Transfer Program	7.1-23
Storage	7.1-23
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.1-24
Preferred Program Alternative	7.1-24
Delta Region	7.1-24
Bay Region	7.1-24
Sacramento River Region	7.1-24
San Joaquin River Region	7.1-25
Other CVP and SWP Service Areas	7.1-25
Alternative 1	7.1-25
Alternative 2	7.1-25
Alternative 3	7.1-25



PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.1-26
Preferred Program Alternative	7.1-26
Alternative 1	7.1-26
Alternative 2	7.1-27
Alternative 3	7.1-27
ADDITIONAL IMPACT ANALYSIS	7.1-27
Cumulative Impacts	7.1-27
Growth-Inducing Impacts	7.1-28
Short- and Long-Term Relationships	7.1-28
Irreversible and Irretrievable Commitments	7.1-28
MITIGATION STRATEGIES	7.1-28
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.1-30

Chapter 7.2 Agricultural Economics

SUMMARY	7.2-1
Preferred Program Alternative	7.2-1
Alternatives 1, 2, and 3	7.2-1
AREAS OF CONTROVERSY	7.2-4
Significance of Adverse Effects	7.2-2
Magnitude of Crop Effects	7.2-2
Projected Crop Mix	7.2-2
Agricultural Multipliers	7.2-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.2-3
Farm Profiles	7.2-3
Cropping Patterns and Production Value	7.2-3
Agricultural Production Costs and Revenues	7.2-3
Delta Region	7.2-5
Farm Profiles	7.2-5
Cropping Patterns and Production Value	7.2-5
Agricultural Production Costs and Revenues	7.2-5
Bay Region	7.2-5
Farm Profiles	7.2-5
Cropping Patterns and Production Value	7.2-5
Agricultural Production Costs and Revenues	7.2-6
Sacramento River Region	7.2-6
Farm Profiles	7.2-6
Cropping Patterns and Production Value	7.2-6
Agricultural Production Costs and Revenues	7.2-6
San Joaquin River Region	7.2-7
Farm Profiles	7.2-7
Cropping Patterns and Production Value	7.2-7
Agricultural Production Costs and Revenues	7.2-7
Other SWP and CVP Service Areas	7.2-7
Farm Profiles	7.2-7
Cropping Patterns and Production Value	7.2-7
Agricultural Production Costs and Revenues	7.2-7
ASSESSMENT METHODS	7.2-8
CRITERIA FOR DETERMINING ADVERSE EFFECTS	7.2-8
NO ACTION ALTERNATIVE	7.2-9



CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.2-10
Delta Region	7.2-10
Ecosystem Restoration Program	7.2-10
Water Quality Program	7.2-12
Levee System Integrity Program	7.2-12
Water Use Efficiency Program	7.2-12
Water Transfer Program	7.2-12
Watershed Program	7.2-12
Storage	7.2-12
Bay Region	7.2-13
Ecosystem Restoration Program	7.2-13
Water Quality and Water Use Efficiency Programs	7.2-13
Levee System Integrity and Watershed Programs	7.2-14
Water Transfer Program	7.2-14
Storage	7.2-14
Sacramento River Region	7.2-14
Ecosystem Restoration Program	7.2-14
Water Quality Program	7.2-15
Levee System Integrity Program	7.2-16
Water Use Efficiency Program	7.2-16
Water Transfer Program	7.2-16
Watershed Program	7.2-17
Storage	7.2-17
San Joaquin River Region	7.2-18
Ecosystem Restoration Program	7.2-18
Water Quality Program	7.2-19
Levee System Integrity Program	7.2-20
Water Use Efficiency and Watershed Programs	7.2-20
Water Transfer Programs	7.2-20
Storage	7.2-20
Other SWP and CVP Service Areas	7.2-21
Ecosystem Restoration Program	7.2-21
Water Quality Program	7.2-21
Levee System Integrity Program	7.2-21
Water Use Efficiency Program	7.2-22
Water Transfer Program	7.2-22
Storage	7.2-22
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.2-22
Preferred Program Alternative	7.2-23
Alternative 1	7.2-24
Alternative 2	7.2-24
Alternative 3	7.2-24
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.2-25
Preferred Program Alternative	7.2-25
Alternative 1	7.2-25
Alternative 2	7.2-25
Alternative 3	7.2-25
ADDITIONAL IMPACT ANALYSIS	7.2-26
Cumulative Impacts	7.2-26
Growth-Inducing Impacts	7.2-26
Short- and Long-Term Relationships	7.2-26



Irreversible and Irrecoverable Commitments	7.2-26
ADVERSE EFFECTS	7.2-27
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.2-30

Chapter 7.3 Agricultural Social Issues

SUMMARY	7.3-1
Preferred Program Alternative	7.3-1
Alternatives 1, 2, and 3	7.3-1
AREAS OF CONTROVERSY	7.3-2
Significance of Adverse Effects	7.3-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.3-2
All Regions	
Social Well Being Related to Agriculture	7.3-2
Community Stability	7.3-2
Environmental Justice	7.3-5
Delta Region	7.3-6
Bay Region	7.3-6
Sacramento River Region	7.3-6
San Joaquin River Region	7.3-7
Other SWP and CVP Service Areas	7.3-7
ASSESSMENT METHODS	7.3-7
CRITERIA FOR DETERMINING ADVERSE EFFECTS	7.3-8
NO ACTION ALTERNATIVE	7.3-8
All Regions	7.3-8
Delta Region	7.3-8
Bay Region, Sacramento River Region, and Other SWP and CVP Service Areas	7.3-9
San Joaquin River Region	7.3-9
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.3-9
All Regions	7.3-9
Water Use Efficiency Program	7.3-9
Watershed Program	7.3-10
Ecosystem Restoration Program	7.3-10
Delta Region	7.3-11
Ecosystem Restoration Program	7.3-11
Water Quality Program	7.3-12
Levee System Integrity Program	7.3-12
Water Transfer Program	7.3-12
Storage	7.3-12
Bay Region	7.3-13
Ecosystem Restoration, Water Quality, and Water Transfer Programs, and Storage	7.3-13
Sacramento River Region	7.3-13
Ecosystem Restoration Program	7.3-13
Water Quality Program	7.3-14
Water Transfer Program	7.3-14
Storage	7.3-14
San Joaquin River Region	7.3-15
Water Quality Program	7.3-15
Water Transfer Program	7.3-15
Storage	7.3-15



Other SWP and CVP Service Areas	7.3-16
Ecosystem Restoration Program	7.3-16
Water Quality Program and Storage	7.3-16
Water Transfer Program	7.3-16
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.3-16
Preferred Program Alternative	7.3-16
Delta Region	7.3-16
Bay Region	7.3-17
Sacramento River Region	7.3-17
San Joaquin River Region	7.3-17
Other SWP and CVP Service Areas	7.3-18
Alternative 1	7.3-18
Alternative 2	7.3-18
Alternative 3	7.3-18
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.3-18
Preferred Program Alternative	7.3-19
Alternative 1	7.3-19
Alternative 2	7.3-19
Alternative 3	7.3-19
ADDITIONAL IMPACT ANALYSIS	7.3-19
Cumulative Effects	7.3-19
Growth-Inducing Effects	7.3-20
Short- and Long-Term Relationships	7.3-20
Irreversible and Irretrievable Commitments	7.3-20
ADVERSE EFFECTS	7.3-20
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.3-30

Chapter 7.4 Urban Land Use

SUMMARY	7.4-1
Preferred Program Alternative	7.4-1
Alternatives 1, 2, and 3	7.4-1
<i>Summary of Impacts and Mitigation Strategies</i>	7.4-2
AREAS OF CONTROVERSY	7.4-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.4-3
Delta Region	7.4-3
Bay Region	7.4-3
Sacramento River Region	7.4-4
San Joaquin River Region	7.4-4
Other SWP and CVP Service Areas	7.4-5
ASSESSMENT METHODS	7.4-6
SIGNIFICANCE CRITERIA	7.4-6
NO ACTION ALTERNATIVE	7.4-6
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.4-6
Delta and Bay Regions	7.4-7
Ecosystem Restoration Program	7.4-7
Water Quality Program	7.4-7
Levee System Integrity Program	7.4-7
Water Use Efficiency Program	7.4-7
Water Transfer and Watershed Programs	7.4-7



Storage	7.4-7
Sacramento River and San Joaquin River Regions	7.4-8
Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs	7.4-8
Storage	7.4-8
Other SWP and CVP Service Areas	7.4-8
All Programs	7.4-8
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.4-9
Preferred Program Alternative	7.4-9
Alternatives 1, 2, and 3	7.4-9
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.4-9
ADDITIONAL IMPACT ANALYSIS	7.4-10
Cumulative Impacts	7.4-10
Growth-Inducing Impacts	7.4-11
Short- and Long-Term Relationships	7.4-11
Irreversible and Irretrievable Commitments	7.4-11
MITIGATION STRATEGIES	7.4-11
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.4-12

Chapter 7.5 Urban Water Supply Economics

SUMMARY	7.5-1
Preferred Program Alternative	7.5-1
Alternatives 1, 2, and 3	7.5-3
AREAS OF CONTROVERSY	7.5-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.5-4
Delta Region	7.5-4
Bay Region	7.5-6
Sacramento River Region	7.5-8
San Joaquin River Region	7.5-11
Other SWP and CVP Service Areas	7.5-11
ASSESSMENT METHODS	7.5-15
Water Supply	7.5-15
Water Quality	7.5-17
Water Conservation	7.5-18
CRITERIA FOR DETERMINING ADVERSE EFFECTS	7.5-20
NO ACTION ALTERNATIVE	7.5-20
Delta Region	7.5-22
Bay Region	7.5-22
Sacramento River Region	7.5-23
San Joaquin River Region	7.5-23
Other SWP and CVP Service Areas	7.5-24



CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.5-24
Delta Region	7.5-25
Ecosystem Restoration Program	7.5-25
Water Quality Program	7.5-25
Levee System Integrity Program	7.5-25
Water Use Efficiency Program	7.5-26
Water Transfer Program	7.5-26
Watershed Program	7.5-26
Bay Region	7.5-26
Ecosystem Restoration Program	7.5-26
Water Quality Program	7.5-26
Levee System Integrity Program	7.5-26
Water Use Efficiency Program	7.5-26
Water Transfer Program	7.5-27
Watershed Program	7.5-27
Sacramento River Region	7.5-27
Ecosystem Restoration Program	7.5-27
Water Quality Program	7.5-27
Levee System Integrity Program	7.5-27
Water Use Efficiency Program	7.5-27
Water Transfer Program	7.5-27
Watershed Program	7.5-28
San Joaquin River Region	7.5-28
Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, and Watershed Programs	7.5-28
Water Transfer Program	7.5-28
Other SWP and CVP Service Areas	7.5-28
All Programs	7.5-28
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.5-28
Preferred Program Alternative	7.5-29
Delta Region	7.5-29
Storage	7.5-29
Conveyance	7.5-29
Bay Region	7.5-30
Storage	7.5-30
Conveyance	7.5-31
Sacramento River Region	7.5-31
San Joaquin River Region	7.5-31
Other SWP and CVP Service Areas	7.5-31
Alternative 1	7.5-32
Alternative 2	7.5-33
Alternative 3	7.5-34
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.5-35
ADDITIONAL IMPACT ANALYSIS	7.5-35
Cumulative Impacts	7.5-35
Growth-Inducing Impacts	7.5-36
Short- and Long-Term Relationships	7.5-36
Irreversible and Irretrievable Commitments	7.5-36
ADVERSE EFFECTS	7.5-36
LCPSIM URBAN WATER SUPPLY ECONOMICS ASSESSMENT	7.5-36



Chapter 7.6 Utilities and Public Services

SUMMARY	7.6-1
Preferred Program Alternative	7.6-1
Alternatives 1, 2, and 3	7.6-1
<i>Summary of Impacts and Mitigation Strategies</i>	7.6-2
AREAS OF CONTROVERSY	7.6-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.6-2
Delta Region	7.6-2
Water-Related Infrastructure	7.6-2
Electric Utility and Communication Infrastructure	7.6-3
Natural Gas Infrastructure	7.6-3
Public Services	7.6-3
Bay Region	7.6-3
Water-Related Infrastructure	7.6-3
Electric Utility and Communication Infrastructure	7.6-4
Public Services	7.6-4
Sacramento River Region	7.6-4
Water-Related Infrastructure	7.6-4
Electric Utility and Communication Infrastructure	7.6-5
Natural Gas Infrastructure	7.6-5
Public Services	7.6-5
San Joaquin River Region	7.6-5
Water-Related Infrastructure	7.6-5
Electric Utility and Communication Infrastructure	7.6-6
Natural Gas Infrastructure	7.6-6
Public Services	7.6-6
Other SWP and CVP Service Areas	7.6-6
Water-Related Infrastructure	7.6-6
Electric Utility and Communication Infrastructure	7.6-8
Natural Gas Infrastructure	7.6-8
Public Services	7.6-8
ASSESSMENT METHODS	7.6-8
SIGNIFICANCE CRITERIA	7.6-8
NO ACTION ALTERNATIVE	7.6-9
Delta Region	7.6-9
Bay and Sacramento River Regions	7.6-9
San Joaquin River Region	7.6-9
Other SWP and CVP Service Areas	7.6-10
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.6-10
All Regions	7.6-10
Ecosystem Restoration Program	7.6-10
Water Quality Program	7.6-11
Water Use Efficiency Program	7.6-11
Water Transfer and Watershed Programs	7.6-11
Delta Region	7.6-11
Levee System Integrity Program	7.6-11
Storage	7.6-11
Sacramento River and San Joaquin River Regions	7.6-12
Storage	7.6-12



Other SWP and CVP Service Areas	7.6-12
Storage	7.6-12
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.6-13
Preferred Program Alternative	7.6-13
Alternatives 1, 2, and 3	7.6-13
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.6-14
ADDITIONAL IMPACT ANALYSIS	7.6-15
Cumulative Impacts	7.6-15
Growth-Inducing Impacts	7.6-15
Short- and Long-Term Relationships	7.6-15
Irreversible and Irretrievable Commitments	7.6-15
MITIGATION STRATEGIES	7.6-16
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.6-16

Chapter 7.7 Recreation Resources

SUMMARY	7.7-1
Preferred Program Alternative	7.7-1
Alternatives 1, 2, and 3	7.7-1
<i>Summary of Impacts and Mitigation Strategies</i>	7.7-2
AREAS OF CONTROVERSY	7.7-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.7-3
Delta Region	7.7-3
Bay Region	7.7-6
Sacramento River Region	7.7-10
San Joaquin River Region	7.7-12
Other SWP and CVP Service Areas	7.7-13
ASSESSMENT METHODS	7.7-13
SIGNIFICANCE CRITERIA	7.7-14
NO ACTION ALTERNATIVE	7.7-15
Delta Region	7.7-15
Bay River Region	7.7-15
Sacramento River Region	7.7-16
San Joaquin River Region	7.7-17
Other SWP and CVP Service Areas	7.7-17
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.7-17
Delta Region	7.7-18
Ecosystem Restoration Program	7.7-18
Water Quality Program	7.7-19
Levee System Integrity Program	7.7-19
Water Use Efficiency Program	7.7-20
Water Transfer Program	7.7-20
Watershed Program	7.7-20
Storage	7.7-21
Bay Region	7.7-18
Ecosystem Restoration and Levee System Integrity Programs	7.7-21
Water Quality Program	7.7-22
Water Use Efficiency and Water Transfer Programs, and Storage	7.7-22



Sacramento River and San Joaquin River Regions	7.7-22
Ecosystem Restoration Program	7.7-22
Water Quality Program	7.7-23
Water Use Efficiency Program	7.7-23
Water Transfer Program	7.7-23
Watershed Program	7.7-24
Storage	7.7-24
Other SWP and CVP Service Areas	7.7-24
Ecosystem Restoration, Water Quality and Watershed Programs, and Storage	7.7-24
Water Use Efficiency Program	7.7-25
Water Transfer Program	7.7-25
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.7-25
Preferred Program Alternative	7.7-25
Delta Region	7.7-25
Bay Region	7.7-26
Sacramento River and San Joaquin River Regions	7.7-26
Other SWP and CVP Service Areas	7.7-26
Alternative 1	7.7-26
Delta Region	7.7-26
Bay Region	7.7-27
Sacramento River and San Joaquin River Regions	7.7-27
Other SWP and CVP Service Areas	7.7-28
Alternative 2	7.7-28
Delta Region	7.7-28
Bay Region	7.7-28
Sacramento River and San Joaquin River Regions	7.7-29
Other SWP and CVP Service Areas	7.7-29
Alternative 3	7.7-29
Delta Region	7.7-29
Bay Region	7.7-30
Sacramento River and San Joaquin River Regions	7.7-30
Other SWP and CVP Service Areas	7.7-31
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.7-31
ADDITIONAL IMPACT ANALYSIS	7.7-32
Cumulative Impacts	7.7-32
Growth-Inducing Impacts	7.7-32
Short- and Long-Term Relationships	7.7-33
Irreversible and Irretrievable Commitments	7.7-33
MITIGATION STRATEGIES	7.7-33
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.7-35

Chapter 7.8 Flood Control

SUMMARY	7.8-1
Preferred Program Alternative	7.8-1
Alternatives 1, 2, and 3	7.8-2
<i>Summary of Impacts and Mitigation Strategies</i>	7.8-2
AREAS OF CONTROVERSY	7.8-3



AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.8-4
Delta Region	7.8-5
Overview of Flood Control Development	7.8-5
Flood Control Facilities	7.8-6
Levee Stability	7.8-7
Levee Maintenance	7.8-8
Bay Region	7.8-8
Sacramento River Region	7.8-9
Overview of Flood Control Development	7.8-9
Flood Control Facilities	7.8-9
Upper Watershed Areas	7.8-11
San Joaquin River Region	7.8-11
Other SWP and CVP Service Areas	7.8-12
ASSESSMENT METHODS	7.8-13
SIGNIFICANCE CRITERIA	7.8-14
NO ACTION ALTERNATIVE	7.8-15
Delta Region	7.8-15
Bay River Region	7.8-17
Sacramento River and San Joaquin River Regions	7.8-17
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.8-19
All Regions	7.8-19
Delta Region	7.8-19
Ecosystem Restoration Program	7.8-19
Water Quality Program	7.8-20
Levee System Integrity Program	7.8-21
Water Use Efficiency Program	7.8-22
Water Transfer Program	7.8-22
Watershed Program	7.8-22
Storage	7.8-22
Bay Region	7.8-23
Ecosystem Restoration and Levee System Integrity Programs	7.8-23
Watershed Program	7.8-23
Water Quality, Water Use Efficiency, and Water Transfer Programs, and Storage	7.8-24
Sacramento River Region	7.8-24
Ecosystem Restoration Program	7.8-24
Water Quality and Water Transfer Programs	7.8-24
Water Use Efficiency Program	7.8-24
Watershed Program	7.8-25
Storage	7.8-25
San Joaquin River Region	7.8-25
Ecosystem Restoration Program	7.8-25
Water Quality Program	7.8-26
Water Use Efficiency and Water Transfer Programs	7.8-26
Watershed Program	7.8-26
Storage	7.8-26
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.8-26
Preferred Program Alternative	7.8-26
Delta Region	7.8-27
Other Program Regions	7.8-27
Alternatives 1, 2, and 3	7.8-28
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.8-28



ADDITIONAL IMPACT ANALYSIS	7.8-29
Cumulative Impacts	7.8-29
Growth-Inducing Impacts	7.8-30
Short- and Long-Term Relationships	7.8-30
Irreversible and Irrecoverable Commitments	7.8-30
MITIGATION STRATEGIES	7.8-30
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.8-32

Chapter 7.9 Power Production and Energy

SUMMARY	7.9-1
Preferred Program Alternative	7.9-1
Alternatives 1, 2, and 3	7.9-2
AREAS OF CONTROVERSY	7.9-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.9-3
All Regions	7.9-3
SWP	7.9-3
CVP	7.9-3
Other Hydroelectric Facilities	7.9-4
System-Wide SWP and CVP Capacity and Energy Generation	7.9-4
System-Wide SWP and CVP Project Energy Use	7.9-5
Western Energy Sales	7.9-5
New SWP Energy Requirement	7.9-5
DWR and Western Power Rates	7.9-5
ASSESSMENT METHODS	7.9-6
CRITERIA FOR DETERMINING EFFECTS	7.9-9
NO ACTION ALTERNATIVE	7.9-10
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.9-11
Preferred Program Alternative	7.9-11
All Regions/All Programs	7.9-11
Western Energy Available for Sale	7.9-11
SWP Net Energy Requirements	7.9-11
Western and DWR Rates	7.9-12
Effects on Western and DWR Power Customers	7.9-12
CVP Restoration Fund Power Payments	7.9-15
Utility System Impacts	7.9-16
Ecosystem Restoration Program	7.9-16
Water Quality Program	7.9-16
Water Use Efficiency Program	7.9-16
Levee System Integrity Program	7.9-17
Water Transfer Program	7.9-17
Watershed Program	7.9-17
Storage	7.9-17
Conveyance	7.9-17
Effects at Other Hydroelectric Facilities	7.9-18
Other Types of Effects	7.9-18
Alternative 1	7.9-19
All Regions/All Programs	7.9-19
Western Energy Available for Sale	7.9-19
SWP Net Energy Requirements	7.9-19



Western and DWR Rates	7.9-19
Effects on Western and DWR Power Customers	7.9-20
Utility System Impacts	7.9-20
Alternative 2	7.9-20
All Regions/All Programs	7.9-21
Western Energy Available for Sale	7.9-21
SWP Net Energy Requirements	7.9-21
Western and DWR Rates	7.9-21
Effects on Western Power Customers	7.9-21
Utility System Impacts	7.9-21
Alternative 3	7.9-22
All Regions/All Programs	7.9-22
Western Energy Available for Sale	7.9-22
SWP Net Energy Requirements	7.9-22
Western and DWR Rates	7.9-22
Effects on Western Power Customers	7.9-22
CVP Restoration Fund Power Payments	7.9-23
Utility System Impacts	7.9-23
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.9-23
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.9-24
ADDITIONAL IMPACT ANALYSIS	7.9-24
Cumulative Effects	7.9-24
Growth-Inducing Impacts	7.9-25
Short- and Long-Term Relationships	7.9-25
Irreversible and Irretrievable Commitments	7.9-25
MITIGATION STRATEGIES	7.9-25
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.9-26

Chapter 7.10 Regional Economics

SUMMARY	7.10-1
Preferred Program Alternative	7.10-1
Alternatives 1, 2, and 3	7.10-1
AREAS OF CONTROVERSY	7.10-2
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.10-2
Delta Region	7.10-2
Bay Region	7.10-5
Sacramento River Region	7.10-6
San Joaquin River Region	7.10-6
Other SWP and CVP Service Areas	7.10-7
ASSESSMENT METHODS	7.10-7
CRITERIA FOR DETERMINING EFFECTS	7.10-9
NO ACTION ALTERNATIVE	7.10-9
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.10-11
Delta Region	7.10-12
Ecosystem Restoration Program	7.10-12
Water Quality Program	7.10-13
Levee System Integrity Program	7.10-13
Water Use Efficiency Program	7.10-13
Water Transfer Program	7.10-14



Watershed Program	7.10-14
Storage	7.10-14
Bay Region	7.10-14
Ecosystem Restoration Program	7.10-15
Levee System Integrity Program	7.10-15
Water Transfer Program	7.10-15
Water Quality and Water Use Efficiency Programs	7.10-15
Watershed Program	7.10-15
Storage	7.10-15
Sacramento River Region	7.10-16
Ecosystem Restoration Program	7.10-16
Water Quality Program	7.10-16
Levee System Integrity Program	7.10-16
Water Use Efficiency Program	7.10-16
Water Transfer Program	7.10-16
Watershed Program	7.10-17
Storage	7.10-17
San Joaquin River Region	7.10-17
Ecosystem Restoration Program	7.10-17
Water Quality Program	7.10-17
Levee System Integrity and Watershed Programs	7.10-18
Water Use Efficiency	7.10-18
Water Transfer Programs	7.10-18
Storage	7.10-18
Other SWP and CVP Service Areas	7.10-19
Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs	7.10-19
Storage	7.10-19
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.10-19
Preferred Program Alternative	7.10-19
Delta Region	7.10-20
Bay Region	7.10-20
Sacramento River and San Joaquin River Regions	7.10-20
Other SWP and CVP Service Areas	7.10-20
Alternative 1	7.10-21
All Regions	7.10-21
Alternative 2	7.10-21
All Regions	7.10-21
Alternative 3	7.10-21
Delta Region	7.10-21
Bay Region	7.10-21
Sacramento River Region	7.10-21
San Joaquin River Region	7.10-22
Other SWP and CVP Service Areas	7.10-22
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.10-22
ADDITIONAL IMPACT ANALYSIS	7.10-23
Cumulative Effects	7.10-23
Growth-Inducing Impacts	7.10-24
Short- and Long-Term Relationships	7.10-24
Irreversible and Irretrievable Commitments	7.10-24
ADVERSE EFFECTS	7.10-24



Chapter 7.11 Cultural Resources

SUMMARY	7.11-1
Preferred Program Alternative	7.11-1
Alternatives 1, 2, and 3	7.11-2
<i>Summary of Impacts and Mitigation Strategies</i>	7.11-2
AREAS OF CONTROVERSY	7.11-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.11-3
Delta Region	7.11-3
Prehistoric Resources	7.11-3
Historic Resources	7.11-5
Traditional Cultural Resources	7.11-5
Native American Groups	7.11-5
Bay Region	7.11-5
Prehistoric Resources	7.11-6
Historic Resources	7.11-6
Traditional Cultural Resources	7.11-6
Native American Groups	7.11-6
Sacramento River Region	7.11-6
Prehistoric Resources	7.11-6
Historic Resources	7.11-7
Traditional Cultural Resources	7.11-7
Native American Groups	7.11-7
San Joaquin River Region	7.11-7
Prehistoric Resources	7.11-8
Historic Resources	7.11-8
Traditional Cultural Resources	7.11-8
Native American Groups	7.11-8
Other SWP and CVP Service Areas	7.11-8
Prehistoric Resources	7.11-9
Historic Resources	7.11-9
Traditional Cultural Resources	7.11-9
Native American Groups	7.11-9
ASSESSMENT METHODS	7.11-9
Regulatory Context	7.11-10
SIGNIFICANCE CRITERIA	7.11-11
NO ACTION ALTERNATIVE	7.11-12
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.11-12
Delta Region	7.11-13
Ecosystem Restoration Program	7.11-13
Water Quality, Water Use Efficiency, Water Transfer, and Watershed Programs	7.11-13
Levee System Integrity Program	7.11-13
Storage	7.11-13
Bay Region	7.11-13
Ecosystem Restoration and Levee System Integrity Programs	7.11-13
Water Quality, Water Use Efficiency, Water Transfer, and Watershed Programs and Storage	7.11-14
Sacramento River Region	7.11-14
Ecosystem Restoration Program	7.11-14



Watershed Program	7.11-14
Storage	7.11-15
Other SWP and CVP Service Areas	7.11-15
All Programs	7.11-15
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.11-15
All Alternatives	7.11-15
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.11-16
ADDITIONAL IMPACT ANALYSIS	7.11-17
Cumulative Effects	7.11-17
Growth-Inducing Impacts	7.11-18
Short- and Long-Term Relationships	7.11-18
Irreversible and Irretrievable Commitments	7.11-18
MITIGATION STRATEGIES	7.11-18
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.11-19

Chapter 7.12 Public Health and Environmental Hazards

SUMMARY	7.12-1
Preferred Program Alternative	7.12-1
Alternatives 1, 2, and 3	7.12-2
<i>Summary of Impacts and Mitigation Strategies</i>	7.12-2
AREAS OF CONTROVERSY	7.12-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.12-3
Delta and Bay Regions	7.12-3
Disease Transmission	7.12-3
Mosquito Breeding Conditions and Habitat	7.12-4
Other Vectors and Host Populations	7.12-4
Fire Hazard	7.12-5
Hazardous Materials and Waste	7.12-5
Methyl Mercury	7.12-5
Sacramento River and San Joaquin River Regions	7.12-6
Disease Transmission	7.12-6
Fire Hazard	7.12-7
Hazardous Materials and Waste	7.12-7
Other SWP and CVP Service Areas	7.12-8
Disease Transmission	7.12-8
Fire Hazard	7.12-8
Hazardous Materials and Waste	7.12-8
ASSESSMENT METHODS	7.12-8
SIGNIFICANCE CRITERIA	7.12-9
NO ACTION ALTERNATIVE	7.12-9
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.12-9
Delta and Bay Regions	7.12-9
Ecosystem Restoration Program	7.12-9
Water Quality and Watershed Programs	7.12-10
Water Use Efficiency Program	7.12-10
Levee System Integrity Program	7.12-11
Water Transfer Program	7.12-11
Storage	7.12-11
Sacramento River and San Joaquin River Regions	7.12-12



Ecosystem Restoration Program	7.12-12
Water Quality Programs	7.12-12
Water Use Efficiency and Water Transfer Programs, and Storage	7.12-12
Watershed Program	7.12-12
Other SWP and CVP Service Areas	7.12-13
Ecosystem Restoration and Watershed Programs, and Storage	7.12-13
Water Quality and Water Use Efficiency Programs	7.12-13
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.12-13
Preferred Program Alternative	7.12-13
Alternative 1	7.12-14
Alternative 2	7.12-14
Alternative 3	7.12-14
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.12-14
ADDITIONAL IMPACT ANALYSIS	7.12-16
Cumulative Effects	7.12-15
Growth-Inducing Impacts	7.12-16
Short- and Long-Term Relationships	7.12-16
Irreversible and Irretrievable Commitments	7.12-16
MITIGATION STRATEGIES	7.12-16
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.12-17

Chapter 7.13 Visual Resources

SUMMARY	7.13-1
All Alternatives	7.13-1
<i>Summary of Impacts and Mitigation Strategies</i>	7.13-2
AREAS OF CONTROVERSY	7.13-3
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.13-3
Delta Region	7.13-3
Bay Region	7.13-4
Sacramento River Region	7.13-4
San Joaquin River Region	7.13-5
Other SWP and CVP Service Areas	7.13-6
ASSESSMENT METHODS	7.13-7
SIGNIFICANCE CRITERIA	7.13-7
NO ACTION ALTERNATIVE	7.13-8
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.13-8
Delta Region	7.13-8
Ecosystem Restoration Program	7.13-8
Water Quality and Watershed Programs	7.13-9
Levee System Integrity Program	7.13-9
Water Use Efficiency Program	7.13-9
Water Transfer Program	7.13-9
Storage	7.13-9
Bay Region	7.13-10
Ecosystem Restoration and Levee System Integrity Programs	7.13-10
Watershed Program	7.13-10
Water Quality, Water Use Efficiency, and Water Transfer Programs, and Storage	7.13-10
Sacramento River and San Joaquin River Regions	7.13-11
Ecosystem Restoration Program	7.13-11



Water Quality, Water Use Efficiency, and Water Transfer Programs	7.13-11
Levee System Integrity Program	7.13-11
Watershed Program	7.13-11
Storage	7.13-11
Sites/Colusa Reservoir	7.13-12
Thomes-Newville Reservoir	7.13-12
Montgomery Reservoir	7.13-12
Other SWP and CVP Service Areas	7.13-13
All Programs	7.13-13
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.13-13
All Alternatives	7.13-13
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.13-13
ADDITIONAL IMPACT ANALYSIS	7.13-14
Cumulative Effects	7.13-14
Growth-Inducing Impacts	7.13-15
Short- and Long-Term Relationships	7.13-15
Irreversible and Irretrievable Commitments	7.13-15
MITIGATION STRATEGIES	7.13-16
POTENTIALLY SIGNIFICANT UNAVOIDABLE IMPACTS	7.13-17

Chapter 7.14 Environmental Justice

SUMMARY	7.14-1
AREAS OF CONTROVERSY	7.14-1
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.14-2
Delta Region	7.14-2
Bay Region	7.14-3
Sacramento River Region	7.14-3
San Joaquin River Region	7.14-4
Other SWP and CVP Service Areas	7.14-4
ASSESSMENT METHODS	7.14-5
CRITERIA FOR DETERMINING EFFECTS	7.14-5
NO ACTION ALTERNATIVE	7.14-6
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.14-7
All Regions	7.14-7
Ecosystem Restoration Program	7.14-7
Water Quality Program	7.14-7
Levee System Integrity Program	7.14-8
Water Use Efficiency Program	7.14-8
Water Transfer Program	7.14-8
Watershed Program	7.14-8
Storage	7.14-9
CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES	7.14-9
Preferred Program Alternative	7.14-9
Alternative 1	7.14-10
Alternative 2	7.14-10
Alternative 3	7.14-10
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.14-10
ADDITIONAL IMPACT ANALYSIS	7.14-11
Cumulative Effects	7.14-11



Growth-Inducing Impacts	7.14-11
Short- and Long-Term Relationships	7.14-11
Irreversible and Irretrievable Commitments	7.14-11
ADVERSE EFFECTS	7.14-12

Chapter 7.15 Indian Trust Assets

SUMMARY	7.15-1
AREAS OF CONTROVERSY	7.15-1
AFFECTED ENVIRONMENT/EXISTING CONDITIONS	7.15-2
Delta and Bay Regions	7.15-2
Sacramento River and San Joaquin River Regions	7.15-2
Other SWP and CVP Service Areas	7.15-2
ASSESSMENT METHODS	7.15-2
SIGNIFICANCE CRITERIA	7.15-4
NO ACTION ALTERNATIVE	7.15-4
CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES	7.15-4
Delta and Bay Regions	7.15-4
All Programs	7.15-4
Sacramento River and San Joaquin River Regions	7.15-5
All Programs	7.15-5
All Other SWP and CVP Service Areas	7.15-5
All Programs	7.15-5
PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS	7.15-5
ADDITIONAL IMPACT ANALYSIS	7.15-5
Cumulative Effects	7.15-5
Growth-Inducing Impacts	7.15-5
Short- and Long-Term Relationships	7.15-6
Irreversible and Irretrievable Commitments	7.15-6
MITIGATION STRATEGIES	7.15-6
ADVERSE EFFECTS	7.15-6

Chapter 8. Compliance with Applicable Laws, Policies, and Plans and Regulatory Framework

ENVIRONMENTAL COMPLIANCE AT THE PROGRAMMATIC LEVEL	8-1
NEPA/CEQA	8-1
Federal/State Endangered Species Acts	8-3
Fish and Wildlife Coordination Act	8-4
Compliance with Section 404(b)(1) Guidelines and Section 401	8-5
The Coastal Zone Management Act	8-6
The National Historic Preservation Act	8-6
The Farmland Protection Policy Act and Memoranda on Farmland Preservation	8-7
The Federal Agriculture Improvement and Reform Act of 1996	8-7
Executive Order 11988 (Floodplain Management)	8-8
Executive Order 11990 (Protection of Wetlands)	8-8
Executive Order 12898 (Environmental Justice)	8-8
Executive Order 13007 (Indian Sacred Sites) and April 29, 1994 Executive Memorandum	8-9
Federal Clean Air Act	8-10
Climate Change	8-10



Federal Water Project Recreation Act	8-11
Davis-Dolwig Act	8-12
State, Regional, and Local Plan Consistency	8-12
REGULATORY FRAMEWORK	8-12
Delta Protection Commission	8-12
The Delta Protection Act of 1959	8-13
Porter-Cologne Act	8-13
Decision-1485 and the 1978 Water Quality Control Plan	8-14
1995 Water Quality Control Plan	8-14
Clean Water Act—Section 303(d)	8-15
Federal Guidance on Water Quality for Toxic Pollutants	8-15
Suisun Marsh Preservation Agreement	8-15
Water Rights	8-16
DRINKING WATER REQUIREMENTS	8-17
Safe Drinking Water Act	8-17
National Primary Drinking Water Standards	8-17
National Secondary Drinking Water Regulations	8-18
Trihalomethane Regulations	8-18
Federal Lead and Copper Rule	8-19
Federal Surface Water Treatment Rule	8-19
Disinfectants/Disinfection By-Products Rule	8-19
Federal Total Coliform Rule	8-19
California Surface Water Treatment Regulations	8-20
California Total Coliform Regulations	8-20
California Nonpoint Source Program	8-20
FEDERAL AND STATE COORDINATION FOR A DELTA SOLUTION	8-21
Bay-Delta Framework Agreement and Bay-Delta Accord/Restoration Coordination	8-21
Central Valley Project Improvement Act	8-22
California-Federal Operations Group	8-22
PUBLIC TRUST	8-23
WATER USE EFFICIENCY	8-23
AREA OF ORIGIN	8-24

Chapter 9. NEPA/CEQA Monitoring

INTRODUCTION	9-1
NEPA/CEQA MONITORING PROCESS	9-2
CEQA MONITORING AND REPORTING	9-2

Chapter 10. Public and Agency Involvement

PUBLIC INVOLVEMENT	10-1
Public Workshops	10-1
Public Meetings	10-2
Programmatic EIS/EIR Scoping and Comment Meetings	10-2
Phase II Report Workshops	10-3
Multi-Cultural Public Outreach	10-3
Speakers Bureau/Community Presentations	10-3
Educational Materials/Direct Mail	10-4



Media Contacts	10-5
Legislative Briefings	10-5
Project Public Information Line/Project Website	10-6
NEPA/CEQA Notices	10-6
Multi-Species Conservation Strategy Plan Scoping Meetings	10-6
Public Comment Letters	10-6
Scientific Review Panel	10-7
Bromide Panel	10-7
Diversion Effects on Fisheries Team	10-7
Bay-Delta Advisory Council	10-8
BDAC Work Groups	10-9
Water Use Efficiency Work Group	10-9
Ecosystem Restoration Work Group	10-9
Finance Work Group	10-9
Governance Work Group	10-9
Water Transfers Work Group	10-10
Watershed Work Group	10-10
Ecosystem Roundtable	10-10
Delta Drinking Water Council	10-10
Groundwater Outreach Program	10-10
CALFED Tribal Outreach	10-11
AGENCY INVOLVEMENT	10-13
CALFED Policy Group	10-13
Public Affairs Group	10-13
Operations Coordination Group	10-13
CALFED Technical Teams	10-14
Agency Ecosystem Restoration Technical Team	10-14
Levees and Channels Technical Team	10-14
Storage and Conveyance Technical Team	10-14
Water Quality Technical Team	10-14
CALFED Impact Analysis Teams	10-14
CALFED Agency Review Team	10-14
FUTURE CALFED ACTIONS	10-15



13.2 SUBJECT INDEX

- 1978 Delta Plan 8-14
 1991 Delta Plan 8-14
 1995 Water Quality Control Plan 1-19, 5.1-23, 8-14
 1996 Farm Bill 8-7, 8-8
 (Section) 3406 5.1-19, 5.1-20
 (D-) 893 5.1-10
 AB 3030 5.4-6
 AB 3180 9-3
 (Bay-Delta) Accord 1-3, 1-20, 1-22, 5.1-20, 5.3-21, 7.1-7, 7.2-9, 7.2-21, 7.3-8, 8-2, 8-14, 8-21, 9-1, 10-5
 (Anadromous Fish Restoration Program) AFRP 5.1-11, 5.1-13, 5.1-15, 8-22
 Agricultural Water Conservation and Management Act 8-24
 alkalinity 5.3-10, 5.3-18, 6.1-29, 6.1-36
 American shad 6.1-20-6.1-22, 6.1-27, 6.1-28, 6.1-32, 6.1-35, 6.1-41-6.1-44, 6.1-47, 7.7-4, 7.7-6, 7.7-9, 7.7-12
 ammonia 5.3-10, 6.1-15, 6.1-29, 6.1-36
 appropriative water rights 7.1-8, 8-16
 Archeological Resources Protection Act 7.11-11
 area of origin 5.4-4, 7.1-13, 8-24
 arsenic 5.4-5, 5.4-11, 5.4-14, 5.5-14
 bacteria 5.3-13, 5.3-57, 6.2-21, 8-19
 Banks Pumping Plant 5.1-5, 5.1-23, 5.2-3, 5.3-12, 5.3-22
 (fish) barriers 1-12, 2-2, 2-8, 2-15-2-17, 2-19, 3-13, 3-17, 3-23, 3-24, 4-14, 5.2-18, 5.3-27, 5.3-31, 5.4-19, 5.4-29, 5.6-2, 5.6-11, 5.7-2, 5.7-5, 5.7-8, 5.7-11, 5.7-12, 5.8-5, 6.1-2-6.1-4, 6.1-7-6.1-9, 6.1-15, 6.1-16, 6.1-18, 6.1-19, 6.1-22, 6.1-40, 6.1-42, 6.1-43, 6.1-45-6.1-47, 6.1-51, 6.2-32, 6.2-38, 7.5-32, 7.7-18, 7.7-25, 7.7-27, 7.7-28, 7.7-30, 7.7-34, 7.7-35, 7.9-17, 7.12-14, 7.13-5, 7.13-13, 7.14-9, 8-21
 Bay-Delta water rights hearing 1-22
 (Bay-Delta Advisory Council) BDAC 1-4, 1-13, 1-15, 1-16, 1-23, 8-10, 8-21, 10-1, 10-2, 10-5, 10-6, 10-8, 10-10, 10-12
 beneficial use 1-7, 1-10, 1-22, 3-21, 5.1-65, 5.4-25, 5.4-32, 8-16
 boat(s) 3-17, 3-22, 3-23, 5.5-3, 5.5-28, 5.6-2, 5.6-9, 5.7-2, 5.7-8, 5.7-11, 5.7-12 5.7-14, 7.7-2, 7.7-4, 7.7-5, 7.7-7, 7.7-8, 7.7-11, 7.7-13, 7.7-14, 7.7-18, 7.7-19, 7.7-21, 7.7-22, 7.7-24, 7.7-25, 7.7-27, 7.7-28, 7.7-30, 7.7-31, 7.7-34, 7.8-16
 boating 3-24-3-26, 4-3, 5.3-8, 5.6-4, 5.8-8, 5.8-11, 6.1-27, 6.1-32, 6.1-35, 7.7-1-7.7-5, 7.7-12, 7.7-15, 7.7-18-7.7-21, 7.7-24-7.7-35, 7.8-20, 7.13-3
 (“bookend” assumptions) bookend 2-19, 5.1-19, 5.1-20, 5.1-24, 5.1-27, 5.1-36, 5.1-43, 5.1-49, 5.1-55, 5.1-64, 5.2-11, 5.2-13, 5.2-21, 5.2-42, 5.4-17
 boron 5.3-9-5.3-11, 5.4-9, 5.4-11, 5.4-13, 5.4-14, 5.4-19, 5.5-14
 bromide 2-8, 2-18, 2-19, 3-10, 3-23, 5.1-29, 5.3-1-5.3-3, 5.3-6, 5.3-8-5.3-12, 5.3-18-5.3-20, 5.3-22, 5.3-34, 5.3-36, 5.3-38-5.3-43, 5.3-45, 5.3-47-5.3-49, 5.3-51, 5.3-53, 5.3-58, 7.5-2, 7.5-17, 7.5-18, 7.5-30-7.5-34, 10-7
 Bulletin 118 5.4-5, 5.4-11
 Bulletin 160-98 1-21, 5.1-16, 5.2-13, 7.2-2, 7.5-13, 7.5-15, 7.5-16, 7.5-18, 7.5-20, 7.5-21, 7.5-37, 7.5-38, 7.5-40, 7.5-41
 cadmium 2-8, 5.3-7, 5.3-8, 5.3-10, 5.3-11, 5.3-15, 5.3-16, 6.1-15, 7.12-5, 7.12-7
 California Aqueduct 5.1-5, 5.1-15, 5.2-3, 5.3-30, 5.3-46, 5.4-12, 7.5-11, 7.6-3, 7.6-6, 7.7-13
 California Farmland Conservancy Program 7.1-2, 7.1-30



- California Nonpoint Source Management Plan 8-20
California Toxics Rule 8-13, 8-16
carbofuran 5.3-10
Category III 1-22, 1-23, 8-21
catfish 6.1-10, 6.1-28, 6.1-39, 7.7-4, 7.7-11, 7.7-12
(combined cycle combustion turbines) CCCTs 7.9-7, 7.9-10, 7.9-16
Central Valley Habitat Joint Venture 4-11
(California Environmental Quality Act) CEQA 1-6, 1-19, 1-20, 2-13, 2-21, 3-2, 4-2, 4-3, 4-5-4-9, 5.1-2,
5.1-3, 5.1-66, 5.2-2, 5.3-5, 5.3-6, 5.4-3, 5.5-3, 5.6-2, 5.7-2, 5.8-3, 6.1-5, 6.2-3, 6.2-14, 7.1-1, 7.1-4, 7.2-2,
7.3-2, 7.4-2, 7.4-3, 7.5-3, 7.5-15, 7.6-2, 7.7-3, 7.7-33, 7.8-3, 7.9-2, 7.9-9, 7.10-1, 7.10-2, 7.10-9, 7.11-1,
7.11-3, 7.11-9-7.11-12, 7.11-17-7.11-19, 7.12-3, 7.13-3, 7.13-15, 7.14-1, 7.14-6, 7.14-12, 7.15-1,
8-1-8-4, 8-7, 8-12, 8-17, 9-2, 9-1, 9-1-9-3, 10-6
channel modifications 2-24, 2-25, 5.2-10, 5.3-4, 5.3-32, 5.3-37, 5.3-40, 5.3-43, 5.3-48, 5.3-58, 6.1-40,
6.1-45, 6.1-47, 6.2-33, 7.7-25, 7.7-26, 7.7-28, 7.7-30, 7.12-13, 7.12-14
channel widening 5.2-17, 7.1-25, 7.3-16, 7.4-9, 7.8-1, 7.8-11, 7.8-13, 7.12-11
chlordan 5.3-14
chloride 5.1-5, 5.3-3, 5.3-12, 5.4-9, 5.4-11, 5.8-4, 6.1-29, 6.1-36
chlorine 5.3-6, 8-19
chlorpyrifos 5.3-10, 5.3-14, 5.3-15
Clean Air Act 5.8-3, 8-10
(water transfer) clearinghouse 1-17, 2-11, 10-4, 10-10
climate 5.5-5, 5.5-14, 5.8-7, 6.2-12, 7.1-1, 7.1-10, 7.4-5, 7.5-6, 7.5-9, 7.5-11, 7.6-5, 7.8-8, 7.10-7, 8-10
(Comprehensive Monitoring, Assessment, and Research Program) CMARP 2-7, 6.1-2, 6.1-6, 6.1-40,
6.2-4, 9-2
(carbon monoxide) CO 1-19, 5.8-3-5.8-8, 5.8-10, 5.8-12, 5.8-13, 7.5-6, 7.9-7, 7.9-16, 7.9-20, 7.9-21,
7.9-23, 10-4, 10-9, 10-13
Coastal Aqueduct 5.1-28, 6.1-26, 6.1-49, 6.2-19, 7.5-12, 7.5-24, 7.10-7
Coastal Branch Aqueduct 5.1-15
Coastal Zone Act Reauthorization Amendments (CZARA) 8-20
coliform 5.3-6, 8-20
commercial fishing 7.7-4, 7.7-7-7.7-9, 7.7-14-7.7-16, 7.7-19, 7.7-21, 7.7-22, 7.10-7, 7.10-15
conjunctive use 1-15, 1-24, 3-21, 5.3-46, 5.3-47, 5.4-3, 5.4-4, 5.4-25, 5.4-27, 5.4-28, 5.4-32, 5.5-22,
7.1-13, 7.2-19, 7.5-15, 7.10-18, 10-10, 10-11
constituents 1-8, 3-21, 5.3-1, 5.3-4, 5.3-5, 5.3-8-5.3-12, 5.3-18-5.3-20, 5.3-22, 5.3-31, 5.3-34-5.3-36,
5.3-38, 5.3-41, 5.3-45, 5.3-46, 5.3-48, 5.3-57, 5.4-14, 6.2-1, 6.2-21, 7.5-1, 7.5-17
contaminants 3-13, 3-19, 3-21, 3-23, 3-24, 5.2-5, 5.2-12, 5.3-1, 5.3-2, 5.3-5, 5.3-7-5.3-10, 5.3-15,
5.3-22, 5.3-24-5.3-28, 5.3-30, 5.3-31, 5.3-46, 5.3-55, 5.3-56, 5.3-58, 5.4-5, 5.4-9, 5.4-11, 5.4-20, 5.4-22,
5.4-24, 5.4-29, 5.5-18, 5.8-12, 6.1-1, 6.1-2, 6.1-4, 6.1-8, 6.1-9, 6.1-15-6.1-17, 6.1-20, 6.1-25-6.1-39,
6.1-41-6.1-44, 6.1-48, 6.1-49, 6.2-2, 6.2-17, 6.2-18, 6.2-21, 6.2-24, 6.2-26, 6.2-32, 7.1-1, 7.1-25, 7.12-1,
7.12-5, 7.12-10, 7.12-11, 7.12-13, 8-17-8-20
conversion 2-23, 3-3, 3-4, 3-15, 3-16, 3-23, 3-24, 3-26, 4-14-4-16, 5.1-2, 5.1-30, 5.1-31,
5.1-33, 5.1-67, 5.2-19, 5.2-20, 5.3-1, 5.3-4, 5.3-13, 5.3-24, 5.3-55, 5.4-1, 5.4-20, 5.4-22, 5.4-24, 5.5-1,
5.5-2, 5.5-4, 5.5-14, 5.5-20, 5.5-25, 5.5-27, 5.6-1, 5.6-5, 5.6-7, 5.6-9, 5.7-13, 5.8-1, 5.8-12, 6.1-28,
6.1-33, 6.2-11, 6.2-15, 6.2-16, 6.2-20, 6.2-25, 6.2-28, 7.1-2, 7.1-5, 7.1-7, 7.1-10-7.1-16, 7.1-18,
7.1-19, 7.1-21-7.1-23, 7.1-25-7.1-30, 7.2-1, 7.2-6, 7.2-8-7.2-11, 7.2-14, 7.2-15, 7.2-17, 7.2-18,
7.2-20-7.2-23, 7.2-25, 7.2-26, 7.3-1, 7.3-8, 7.3-9, 7.3-11-7.3-16, 7.3-19, 7.3-20, 7.5-1,
7.6-9, 7.6-11, 7.6-14, 7.7-14, 7.7-16, 7.8-5, 7.8-20, 7.8-30, 7.10-1, 7.10-2, 7.10-12,
7.10-13, 7.10-23, 7.10-24, 7.12-3, 7.12-8, 7.12-10, 7.14-7, 7.14-9, 7.14-12
copper 2-8, 5.2-5, 5.3-7, 5.3-8, 5.3-10, 5.3-11, 5.3-15, 5.3-16, 6.1-10, 6.1-15, 7.12-7, 8-19
crappie 6.1-10, 6.1-39, 7.7-12



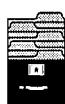
- crop yields 3-14, 3-15, 5.3-17, 7.1-16, 7.1-28, 7.2-8, 7.2-16, 7.2-25, 7.3-10, 7.3-19, 7.10-13, 7.14-7, 7.14-8
- Cryptosporidium parvum* 5.3-6, 5.3-13, 8-19
- (combustion turbines) CTs 7.9-7, 7.9-10, 7.9-16
- (Central Valley Groundwater and Surface Water model) CVGSM 5.4-16, 5.4-17, 5.4-21, 5.4-32
- CVP Restoration Fund 7.9-1, 7.9-9, 7.9-15, 7.9-23
- (Central Valley Project Improvement Act) CVPIA 1-20, 4-12, 5.1-5, 5.1-19, 5.1-20, 5.1-23, 5.1-65, 5.2-6, 5.2-14, 5.2-15, 5.2-43, 5.3-21, 5.4-21, 5.4-35, 5.5-26, 5.6-10, 5.8-15, 6.1-49, 6.2-36, 7.1-7, 7.1-13, 7.1-14, 7.1-29, 7.2-9, 7.2-10, 7.2-14, 7.2-17, 7.2-21, 7.2-26, 7.3-8, 7.4-10, 7.5-4, 7.5-5, 7.5-9, 7.5-16, 7.5-22, 7.5-23, 7.6-15, 7.7-15-7.7-17, 7.7-32, 7.8-30, 7.9-24, 7.10-23, 7.10-24, 7.12-15, 7.13-15, 8-22
- (Clean Water Act) CWA 8-5, 8-13, 8-15, 8-16, 8-20
- (Coastal Zone Management Act) CZMA 8-6
- (Stage 1 Disinfectant/Disinfection By-Products Rule) D/DBPR 8-19
- Davis-Dolwig Act 8-12
- Davis-Grunsky contract 5.1-15
- (dibromochloropropane) DBCP 5.4-11, 5.4-14
- (disinfection by-product precursors) DBPs 5.3-1, 5.3-2, 5.3-4, 5.3-5, 5.3-9, 5.3-10, 5.3-12, 5.3-13, 5.3-18, 5.3-29, 5.3-38, 5.3-49, 5.3-55, 5.3-58, 7.5-2, 7.5-17, 7.10-20, 8-19, 8-20
- (Delta Cross Channel) DCC 2-17, 5.1-5, 5.1-23, 5.2-3, 5.2-14, 5.3-2, 5.5-7, 6.1-3, 6.1-4, 6.1-22, 6.1-41, 6.1-43, 6.1-45-6.1-47, 7.6-2, 7.8-6, 7.8-7
- DDT 5.3-10, 5.3-14, 5.3-15
- (Diversion Effects on Fisheries Team) DEFT 5.3-19, 10-7
- Delta Drinking Water Council 2.1-17, 10-10
- Delta exports 3-8, 3-13, 5.1-4, 5.1-5, 5.1-20, 5.1-21, 5.1-23, 5.1-25, 5.1-30-5.1-33, 5.1-35, 5.1-37, 5.1-42, 5.1-43, 5.1-48-5.1-50, 5.1-55, 5.1-56, 5.1-63, 5.2-4, 5.2-13, 5.2-18, 5.2-23, 5.2-27, 5.2-31, 5.2-35, 5.2-42, 5.3-20, 5.4-17, 6.1-30, 6.1-51, 7.10-1, 7.10-22, 8-15, 8-22
- Delta Protection Act of 1959 8-13, 8-24
- delta smelt 1-22, 2-25, 6.1-1, 6.1-7, 6.1-9, 6.1-18-6.1-22, 6.1-27, 6.1-28, 6.1-32, 6.1-33, 6.1-41, 6.1-44, 6.1-47, 6.1-48, 7.8-10, 8-14
- Diamond Valley Reservoir 5.1-28, 5.3-21, 6.1-26, 6.2-19, 7.5-14, 7.7-17
- diazinon 5.3-10, 5.3-14, 5.3-15
- disinfection 1-9, 5.3-1, 5.3-4, 5.3-9, 5.3-10, 5.3-13, 5.3-18, 5.3-36, 5.3-58, 7.5-2, 7.12-1, 8-18, 8-19
- diversion facility 1-18, 2-2, 2-8, 2-14-2-17, 3-10-3-19, 3-23, 4-14, 4-16, 5.1-43, 5.1-55, 5.1-57, 5.2-1, 5.2-34, 5.3-2, 5.3-31, 5.3-32, 5.3-36, 5.3-48, 5.3-59, 5.4-1, 5.4-32, 5.5-24, 5.5-25, 5.6-8, 5.7-10, 5.7-11, 5.8-13, 6.1-2-6.1-4, 6.1-20, 6.1-40, 6.1-43-6.1-46, 6.1-51, 6.2-31, 6.2-33, 6.2-34, 7.1-25-7.1-27, 7.2-22, 7.2-24, 7.2-25, 7.3-16-7.3-19, 7.4-9, 7.5-17, 7.5-29, 7.5-30, 7.5-32, 7.5-33, 7.6-13, 7.7-25, 7.7-28, 7.8-26, 7.10-19, 7.11-15, 7.11-16, 7.12-13, 7.12-14, 7.13-13, 7.14-9, 7.14-10
- (Delta-Mendota Canal) DMC 3-10, 3-20, 5.1-5, 5.1-12, 5.1-15, 5.1-27, 5.2-3, 5.3-12, 5.3-13, 5.3-17, 5.3-30, 5.3-34, 5.3-39, 5.3-46, 5.3-50, 5.3-52
- (dissolved oxygen) DO 2-17, 4-3, 4-8, 4-10, 4-13, 4-14, 4-16, 5.1-27, 5.1-31, 5.1-33, 5.2-5, 5.2-18, 5.2-19, 5.3-10, 5.3-13, 5.3-14, 5.3-27, 5.3-33, 5.3-37, 5.3-41, 5.3-45, 5.4-5, 5.4-26, 5.4-28, 5.4-36, 5.5-6, 5.5-22, 6.1-10, 6.1-19, 6.2-6, 6.2-12, 6.2-28, 7.1-7, 7.1-23, 7.4-2, 7.4-3, 7.4-11, 7.5-29, 7.5-36, 7.5-40, 7.7-3, 7.7-7, 7.7-20, 7.8-9, 7.8-10, 7.8-19, 7.9-9, 7.9-15, 7.9-23, 7.12-3, 8-3, 8-8, 8-19
- (dissolved organic carbon) DOC 5.1-29, 5.3-3, 5.3-5, 5.3-6, 5.3-12, 5.3-22, 5.4-7, 7.1-4, 7.1-5, 7.1-9, 7.1-10, 7.1-15, 7.3-20
- (Delta Protection Commission) DPC 8-12
- dredging 1-8, 1-18, 1-22, 2-14-2-17, 3-13-3-15, 3-17-3-19, 3-23, 5.2-17, 5.2-18, 5.3-2-5, 5.3-9, 5.3-14, 5.3-26, 5.3-55-5.3-58, 5.5-16, 5.6-5, 5.7-2, 5.7-8, 5.7-12, 5.8-9, 6.1-2-6.1-4, 6.1-15, 6.1-18, 6.1-27, 6.1-30, 6.1-34, 6.1-41, 6.1-42, 6.1-44, 6.1-52, 6.2-2, 6.2-9, 6.2-32-6.2-34, 7.1-17, 7.1-25,



7.2-23, 7.4-9, 7.7-2, 7.7-25, 7.7-27, 7.7-28, 7.7-30, 7.8-4, 7.8-9, 7.8-16, 7.8-24, 7.8-25, 7.8-27, 7.11-1, 7.11-14, 7.11-16, 7.12-2, 7.12-3, 7.12-6, 7.12-11, 7.12-13, 7.12-15, 7.12-17, 7.14-9	
drinking water standards	5.3-9, 5.4-7, 5.4-11, 5.4-14, 8-17, 8-18
DSM1	5.3-18
DSM2	5.1-17, 5.1-21, 5.2-10, 5.2-11, 5.2-13-5.2-15, 5.2-21, 5.2-22, 5.2-24, 5.2-26, 5.2-28, 5.2-30, 5.2-32, 5.2-34, 5.2-37, 5.3-18-5.3-20, 5.3-30
DWRDSM2	5.1-22, 5.3-18, 5.3-19
DWRSIM	5.1-16, 5.1-17, 5.1-21, 5.1-22, 5.1-25-5.1-29, 5.1-36-5.1-38, 5.1-40, 5.1-43-5.1-45, 5.1-47, 5.1-49-5.1-51, 5.1-53, 5.1-55, 5.1-57, 5.1-59, 5.1-61, 5.2-6, 5.2-8, 5.2-10, 5.2-12, 5.2-15, 5.2-21, 5.2-22, 5.2-24, 5.2-26, 5.2-28, 5.2-30, 5.2-32, 5.2-34, 5.2-37, 5.2-39, 5.3-19, 5.4-17, 7.5-15, 7.5-16, 7.5-29, 7.9-5, 7.9-7, 7.9-18, 7.10-11
D-1275	8-14
D-1379	8-14
D-1400	5.1-10
D-1485	5.3-9, 8-14, 8-16
D-1630	8-14
(electrical conductivity) EC	3-23, 5.2-6, 5.2-43, 5.3-2-5.3-4, 5.3-10, 5.3-13, 5.3-19, 5.3-20, 5.3-31-5.3-33, 5.3-36, 5.3-37, 5.3-39-5.3-48, 5.3-51-5.3-54, 5.3-59
Ecosystem Roundtable	1-23, 8-21, 10-8, 10-10
(ethylene dibromide) EDB	5.4-14
Eight River Index	8-14, 8-15
emissions	3-12, 3-21, 3-23, 5.8-1, 5.8-2, 5.8-8-5.8-17, 7.9-1, 7.9-10, 7.9-16, 7.9-20, 7.9-21, 7.9-23, 7.12-6, 8-10, 8-11
employment	3-15, 3-20, 3-22, 3-25, 4-7, 5.1-65, 7.1-1, 7.2-3, 7.2-8, 7.2-14, 7.2-17, 7.2-18, 7.2-22, 7.2-23, 7.3-1-7.3-5, 7.3-7-7.3-11, 7.3-15, 7.3-16, 7.7-33, 7.8-14, 7.10-1, 7.10-2, 7.10-4-7.10-9, 7.10-12, 7.10-15-7.10-18, 7.10-21, 7.10-23, 7.10-24, 7.13-15, 7.14-1, 7.14-2, 7.14-6-7.14-9, 7.14-11
Enclosed Bays and Estuary Plan	8-13
entrainment	1-9, 2-23, 3-13, 3-21, 3-23, 6.1-1, 6.1-3, 6.1-4, 6.1-18-6.1-20, 6.1-22, 6.1-28-6.1-32, 6.1-35, 6.1-37, 6.1-39-6.1-45, 6.1-47, 6.1-48, 7.6-4, 10-7
environmental justice (other than Section 7.14)	3-3, 3-20, 3-22, 3-25, 3-26, 4-3, 4-7, 4-8, 7.3-2, 7.3-5, 7.14-1, 7.14-2, 7.14-5-7.14-7, 7.14-9, 7.14-11, 7.14-12, 8-8, 10-8
environmental water	2-7, 5.1-1, 5.1-3, 5.1-18-5.1-20, 5.1-31, 5.1-66, 5.3-9, 6.1-1, 6.1-31, 6.1-35, 6.1-39, 7.7-21, 7.7-24, 8-15, 10-4
erosion	1-8, 1-10, 2-8, 3-11, 3-21, 3-23-3-25, 4-8, 5.2-21, 5.3-3, 5.3-4, 5.3-16, 5.3-22, 5.3-28, 5.3-29, 5.3-57, 5.5-1-5.5-12, 5.5-15-5.5-28, 5.7-9, 5.8-11, 6.1-10, 6.1-15, 6.1-28, 6.1-35, 6.2-14, 6.2-27, 6.2-29, 7.1-3, 7.1-17, 7.1-18, 7.1-31, 7.8-2, 7.8-3, 7.8-5-7.8-7, 7.8-9, 7.8-11, 7.8-14, 7.8-16, 7.8-18, 7.8-20, 7.8-21, 7.8-27, 7.8-29, 7.8-31, 7.11-14, 7.13-10, 7.13-11, 7.14-8
(Endangered Species Act) ESA(s)	2-15, 2-18, 6.1-7, 6.1-1, 6.1-3, 6.1-5, 6.1-18, 6.1-24, 6.1-26, 6.1-27, 6.1-40, 6.2-5, 6.2-16, 8-3, 8-4, 8-23
(Enhanced Surface Water Treatment Rule) ESWTR	8-19
(evapotranspiration) ET	5.2-21, 5.3-14-5.3-17, 7.5-14, 7.6-7, 8-10, 8-12, 8-23, 8-24
(Environmental Water Account) EWA	5.1-1, 5.1-3, 5.1-18, 5.1-19, 5.1-31, 5.1-32, 5.1-34, 5.1-35, 5.1-66, 5.2-18-5.2-20
Executive Order 11988	8-8
Executive Order 11990	8-8
Executive Order 12372	8-12
Executive Order 12898	7.14-1, 7.14-6, 8-8, 8-9
Executive Order 13007	8-9
Farmland Mapping and Monitoring Program	7.1-5, 7.1-12
(Federal Clean Air Act) FCAA	8-10
Federal Agriculture Improvement and Reform Act of 1996	8-7



- Federal Swamp Land Act 7.1-7, 7.8-5
Federal Water Project Recreation Act 8-11
(Federal Emergency Management Act) FEMA 7.8-8, 7.8-21
filtration 3-21, 5.6-6, 5.6-7, 5.8-1, 5.8-9, 5.8-12, 8-18-8-20
fish ladder(s) 1-23, 2-8, 2-15, 6.1-43, 6.1-46, 8-22
fish screen(s) 1-23, 2-8, 2-17, 2-19, 2-23, 3-23, 3-24, 5.1-23, 5.6-5, 5.8-9, 6.1-1-6.1-4, 6.1-17, 6.1-20,
6.1-35, 6.1-40, 6.1-41, 6.1-43, 6.1-45-6.1-47, 7.13-2, 7.13-11, 7.13-13, 7.13-14, 7.14-9, 8-22
flow control barriers 2.1-15, 2.1-16, 5.7-5, 6.1-43, 6.1-45, 6.1-46, 7.7-25, 7.7-27, 7.7-28, 7.7-30, 7.7-34,
7.13-13
Folsom (Lake) 5.1-7, 5.1-10, 5.1-11, 5.1-26, 5.1-38, 5.1-45, 5.1-51, 5.1-59, 5.2-12, 5.3-21, 6.1-25, 6.1-49,
7.5-10, 7.5-23, 7.6-4, 7.7-10, 7.7-16, 7.8-10, 7.8-16, 7.13-4
Food Security Act of 1985 8-7
food web 3-21, 5.3-10, 6.1-8, 6.2-1, 6.2-21
fossil fuel 7.9-3
fossil fuels 3-12, 3-21, 3-23, 5.8-1, 5.8-2, 5.8-10, 5.8-12, 5.8-15, 7.9-25
Four River Index 8-14
(Farmland Protection Policy Act) FPPA 8-7
fragmentation 3-14, 3-24, 6.2-1-6.2-3, 6.2-9, 6.2-10, 6.2-13, 6.2-16, 6.2-19, 6.2-20, 6.2-22, 6.2-35,
6.2-36, 6.2-38, 7.4-2, 7.4-12
Framework Agreement 1-2, 1-3, 8-21, 8-22, 10-13
Friant Dam 5.1-12, 5.1-15, 5.5-11, 5.5-12, 7.8-11
Friant-Kern (Canal) 5.1-11, 5.1-12
(Fish and Wildlife Coordination Act) FWCA 8-4, 8-5
Georgiana Slough 5.2-3, 5.2-14, 6.1-4, 6.1-22, 6.1-43, 6.1-45, 6.1-47, 6.1-51
Giardia lamblia 5.3-6, 5.3-13, 8-19
Glenn-Colusa Canal 5.1-8
“Good Samaritan” (protections) 5.3-6
Government Code Section 51920 7.1-3, 7.1-31
Grant Line Canal 2-15, 2-16, 5.1-23, 5.2-3, 5.3-32, 6.1-47
grazing 3-21, 5.2-21, 5.3-15, 5.5-4, 5.5-8-5.5-10, 5.5-12, 5.5-23, 6.1-15, 6.1-16, 6.1-35, 6.2-9, 6.2-39,
7.1-1, 7.1-4, 7.1-5, 7.1-9, 7.1-15, 7.1-18, 7.1-21, 7.1-23, 7.2-14, 7.2-17, 7.2-20, 7.3-9, 7.3-14, 7.5-8,
7.8-11, 7.9-18, 7.12-5, 7.12-7, 7.13-11, 8-7, 8-21
ground disturbance 3-11, 3-23, 3-25, 3-26, 5.3-28, 5.3-29, 5.5-1, 5.5-2, 5.5-26, 5.5-27, 6.2-22,
7.13-2, 7.13-16, 7.15-4
health effects 2-20, 5.8-4, 7.14-5, 7.14-6, 8-17, 8-18, 8-20, 10-7
HEC-RAS (model) 7.8-13
Hodge Decision 5.1-10
hunting 3-15, 3-22, 3-24, 3-25, 5.5-11, 6.2-8, 6.2-9, 6.2-11, 7.2-11, 7.2-15, 7.2-18, 7.3-11, 7.7-1,
7.7-2, 7.7-4-7.7-7, 7.7-10-7.7-13, 7.7-15, 7.7-16, 7.7-18-7.7-20, 7.7-23, 7.7-25, 7.7-27, 7.7-28, 7.7-30,
7.7-31, 7.14-7, 7.14-11, 7.15-1
(Interagency Ecological Program) IEP 8-23
income 3-3, 3-15, 3-20, 3-22, 7.2-3, 7.2-4, 7.2-11, 7.2-12, 7.2-14, 7.2-18, 7.2-22, 7.2-25,
7.2-27, 7.3-1-7.3-8, 7.3-10, 7.3-11, 7.3-15, 7.7-9, 7.7-10, 7.7-15, 7.7-16, 7.8-13, 7.10-1-7.10-12, 7.10-14,
7.10-15, 7.10-17, 7.10-20, 7.10-21, 7.10-24, 7.14-1, 7.14-2, 7.14-5-7.14-11, 8-8, 8-9
Inland Surface Waters Plan 8-13
Integrated Storage Investigation 2-13, 2-21, 5.1-4, 6.2-5, 6.2-25, 6.2-30, 6.2-40, 8-5
introduced (species) 1-1, 1-9, 5.1-3, 5.3-19, 5.4-11, 5.4-29, 6.1-8, 6.1-9, 6.1-12, 6.1-16, 6.1-17, 6.1-19,
6.1-23, 6.1-26, 6.1-34, 6.1-48, 6.2-14
inundation 1-8, 3-23-3-26, 5.3-4, 5.3-5, 5.3-24, 5.3-58, 5.4-27, 5.5-2, 5.5-19, 5.5-23, 5.5-26, 5.5-27,
6.2-2, 6.2-24, 6.2-40, 7.2-12, 7.2-14, 7.2-17, 7.2-20, 7.2-26, 7.7-21, 7.7-24, 7.7-33, 7.8-6, 7.8-9, 7.10-17,
7.10-23, 7.11-2, 7.11-16, 7.13-12, 7.14-12



- in-lieu taxes 7.10-2
(inorganic chemicals) IOCs 8-18
irrigation water 1-1, 1-9, 3-14, 3-21, 3-25, 5.1-13, 5.3-7, 5.3-8, 5.3-13, 5.4-1, 5.4-4, 5.4-9, 5.4-12, 5.5-2, 5.5-6, 5.5-14, 5.5-16, 5.5-22, 5.5-28, 6.1-11, 6.2-23, 7.1-1, 7.1-5, 7.1-8-7.1-10, 7.1-13, 7.1-14, 7.1-18, 7.1-19, 7.1-23, 7.1-27, 7.1-29, 7.2-9, 7.2-10, 7.2-15, 7.2-16, 7.2-19-7.2-21, 7.3-1, 7.3-8, 7.3-15, 7.3-20, 7.8-24, 7.10-8, 7.10-24, 7.12-10
job training 7.3-5, 7.3-11, 7.10-12
(joint point of diversion) JPD 2-17, 5.1-23
Keswick (Reservoir) 5.1-8, 5.2-7, 5.3-16, 6.1-25
land retirement 2-9, 4-12, 6.2-17, 7.1-17, 7.3-9
largemouth bass 6.1-10, 6.1-21, 6.1-25, 6.1-28, 6.1-39
(Least-Cost Planning Simulation model) LCPSIM 7.5-15, 7.5-16, 7.5-30-7.5-34, 7.5-36-7.5-41
Lead and Copper Rule 8-19
levee setback 6.1-42, 6.1-44, 7.8-27
linkage(s) 1-7, 6.1-6, 6.2-17, 7.9-3, 7.10-8, 7.10-9
logging 5.1-11, 5.1-34, 5.3-16, 5.5-4, 5.5-10, 6.2-11, 7.8-11, 7.9-18, 7.12-7, 7.14-1, 7.14-2
longfin smelt 6.1-20, 6.1-21, 6.1-27, 6.1-32, 6.1-33
Los Vaqueros (Reservoir) 4-13, 5.1-5, 7.5-5, 7.5-22, 7.11-12
Madera (Canal) 1-12, 5.1-11, 5.1-12, 7.1-9, 7.3-3, 7.4-4
marinas 7.7-4, 7.7-5, 7.7-18, 7.7-20-7.7-22, 7.7-24, 7.13-3
Memoranda on Farmland Preservation 8-7
Mendota Pool 5.1-12, 5.4-12
mercury 2-8, 2-20, 3-10, 3-23, 5.3-2-5.3-5, 5.3-7, 5.3-8, 5.3-10, 5.3-11, 5.3-14-5.3-16, 5.3-23, 5.3-24, 5.3-29, 5.3-55-5.3-58, 6.1-4, 6.1-10, 6.1-15, 6.1-52, 6.2-3, 6.2-21, 6.2-38, 7.1-19, 7.12-1-7.12-3, 7.12-5-7.12-11, 7.12-13-7.12-17, 10-5
Middle River 2-15, 2-16, 3-10, 5.1-23, 5.2-4, 5.3-3, 5.3-33, 5.3-37, 5.3-38, 5.3-41, 5.3-43-5.3-45, 5.3-53, 5.7-3, 6.1-42, 6.1-47, 7.8-6, 7.13-13
Millerton Lake 5.1-12, 7.7-12
mining 1-8, 2-8, 5.1-6, 5.1-11, 5.3-7, 5.3-14-5.3-16, 5.4-7, 5.5-9, 5.5-11, 5.5-12, 5.6-3, 6.1-15, 6.1-21, 6.1-22, 6.1-35, 6.2-8, 6.2-9, 7.4-4, 7.5-8, 7.7-10, 7.8-9, 7.10-3, 7.10-4, 7.10-9-7.10-11, 7.11-6-7.11-9, 7.12-6, 7.12-7, 7.14-6
Mokelumne River 1-18, 2-2, 2-14-2-17, 2-24, 3-8, 3-9, 5.1-11, 5.1-23, 5.1-43, 5.1-55, 5.2-1-5.2-4, 5.2-34, 5.3-2, 5.3-31, 5.3-43, 5.3-48, 5.3-53, 5.4-32, 5.5-7, 5.5-11, 5.7-11, 5.8-13, 6.1-2-6.1-4, 6.1-31, 6.1-40, 6.1-43-6.1-47, 6.2-18, 6.2-33, 6.2-34, 7.1-25, 7.1-26, 7.7-29, 7.8-6, 7.8-7, 7.11-16, 7.13-3, 7.13-13
Monterey Agreement 7.5-23, 7.5-24
Montgomery Reservoir 4-13, 7.13-12
movement corridors 6.2-2, 6.2-16, 6.2-19, 6.2-35, 6.2-36
(Multi-Species Conservation Strategy) MSCS 1-19, 2-7, 6.1-2, 6.1-3, 6.1-6, 6.1-7, 6.1-12, 6.1-40, 6.2-4, 6.2-8, 6.2-10, 6.2-11, 6.2-13, 6.2-14, 6.2-19, 6.2-24, 6.2-30, 6.2-38, 6.2-40, 7.1-16, 8-3, 8-4, 10-6
multipliers 7.2-2, 7.10-2, 7.10-7, 7.10-8
National Primary Drinking Water Standards 8-17
Native American Graves Protection and Repatriation Act 7.11-11
Natural Disaster Assistance Act 7.8-8
(Natural Community Conservation Plan) NCCP 8-3, 8-4
(Natural Community Conservation Planning Act) NCCPA 8-3, 8-4
(National Environmental Policy Act) NEPA 2-13, 2-21, 3-2, 4-2, 4-3, 4-5-4-7, 4-9, 6.2-14, 7.2-2, 7.3-2, 7.5-3, 7.5-15, 7.9-9, 7.10-1, 7.10-9, 7.14-5, 7.14-12, 8-1-8-4, 8-7-8-10, 8-12, 7.15-1, 9-1, 9-2, 10-6
New Don Pedro (Reservoir) 5.1-13, 5.1-14, 5.1-26, 5.1-27, 5.1-39, 5.1-45, 5.1-52, 5.1-59, 5.2-12, 7.7-12, 7.8-12, 7.9-4, 7.13-6
New Exchequer (Dam) 5.1-14, 5.1-15, 7.8-12



- New Melones (Reservoir) 5.1-13, 5.1-15, 5.1-26, 5.1-39, 5.1-45, 5.1-52, 5.1-59, 5.2-12, 7.5-23, 7.7-12, 7.8-12, 7.13-6
(National Historic Preservation Act) NHPA 7.11-9, 7.11-10, 7.11-12, 7.11-17, 7.11-19, 8-6
nitrogen 5.3-10, 5.3-29, 5.3-56, 5.8-3, 5.8-4, 7.9-7, 7.9-14
non-native species 6.1-2, 6.1-4, 6.1-7, 6.1-12, 6.1-23, 6.1-26, 6.1-27, 6.1-32, 6.1-33, 6.1-35, 6.1-39, 6.1-49-6.1-52
North Delta NWR 7.1-13, 7.1-29
(nitrogen oxide) NO_x 5.8-3, 5.8-5-5.8-8, 5.8-10, 5.8-12, 5.8-13, 7.9-7, 7.9-16, 7.9-20, 7.9-21, 7.9-23
(National Pollutant Discharge Elimination System) NPDES 8-13
(Nonpoint source pollution) NPS 8-20
(National Secondary Drinking Water Regulations) NSDWR 8-18
nutrients 2-8, 2-19, 5.1-30, 5.3-3, 5.3-8, 5.3-10, 5.3-11, 5.3-17, 5.3-18, 5.3-23-5.3-25, 5.3-28, 5.3-29, 5.4-29, 5.5-11, 5.5-12, 5.5-17, 6.1-7, 6.1-8, 6.1-10, 6.1-11, 6.1-14, 6.1-15, 6.1-17, 6.1-25, 6.1-27, 6.1-29, 6.1-32, 6.1-36, 6.2-11, 6.2-17, 7.8-11, 7.12-7
(ozone) O₃ 5.8-3-5.8-8, 5.8-10-5.8-12
Old River 1-22, 2-14-2-17, 2-23, 2-24, 3-10, 5.1-5, 5.1-23, 5.2-11, 5.2-15, 5.2-22, 5.2-23, 5.2-26, 5.2-27, 5.2-30, 5.2-31, 5.2-34, 5.2-37, 5.3-2, 5.3-3, 5.3-33, 5.3-37, 5.3-41, 5.3-44, 5.7-3, 5.7-11, 6.1-2, 6.1-3, 6.1-22, 6.1-41, 6.1-42, 6.1-46, 6.1-47, 6.2-32, 6.2-33, 7.5-19, 7.5-30, 7.8-11, 7.10-21, 7.11-16, 7.13-13
organic carbon 2-8, 2-19, 2-24, 3-21, 3-23, 5.1-29, 5.3-1, 5.3-3, 5.3-5, 5.3-8, 5.3-10-5.3-12, 5.3-22, 5.3-24, 5.3-34, 5.3-36, 5.3-38, 5.3-41, 5.3-48, 5.3-49, 5.3-51, 6.1-33, 6.2-17, 7.5-1, 7.5-17, 7.5-25, 7.12-10
organic matter 5.1-30, 5.3-3, 5.3-18, 5.3-23, 5.3-29, 5.5-5, 5.5-6, 5.5-8, 5.5-11, 6.1-7-6.1-10, 7.8-11, 7.12-7
organic soils 5.5-4-5.5-6, 7.11-4
(Lake) Oroville 5.1-7-5.1-9, 5.1-26, 5.1-27, 5.1-38, 5.1-45, 5.1-51, 5.1-59, 5.2-12, 5.5-11, 5.7-4, 7.6-4, 7.7-10, 7.7-11, 7.7-16, 7.8-10, 7.9-3, 7.13-4
(groundwater) overdraft 3-11, 3-26, 5.4-1, 5.4-2, 5.4-5, 5.4-6, 5.4-8, 5.4-19, 5.4-30, 5.4-34, 5.4-36, 5.5-10, 5.5-22, 5.5-27, 7.1-8, 7.1-12, 7.2-16, 7.2-21, 7.2-23, 7.5-24, 8-17
overtopping 1-8, 3-22, 5.3-22, 7.8-6, 7.8-7, 7.8-16, 7.8-18, 7.8-21, 8-11
oxidation 1-10, 3-18, 5.3-18, 5.4-8, 5.5-4, 5.5-5, 5.5-15, 5.5-16, 7.8-6, 7.8-7, 7.8-20
oxygen 2-9, 3-10, 3-23, 5.3-4, 5.3-10, 5.3-11, 5.3-17, 5.3-25, 5.3-29, 5.3-56, 5.4-8, 5.4-29, 5.4-36, 6.1-8, 6.1-11, 6.1-15, 6.1-20, 6.1-22, 6.1-29, 6.1-36, 6.1-42, 6.1-47, 8-14
pathogenic (organisms) 5.3-6, 5.3-8, 5.3-28, 8-19
pathogens 1-9, 2-8, 2-19, 3-21, 5.1-29, 5.3-1, 5.3-6, 5.3-8-5.3-10, 5.3-13, 5.3-18, 8-19
PCBs 5.3-15, 7.12-6, 7.12-7, 7.12-12, 7.12-13
peat (soils) 1-8, 1-9, 2-23, 3-18, 5.2-3, 5.3-2, 5.3-4, 5.3-5, 5.3-12, 5.3-24, 5.3-29, 5.3-58, 5.4-7, 5.4-8, 5.5-5, 5.5-15, 5.5-16, 7.1-7, 7.8-2, 7.8-5-7.8-7, 7.8-16, 7.8-20, 7.11-4, 7.12-5
pesticides 2-8, 2-19, 3-21, 5.3-3, 5.3-4, 5.3-7, 5.3-8, 5.3-10, 5.3-14, 5.3-25, 5.3-28, 5.4-11, 5.4-14, 5.4-21, 5.8-1, 5.8-8, 5.8-12, 6.1-9, 6.1-10, 6.1-15, 6.1-16, 6.1-29, 6.1-36, 6.2-12, 6.2-13, 7.9-16, 7.12-1, 7.12-4, 7.12-5, 7.12-7, 7.12-12, 7.12-13, 8-21
pH 5.3-8, 5.3-10, 5.3-18, 5.4-29, 5.4-36
piping 5.3-30, 7.8-6, 7.8-7, 7.8-16, 7.8-22
PL 84-99 6.2-3, 6.2-38, 7.5-25, 7.8-15, 7.8-19, 7.8-21
(inhalable particulate matter) PM₁₀ 5.8-3-5.8-8, 5.8-10-5.8-13, 7.9-7, 7.9-16, 7.9-20, 7.9-21, 7.9-23
(fine particulate matter) PM_{2.5} 5.8-4, 5.8-8
Porter-Cologne Act 8-13, 8-20
poverty 7.3-2-7.3-4, 7.3-6-7.3-8, 7.10-5, 7.10-9, 7.14-1-7.14-6
predation 1-9, 2-25, 3-23, 6.1-2-6.1-4, 6.1-19-6.1-23, 6.1-26, 6.1-27, 6.1-31-6.1-33, 6.1-35, 6.1-43, 6.1-44, 6.1-47
public land 4-11, 7.11-18, 9-3



- public trust (doctrine) 8-23
Pyramid Lake 5.1-15
QWEST 3-9, 5.2-4, 5.2-11, 5.2-14, 5.2-15, 5.2-22, 5.2-23, 5.2-26, 5.2-27, 5.2-30, 5.2-31, 5.2-34-5.2-36, 5.3-31, 6.1-26
rainbow trout 6.1-10, 6.1-39, 7.7-11
Rancanelli decision 8-14, 8-23
rare natural communities 3-24, 6.2-2, 6.2-3, 6.2-5, 6.2-14-6.2-16, 6.2-19, 6.2-20, 6.2-24, 6.2-25, 6.2-29, 6.2-30, 6.2-35, 6.2-36, 6.2-39, 6.2-40
(Red Bluff Diversion Dam) RBDD 5.1-8
recreation facilities 3-24, 7.6-1, 7.7-2, 7.7-6, 7.7-10, 7.7-14, 7.7-16, 7.7-18-7.7-20, 7.7-22, 7.7-31, 7.7-32, 7.14-8, 7.14-9, 8-11
recycling 2-9, 2-11, 2-13, 2-20, 5.1-1, 5.1-3, 5.1-4, 5.1-18, 5.1-19, 5.1-32, 5.1-66, 5.2-20, 5.3-17, 5.3-27, 5.3-46, 5.3-47, 5.4-2, 5.4-25, 5.4-31, 5.4-36, 6.1-30, 6.1-37, 7.5-2, 7.5-14, 7.5-16, 7.5-18, 7.5-19, 7.5-21, 7.5-29, 7.5-30, 7.5-32, 7.5-40, 7.5-41, 7.9-17, 8-24, 10-9
red-ear sunfish 6.1-10, 6.1-39
“Reg-Neg” process 8-19
reservoir water levels 3-24, 7.7-14
Restoration Coordination Program 1-23, 8-21, 8-22
reverse flow 5.2-4, 5.2-23, 5.2-24, 5.2-27, 5.2-28, 5.2-31, 5.2-32, 5.2-35-5.2-37, 6.1-31, 6.1-32, 6.1-41, 6.1-46
riparian water rights 8-16
risk assessment 2-10, 8-18
(reverse osmosis) RO 7.5-2, 7.5-3, 7.5-18
(Regional Tribal Operations Committee) RTOC 8-9, 8-10, 10-11, 10-12
Sacramento blackfish 6.1-25, 6.1-28
Sacramento pikeminnow 6.1-28
salinity 1-8, 2-8, 2-9, 2-19, 3-10, 3-12-3-15, 3-21, 3-23, 3-25, 4-12, 5.1-18, 5.1-23, 5.1-29, 5.1-40, 5.2-4-5.2-6, 5.2-10, 5.2-43, 5.3-2-5.3-4, 5.3-7, 5.3-8, 5.3-10, 5.3-11, 5.3-13, 5.3-17, 5.3-19, 5.3-21, 5.3-22, 5.3-24-5.3-26, 5.3-29-5.3-52, 5.3-54, 5.3-55, 5.3-59, 5.5-1, 5.5-2, 5.5-4, 5.5-6-5.5-8, 5.5-14-5.5-20, 5.5-22, 5.5-25, 5.5-27, 5.5-28, 6.1-1, 6.1-4, 6.1-13, 6.1-15, 6.1-19, 6.1-20, 6.1-22, 6.1-24, 6.1-28-6.1-31, 6.1-34-6.1-38, 6.1-41, 6.1-43, 6.1-47, 6.1-48, 6.2-4, 6.2-6, 6.2-8, 6.2-17, 7.1-7, 7.1-23, 7.1-28, 7.2-8, 7.2-9, 7.2-11, 7.2-12, 7.2-15, 7.2-18-7.2-21, 7.2-25, 7.2-26, 7.3-19, 7.5-2, 7.5-5, 7.5-6, 7.5-17, 7.5-18, 7.5-29-7.5-34, 7.7-8, 7.8-9, 7.10-20-7.10-22, 7.12-11, 8-11, 8-14-8-16, 8-24
salmon 1-10, 1-22, 2-17, 2-25, 3-23, 5.1-8, 5.1-9, 5.1-13-5.1-15, 6.1-1, 6.1-3, 6.1-4, 6.1-7, 6.1-9, 6.1-10, 6.1-14, 6.1-15, 6.1-18-6.1-23, 6.1-25-6.1-29, 6.1-31-6.1-33, 6.1-35-6.1-37, 6.1-39, 6.1-41, 6.1-49, 6.2-18, 7.7-6-7.7-12, 7.7-16, 7.7-21, 7.7-22, 8-14
San Joaquin Valley Drainage Program 5.3-7
San Luis (Reservoir) 1-13, 5.1-5, 5.1-15, 5.1-29, 5.1-41, 5.1-42, 5.1-47, 5.1-48, 5.1-54, 5.1-62, 5.1-63, 5.3-6, 5.3-17, 5.4-14, 5.4-15, 5.5-14, 5.7-1, 5.7-5, 5.7-7, 5.8-7, 6.1-11, 6.1-12, 6.2-13, 6.2-31, 7.3-3, 7.4-5, 7.5-11, 7.5-12, 7.5-14, 7.5-24, 7.6-5-7.6-7, 7.7-12, 7.7-13, 7.7-26, 7.7-27, 7.7-29, 7.8-12, 7.10-7, 7.11-8, 7.13-6, 7.13-7, 7.14-4
San Pablo (Bay) 1-11, 5.1-6, 5.1-31, 5.2-4, 5.2-5, 5.2-19, 5.3-34, 5.3-38, 5.3-42, 5.3-45, 5.3-49, 5.3-52, 5.5-4, 5.5-7, 5.5-8, 5.7-1, 5.7-3, 5.7-4, 6.1-8, 6.1-9, 6.2-8, 6.2-9, 7.7-4, 7.7-7, 7.7-8, 7.13-4
sanitary survey 8-19
SB 1065 7.8-16
scour 6.1-29, 7.8-1, 7.8-14, 7.8-16, 7.8-21
(Safe Drinking Water Act) SDWA 8-17, 8-19
Section 303(d) 5.3-9, 8-15
Section 404 7.9-14, 8-5, 8-6
sedimentation 2-9, 5.5-3, 5.5-4, 5.5-6, 5.5-8, 5.5-15, 5.5-19, 5.5-22, 5.5-23, 6.1-15, 6.1-28, 6.2-8, 6.2-9, 6.2-14, 7.1-17, 7.1-18, 7.8-1, 7.8-5, 7.8-11, 7.8-14, 7.8-20, 7.11-8, 7.12-5, 7.12-7



- seepage 1-8, 2-10, 2-17, 3-24, 5.4-3, 5.4-9, 5.4-10, 5.4-12, 5.4-13, 5.4-25, 5.4-37, 5.5-2, 5.5-3, 5.5-15, 5.5-16, 5.5-19, 5.5-28, 6.2-24, 7.1-18, 7.2-11, 7.2-15, 7.2-16, 7.2-18, 7.8-1-7.8-3, 7.8-6, 7.8-7, 7.8-9, 7.8-11, 7.8-12, 7.8-14, 7.8-17-7.8-23, 7.8-29, 7.8-31
- selenium 2-9, 2-20, 3-21, 4-12, 5.3-1, 5.3-4, 5.3-7, 5.3-8, 5.3-10-5.3-12, 5.3-15-5.3-17, 5.3-25, 5.3-33, 5.3-40, 5.3-43, 5.4-14, 5.5-1, 5.5-3, 5.5-14, 5.5-16-5.5-18, 5.5-20, 5.5-22, 6.1-11, 6.1-15, 6.2-18, 6.2-22, 6.2-28, 7.1-3, 7.1-22, 7.1-31
- Semitropic Water Storage District 7.5-24
- sensitive receptors 5.6-2, 5.6-4, 5.6-6, 5.6-8, 5.6-11
- shallow-water habitat 5.3-4, 5.3-5, 5.3-24, 5.3-55, 5.3-57, 5.3-58, 6.1-4, 6.1-9, 6.1-28, 6.1-52, 6.2-19, 6.2-32, 7.7-29, 7.8-20, 7.8-23, 7.11-13, 7.12-3, 7.12-17
- Shasta Dam 5.1-7, 5.1-8, 5.5-9, 5.5-10, 7.5-10
- Shasta Lake 7.7-10, 7.7-11, 7.8-10
- Shasta Temperature Control Device 6.1-25, 6.1-49
- Sites/Colusa (Reservoir) 4-13, 7.13-12
- (Suisun Marsh Preservation Agreement) SMPA 8-15, 8-16
- (Significant Natural Areas) SNAs 6.2-5
- (sulfur dioxide) SO₂ 5.8-3, 5.8-4, 5.8-8
- social services 7.3-5, 7.3-8, 7.3-11, 7.3-13, 7.3-17, 7.10-2, 7.10-24, 7.14-6, 7.14-7, 10-3
- social well being 7.3-2-7.3-5, 7.3-7, 7.3-20
- (synthetic organic chemicals) SOCs 8-18
- sodium adsorption ratio 5.3-9, 5.3-10
- source reduction 2-8
- special-status (plants and animals) 3-13, 3-21, 3-23, 3-24, 6.1-3, 6.1-4, 6.1-6, 6.1-40, 6.2-1-6.2-5, 6.2-7, 6.2-8, 6.2-10-6.2-15, 6.2-17-6.2-30, 6.2-32, 6.2-33, 6.2-35, 6.2-38-6.2-40, 7.5-25
- splittail 6.1-1, 6.1-7, 6.1-18, 6.1-21, 6.1-22, 6.1-25-6.1-28, 6.1-32, 6.1-35, 6.1-41, 6.1-43, 6.1-47
- sport fishing 1-4, 7.7-4, 7.7-6-7.7-8, 7.7-10, 7.7-12, 7.7-15, 7.7-16, 7.7-18, 7.7-20-7.7-23, 7.7-26-7.7-30, 10-8
- spotted bass 6.1-10, 6.1-39
- (Sacramento River Flood Control Project) SRFCP 6.1-25, 6.1-26, 6.1-49, 6.2-17, 6.2-18, 7.8-4, 7.8-7, 7.8-9, 7.8-16
- State Revolving Loan Fund 8-17
- State Water Policy Council 1-2
- steelhead 5.1-14, 5.1-15, 6.1-1, 6.1-7, 6.1-10, 6.1-14, 6.1-15, 6.1-18-6.1-23, 6.1-25-6.1-29, 6.1-32, 6.1-33, 6.1-35-6.1-37, 6.1-39, 6.1-41-6.1-43, 6.1-47-6.1-49, 7.7-4, 7.7-9, 7.7-11, 7.7-12
- Stone Lakes (NWR) 5.3-21, 6.1-25, 6.1-49, 6.2-17, 7.1-13, 7.1-29, 7.3-8, 7.7-6, 7.7-16, 7.7-29, 7.13-3
- striped bass 1-1, 2-25, 6.1-9, 6.1-20-6.1-23, 6.1-25, 6.1-27-6.1-29, 6.1-32, 6.1-33, 6.1-35, 6.1-41-6.1-44, 6.1-46-6.1-48, 7.7-4, 7.7-6-7.7-9, 7.7-11, 7.7-12, 7.12-6
- (white and green) sturgeon 6.1-1, 6.1-20, 6.1-22, 6.1-27-6.1-29, 6.1-32, 6.1-33, 6.1-35, 6.1-43, 7.7-4, 7.7-6-7.7-9, 7.7-12
- subsidence 1-8, 1-10, 2-9, 2-10, 3-11, 3-18, 3-21, 3-23-3-26, 4-12, 5.4-1-5.4-3, 5.4-8, 5.4-10-5.4-12, 5.4-16, 5.4-18-5.4-26, 5.4-28, 5.4-30, 5.4-32, 5.4-34-5.4-36, 5.5-1, 5.5-2, 5.5-4-5.5-6, 5.5-10, 5.5-13, 5.5-15-5.5-19, 5.5-22, 5.5-23, 5.5-25, 5.5-27, 5.8-5, 5.8-6, 5.8-12, 7.1-3, 7.1-7, 7.1-31, 7.2-26, 7.7-19, 7.8-2, 7.8-6-7.8-8, 7.8-14, 7.8-16, 7.8-19, 7.8-21, 7.8-25, 7.8-29, 7.8-31
- Suisun Bay 1-10, 1-11, 5.1-6, 5.1-31, 5.2-5, 5.2-19, 5.3-15, 5.3-31, 5.3-34, 5.3-36, 5.3-43-5.3-45, 5.5-4, 5.5-7, 5.5-11, 5.7-3, 5.7-4, 6.1-8, 6.1-9, 6.1-13, 6.1-20, 6.1-22, 6.2-8-6.2-10, 7.6-4, 7.7-7, 7.7-8, 7.7-15, 7.7-19, 7.11-5, 7.11-6
- Suisun Marsh 1-10, 1-18, 2-9, 2-10, 2-20, 3-10, 3-12-3-14, 3-17-3-20, 4-5, 4-12, 5.1-6, 5.1-31, 5.2-5, 5.5-6, 5.5-7, 5.5-20, 5.6-6, 5.8-11, 6.1-8, 6.1-25, 6.1-28, 6.1-33, 6.1-34, 6.2-4, 6.2-8-6.2-10, 6.2-25, 7.4-7, 7.5-26, 7.6-4, 7.7-7, 7.7-20, 7.7-21, 7.8-5, 7.8-8, 7.8-9, 7.8-23, 7.11-5, 7.11-13, 7.11-14, 7.12-4, 7.12-11, 7.13-4, 7.13-10, 7.14-8, 8-14-8-16
- (Surface Water Treatment Rule) SWTR 8-19



- Tehama-Colusa (Canal) 5.1-8, 5.4-10, 7.13-12
temperature 1-21, 3-10, 3-13, 3-21, 3-23, 5.1-3, 5.1-8, 5.1-15, 5.1-33, 5.2-20, 5.3-9, 5.3-10, 5.3-17, 5.3-25, 5.3-27, 5.3-35, 5.3-56, 5.4-29, 5.4-36, 5.8-5-5.8-7, 6.1-1, 6.1-2, 6.1-4, 6.1-8, 6.1-10, 6.1-13, 6.1-14, 6.1-18, 6.1-19, 6.1-21-6.1-23, 6.1-25, 6.1-26, 6.1-29, 6.1-36-6.1-39, 6.1-42, 6.1-43, 6.1-47, 6.1-49, 6.1-52, 7.7-11, 7.7-12, 7.7-14, 7.7-23, 8-11, 8-14
thermal generation 7.9-3
third parties 2-20, 5.1-1, 5.1-34, 5.1-67, 5.4-28
third-party impacts 2-11, 5.1-1, 5.1-2, 5.1-34, 5.1-67, 5.4-2, 5.4-28, 5.4-36, 10-10, 10-11
(trihalomethane) THM 8-18
tiered document 9-2
Title 22 8-20
Title III 8-7, 8-8
(total organic carbon) TOC 2-8, 2-18, 2-23, 5.3-1, 5.3-2, 5.3-4, 5.3-5, 5.3-9, 5.3-10, 5.3-12, 5.3-13, 5.3-18, 5.3-22, 5.3-24, 5.3-26, 5.3-29, 5.3-34, 5.3-38, 5.3-41, 5.3-48, 5.3-49, 5.3-51, 5.3-55, 5.3-58, 8-19
Total Coliform Rule 8-20
toxaphene 5.3-14
toxicity (of unknown origin) 2-9, 5.3-10, 5.3-14, 5.3-15, 6.1-29, 6.1-34, 6.1-36
trace metals 2-8, 2-20, 5.3-15, 6.1-8, 6.1-10
Tracy Pumping Plant 2-17, 5.1-5, 5.1-12, 5.1-15, 5.1-23, 5.2-3, 6.2-32, 7.6-2
traffic 3-12, 3-21, 3-23, 5.5-3, 5.5-28, 5.6-2, 5.6-4, 5.6-9, 5.7-1-5.7-3, 5.7-5-5.7-12, 5.8-2, 5.8-8, 5.8-11, 5.8-16, 7.7-2, 7.7-18, 7.7-31, 7.9-19
trains 5.7-2, 5.7-14
Trinity River 1-12, 1-20, 1-21, 2-19, 5.1-7, 5.1-8, 5.1-19, 5.1-23, 5.1-65, 5.2-43, 5.3-54, 5.5-8, 7.9-24, 7.11-7, 8-22
(total suspended solids) TSS 5.3-23, 5.3-25, 5.3-26, 5.3-28, 5.3-29, 5.3-54, 5.3-55
(total trihalomethanes) TTHMs 8-18, 8-19
tule perch 6.1-28
turbidity 2-8, 2-9, 2-19, 3-10, 3-23, 5.1-2, 5.1-30, 5.1-64, 5.1-67, 5.3-4, 5.3-8, 5.3-10, 5.3-18, 5.3-58, 5.5-8, 5.5-20, 5.5-23, 6.1-10, 6.1-15, 6.1-19, 6.1-28, 6.1-29, 6.1-36, 7.5-17, 8-19
unreasonable use 5.4-5
Urban Water Management Planning Act 2-11, 8-23
(Vernalis Adaptive Management Plan) VAMP 1-22, 6.1-26
viruses 5.3-6, 5.3-13, 8-19
(volatile organic carbons) VOCs 7.12-6, 7.12-7, 8-18
Water Code 1-11, 1-22, 2-12, 5.4-6, 7.8-16, 8-13, 8-16, 8-17, 8-23, 8-24
Water Management Strategy 2-7, 2-13, 2-21, 5.1-3, 5.1-18
water rights 1-19, 1-20, 1-22, 5.1-13, 5.1-30, 5.3-21, 5.4-2, 5.4-4, 5.4-6, 5.4-36, 7.1-5, 7.1-6, 7.1-8, 7.1-9, 7.1-13, 7.5-4-7.5-7, 7.5-9, 7.5-10, 7.5-12, 7.5-14, 7.6-3, 7.6-5, 7.6-7, 7.15-1, 7.15-4, 8-13, 8-14, 8-16, 8-17, 8-23, 8-24
water transfer market(s) 2-13, 5.1-1, 5.1-4, 7.2-9, 7.3-8
water treatment 1-9, 3-3, 5.3-1, 5.3-4, 5.3-9, 5.3-18, 5.3-21, 5.3-22, 5.3-58, 7.5-2, 7.5-4, 7.5-17, 7.9-18, 7.10-19, 7.10-21, 8-19, 8-20, 10-7
Whiskeytown (Lake) 5.1-7, 5.1-8, 7.7-10, 7.8-10, 7.13-5
white catfish 6.1-28, 7.7-12
Williamson Act 7.1-12, 7.1-15, 7.1-16, 7.1-28
(Water Quality Control Plan) WQCP 1-19, 1-20, 1-22, 5.1-5, 5.1-23, 5.2-6, 5.2-14, 5.2-15, 8-14-8-16, 8-23
X2 (position) 3-9, 3-10, 5.1-18, 5.2-1, 5.2-5, 5.2-6, 5.2-12, 5.2-15, 5.2-19, 5.2-22, 5.2-24, 5.2-26, 5.2-28, 5.2-30, 5.2-32, 5.2-34, 5.2-37-5.2-39, 5.3-3, 8-14
Yolo Basin Wildlife Area 7.1-13, 7.1-29
Yolo Bypass 5.2-4, 5.2-6, 5.3-19, 7.7-6, 7.8-6, 7.8-10



- Yuba (River) . . . 1-12, 5.1-6-5.1-10, 5.1-26, 5.1-39-5.1-41, 5.1-46, 5.1-47, 5.1-53, 5.1-60, 5.1-61, 5.2-6, 5.3-16,
5.4-11, 6.1-25, 6.1-49, 7.1-7, 7.3-3, 7.7-11, 7.7-16, 7.9-4, 7.10-6, 7.14-2, 10-2
zinc 2-8, 5.3-7, 5.3-8, 5.3-10, 5.3-11, 5.3-16, 6.1-10, 6.1-15, 7.12-5, 7.12-7



