

# FINAL ENVIRONMENTAL ASSESSMENT NAVAJO RESERVOIR AREA RESOURCE MANAGEMENT PLAN

## TABLE OF CONTENTS

<b>CHAPTER 1</b>		<b>INTRODUCTION: PURPOSE AND NEED</b>
INTRODUCTION	.....	1-1
PURPOSE AND NEED FOR ACTION	.....	1-1
BACKGROUND	.....	1-2
SCOPE	.....	1-4
ADMINISTRATIVE FRAMEWORK	.....	1-4
VALID EXISTING RIGHTS	.....	1-9
RELATED ACTIONS AND ACTIVITIES	.....	1-10
Navajo Reservoir Operations EIS	.....	1-10
San Juan River Basin Recovery Implementation Program	.....	1-10
BLM, Farmington Field Office RMP	.....	1-11
Animas-La Plata Project	.....	1-11
Navajo Indian Irrigation Project	.....	1-11
Navajo Lake State Park Management Plan	.....	1-12
Navajo State Park General Management Plan	.....	1-12
Pine River Wetland Mitigation Site	.....	1-12
Southern Ute Indian Tribe Natural Resources Management Plan	.....	1-12
Southern Ute Indian Tribe Oil/Gas Management EIS/ROD	.....	1-12
Navajo State Park Recreation Rehabilitation and Management Agreements	.....	1-13
Grant Agreement for Recreation, Handicap Access, and Fish and Wildlife Enhancement Programs at Bureau of Reclamation Projects (NM)	.....	1-13
NM Department of Game and Fish San Juan Trout Waters Management Plan	.....	1-13
General Plan for Fish and Wildlife Conservation and Management	.....	1-13
 <b>CHAPTER 2</b>		 <b>ALTERNATIVES</b>
SUMMARY OF ALTERNATIVES CONSIDERED	.....	2-1
Proposed Action Alternative	.....	2-1
<i>General Reservoir Area Management</i>	.....	2-1
<i>Partnerships</i>	.....	2-2
<i>Water Resources</i>	.....	2-2
<i>Natural and Cultural Resources</i>	.....	2-2
<i>Recreation and Visual Resources</i>	.....	2-5
<i>Lands and Land Uses</i>	.....	2-6
No Action Alternative	.....	2-7
<i>General Reservoir Area Management</i>	.....	2-8
<i>Partnerships</i>	.....	2-8
<i>Water Resources</i>	.....	2-8
<i>Natural and Cultural Resources</i>	.....	2-8

<i>Recreation and Visual Resources</i> .....	2-11
<i>Lands and Land Uses</i> .....	2-12
Elements Common to All Alternatives Analyzed .....	2-13
<i>Common Management Elements</i> .....	2-13
<i>Plan Implementation</i> .....	2-14
Standards and Guidelines .....	2-14
Support .....	2-14
<i>Plan Monitoring</i> .....	2-14
<i>Plan Maintenance</i> .....	2-15
<i>Plan Modification</i> .....	2-15
<i>Administrative Actions</i> .....	2-15
<i>Priorities</i> .....	2-16
ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL .....	2-16
Proposed Action (USBR, 1999 PDEA Navajo Reservoir RMP) .....	2-16
Resource Use Emphasis (USBR, 1999 PDEA Navajo Reservoir RMP) ..	2-20
Conservation Emphasis (USBR, 1999 PDEA Navajo Reservoir RMP) ..	2-21
Project Decommissioning and Breaching of Dam .....	2-22
DETAILED DESCRIPTION OF ALTERNATIVES ANALYZED (Table 2-1) ....	2-23
General Reservoir Area Management .....	2-23
Partnerships .....	2-24
Water Resources .....	2-25
<i>Water Quality</i> .....	2-25
<i>Water Management</i> .....	2-26
Natural and Cultural Resources .....	2-27
<i>General Natural and Cultural Resources</i> .....	2-27
<i>Air Quality</i> .....	2-28
<i>Soils</i> .....	2-28
<i>Vegetation</i> .....	2-29
<i>Riparian/Wetlands</i> .....	2-30
<i>Wildlife Habitat and Wildlife</i> .....	2-31
<i>Fisheries and Aquatic Habitat</i> .....	2-32
<i>Threatened, Endangered, and Sensitive Species</i> .....	2-32
<i>Invasive Species and Pest Management</i> .....	2-34
<i>Fire Management</i> .....	2-35
<i>Cultural Resources</i> .....	2-36
<i>Indian Trust Assets</i> .....	2-38
<i>Paleontological Resources</i> .....	2-38
Recreation and Visual Resources .....	2-38
<i>General Recreation</i> .....	2-38
<i>Recreational Fishing</i> .....	2-41
<i>Off-Road Vehicle Use</i> .....	2-42
<i>Boating</i> .....	2-43
<i>Concessions</i> .....	2-43
<i>Trails</i> .....	2-44
<i>Public Information and Education</i> .....	2-44
<i>Employee Housing</i> .....	2-45
<i>Visual Resources</i> .....	2-45
Lands and Land Uses .....	2-46
<i>General Lands and Land Uses</i> .....	2-46
<i>Reclamation Project Operations and Facilities</i> .....	2-47
<i>Valid Existing Rights</i> .....	2-48

*Mineral Development* . . . . . 2-48  
*Rights-of-Way and Miscellaneous Use Authorizations* . . . . . 2-51  
*Transportation* . . . . . 2-52  
*Accessibility for Persons with Disabilities* . . . . . 2-53  
*Livestock Management* . . . . . 2-53  
*Land Tenure* . . . . . 2-54  
*Boundaries* . . . . . 2-54  
*Unauthorized Use* . . . . . 2-55  
*Law Enforcement* . . . . . 2-55

**CHAPTER 3           AFFECTED ENVIRONMENT**

RESERVOIR AREA . . . . . 3-1  
PARTNERSHIPS . . . . . 3-1  
WATER RESOURCES . . . . . 3-2  
    Surface Water . . . . . 3-2  
    Water Allocations/Management . . . . . 3-5  
NATURAL AND CULTURAL RESOURCES . . . . . 3-5  
    Air Quality . . . . . 3-5  
    Noise . . . . . 3-6  
    Geologic Resources . . . . . 3-9  
        *Landform/Topography* . . . . . 3-9  
        *Geologic Hazards* . . . . . 3-9  
        *Soils* . . . . . 3-9  
        *Prime and Unique Farmlands* . . . . . 3-10  
    Mineral Resources . . . . . 3-10  
        *Locatable Minerals* . . . . . 3-10  
        *Leasable Minerals* . . . . . 3-10  
        *Mineral Materials* . . . . . 3-11  
    Land Cover/Vegetation . . . . . 3-11  
        *General* . . . . . 3-11  
        *Riparian and Wetland Areas* . . . . . 3-18  
        *Sensitive Plant Species* . . . . . 3-19  
    Invasive Species and Pests . . . . . 3-21  
        *Invasive Plants/Noxious Weeds* . . . . . 3-21  
        *Non-Plant Pests and Invasive Species* . . . . . 3-22  
    Wildlife Habitat . . . . . 3-23  
        *Special/Designated Wildlife Habitat* . . . . . 3-23  
    Wildlife . . . . . 3-24  
        *General* . . . . . 3-24  
        *Sensitive Wildlife Species* . . . . . 3-27  
        *Fisheries* . . . . . 3-37  
    Cultural Resources . . . . . 3-38  
        *General* . . . . . 3-38  
        *Cultural Traditions* . . . . . 3-38  
        *Cultural Resource Sites* . . . . . 3-40  
    Indian Trust Assets . . . . . 3-42  
        *Navajo Nation* . . . . . 3-42  
        *Southern Ute Indian Tribe* . . . . . 3-42  
        *Jicarilla Apache Nation* . . . . . 3-43

Paleontological Resources .....	3-43
RECREATION AND VISUAL RESOURCES .....	3-43
Recreation .....	3-43
<i>General</i> .....	3-43
<i>Developed Recreation Sites</i> .....	3-44
<i>Undeveloped Remote Recreation</i> .....	3-45
<i>Recreational Use and Visitation</i> .....	3-46
Visual Resources .....	3-49
Night Skies .....	3-50
LANDS AND LAND USES .....	3-50
Ownership and Management Direction .....	3-50
<i>Bureau of Reclamation</i> .....	3-50
<i>Bureau of Land Management</i> .....	3-52
<i>New Mexico</i> .....	3-53
<i>Colorado</i> .....	3-53
<i>Southern Ute Indian Tribe</i> .....	3-54
<i>Private Land</i> .....	3-54
Valid Existing Rights .....	3-54
Land and Resource Uses .....	3-55
<i>Oil/Gas Development</i> .....	3-55
<i>Oil/Gas Development on the Reservoir Area</i> .....	3-60
<i>Hydro-Electric Generation</i> .....	3-60
<i>Rights-of-Way</i> .....	3-61
<i>Transportation System</i> .....	3-61
<i>Trails</i> .....	3-62
<i>Livestock Use</i> .....	3-62
Socio-Economic Factors .....	3-63
<i>Industry</i> .....	3-63
<i>Annual Income/Employment</i> .....	3-64
<i>Population</i> .....	3-64
<i>Minority/Low Income Use of Reservoir Area</i> .....	3-65
<b>CHAPTER 4                    ENVIRONMENTAL CONSEQUENCES</b>	
GENERAL .....	4-1
EXISTING CONDITION .....	4-1
NO ACTION .....	4-1
PROPOSED ACTION .....	4-1
ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE	
(Table 4-1) .....	4-3
General Reservoir Area Management .....	4-3
Partnerships .....	4-4
Water Resources .....	4-4
<i>Water Quality</i> .....	4-4
<i>Water Management</i> .....	4-6
Natural and Cultural Resources .....	4-7
<i>General Natural and Cultural Resources</i> .....	4-7
<i>Air Quality</i> .....	4-8
<i>Noise</i> .....	4-9
<i>Soils</i> .....	4-11

<i>Locatable Minerals</i> .....	4-12
<i>Leasable Minerals- Oil/Gas</i> .....	4-12
<i>Leasable Minerals- Coal</i> .....	4-14
<i>Saleable Minerals</i> .....	4-14
<i>Vegetation</i> .....	4-15
<i>Riparian and Wetland Areas</i> .....	4-17
<i>Sensitive Plant Species</i> .....	4-19
<i>Invasive Species and Pests</i> .....	4-21
<i>Wildlife Habitat</i> .....	4-24
<i>Wildlife</i> .....	4-26
<i>Fisheries (Aquatic Resources)</i> .....	4-27
<i>Threatened, Endangered, and Sensitive Wildlife Species</i> .....	4-29
<i>Cultural Resources</i> .....	4-33
<i>Indian Trust Assets</i> .....	4-36
<i>Paleontological Resources</i> .....	4-36
Recreation and Visual Resources .....	4-36
<i>General Recreation Management</i> .....	4-36
<i>Recreation- Fishing</i> .....	4-38
<i>Recreation- ORV Use</i> .....	4-39
<i>Recreation- Boating</i> .....	4-40
<i>Recreation- Concessions</i> .....	4-41
<i>Recreation- Trails</i> .....	4-42
<i>Recreation- Public Information and Education</i> .....	4-43
<i>Recreation- Employee Housing</i> .....	4-43
<i>Visual Resources</i> .....	4-43
Lands and Land Uses .....	4-45
<i>General Lands and Land Uses</i> .....	4-45
<i>Reclamation Project Purposes and Facilities</i> .....	4-46
<i>Valid Existing Rights</i> .....	4-47
<i>Oil/Gas Development</i> .....	4-49
<i>Rights-of-Way and Other Land Use Authorizations</i> .....	4-52
<i>Transportation</i> .....	4-53
<i>Accessibility for Persons with Disabilities</i> .....	4-53
<i>Livestock Grazing</i> .....	4-54
<i>Fire Management</i> .....	4-55
<i>Socio-Economics</i> .....	4-57
<i>Environmental Justice</i> .....	4-59
CUMULATIVE EFFECTS .....	4-61
Cumulative Adverse Effects .....	4-61
Cumulative Beneficial Effects .....	4-61
ENVIRONMENTAL COMMITMENTS .....	4-62

**CHAPTER 5 CONSULTATION AND COORDINATION**

INTRODUCTION .....	5-1
SCOPING .....	5-1
IN-HOUSE COORDINATION .....	5-1
CONSULTATION/COORDINATION WITH OTHER AGENCIES .....	5-2
CONSULTATION/COORDINATION WITH INDIAN TRIBES AND NATIONS ..	5-2
PUBLIC INVOLVEMENT .....	5-3
ADDITIONAL INFORMATION SOURCES .....	5-3

LIST OF PREPARERS .....	5-3
RESPONSES TO COMMENTS RECEIVED ON THE PROPOSED RMP AND DRAFT EA .....	5-5
Reclamation Management Authority .....	5-5
NEPA/CEQ Compliance .....	5-6
FLPMA Compliance .....	5-6
BLM Requirements .....	5-7
Energy Shortage and Policy .....	5-7
Cooperative Management of Reservoir Area .....	5-9
Lack of Detail/Specific Scientific Information .....	5-10
Vested and Valid Existing Rights .....	5-10
500-foot NSO Around the Reservoir .....	5-11
Farmington RMP/ROD .....	5-12
Appendix D- Conditions of Approval .....	5-13
Waivers, Modification, and Exceptions .....	5-13
Wetlands at Miller/Sambrito .....	5-14
Camping at Miller/Sambrito .....	5-14
Cultural Resources Management Plan .....	5-14
Water Quality/VER .....	5-14
Shoreline Access for Fishing and Camping .....	5-15
Below Dam Cold Water Fisheries .....	5-15
Specific Comments .....	5-16

## APPENDICES

APPENDIX A GLOSSARY AND ACRONYMS
APPENDIX B FEDERAL LAWS, REGULATIONS, EXECUTIVE ORDERS AND POLICIES
APPENDIX C RIGHTS AND RIGHT-OF-USE, NAVAJO RESERVOIR AREA
APPENDIX D EXAMPLES OF MITIGATING MEASURES
APPENDIX E NOISE
APPENDIX F PEST MANAGEMENT
APPENDIX G RECREATION FACILITIES, NAVAJO RESERVOIR AREA
APPENDIX H GENERAL ISSUES AND CONCERNS, NAVAJO RESERVOIR AREA
APPENDIX I REFERENCES/BIBLIOGRAPHY

## LIST OF FIGURES

CHAPTER 3	
Figure 3-1: Arboles (CO) Boat Ramp, April 1983 .....	3-2
Figure 3-2: Arboles (CO) Boat Ramp, March 12, 2003 .....	3-2
Figure 3-3: Riparian Area, Pine River Wetland Mitigation Site (NM) .....	3-18
Figure 3-4: Marina at Pine Creek Recreation Site (NM) .....	3-44
Figure 3-5: Pinyon-Juniper Woodland with Adjacent Remote Recreation Use Site .....	3-45
Figure 3-6: Trout Fishermen on the San Juan River Quality Trout Waters .....	3-47
Figure 3-7: Gas Well Location at Navajo Reservoir .....	3-59

**LIST OF MAPS**

CHAPTER 1		
	Map 1-1: Regional Location . . . . .	1-1
	Map 1-2: Navajo Reservoir and Vicinity . . . . .	1-5
CHAPTER 2		
	Map 2-1: Proposed Action Alternative . . . . .	2-3
	Map 2-2: No Action Alternative . . . . .	2-9
CHAPTER 3		
	Map 3-1: Navajo Reservoir Water Surface Area . . . . .	3-3
	Map 3-2: Land Cover/Vegetation . . . . .	3-13
	Map 3-3: Important Wildlife Habitat- Mule Deer and Elk . . . . .	3-25
	Map 3-4: Oil/Gas Development . . . . .	3-57

**LIST OF TABLES**

CHAPTER 2		
	Table 2-1: Detailed Description of Alternatives Analyzed . . . . .	2-23
CHAPTER 3		
	Table 3-1: Approximate Maximum A-Weighted Sound Levels at 50' . . .	3-7
	Table 3-2: Cover Types, Navajo Reservoir Area . . . . .	3-11
	Table 3-3: Riparian and Wetland Areas, Navajo Reservoir Area . . . . .	3-18
	Table 3-4: Sensitive Plant Species, Navajo Reservoir Area . . . . .	3-19
	Table 3-5: Non-Plant Invasive Species of Concern . . . . .	3-22
	Table 3-6: Sensitive Wildlife Species, Navajo Reservoir Area . . . . .	3-27
	Table 3-7: Annual Visitation, Navajo Reservoir . . . . .	3-48
	Table 3-8: BLM Visual Resource Classifications and Management Guidelines . . . . .	3-49
	Table 3-9: Special Management Areas, Navajo Reservoir and Vicinity . .	3-51
	Table 3-10: Well Spacing by State and Formation . . . . .	3-56
	Table 3-11: Mean Annual Income and Unemployment Rates, 2000 Census . . . . .	3-64
	Table 3-12: Percentage of 2000 Population by Race/Origin . . . . .	3-64
CHAPTER 4		
	Table 4-1: Environmental Consequences by Alternative . . . . .	4-3
CHAPTER 5		
	Table 5-1: List of Preparers . . . . .	5-4