

Contents

Chapter 1 - Need for Proposed Action and Background	1
1.1 Introduction.....	1
1.2 Background.....	2
1.3 Purpose and Need and Scope of Analysis.....	4
1.4 Authorizing Actions, Permits, and Licenses.....	4
1.5 Relationship to Other Projects	5
Chapter 2 – Proposed Action and Alternatives.....	7
2.1 Introduction.....	7
2.2 No Action Alternative.....	7
2.3 Action Alternative.....	8
2.3.1 Lake Tap with Vertical Shaft Intake Structure	8
2.4 Alternatives Considered but Eliminated from Further Study	15
2.4.1 1999 Intake Structure and Upper Alignment.....	15
2.4.2 Use Old Dam as an Anchor for Intake Structure	16
2.4.3 Floating Intake Structure.....	16
2.4.4 Tap into Dam Outlet Works.....	16
2.4.5 River Intake Structure	16
2.4.6 Place an Intake Structure on the East Side of the Reservoir.....	16
2.5 Preferred Action Alternative.....	16
Chapter 3 - Affected Environment and Environmental Effects.....	17
3.1 Introduction.....	17
3.2 Affected Environment.....	17
3.2.1 Water Resources	17
3.2.2 Weber Basin Project Operations.....	19
3.2.2.1 East Canyon Fish Flow Water	21
3.2.3 Water Rights	22
3.2.4 Water Quality.....	24
3.2.5 Public Safety, Access, and Transportation	28
3.2.6 Recreation	28
3.2.7 Visual Resources.....	28
3.2.8 Socioeconomics	29
3.2.9 Cultural Resources.....	30
3.2.9.1 Cultural History	30
3.2.9.2 Cultural Resources Status	30
3.2.10 Paleontological Resources	31
3.2.11 Wetlands and Vegetation	31
3.2.12 Wildlife Resources.....	32
3.2.13 Threatened, Endangered, and Sensitive Species.....	35
3.3 Environmental Effects of Alternatives.....	36
3.3.1 Water Resources	36
3.3.1.1 No Action Alternative.....	36
3.3.1.2 Action Alternative.....	36
3.3.2 Weber Basin Project Operations.....	38

3.3.2.1	No Action Alternative.....	38
3.3.2.2	Action Alternative.....	39
3.3.3	Water Rights	39
3.3.3.1	No Action Alternative.....	39
3.3.3.2	Action Alternative.....	39
3.3.4	Water Quality.....	40
3.3.4.1	No Action Alternative.....	40
3.3.4.2	Action Alternative.....	40
3.3.5	Public Safety, Access, and Transportation	44
3.3.5.1	No Action Alternative.....	44
3.3.5.2	Action Alternative.....	44
3.3.6	Recreation	45
3.3.6.1	No Action Alternative.....	45
3.3.6.2	Action Alternative.....	45
3.3.7	Visual Resources.....	45
3.3.7.1	No Action Alternative.....	45
3.3.7.2	Action Alternative.....	45
3.3.8	Socioeconomics	46
3.3.8.1	No Action Alternative.....	46
3.3.8.2	Action Alternative.....	46
3.3.9	Cultural Resources	46
3.3.9.1	No Action Alternative.....	46
3.3.9.2	Action Alternative.....	46
3.3.10	Paleontological Resources	47
3.3.10.1	No Action Alternative.....	47
3.3.10.2	Action Alternative.....	47
3.3.11	Wetlands and Vegetation.....	47
3.3.11.1	No Action Alternative.....	47
3.3.11.2	Action Alternative.....	47
3.3.12	Wildlife Resources.....	48
3.3.12.1	No Action Alternative.....	48
3.3.12.2	Action Alternative.....	48
3.3.13	Threatened, Endangered, and Sensitive Species.....	49
3.3.13.1	No Action Alternative.....	49
3.3.13.2	Action Alternative.....	49
3.4	Summary of Environmental Effects.....	50
3.5	Cumulative Effects.....	51
3.5	Indian Trust Assets	52
3.6	Environmental Justice.....	52
	Chapter 4 - Environmental Commitments.....	53
	Chapter 5 - Consultation and Coordination.....	57
5.1	Introduction.....	57
5.2	Public Involvement	57
5.3	Native American Consultation.....	57
5.4	Coordination with Other Agencies	58
	Chapter 6 - Preparers.....	59

Chapter 7 – References	61
Appendix A	63
East Canyon Reservoir Hydrology Analysis	63
Appendix B	69
Water Quality Modeling Using CE-QUAL-W2	69

Tables

3.1: Weber Basin Project Average Annual Water Quantities
3.2: Weber Basin Project Wells
3.3: Summary of East Canyon Reservoir Storage Water Rights
3.4: Summary of DWCCC Direct Flow Water Rights
3.5: Management Area Visual Integrity Rating
3.6: Number of profiles failing to meet TMDL dissolved oxygen target for mixed periods
3.7: Number of profiles failing to meet TMDL dissolved oxygen target for stratified periods
3.8: Summary of Environmental Effects

Figures

1.1: Location Map
2.1A-2.1D: Proposed Action
2.2: Intake Location
2.3: Lake Tap Structure
3.1: East Canyon Reservoir Water Elevation
3.2: East Canyon Reservoir Total Water Storage
3.3: East Canyon Reservoir Inflows
3.4: East Canyon Reservoir Releases
3.5: East Canyon Reservoir temperature profile illustrating thermal stratification
3.6: East Canyon Reservoir Downstream Releases Avg. Years (1995-1999)
3.7: East Canyon Reservoir Downstream Releases Dry Years (1988-1992)
3.8: East Canyon Reservoir 30 – Yr Full-Use Operations
3.8a: Proposed Action and No Action Average Reservoir Elevation
3.9: East Canyon Reservoir average chlorophyll a, No Action & Action Alternatives
3.10: East Canyon Reservoir average blue-green algae biomass, No Action & Action Alternatives
3.11: East Canyon Reservoir average dissolved phosphorus, No Action & Action Alternatives