

RECLAMATION

Managing Water in the West



Huntington North Reservoir Resource Management Plan

December 2004



U.S. Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office
Provo, Utah

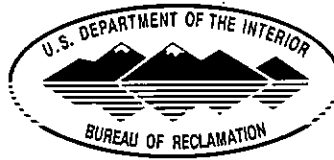
MISSION STATEMENTS

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FINDING OF NO SIGNIFICANT IMPACT

**Huntington North Reservoir
Resource Management Plan
Environmental Assessment**
Emery County, Utah

United States Department of the Interior
Bureau of Reclamation
Upper Colorado Region
Provo Area Office
Provo, Utah

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12/30/04
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12/30/04
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FINDING

The Bureau of Reclamation has determined that implementing the Proposed Action Alternative of the Resource Management Plan (RMP) for Huntington North Reservoir will not have a significant impact on the quality of the human environment, and that an environmental impact statement is not required. This decision was based on a thorough review of public comments received during the public review process and the environmental impacts as described in the Huntington North Reservoir RMP Final Environmental Assessment (EA). This decision is in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508).

DECISION

Reclamation has decided to implement Alternative B for Huntington North Reservoir, the Resource Conservation Emphasis Alternative, as described in the EA with minor modifications as described below. This alternative prescribes a management plan for Huntington North Reservoir that will balance conservation and recreational development while protecting such environmental aspects as water quality, riparian-wetlands, and wildlife habitat. It provides for a variety of multiple uses, including improved recreation facilities and management of natural areas. Improvements to facilities and access may be provided, dependent upon available funding, including boating, fishing, and hiking facilities. Activities that improve or protect environmental quality are included, as well as accommodation for public interpretative systems. Coordination with jurisdictions managing resources at the reservoir and the surrounding lands will be explored under this alternative. This alternative will not affect water operations of the reservoir.

Refinements to the Alternative B description in the EA, as they relate to the main description as well as specific area management descriptions, are iterated here with the changes italicized:

Alternative B: Resource Conservation Emphasis: *Existing vehicular access to the Southwest Cove Area would be maintained as presently provided until such time as liability, maintenance, safety, and/or security concerns require closure.*

Southwest Cove Area: *Generally, do not provide recreation facilities, except to allow a vehicle access trailhead and non-motorized trail until such time as liability, maintenance, safety, and/or security concerns require closure.*

REASONS FOR THE DECISION

A finding of no significant impact is based on the following:

1. The proposed action will have no adverse effect on such unique characteristics as cultural resources, wilderness areas, wetlands, and riparian areas.

2. The environmental effects of the proposed action are neither controversial nor do they involve unique or unknown risks.
3. The proposed action will have no adverse effect on species either currently listed or proposed for listing as candidate, endangered, or threatened species, and no adverse effect on designated critical habitat for these species.
4. The proposed action does not threaten to violate Federal, state, or local laws or requirements imposed for protection of the environment.

Reclamation has analyzed the environmental effects, public comments, and the alternatives in detail and believes that the Proposed Action Alternative best meets the purpose and need described in the EA.

PUBLIC INVOLVEMENT

Preparation of the EA for the Huntington North Reservoir RMP required extensive public involvement activities throughout the planning process. The public scoping process, to contact and solicit comments from interested parties, was initiated in October 2001. The public scoping methods included publishing newsletters, holding local and regional public workshops, forming a Resource Management Planning Work Group (PWG), and obtaining media exposure. Each of these methods is described in Chapter 5 of the EA.

SUMMARY OF ENVIRONMENTAL IMPACTS

The expected environmental impacts of the Proposed Action Alternative are described in Chapter 4 of the EA. The environmental analysis is focused on impacts to resource management partnerships, water resources, recreation and visual resources, natural and cultural resources, and land management. The environmental analysis indicates that the impacts will be temporary, short-term, and insignificant.

ENVIRONMENTAL MITIGATION COMMITMENTS

Reclamation is legally obligated to carry out the mitigation measures prescribed for impacts resulting from implementation of the Proposed Action Alternative, described in Chapter 2 and Appendix C of the EA. These mitigation measures have been incorporated by reference into this FONSI decision. The implementation and effectiveness of these mitigation measures will be closely monitored by Reclamation. This monitoring will ensure incorporation of mitigation requirements in all construction contract specifications, as appropriate, and compliance with mitigation measures recommended by Reclamation or by other agencies.

Huntington North Reservoir

RESOURCE MANAGEMENT PLAN

December 2004



United States Department of the Interior

Bureau of Reclamation

Upper Colorado Region
Provo Area Office
Provo, Utah

Prepared by the U.S. Bureau of Reclamation, Upper Colorado Region,
with contractual assistance from BIO-WEST, Inc., Logan, Utah.

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ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

CHAPTER 1: INTRODUCTION



Western skies and mountain ranges provide a dramatic backdrop to Huntington North Reservoir.

INTRODUCTION

The Resource Management Plan (RMP) for Huntington North Reservoir, in Emery County, provides management direction necessary to protect the rights of involved contracts, legislation, and agencies, while identifying and scheduling measures necessary to achieve desired future conditions of resources. Management direction (in the form of goals, objectives, standards, and guidelines) sets the stage for management actions to guide activities and uses that affect water resources, recreational and visual resources, natural and cultural resources, and land management. Management direction is applied to both plan-wide and specific management areas. Monitoring and evaluation requirements are intended to assure conformance with requirements, quality, and good stewardship.

The 10 to 15 year RMP duration is subject to certain contracts, agreements, and U.S. Department of the Interior (USDI), Bureau of Reclamation (Reclamation) instructions and policy. Actions that may take place are identified but may not be assured because of site-specific conditions, changes in budgets, changes in economic conditions, and changes in laws and regulations.

Reclamation's authority to prepare RMPs is vested in the broad authority of the Reclamation Act of 1902 (Chapter 1093, 32 Statute [Stat.] 388); the Reclamation Project Act of 1939 (Chapter 418, 53 Stat. 1187); the Federal Water Project Recreation Act (Public Law [P.L.] 89-72, 79 Stat. 213); and, more specifically, in the Reclamation Recreation Management Act of 1992 (P.L. 102-575, Title 28 [2805(c)(1)(A)]). The Reclamation Recreation Management Act of 1992, Title 28 (P.L. 102-575) authorized the preparation of RMPs to "provide for the development, use, conservation, protection, enhancement, and management of resources on Reclamation lands in a manner that is compatible with the authorized purposes of the Reclamation Project associated with the Reclamation Lands."

Because adoption of the RMP by Reclamation is considered a Federal action, the RMP was developed in compliance with the National Environmental Policy Act of 1969 (as amended). All management actions proposed as part of the RMP and their associated impacts to the human environment were evaluated in an Environmental Assessment (EA) prepared in conjunction with the RMP (Reclamation 2004). The EA and the Finding of No Significant Impact (FONSI) are on file at Reclamation's Provo Area Office in Provo, Utah. A copy of the FONSI precedes the Table of Contents.

HISTORY

Huntington North Reservoir is an off-stream reservoir located in Emery County approximately 1.6 kilometers (1.0 mile) north of the city of Huntington, Utah (Figure 1-1). It is part of the Emery County Project, which includes an irrigable land area of nearly 7,689 hectares (19,000 acres) of the Green River Basin in east-central Utah. The major towns near the RMP Study Area (Study Area) are Huntington, Castle Dale, and Orangeville.

Natural flows from Huntington Creek were first apportioned in 1876 when small ditches were dug to divert water onto about 130 hectares (320 acres) of adjacent land. In 1878 canals were constructed to divert water from Cottonwood and Huntington Creeks. By approximately 1900 all dependable natural flows of the two creeks had been appropriated. Independent canal companies were originally formed for each canal diversion. During the 1930s these individual companies joined to form the Huntington Cleveland Irrigation Company and the Cottonwood Creek Consolidated Irrigation Company (Reclamation 2001).

In order to assist in meeting the growing water needs for the arid west, Congress passed the Colorado River Storage Project Act on April 11, 1956. The Emery County Project (Project) was authorized as one of the initial participating projects of this legislation. Construction of the Emery County Project started in 1963 and finished in 1966. Principle features include Joes Valley Dam and Reservoir on Seely Creek, Swasey Diversion Dam, Cottonwood Creek-Huntington Canal, Huntington North Service Canal, and Huntington North Dam and East and West Dikes, which form Huntington North Reservoir.

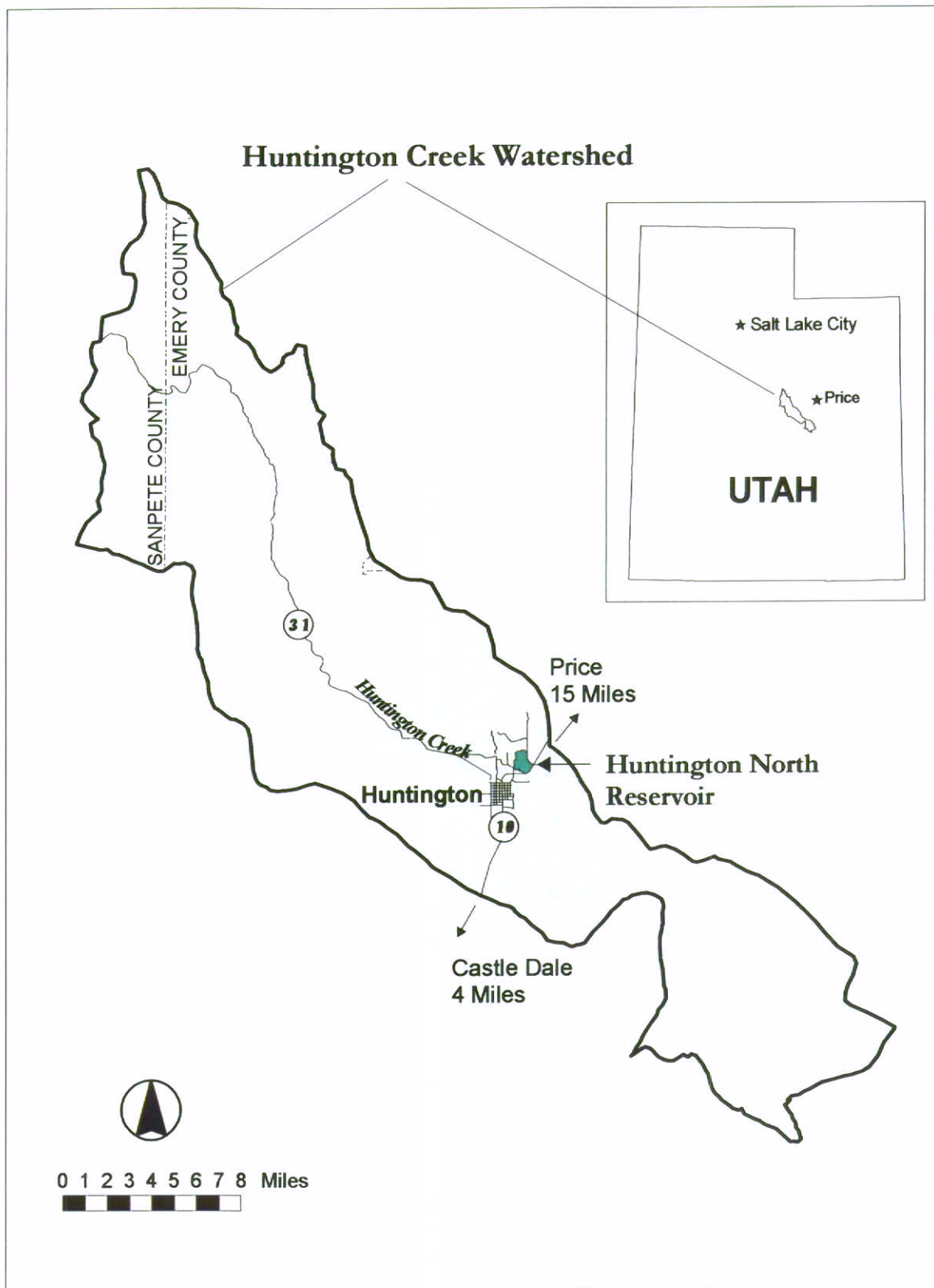


Figure 1-1. Vicinity map and watershed for the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

Joes Valley Dam is located on Seely Creek, a tributary of Cottonwood Creek, about 24 kilometers (15 miles) northwest of Castle Dale. Water stored in Joes Valley Reservoir is released down Seely Creek to Cottonwood Creek and diverted from Cottonwood Creek at Swasey Diversion Dam, about 16 kilometers (10 miles) downstream from Joes Valley Dam. From Swasey Diversion Dam, water flows through existing canals and ditches (to serve lands in the Castle Dale area) and north through Cottonwood Creek-Huntington Canal for just over 25.7 kilometers (16.0 miles) before it is discharged into the North Ditch, which also diverts water from Huntington Creek. From there, the water flows a short distance to the Huntington North Reservoir. Water stored in Huntington North Reservoir is released into the Huntington North Service Canal and carried to several canals and ditches for distribution to Project lands.

The Project provides an estimated average of 3,469,788 cubic meters (28,100 acre-feet) of water annually for irrigation of 7,590 hectares (18,755 acres), of which 312 hectares (771 acres) is land previously unirrigated. In the mid-1970s, the irrigable acreage was reduced to 5,735 hectares (14,171 acres) with 1,863 hectares (4,604 acres) designated "not for service." In 1981 the irrigable area was increased to 6,544 hectares (16,170 acres) with 1,054 hectares (2,605 acres) in the "not for service" category. The Project supplies 7,400,880 cubic meters (6,000 acre-feet) of water for industrial and municipal purposes. Recreational facilities have been constructed at both Joes Valley and Huntington North Reservoirs (Reclamation 2002).

Huntington North Dam and Dikes are made of zoned earthfill construction and form the Huntington North Reservoir. The main dam is 22.5 meters (74.0 feet) high and 882 meters (2,897 feet) long. The East Dike is 9.4 meters (31.0 feet) high and 361 meters (1,185 feet) long, and the West Dike is 7.3 meters (24.0 feet) high and 584 meters (1,919 feet) long. Huntington North Reservoir has a total capacity of 6,685,461 cubic meters (5,420 acre-feet) and a surface area of 98 hectares (242 acres). Storage water from this reservoir is released into the Huntington North Service Canal and carried to numerous canals and ditches to be distributed for irrigation. Sections of existing canals and ditches have been lined and rehabilitated. Land drainage also is included in the Project plan.

The Emery Water Conservancy District Project, formed in 1962, assumed all operation and maintenance responsibilities of irrigation facilities on January 1, 1970. Recreational facilities and opportunities at Huntington North Reservoir are provided and managed by Utah State Division of Parks and Recreation.

MANAGING ENTITIES

Reclamation is the lead agency charged with preparing the RMP document and this companion Draft EA. Other government agencies having resource management responsibilities within the Study Area and participating in the resource management planning process include Emery Water Conservancy District; Utah Department of Natural Resources, Divisions of Parks and Recreation, Wildlife Resources, and Water Rights; Utah Department of Environmental Quality, Division of Water Quality; U.S. Fish and Wildlife Service; Utah State Historic Preservation Office; U.S. Departments of Agriculture, Forest Service, and Natural Resources Conservation Service; and Huntington City. Management responsibilities of these agencies are described in detail in Chapter 2. Additional participants in the RMP Planning process include Emery County and

other government agencies with specific interest and expertise, resource and special interest groups, and private landowners (see Chapter 5 for a complete listing).

PURPOSE AND NEED

The purpose of the RMP is to produce a document that will guide Reclamation, along with local, State, Federal, and other participating agencies, in managing, allocating, and appropriately using Hyrum Reservoirs' land and water resources. The RMP clearly sets forth defined management goals, objectives, and standards for guiding and directing future resource management actions, activities, and recreation uses at Huntington North Reservoir. The RMP establishes the desired future condition for the Study Area and sets forth the means to achieve that condition. This RMP document includes long-term management goals and objectives for the reservoir and its associated lands (i.e., the Study Area) (Figure 1-2).

The overall objectives of the RMP are to:

- ▶ guide future resource management decisions that address identified problems, issues, and opportunities;
- ▶ identify and evaluate land use suitability and capability;
- ▶ determine and recommend alternative land use policies, objectives, responsibilities, and guidelines; and
- ▶ define the contractual and legislative responsibilities, authorities, and rights of agencies involved in the management of the lands and resources.

RESOURCE MANAGEMENT PLAN (RMP) SCOPE AND AREA DESCRIPTION

The scope of this RMP addresses the conservation, protection, development, use, enhancement, and management of the 152-hectare (376-acre) Study Area. The water surface area of the reservoir at normal water surface elevation (1,778 meters [5,838 feet]) covers 98 hectares (242 acres).

This RMP lists specific activities in the Study Area to maximize the resources available and to provide guidance in managing the area for the next 10 to 15 years. This RMP establishes a framework for policy and management direction for guiding and controlling future resource management actions and activities. Specific water operations (i.e., providing for irrigation, municipal, domestic, industrial, and flood-control needs) at Huntington North Reservoir are not evaluated in the RMP because of legal and institutional constraints associated with the historical pattern of water uses. Provisions for resource management identified in the RMP will be incorporated into the water operations planning process wherever practicable.

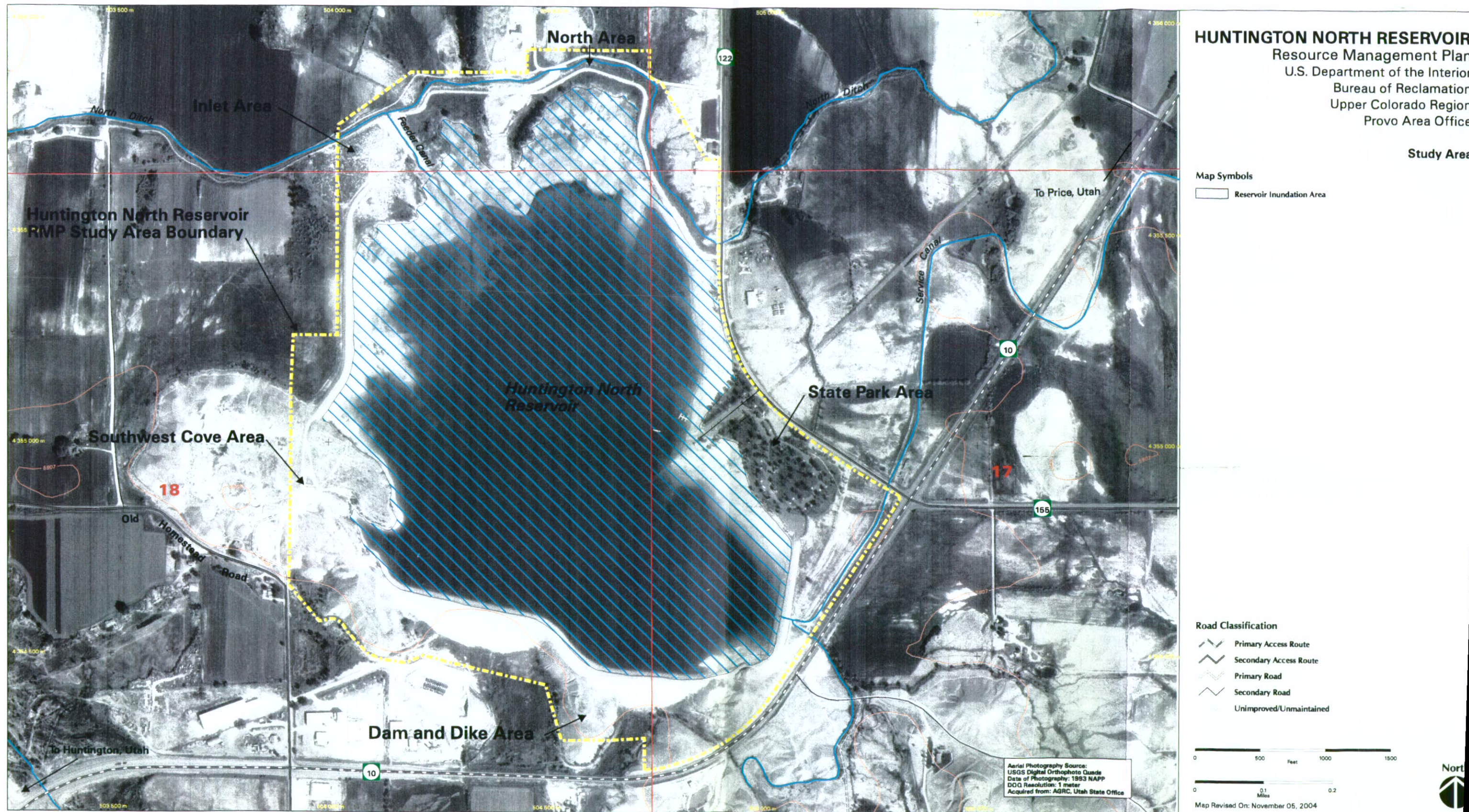


Figure 1-3 displays the six management areas based upon natural resource features, land management, recreational activities, and existing facilities. The areas are titled: Dam and Dike Area, North Area, Inlet Area, Southwest Cove Area, State Park Area, and Reservoir Inundation Area.

Reclamation selected Alternative B, with modifications, as described in Chapter 2 of the EA for managing Huntington North Reservoir (Figure 1-4).

ISSUES ADDRESSED IN THE RESOURCE MANAGEMENT PLAN (RMP)

Many key issues and concerns for the Study Area were identified by the public, participating agencies, and special interest groups during the RMP planning process. These issues were classified into Issue Categories to aid in understanding the scope of each concern and to assist in developing Goals and Objectives for the RMP. A detailed discussion of the issues addressed in the RMP is presented in Appendix A, and a summary of the Issue Categories is provided in Table 1-1.

LAND USE CATEGORIES

Early in the planning process, "land use categories" were defined to help describe present and future management strategies for different portions of the Study Area (see Figure 1-4). These land use categories are used to facilitate understanding and consistency between land management agencies. The land use categories developed for the Huntington North Reservoir RMP Project include:

- ▶ Developed Overnight Recreation Area
- ▶ Developed Day Use Recreation Area
- ▶ Administrative Area
- ▶ Primary Jurisdiction Area
- ▶ Reservoir Inundation Area
- ▶ Natural Area

These land use categories are described in the following paragraphs.

Land Use Category 1: Developed Overnight Recreation Area

These areas may contain improved recreational campsites with some or all utilities (e.g., water, electricity). They may have paved or gravel road systems and recreational vehicle dump stations. Campsites may be designated, leveled, and have tables and grills. Restrooms may be developed with water or they may be vault- or chemical-type toilets. The Huntington State Park Campground is an example of Developed Overnight Recreation Area.

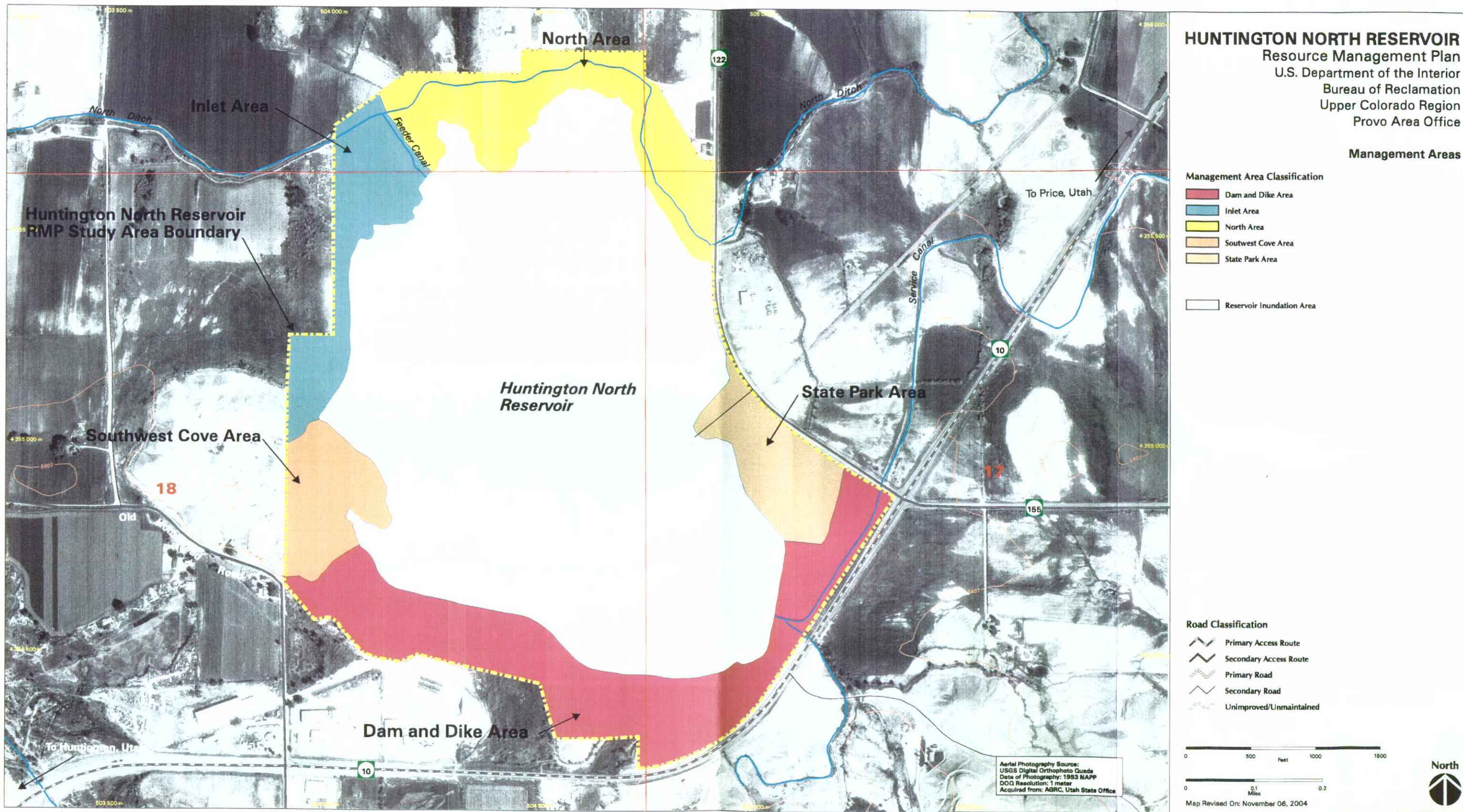


Figure 1-3. Management areas map for the Huntington North Reservoir Resource Management Plan (RMP).

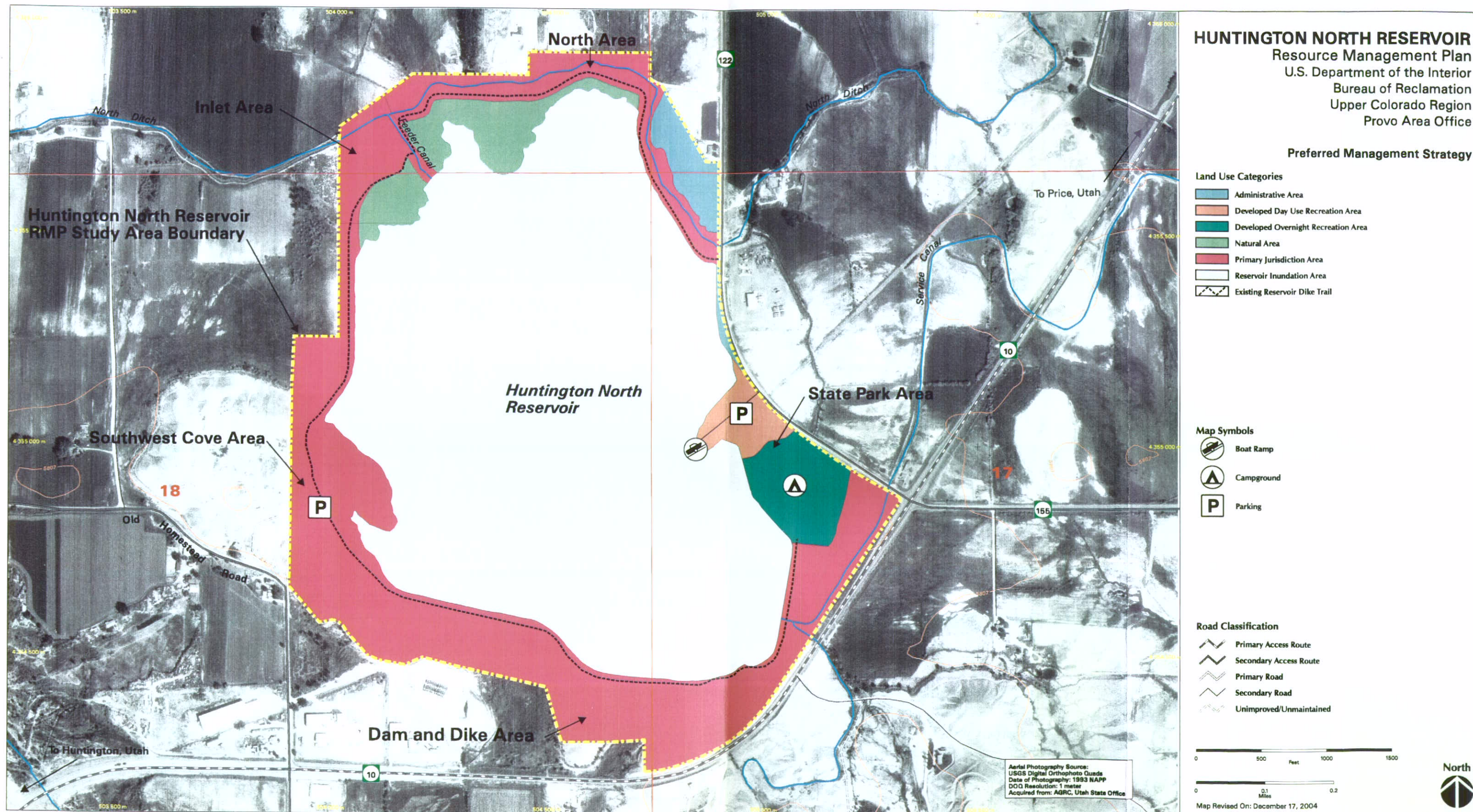


Figure 1-4. Preferred management strategy map for the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

Table 1-1. Summary of Issue Categories identified for the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

PARTNERSHIPS
Partnership Contracts
WATER RESOURCES
Water Quality
Water Operations
RECREATIONAL AND VISUAL RESOURCES
Recreation Development
Huntington State Park Facilities
Use Conflicts
Hunting on Study Area Lands
Visual Quality
NATURAL AND CULTURAL RESOURCES
Noxious and Invasive Weeds
Reservoir Fishery
Threatened, Endangered, and Sensitive Species
Soil Erosion and Deposition
Cultural Resources
LAND MANAGEMENT
Access
Potential Land Donation

Land Use Category 2: Developed Day Use Recreation Area

These areas contain improved recreational picnic sites, and utilities (e.g., water, electricity) may be available. Access roads are either paved or have an improved gravel surface. Picnic sites with tables, grills, and shelters may be provided. Some areas contain restrooms with water, others have vault toilets. An example of a Developed Day Use Recreation Area is the Huntington State Park Day Use Area.

Land Use Category 3: Administrative Area

Administrative Areas are set aside for management headquarters. Public access to Administrative Areas may be restricted. Administrative Areas include the Huntington State Park Headquarters and the maintenance sheds in the North Area.

Land Use Category 4: Primary Jurisdiction Area

The Primary Jurisdiction Area is set aside for dam operation and maintenance. For the protection of public health, safety, and welfare, public access to this area and recreation uses (including trail use) are not permitted unless approved by Reclamation and the Emery Water Conservancy District. This area currently includes the Huntington North Reservoir dam and dike facilities in the Dam and Dike Area, the North Area, the Southwest Cove Area, and the Inlet Area.

Land Use Category 5: Reservoir Innundation Area

The Reservoir Innundation Area delineates the extent of the reservoir at full pool. Permanent recreational facilities (with the exception of water-based facilities), administrative facilities, camping, and the use of motor vehicles are not permitted in this area. Recreational activities (e.g., dispersed day use) may be allowed during periods of low water levels.

Land Use Category 6: Natural Area

Natural Areas are portions of the Study Area that contain important natural, historical, or cultural features (e.g., wildlife habitat, historic trails) and/or are generally undeveloped areas in which public use is discouraged or limited to appropriate activities. In addition, access to these areas may be temporally restricted. These areas may include limited and appropriate facilities for low impact interpretation of natural, historical, and cultural resources. Development of such facilities would be dependent upon funding and available opportunities. There are currently no Natural Areas designated within the Study Area.

RECREATIONAL DEVELOPMENT SUITABILITY

Recreational development suitability within the Study Area was determined by analyzing the resource constraints, facility capacities, and desired visitor experiences. For resource constraints, development suitability is influenced by the ability of the existing resources (i.e., physical, biological, and cultural resources) within the Study Area to accommodate different types of development and land uses. All RMP action alternatives include provisions for developing facilities only on lands determined to be suitable for such uses. Detailed site analysis should be conducted when one or more of the following less-than-suitable resource factors exist:

- ▶ Slopes greater than 15 percent steepness
- ▶ Presence of riparian wetland vegetation
- ▶ Reservoir Innundation Area or flood-prone areas
- ▶ Sensitive habitat areas for plants or wildlife
- ▶ Poor soils for road construction, building foundations, and/or septic systems
- ▶ Geologic hazards (e.g., eroding shorelines)
- ▶ Historic and prehistoric archaeological sites
- ▶ Areas open for shotgun and archery hunting

In order to identify areas sensitive to development in the Study Area, each of the above resource factors was mapped and included on a development suitability map (see Figure 1-5). This mapping was used to define areas both suitable and less than suitable for future development and public use facilities.

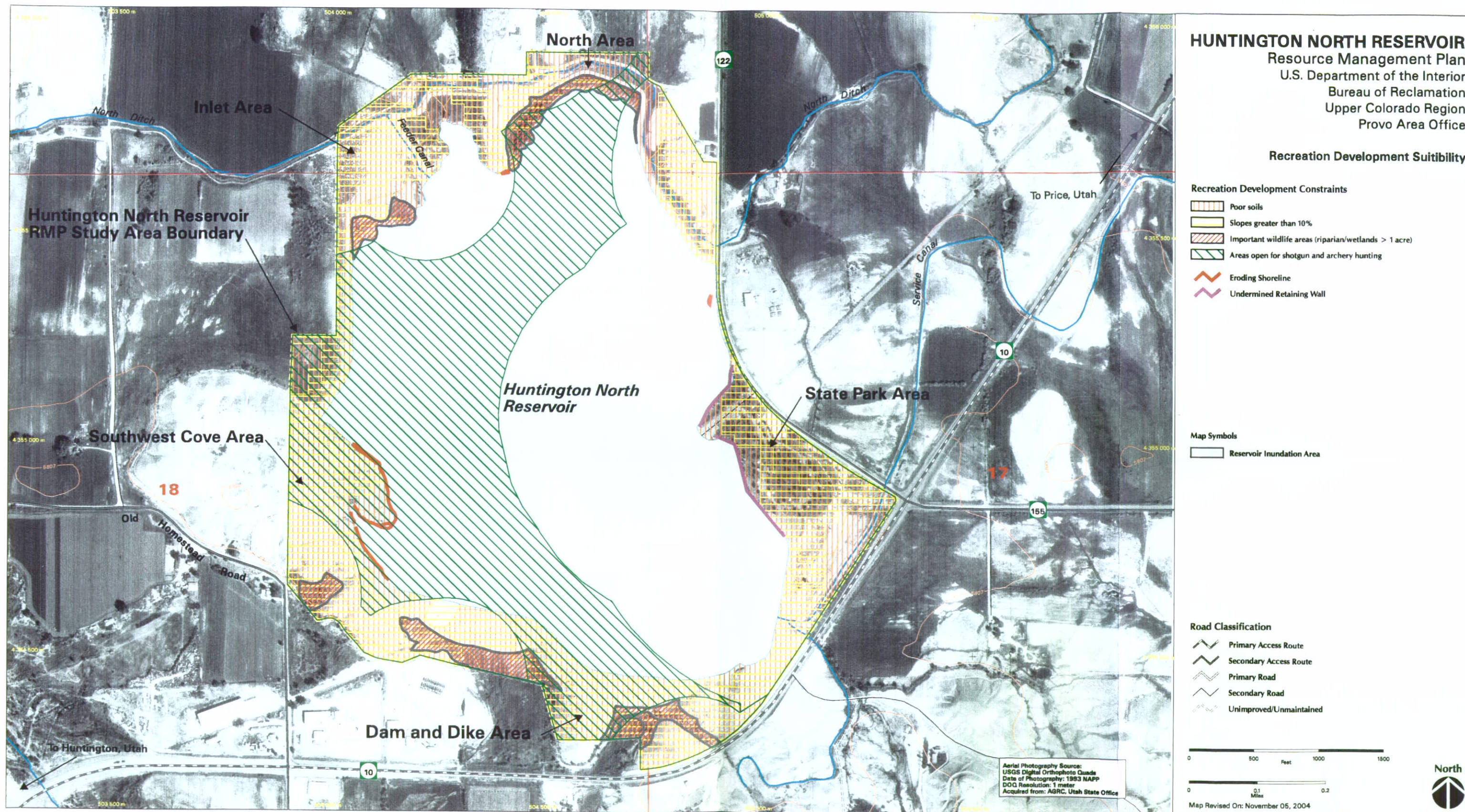


Figure 1-5. Recreational development suitability map for the Huntington North Reservoir Resource Management Plan (RMP).

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ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

CHAPTER 2: EXISTING CONDITIONS



Current informational signs help to inform visitors about Huntington North Reservoir.

INTRODUCTION

This chapter contains a general description of the physical, biological, cultural, and socioeconomic conditions of the Huntington North Reservoir Resource Management Plan (RMP) Study Area (Study Area) at the time the planning process was conducted (2002-2004). Resource conditions are described based on site visits, literature searches, and numerous contacts and coordination with local, State, and Federal agencies and personnel. More detailed information is contained in the Huntington North Reservoir RMP Final Environmental Assessment (EA) (Reclamation 2004).

BACKGROUND

Local Setting

The Study Area is located in east-central Utah, Emery County, near the towns of Huntington, Castle Dale, and Orangeville. Emery County includes three geographical areas: the mountains of the Wasatch Plateau; Castle Valley (where the major settlements are located); and the desert of the San Rafael Swell, the San Rafael Reef, Cedar Mountains and remote stretches of land west of the Green River. Water of the San Rafael River originates in the mountains of the Wasatch Plateau where the headwaters are stored in several reservoirs for agriculture and industrial use. The water flows into Castle Valley in three branches (Huntington Creek, Cottonwood Creek, and Ferron Creek), which unite to form the San Rafael River after they pass through communities and adjacent farmland. The San Rafael River then twists through rock and desert to a junction with the Green River.

Huntington North Reservoir is part of the larger Emery County Project, which was authorized to meet the legislation act of the Colorado River Storage Project passed by Congress in 1956. Other water projects included in the Emery County Project are: Joes Valley Dam and Reservoir on Seely Creek, Swasey Diversion Dam, Cottonwood Creek-Huntington Canal, Huntington North Service Canal, and Huntington North Dam and East and West Dikes.

Huntington North Reservoir, created by Huntington North Dam and by the East and West Dikes, has a total capacity of 66,875,461 cubic meters (5,420 acre feet) and a surface area of 98 hectares (242 acres). Storage water from this reservoir is released into the Huntington North Service Canal and carried to numerous canals and ditches to be distributed for irrigation. Sections of existing canals and ditches have been lined and rehabilitated. Emery County Project irrigation facilities were turned over to Emery Water Conservancy District (EWCD) for operation and maintenance on January 1, 1970.

Local Economy

The largest influence on Emery County's economy, both historically and currently, is land ownership. Of a total of 1,153,510 hectares (2,850,356 acres) in Emery County, 79.8 percent is owned by the Federal government, while another 11.9 percent is owned by State government. The remaining 8.3 percent of land in the county is private, municipal, tribal, and State sovereign land. Area industries include agricultural production, coal mining, and electrical power production. Substantial supplies of coal-originated methane gas also have been discovered and are being developed in the Castle Valley area.

Employment and Income

Two economic and employment indicators are total civilian labor force and the unemployment percentage. The civilian labor force in Emery County in 2000 was 3,820, a 2.2 percent decrease from 1999. The county's unemployed in 2000 totaled 247, an unemployment rate of 6.5 percent, which is the third highest rate among counties and more than double the State unemployment rate of 3.2 percent (U.S. Census Bureau 2001).

Total employment for Emery County in 2000 was 5,207. Nonfarm proprietors were responsible for the largest portion of this figure (19.3 percent). The government sector accounted for the next largest share (18.3 percent), followed by transportation, communications, and public utilities (TCPU) at 13 percent and mining at 15 percent. Agriculture accounted for less than 10 percent within the county in 2000. Overall, the county's employment base is largely specialized in industries related to oil and gas extraction. The county's largest employer is Energy West, a coal mining company. Nielson Construction Company, CW Mining company, and Genwal Resources also employ large numbers of residents. The Emery County School District, Pacificorp (electric service), and Emery County (local public administration) are also major employers. Total employment is projected to grow at an average annual rate of 1 percent from 4,901 in 1990 to 7,217 in 2030 (U.S. Census Bureau 2001). Table 2-1 depicts employment trends per sector for the last two decades and projections for 2010.

Table 2-1. Current and projected employment figures for Emery County by major industry.

INDUSTRY	YEAR			
	1980	1990	2000	2010
Agriculture	471	498	500	475
Construction	522	268	412	331
Finance, Insurance, and Real Estate	65	42	45	56
Government	716	819	957	1,150
Manufacturing	22	13	25	26
Mining	2,105	1,002	788	812
Nonfarm Proprietors	393	770	1,007	1,377
Services	260	286	336	537
Trade	334	437	455	555
Transportation, Communication, and Public Utilities	513	766	682	743
Total Employment	5,401	4,901	5,207	6,062
Nonfarm Payroll	4,501 (83%)	3,629 (74%)	3,696 (70%)	4,206 (69%)

Source: GOPB (2002).

Total personal income for Emery County rose from \$126.9 million in 1990 to \$183.8 million in 1999. Average earnings per job rose from \$24,900 to \$29,880 during the same period. Per capita income increased from \$12,311 to \$16,635, also during the same period. This was 71 percent of the state per capita income of \$23,276 (GOPB 2002).

Population

Emery County has one of the lowest population growth rates in the state, with an average increase of 0.4 percent per year from 1990 to 2000. The population was 10,329 in 1990, rose slightly above 11,000 in 1999, and dropped back down to 10,860 in 2000. It is projected to increase to approximately 12,984 people by 2030. Emery County also has a very sparse population, with a density of 2.4 persons per square mile, largely a result of almost 80 percent of the county being owned by the Federal government. The average household size was 3.10 persons according the 2000 census, with a median age of 30.1. Huntington, its largest city, had a population of 2,131 in 2000 and is projected to reach 2,428 by 2030.

Ethnicity and Community Profile

The ethnic composition of Emery County is largely white, maintaining a level of 96 to 97 percent over the last the decade. Table 2-2 shows the breakdown per race from 1990 to 2000.

Table 2-2. Ethnic composition of Emery County.

RACE	1990	1995	2000
White	10,127	10,202	10,382
Black/African American	4	9	13
American Indian/Alaskan Native	44	48	56
Asian/Pacific Islander	26	23	25
Hispanic Origin	219	245	384
Totals	10,420	10,527	10,860

Source: GOPB (2002).

Tourism and Recreation

While Emery County's economy is historically rooted in mineral extraction and agriculture, tourism has begun to play a larger role in the last two decades. As Utah's Wasatch Front continues to grow and become more crowded, an increasing number of residents are attracted to Emery County's open spaces and diverse terrain. Area destinations include the Cleveland-Lloyd Dinosaur Quarry, the Desert Lake Waterfowl Management Area, the San Rafael Swell, the Manti-La Sal National Forest, Huntington State Park, and Huntington Rodeo Grounds. An indicator of the growth in tourism for Emery County is the services industry and the percentage it occupies of total nonagriculture payroll. From 1977 to 2000, this sector grew from 1.5 percent to 6 percent.

Housing

During the late 1970s and early 1980s, Huntington experienced explosive population growth as a result of the expansion of the local coal mining and power production operations. Fewer than 300 homes were built in Huntington before 1970. In contrast, 400 units were built between 1970 and 1984, more than double the city's total. This prosperity stopped in 1982, and since 1985 only 58 units have been constructed.

A full survey of Huntington's housing stock was conducted by the Southeastern Utah Association of Local Governments in 1980. Among the data collected in this survey were the conditions of every unit in the city. At the time, the conditions of fewer than half of the existing units were rated as "acceptable," according to standards set by the U.S. Department of Housing and Urban Development. These statistics indicate that Huntington's housing stock is notably outdated. Additional data are shown in Table 2-3. Of the 26 housing units built between 1990 and 1998, eight were single-family units and 18 were manufactured units.

Table 2-3. Housing data for Huntington City.

YEAR	NUMBER OF UNITS BUILT
1990-98	26
1980-89	133
1970-79	299
1960-69	38
1950-59	53
1940-49	72
pre 1940	134
Total	755

Source: Utah Bureau of Business and Economic Research (2002).

Environmental Justice

Environmental Justice refers to the protection of human rights, particularly those of minority and lower-income populations. It further means that, to the greatest extent practicable and permitted by law, minority and low-income groups are provided the opportunity to participate prior to decision making and are not affected in a disproportionately high and adverse manner by government programs and activities affecting human health or the environment. In addition, Environmental Justice means that such populations are allowed to share in the benefits of and are not excluded from the due processes associated with government activities that involve human health and the environment. Environmental Justice is included in this document in compliance with Executive Order 12898, signed in 1994.

According to the U.S. Census Bureau, Emery County had a population of 10,860 in 2000. This was a 5.1 percent increase from the Census count in 1990. For nearly the last two decades, the county has remained at least 95.6 percent white. In 2000 the number of Blacks, American Indian/Alaskan Natives, and Asian or Pacific Islanders, was less than 1 percent of the total population. Those of Hispanic Origin totaled slightly more than 3 percent of the total population.

The median income reported in the 2000 U.S. Census for Emery County was \$39,838, using a 1997 model-based estimate. This median income level is \$954 above the State's average. In 2000 approximately 1,629 individuals, or 15 percent of Emery County's population, lived at or below the poverty level. This poverty level for Emery County is 2.5 percent higher than the State's average.

RESOURCE CATEGORIES

Partnerships

Water Rights and Water Operations

Huntington North Reservoir is an off-stream reservoir, meaning the water is diverted from Huntington Creek at the mouth of Chris Otteson Hollow into the reservoir by way of the Cleveland Canal, North Ditch, and Feeder Canal. The capacity of the reservoir is 6,685,461 cubic meters (5,420 acre-feet) of water. The reservoir is filled to this capacity every winter and then releases 3,848,457 cubic meters (3,120 acre-feet) of water during the growing season. Water is delivered to the surrounding areas by the Huntington Irrigation Company in the Service Canal and the South Branch of the Cleveland Canal. While the U.S. Department of the Interior (USDI), Bureau of Reclamation (Reclamation) retains title to the dam, water rights, reservoir, surrounding land, canals, and appurtenant works, the EWCD has a permanent right to the use of water within the provisions of the contract. The EWCD is also responsible, at its own cost, for the operations and maintenance of the water storage and delivery facilities.

Minerals Development and Withdrawn Lands Management

Through an Interagency Agreement dated December 1982, Reclamation and the USDI Bureau of Land Management (BLM) agreed to coordinate on land use planning, land resource management, land conveyance and exchange, and cooperative services. The agreement brings coordinated agency efforts into compliance with existing laws and policies. The agreement provides that Reclamation will, when requested, provide expertise in the area of water resources conservation, development, and management, to be utilized by the BLM in preparing its RMPs. The agreement further provides that the BLM will, when requested, provide expertise in the areas of land resource, forest, range, oil, gas, and mineral management, to be utilized by Reclamation when preparing its RMPs and in managing public lands administered, acquired, or withdrawn by Reclamation.

Recreation Management

With the signing of the Memorandum of Agreement between Reclamation and Utah State Division of Parks and Recreation (State Parks) in 1974, and subsequent agreements, State Parks has managed recreation at Huntington North Reservoir. The agreements obligate the State Parks to administer recreation and to operate, maintain, and replace recreational facilities. Water-based activities, such as swimming, waterskiing, pleasure boating, and fishing are the prominent attractions at Huntington North Reservoir. Other activities include sunbathing, picnicking, camping, sightseeing, hiking, and biking.

Fish and Wildlife Management

The Utah Department of Natural Resources, Division of Wildlife Resources (UDWR) has full authority to enforce State fishing and hunting regulations within the Study Area. Hunting is not permitted in developed recreational areas where camping, picnicking, boating, and other activities take place. The UDWR conducts a fisheries stocking program at Huntington North Reservoir.

The U.S. Fish and Wildlife Service (USFWS) provides Federal leadership to conserve, protect, and enhance fish and wildlife populations and their habitats for the continuing benefit of the public. Reclamation is responsible for management and recovery of Threatened and Endangered Species within the Study Area under the Endangered Species Act (ESA) (1973 as amended), with recommendations and consultation provided by the USFWS. The USFWS is responsible for working with Reclamation in making recommendations for protection of fish and wildlife and their habitats within the Study Area under the auspices of the Fish and Wildlife Coordination Act (1958 as amended).

Law Enforcement and Fire Suppression

Law enforcement and fire suppression activities are primarily provided by State Parks, UDWR, and Emery County. State Park personnel respond to emergencies with the assistance of the Emery County Sheriff's Department and Fire Department.

Highway Maintenance

The Utah Department of Transportation (UDOT) is responsible for maintenance of State Route 122 and State Route 10, which provide access to the Study Area.

Water Quality

The Utah Department of Environmental Quality (UDEQ), Division of Water Quality (DWQ) is responsible for ensuring that State water quality standards and beneficial uses are met for surface waters within the Study Area.

Water Resources

Watershed

Huntington North Reservoir is an off-channel reservoir located at the base of the Wasatch Plateau within the San Rafael River Basin and drains a watershed of approximately 64,750 hectares (160,000 acres). Water is diverted from Huntington Creek into North Ditch and eventually conveyed to Huntington North Reservoir. The headwaters of Huntington Creek originate in the Wasatch Plateau at a peak elevation of approximately 2,895 meters (9,500 feet) above sea level and flow east until they are diverted into the North Ditch. The headwaters are located in the Manti-LaSal National Forest, and the lower-elevation portion of the watershed is mainly private land used for grazing and irrigated agriculture.

A U.S. Geological Survey (USGS) gage (09318000) was in operation on Huntington Creek upstream of the diversion from 1909 to 1979. Mean annual discharge at this site is 2.68 cubic meters per second (96.00 cubic feet per second). The largest peak flow recorded at this site was 70 cubic meters per second (2,500 cubic feet per second) in August 1930. Average peak flow for the period of record is 25.8 cubic meters per second (920.0 cubic feet per second). The

hydrograph is largely driven by spring runoff with peak flow generally occurring in the spring months. A second peak in flow is sometimes observed in late summer, a result of summer rainstorms. This pattern can be seen in Figure 2-1.

Reservoir

Huntington North Reservoir is formed by the Huntington North Dam and the West and East Dikes. These structures, completed in 1966, are rock faced and constructed of earthfill. The reservoir is currently managed by the EWCD for irrigation storage. The top of the active conservation pool is 1,778 meters (5,838 feet) above sea level, the crest elevation of the dam is at 1,789 meters (5,845 feet), the maximum capacity of Huntington North Reservoir is 66,875,461 cubic meters (5,420 acre feet), the surface area of the reservoir is 98 hectares (242.00 acres), the maximum depth is 16.9 meters (55.8 feet), and the mean depth is 2.3 meters (7.7 feet). Water is diverted from the North Ditch into the Huntington North Feeder Canal, which serves as the inflow to the reservoir. Huntington North Reservoir's annual inflow is 898 hectare-meters (7,300 acre-feet), peak inflow is 76.7 cubic meters per second (2,740 cubic feet per second), and inflow volume is 300,969 cubic meters (244 acre-feet). The outlet of the reservoir is located at the East Dike and outflow is discharged into the Huntington North Service Canal, which has a capacity of 0.98 cubic meters per second (35.00 cubic feet per second). This canal heads eastward and ends at the Cleveland Canal outside of the Study Area.

Water elevation data for October 1975 through April 2002 were obtained from Reclamation. These data were graphed for all years (see Figure 2-2). Wet, dry, and average years were then determined. The following water years were used: 1984, wet; 1991, average; and 1978, dry. Since water elevations were recorded at variable dates and the number of records for each month varied from monthly to daily recordings, monthly averages were used. As seen in Figures 2-2 and 2-3, Huntington North Reservoir water-level fluctuations are typical for a reservoir managed for irrigation storage. These graphs show water levels increasing during the spring months when more water is available during snow melt. Water levels in the reservoir decrease during the summer and fall when water is released from the reservoir for irrigation purposes. Dry years show a greater decrease in water levels than wet and average years.

Sedimentation

Sedimentation can be seen near the delta at the inflow of the reservoir. Possible sources of sediment include sediments stored in the diversion and inflow canals, livestock grazing on the canal banks, and return flow from agricultural lands. However, quantitative studies on reservoir sedimentation rates have not been completed.

Floodplain

Floodplains are not a concern in the Study Area. Both the inflow and outflow of the reservoir are irrigation and diversion canals with controlled flow that do not function as natural streams. Outside the Study Area, below the diversion at North Ditch, flow is significantly reduced in Huntington Creek. This reduced flow could lead to loss of vegetation in the floodplains of Huntington Creek. Agricultural land was also observed along the banks of Huntington Creek. Reduced riparian vegetation could lead to channel instability and impaired floodplain functions.

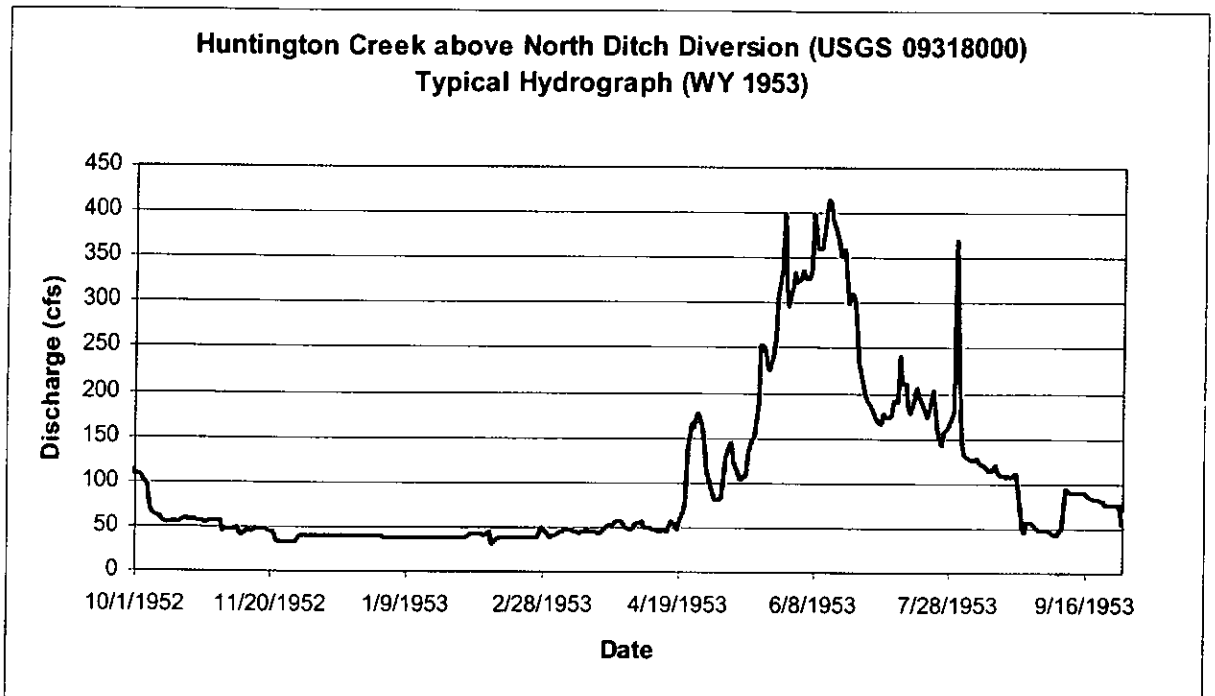


Figure 2-1. Typical hydrograph for Huntington Creek above North Ditch diversion.

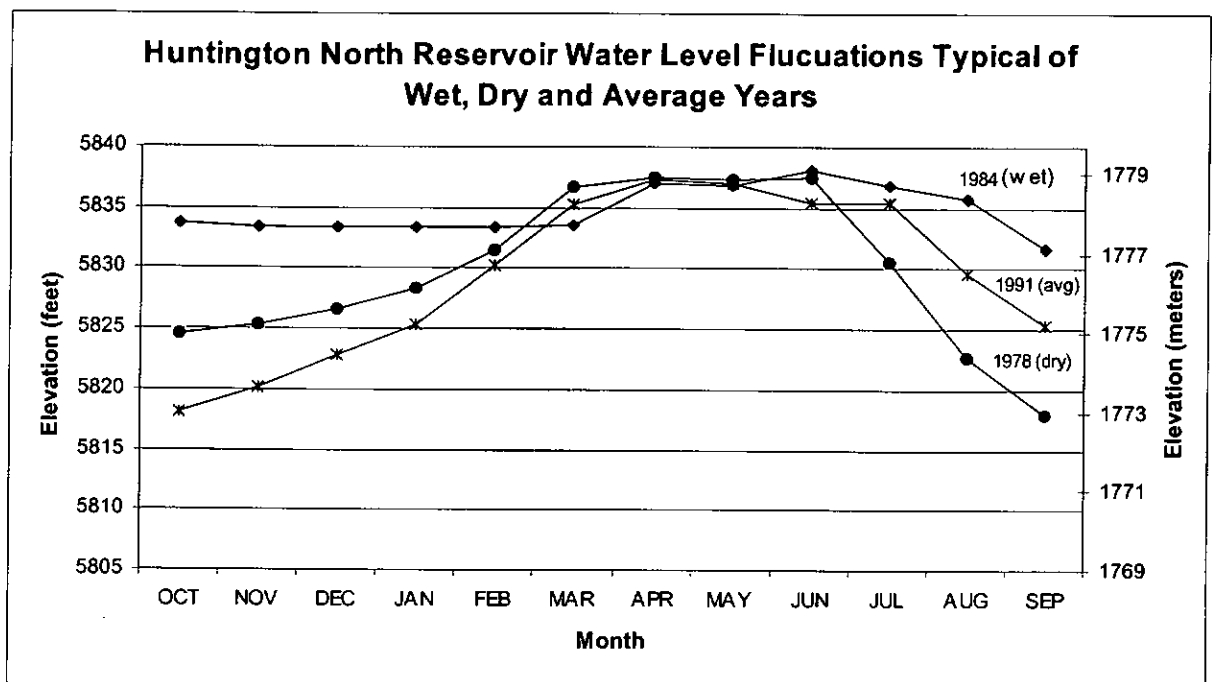


Figure 2-2. Huntington North Reservoir water level fluctuations.

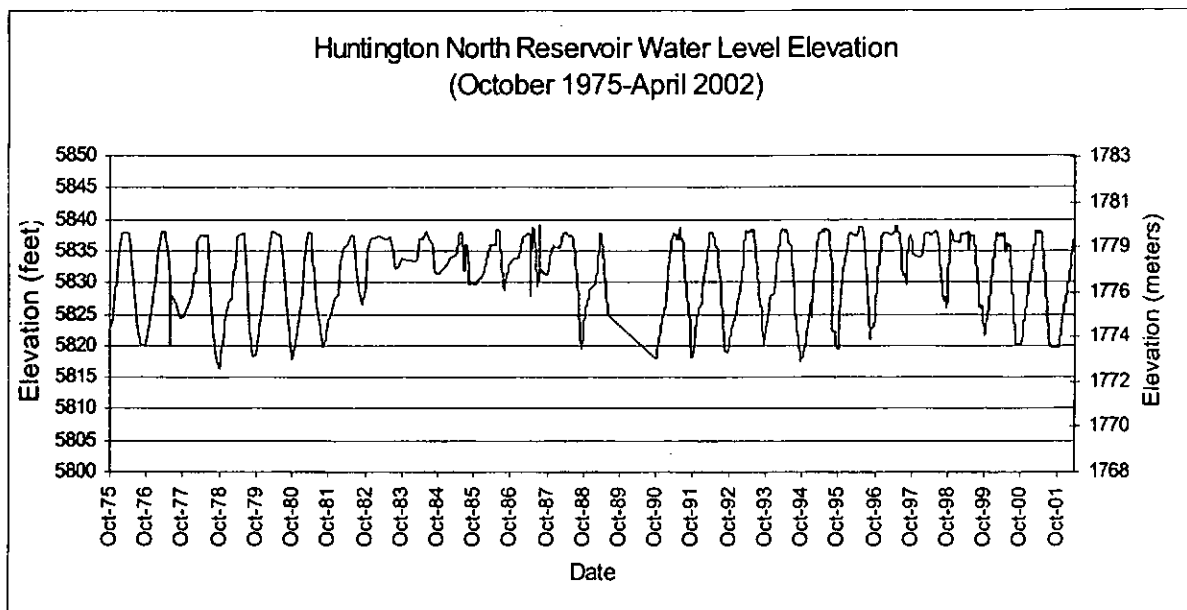


Figure 2-3. Huntington North Reservoir water level elevations.

Groundwater

Little hydrogeologic data are available for the Study Area or its vicinity. A Utah Division of Water Rights search revealed no subsurface water rights within or in the vicinity of the Study Area (DWR 2002).

The shallow groundwater and related hazards map of Utah (Utah 1988) indicates that there are no shallow groundwater hazards in the Study Area but that groundwater is at least 9.1 meters (30.0 feet) below the surface. This is caused by the relative thinness of the unconsolidated, surficial deposits (<7.6 meters [25.0 feet]) that overlie the consolidated, Blue Gate Member of the Mancos Shale.

In the Wasatch Plateau-Book Cliffs area, water yield from the Blue Gate Member of the Mancos Shale Formation is usually low. Sumsion (1979) presents the results of pump tests performed on various oil wells completed in the Blue Gate Member of the Mancos Shale Formation. These wells produce anywhere from 0 to only 33.3 liters (8.8 gallons) of water per minute. Sumsion (1979) therefore describes the permeability of the Blue Gate Member of the Mancos Shale

Formation as being very low. Groundwater quality in the Blue Gate Member is poor, with total dissolved solids concentrations greater than 4,000 milligrams per liter (Waddell et al. 1978, Sumsion 1979).

During the Huntington North Reservoir RMP Interdisciplinary Project Team (Project Team) site visit on October 30 and 31, 2001, seeps were observed directly south of the dam and undeveloped area that borders the southwest shoreline of Huntington North Reservoir. These seeps have contributed to the development of riparian-wetland areas below the dam. Onsite monitor wells were also observed in the Study Area, but they were not accessible during the site visit.

Water Quality

Huntington Creek

Designated protected beneficial uses of Huntington Creek above the Highway 10 crossing are domestic purposes with prior treatment with processes as required by the Utah Division of Drinking Water (class 1C); secondary contact recreation such as boating, wading, or similar uses (class 2B); cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain (class 3A); and agricultural uses including irrigation of crops and stock watering (class 4). Huntington Creek above Highway 10 is considered to be fully supporting its designated uses (UDEQ/DWQ 1999). The upper reaches of Huntington Creek are listed by the UDEQ/DWQ as high-quality waters indicating that water quality in Huntington Creek above Highway 10 is considered to be very good.

Huntington North Reservoir

Current protected designated beneficial uses of Huntington North Reservoir are primary contact recreation such as swimming (class 2A); secondary contact recreation such as boating, wading, or similar uses (class 2B); warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain (class 3B); and agricultural uses including irrigation of crops and stock watering (class 4). Water-quality sampling in Huntington North Reservoir is conducted by the UDEQ/DWQ every 2 years during the months of June, July, and August. Generally, water quality is considered very good and the phytoplankton community consists mainly of diatoms and flagellate species indicative of good water quality (Judd 1997). However, levels of dissolved oxygen and total phosphorus have not met State water quality standards in recent years. Minimum dissolved oxygen readings have been below the State standard (5.0/3.0 milligrams/liter) at depths below 2.7 meters (9.0 feet) during sampling in June 1979; August 1995, 1997, and 1999; and as recent as 2001. Sampling for dissolved oxygen has not occurred in the winter, and anoxic conditions may be present then (Judd 1997). Low dissolved oxygen readings at lower depths may be attributed to the lack of mixing and organic decay at those levels. Additionally, individual total phosphorus concentrations have exceeded State standards (.025 milligrams/liter), in June and August 1991 and in June 1999. Sources of nutrient loading may be irrigation return flow from agricultural land, livestock grazing, and human wastes from recreation (UDEQ/DWQ 2000). Currently, these exceedences in water quality standards are not thought to impair the designated uses of Huntington Reservoir (Judd 1997).

Recreational and Visual Resources

Recreational Opportunities and Facilities

The dominant opportunities and attractions at Huntington North Reservoir are water-based activities including swimming, waterskiing, pleasure boating, personal watercraft use, and fishing. Sunbathing, picnicking, sightseeing, and camping are also enjoyed in conjunction with the water-based activities. The park provides year-round recreational opportunities with fishing continuing through the winter. In a survey conducted by State Parks during summer 2002, picnicking had the highest participation rates, followed by boating and swimming (State Parks 2003). The developed portion of the Study Area is managed by the State Parks for outdoor public recreation purposes. The Study Area has been divided into six Management Areas: Dam

and Dike Area, North Area, Inlet Area, Southwest Cove Area, State Park Area, and Reservoir Inundation Area. These Management Areas are described below and shown in Figure 1-3.

Dam and Dike Area

The Dam and Dike Area is accessed from the State Park Area or the Southwest Cove Area. The reservoir outlet and Huntington North Service Canal are located in this area. Public access is limited to foot traffic in this area. This area appears to be used primarily by anglers who fish from the dam. No fees apply to this area.

North Area

The North Area is accessed from State Route 122. State Parks maintenance sheds are located in this area, along with a track for all-terrain vehicle licensing. The North Ditch runs through this area. This area includes dispersed day-use spots with no facilities. There is no formal parking for this area, and it is assumed that users park at the State Park Area and walk or boat to the area. Because there are no facilities available, this area receives lower visitation and is used when the State Park is full.

Inlet Area

This area is located along the northwest side of Huntington North Reservoir. Access is provided by the native-surface road that surrounds the reservoir but is limited to foot traffic for the public. Because there are no facilities available, this area receives lower visitation, except for the beach near the Southwest Cove Area. This area includes the inlet, Huntington North Feeder Canal, and the North Ditch. No fees apply to this area.

Southwest Cove Area

The Southwest Cove Area is accessed from Old Homestead Road and a road that crosses private property southwest of Huntington North Reservoir. A gravel parking lot is provided with no other facilities. The Southwest Cove Area is a popular place for anglers and other dispersed day use. No fees apply to this area.

State Park Area

The State Park Area receives a significant amount of overnight and day-use visits by the public for fishing in the spring and early summer and for picnicking, swimming, camping, and sunbathing throughout the remainder of the summer. Access to the State Park Area is from State Route 122. The State Park Area offers a landscaped day-use area, numerous picnic sites, 22 camping units, sewage disposal station, boat launching, a covered group-use pavilion, and modern restroom facilities with showers. Fees are \$5 per day per car for day use; \$12 per day per car for camping; and \$15 for a 5-day pass. These areas can also be reserved for a \$6.25 fee and \$10.25 fee for group areas/buildings with a \$100 cleaning deposit. Reservations can be made from May 1 to October 31.

Reservoir Inundation Area

This area includes the reservoir water surface at full pool.

Visitation and Visitor Characteristics

According to visitation information from State Parks, the majority of visitations to Huntington North Reservoir occur from May to August. These figures also indicate that the months of May and July are the peak months for visitation during the year. Further evaluation of these figures

also indicates that visitation levels have been sporadic over a 15-year period. At this time, accurate visitation rates are available for 1989 through 2003. A summary of visitation rates for these years is contained in Table 2-4. Most respondents to a survey conducted in summer 2002 listed Huntington State Park as their sole destination, and said they typically visited the park for day use; 86 percent said their length of stay was one full day or less. Local residents appear to be the most frequent visitors; about 56 percent of respondents said they live in nearby cities or towns. The majority of respondents (54 percent) said they came with their families or with their families and friends (34 percent) (State Parks 2003).

Table 2-4. Summary of annual visitation at Huntington North Reservoir from 1989 to 2001.

ANNUAL VISITATION AT HUNTINGTON NORTH RESERVOIR		
YEAR	NUMBER OF VISITORS	PERCENT CHANGE PER YEAR
1989	68,964	N/A ^a
1990	67,089	-3
1991	78,936	17
1992	85,743	8
1993	70,621	-17
1994	75,543	6
1995	58,264	-22
1996	60,852	4
1997	63,193	3
1998	66,099	4
1999	67,127	1
2000	65,137	-3
2001	59,927	-8
2002	48,682	-19
2003	41,282	-15

Source: State Park Records.

^a N/A = Not applicable.

Recreation Conflicts and Concerns

In a recreation survey conducted during summer 2002, most respondents (78.3 percent) said they did not experience any conflicts. Some respondents (15.2 percent) said they experienced one or two conflicts. The survey included open-ended questions that asked for details about negative experiences; respondents said the problems they encountered included people driving the wrong way on the lake, personal watercraft users being inconsiderate of skiers and boaters, inadequate boat docks, children swimming near the docks, and loud day users after 10:00 p.m. A majority of respondents participating in boating-related activities reported few negative encounters with other boaters or personal watercraft users. Similarly, most respondents appeared to be satisfied with the park's capacity limit of 25 boats on the reservoir (State Parks 2003).

Recreation Opportunity Spectrum (ROS) Analysis

An analysis and classification of the recreational opportunities currently existing at Huntington North Reservoir is included in this section. The analysis was conducted using the Recreation Opportunity Spectrum (ROS) system developed by the U.S. Department of Agriculture, Forest Service.

The ROS system is a means by which the land and water of a Study Area can be inventoried and mapped by classes to identify which areas are currently providing what kinds of recreational opportunities or experiences. This is accomplished by analyzing the physical, social, and managerial setting components for each use area (USDA 1982). The ROS system characterizes the type of experience a visitor could expect when visiting an area. The basic classifications, from undeveloped to fully developed, are Primitive, Semi-Primitive Non-Motorized (SPNM), Semi-Primitive Motorized (SPM), Roaded Natural (RN), Rural, and Urban. The ROS classifications serve as the basis from which to compare future ROS levels associated with various land and resource use strategies. Table 2-5 provides brief descriptions of these classifications. For more information on the ROS system and its application, refer to the U.S. Forest Service Recreation Opportunity Spectrum, ROS Users Guide (USDA 1982).

Table 2-5. Basic Recreation Opportunity Spectrum (ROS) classifications and descriptions.

ROS^a CLASSIFICATION	BRIEF DESCRIPTION
Primitive	Remote from the sights and sounds of man
Semi-primitive Non-motorized	Minimal sights and sounds of man
Semi-primitive Motorized	Minimal sights and sounds of man
Roaded Natural	Moderate sights and sounds of man
Rural	Prevalent sights and sounds of man
Urban	Extensive sights and sounds of man

^a Recreation Opportunity Spectrum.

As part of the Huntington North Reservoir Recreation Opportunity Spectrum Analysis, the reservoir was divided into the five Management Areas: Dam and Dike Area, State Park Area, North Area, Inlet Area, and Southwest Cove Area. The three setting components (i.e., physical setting, social setting, and managerial setting) were then analyzed using the ROS system, and a ROS classification was generated for each management area. The results are shown in Table 2-6.

Scenery Management System (SMS) Analysis

The U.S. Forest Service Scenery Management System (SMS) was used to analyze and classify the existing visual setting that may be experienced by visitors to Huntington North Reservoir. The SMS requires describing and classifying the visual resources of the Study Area. Four categories of information are developed from this process: a landscape character description, degree of scenic beauty (i.e., quality), degree of users' concern for scenic quality, and viewing distances. This information is compared, and the end result is an identification of Visual Integrity

Table 2-6. Recreation Opportunity Spectrum (ROS) classifications for the Huntington North Reservoir Study Area.

MANAGEMENT AREA	PHYSICAL SETTING	SOCIAL SETTING	MANAGERIAL SETTING	FINAL ROS CLASSIFICATION
Dam and Dike Area	Rural	Roaded Natural	Urban	Urban
State Park Area	Rural	Rural	Rural	Rural
North Area	Roaded Natural	Semi-Primitive Motorized	Semi-Primitive Motorized	Roaded Natural/ Semi-Primitive Motorized
Inlet Area	Roaded Natural	Roaded Natural	Rural	Rural
Southwest Cove Area	Rural	Rural	Roaded Natural	Rural

Levels for each Management Area. Visual Integrity Levels serve as an existing base from which to compare future Visual Integrity Levels associated with various alternative land and resource uses and strategies. For more information on the SMS refer to *Landscape Aesthetics, A Handbook For Scenery Management, Handbook Number 701* (USDA 1995).

Visual Integrity Levels were developed by combining the Scenic Quality Rating with the User Sensitivity Level (i.e., user's concern for scenic quality) at the foreground view. The combination resulted in a moderate or low Visual Integrity level. The moderate Visual Integrity Level means the results of human activities remain visually subordinate to the characteristic landscape. The low Visual Integrity Level means the results of humankind's activities visually dominate the landscape character but borrow naturally established line, form, color, and texture. Table 2-7 presents the Visual Integrity Levels at Huntington North Reservoir.

Table 2-7. Visual Integrity Levels by Management Area at Huntington North Reservoir.

MANAGEMENT AREA	SCENIC QUALITY	SENSITIVITY	RESULTANT VISUAL INTEGRITY
Dam and Dike Area	C	Level 2 at foreground view	Low
State Park Area	B+	Level 2 at foreground view	Moderate
North End	B+	Level 2 at foreground view	Moderate
Inlet Area	B	Level 2 at foreground view	Low
Southwest Cove Area	B	Level 2 at foreground view	Low
Full Reservoir	A-	Level 2 at foreground view	Moderate
Empty Reservoir	C	Level 2 at foreground view	Low

Natural And Cultural Resources

Geology

General Area

The Study Area is located between the eastern edge of the Wasatch Plateau and the western-most portion of the Book Cliffs of east-central Utah (Chidsey 1991). This area is comprised of north-to northeast-trending valleys (Chidsey 1991). Huntington North Reservoir is located northeast of Huntington, Utah, in central Castle Valley, which follows the structural low between the San Rafael Swell to the east and the Wasatch Plateau to the west (Witkind 1988).

The Quaternary geology of Castle Valley is dominated by Holocene to Pliocene erosional deposits derived from adjacent uplands (Witkind 1988). The Upper Cretaceous, Blue Gate Member of the Mancos Shale Formation outcrops in various areas throughout the valley and underlies the erosional deposits from the adjacent uplands (Witkind 1988). Figure 2-4 depicts the Study Area geology.

As mapped by Witkind (1988), Huntington North Reservoir is surrounded by surficial erosional deposits, except to the south and southwest of the reservoir, where the Mancos Shale Formation outcrops (Figure 2-4). The northern shoreline of the reservoir is composed chiefly of slope wash (Qsw) material, while the southwestern shoreline is composed of the Blue Gate Member (Kmbg) of the Mancos Shale Formation. The slope wash (Qsw), which is derived from adjacent uplands, is composed of clay, silt, sand, granules, and some pebbles. The Blue Gate Member (Kmbg) of the Mancos Shale Formation outcrops along the southern shoreline and is composed of shale and shaly siltstone. A small delta (Qd) is also forming along the western portion of the reservoir. These deltaic deposits are thin and are composed of slope wash (Qsw) material.

Witkind mapped two folds that are located west of the Study Area (Witkind 1988). These anticline folds are northward-striking and parallel the margins of Castle Valley.

The geologic units that are important within the Study Area are listed below in Table 2-8, along with their associated age, map symbol, and a summarized description of the unit modified from Witkind (1988).

Seismic Activity

Most of the faults that exhibit surface displacement within the region appear to be in a broad belt extending west from the Book Cliffs to the east across the San Rafael Swell to Castle Valley. Only a few faults are found east of the Book Cliffs and west of Castle Valley. All faults are normal and characterized by high-to-moderate dips. Most of the faults strike northwest or west. A few faults marked by northeastern and northern strikes occur along the west flank of the San Rafael Swell (Witkind 1988). Witkind (1988) identified no faults within or near the Study Area; therefore, the Study Area has little potential for seismic activity.

Liquefaction

Seismic events would not trigger liquefaction because the geologic deposits found within the Study Area are composed of non-liquefiable materials (e.g., the Blue Gate Member of the Mancos Shale Formation). Unconsolidated, surficial deposits are found in the northern portion

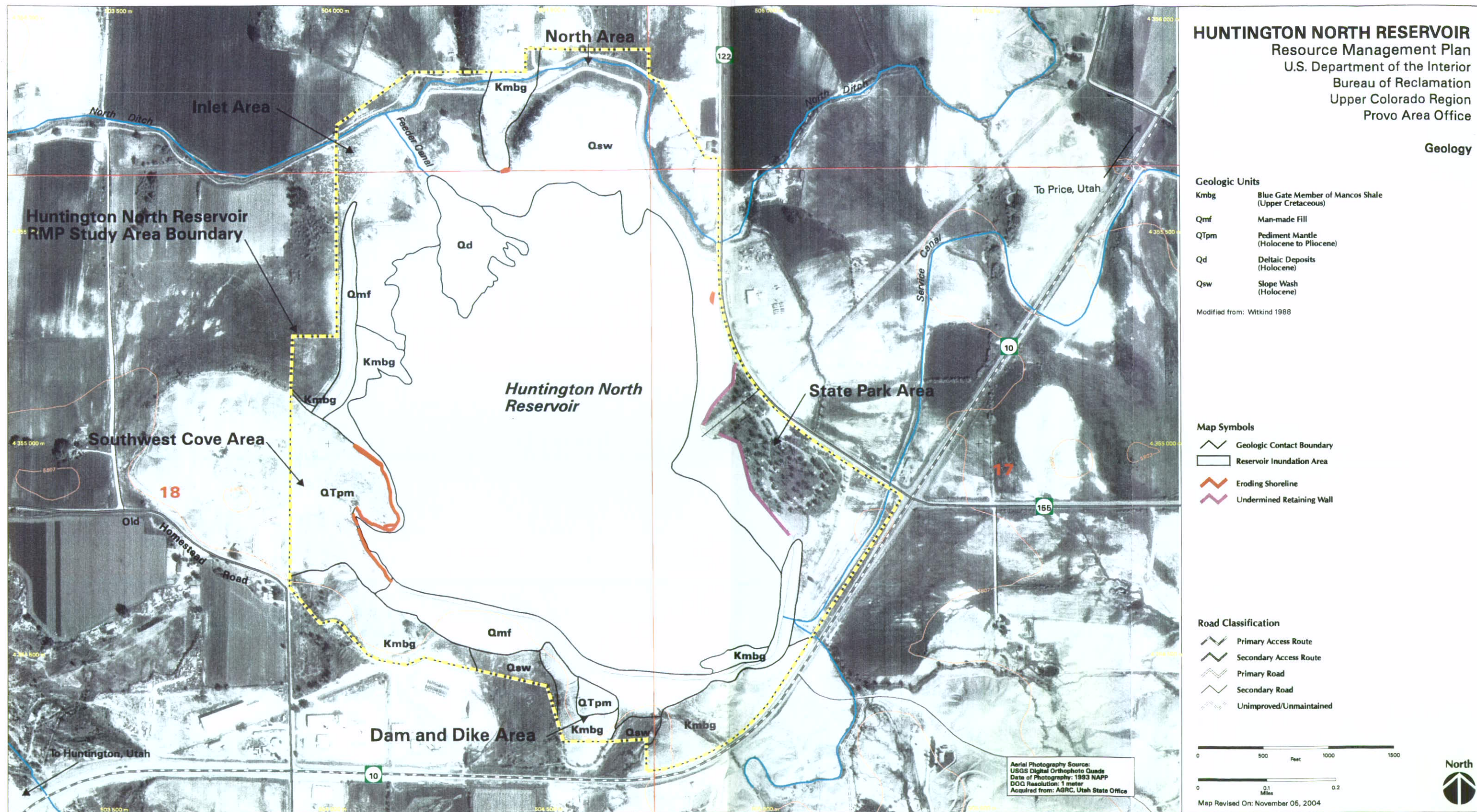


Figure 2-4. Huntington North Reservoir Resource Management Plan (RMP) Study Area geology map.

Table 2-8. Geologic units located within the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

DEPOSIT TYPE	MAP SYMBOL	DEPOSIT DESCRIPTION
Quaternary Deposits	Qd	Deltaic Deposits (Holocene) - Thin, unconsolidated deposits composed of clay, silt, sand, granules, and some pebbles.
	Qsw	Slope Wash (Holocene) - Light to dark gray, thin- to thick-bedded deposit of clay, silt, sand, granules, and some pebbles. Faintly crossbedded. Unconsolidated to weakly cemented. Clasts, chiefly siltstone and sandstone, reflect formations exposed in adjacent upland. Forms broad, gently sloping sheets. Thickness ranges from a thin film to as much as 8 meters (25 feet).
	QTpm	Pediment Mantle (Holocene to Pliocene) - Light-brown to brown-gray and locally reddish-brown deposit of silt, sand, granules, pebbles, cobbles, and boulders derived from adjacent uplands. Massive to crudely bedded. Unconsolidated to well cemented. Chiefly siltstone and sandstone clasts. Surfaces are even and slope gently away from uplands. Ranges in thickness from about 3 meters (10 feet) to more than 46 meters (150 feet).
Cretaceous Sedimentary Rocks	Kmbg	Blue Gate Member of Mancos Shale (Upper Cretaceous) - Light gray, bluish-gray, and gray, thin- to medium-bedded shale and shaly siltstone. Sparse interlayered thin sandstone beds. Forms low rounded hills. Resembles upper part of Blue Gate and Tununk Members. As much as 610 meters (2,000 feet) thick.

of the Study Area. These deposits are relatively thin (<7.6 meters [25.0 feet]), and underlain by the Blue Gate member of the Mancos Shale Formation. Its presence eliminates the potential for liquefaction of these unconsolidated deposits.

Shoreline Erosion

Wave action from wind-generated and boat-generated waves, along with annual fluctuations in reservoir levels, contribute to shoreline erosion at Huntington North Reservoir. The geomorphic areas most susceptible to erosion are points that protrude into the reservoir, convex shorelines, and steep shorelines, primarily in the southwest shoreline area. A significant factor in the degree of shoreline erosion is the shoreline's slope. The more gently sloping shorelines, which are generally protected from wave erosion by beaches, tend to erode much less than steeper shorelines.

The major process eroding and transporting shoreline sediments into the reservoir occurs primarily when the reservoir is at full pool, allowing waves to impinge against the steep portions of the shoreline. The waves undercut a notch in the steeper shorelines, resulting in shoreline collapse. When a large enough volume of material has been eroded, the collapsed debris eventually forms a beach that then protects the highest shoreline from wave energy. This process is also adding significant amounts of sediment to the reservoir. Shorelines are still adjusting to

Huntington North Reservoir's presence in areas with rapid erosion. After the shoreline reaches a stable angle from beach formation, the hill behind the shoreline will also continue to erode to a more-stable angle. This process may take up to several decades.

Minor erosion also occurs at lower reservoir levels when waves contact the shoreline below the high-water level. Areas previously weakened during high-reservoir-level wave action are also susceptible to low-reservoir level wave action.

In some locations, riprap has been placed to prevent further erosion. The riprap placed along the boat ramp has been largely successful in stopping erosion. However, additional riprap at the base of the ramp is needed. Riprap placed above the high-water line north of the boat ramp has also been successful in stopping erosion.

The retaining wall at the State Park Area serves to protect the developed facilities from erosion. However, the placement of this structure below the high-water line has accelerated the shoreline erosion below the retaining wall. In various places the retaining wall has been undermined by this action. This process will continue and may eventually undermine the entire retaining wall, resulting in a total collapse.

Shoreline erosion is a safety issue at the nearly vertical, eroding shoreline located in the Southwest Cove Area. This area is currently undeveloped, and a possible slope failure at this location poses a safety threat to swimmers and other recreationists using this area.

Soils

According to the 1970 Soil Survey of the Carbon-Emery Area, Utah, conducted cooperatively by the U.S. Department of Agriculture, Soil Conservation Service, the BLM, and the Utah Agricultural Experiment Station, the Huntington North Reservoir area is comprised of silty clay loam, clay loam, colluvial land, and actively eroding shale (USDA 1970). Silty clay loam and clay loam predominate along the northern, southern, and eastern shorelines. These soils are used mainly for rangeland, with some soils being used for irrigated pasture and cultivated crops. Shaly colluvial land makes up the steep cliffs along the southwestern shoreline. This land is not suitable for use as pasture or crop cultivation because of the presence of steep slopes and active erosion. The names and characteristics of the various soil types found near and within the Study Area are summarized in Table 2-9 and shown in Figure 2-5.

Soil Erosion

Soils in the Study Area are generally not susceptible to wind erosion. They are, however, prone to water erosion. Slope and vegetative cover determine the amount of erosion, rather than soil type. Soil erosion in the Study Area is minimal, except along the steeper shorelines (see Geology Section). Relatively minor erosion is occurring on some smaller areas that receive extensive recreational use. The Chipeta soil type, with a slope factor of 3 to 30 percent, exhibits a high erosional hazard, as does the Badland soil type. Wave-cut erosion is active in the undeveloped Southwest Cove Area. The wave-cut shoreline in this area ranges in height from 0.3 to 3.1 meters (1.0 to 10.0 feet). The retaining wall that separates the State Park Area and the Reservoir Inundation Area is also being undermined by wave action in various locations.

Table 2-9. Soil types located within the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

SOIL SERIES (MAP SYMBOL)	SLOPE (PERCENT)	DEPTH TO BEDROCK IN CENTIMETERS (INCHES)	SHRINK- SWELL POTENTIAL	EROSION POTENTIAL (WATER)	LIMITATIONS	
					BUILDING SITE DEVELOPMENT	SEPTIC ^b
Abbott Silty Clay (As)	1 to 3	(60+)	Moderate	Slight to Moderate	Moderate	Severe
Badland (Ba)	Variable	Variable	NA ^c	High	Severe	Severe
Billings Silty Clay Loam (BIB)	1 to 3	>152 (>60)	Moderate	Moderate	Moderate to Severe	Moderate
Chipeta- Badland Association (CBF2)	3 to 30	(10-20)	Moderate	Moderate to High	Severe	Severe
Chipeta- Persayo Association (CPB)	1 to 3	(10-20)	Moderate	Moderate to High	Severe	Severe
Chipeta- Persayo Association (CPE2)	3 to 20	(10-20)	Moderate	Moderate to High	Severe	Severe
Killpack Clay Loam (KIB)	1 to 3	(20-40)	Moderate	Moderate	Moderate	Severe
Killpack Clay Loam (KIC2)	3 to 6	(20-40)	Moderate	Moderate to High	Moderate	Severe
Persayo- Chipeta Association (PCE2)	1 to 20	(6-20)	Moderate	Moderate to High	Moderate to Severe	Severe
Rafael Silty Clay Loam (Ra)	1 to 3	(60+)	Moderate	Slight	Moderate	Severe
Ravola Silty Clay Loam (RtB)	1 to 3	(60+)	Low	Moderate	Slight	Slight
Saltair Silty Clay Loam (Sa)	0 to 3	(60+)	Low	Slight	Moderate	Severe
Shaly Colluvial Land (Sn)	Variable	Variable	NA	Moderate to High	Moderate to Severe	Severe
Woodrow Silty Clay Loam (Wo)	1 to 3	(60+)	Moderate	Slight to Moderate	Slight	Slight

Source: Soil Survey, Carbon-Emery Area (USDA 1970).

^a Building Site Development = shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets.

^b Septic = septic tank absorption fields.

^c NA = Not available.

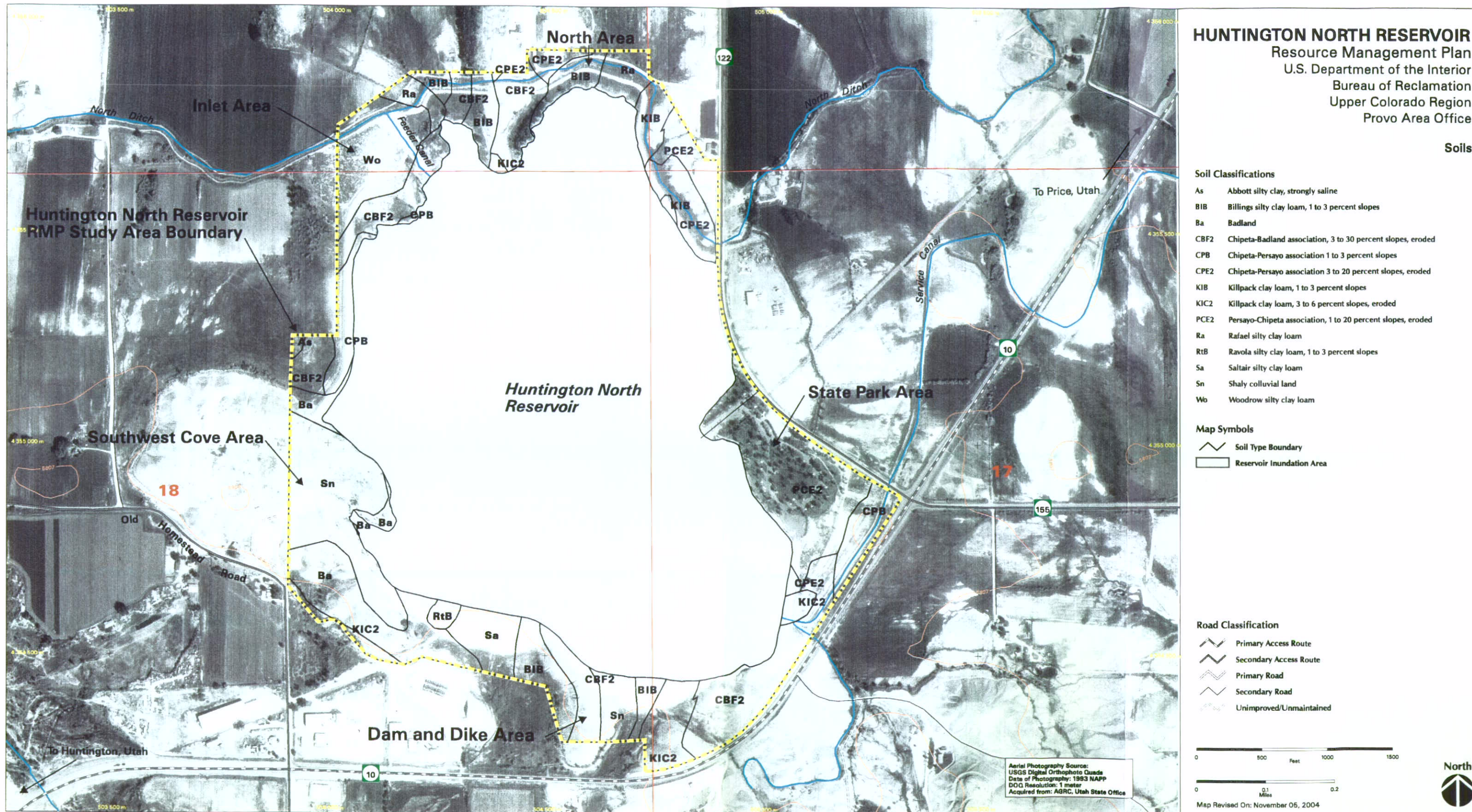


Figure 2-5. Huntington North Reservoir Resource Management Plan (RMP) Study Area soils map.

Characteristics and Limitations of Soil Resources

Characteristics of soils, such as slope, depth to parent rock, and shrink-swell potential, are shown in Table 2-9. Shrinking and swelling of some soils can damage building foundations, basement walls, roads, and other structures unless special designs are used. A high shrink-swell potential indicates that special design and added expense may be required if the planned soil use will not tolerate large volume changes (USDA 1970). Similarly, if steep slopes are present or depth to parent rock is shallow, additional building limitations may exist.

The Study Area soils are also rated in Table 2-9 according to soil limitations affecting their suitability for building site development and septic development. Building site development refers to the degree of soil limitations affecting shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets. The degree of soil limitations that affect the construction of septic tank absorption fields is based on soil permeability, depth to seasonal high-water table, depth to bedrock, and the area's susceptibility to flooding. The degree of soil limitation is expressed as slight, moderate, or severe. "Slight" means that the soil properties are generally favorable and that the limitations are minor and easily overcome. "Moderate" means that the limitations can be overcome or alleviated by planning, design, or special maintenance. "Severe" means that soil properties are unfavorable and that the limitation can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures (USDA 1970).

Utilization of Soil Resources

The majority of the soils in the Study Area currently support vegetation favorable for wildlife habitat and recreational activities.

Prime and Unique Farmlands

The Study Area does not include any lands designated as prime farmlands (Southard and Cox 1983). However, there are 11 separate parcels of land under the category of statewide importance adjacent to Huntington North Reservoir. Four parcels are located on the northeast side and are within private ownership. One parcel is located immediately north of Huntington North Reservoir State Park. The other cultivated parcels are scattered around the southern portion of the reservoir. There are no plans for farming any of the land within the Study Area.

Upland Vegetation

The Study Area lies on the border of two ecoregions; areas representing regional ecosystems that are classified using vegetation and climate as indicators (Bailey 1995). The Study Area is on the eastern edge of the Nevada-Utah Mountains Semi-Desert - Coniferous Forest - Alpine Meadow Province and the western portion of the Intermountain Semi-Desert and Desert Province (Bailey 1995). The Nevada-Utah Mountains Semi-Desert - Coniferous Forest - Alpine Meadow zone is characterized by sagebrush (*Artemisia* spp.) dominating the lower elevations. Other important plants in the sagebrush belt include shadscale (*Atriplex confertifolia*), rabbitbrush (*Chrysothamnus albidus*), saltgrass (*Distichlis stricta*), and greasewood (*Sarcobatus vermiculatus*). The Intermountain Semi-Desert and Desert Province is dominated by sagebrush and with other shrubs such as Gambel oak (*Quercus gambelii*). Although sagebrush appears to be the climax species in these areas, some have suggested that it may be more representative of historic overgrazing (Bailey 1995).

The Utah Gap Analysis (Edwards et al. 1995) breaks this region into Utah ecoregions and classifies the Study Area as the Wasatch-Uinta ecoregion. Typically, an ecoregion contains many different vegetation communities that vary depending on existing environmental conditions and historic disturbances such as slope aspect and steepness, soil depth and moisture, temperature, fire, and grazing. The Wasatch-Uinta ecoregion is typically dominated by evergreen sub-desert shrubs but also contains Rocky Mountain flora such as evergreen and deciduous forests, shrubland, and alpine meadows.

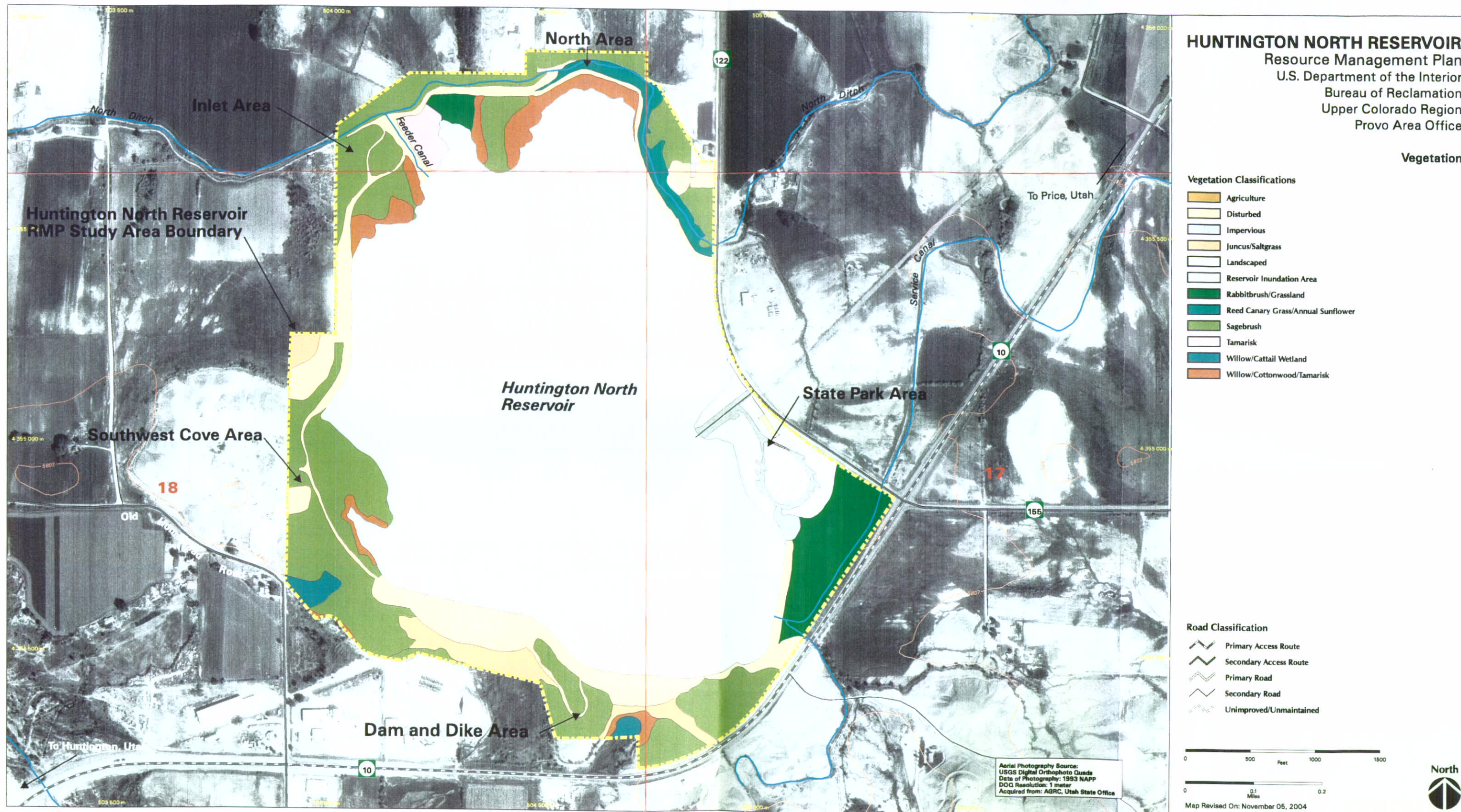
Three upland plant communities in the Study Area are described below, based upon review of the above information and observations made during site visits. The plant communities around the reservoir are unique because of the presence of canals and the reservoir. Other areas include the landscaped/maintained area in the State Park, disturbed areas, impervious areas, and agricultural lands. Some of the plant species found in the upland areas are also present in the riparian-wetland communities, specifically saltgrass, cottonwood (*populus* spp.), tamarisk (*Tamarix ramosissima*), and aster (*Aster* spp.). These plant species, shared by both communities, are more often found in areas that have more moisture. However, they were not present in all riparian-wetland areas within the Study Area. A summary of upland and riparian-wetland plant communities is provided in Table 2-10. Figure 2-6 shows the location of upland and riparian-wetland plant communities within the Study Area.

Table 2-10. Summary of Plant Communities within the Study Area.

PLANT COMMUNITY	HECTARES (ACRES)	PERCENTAGE
Rabbitbrush and Grassland	6.0 hectares (14.9 acres)	4
Sagebrush	18.8 hectares (46.5 acres)	12
Tamarisk	1.3 hectares (3.1 acres)	1
Landscaped/Maintained	4.1 hectares (10.2 acres)	3
Riparian-Wetlands	10.4 hectares (25.7 acres)	7
Disturbed Areas	10.6 hectares (26.1 acres)	7
Impervious Areas	2.1 hectares (5.3 acres)	1
Agricultural Lands	0.3 hectare (0.7 acre)	0
Open Water	98.3 hectares (243.0 acres)	65

Rabbitbrush and Grassland

The rabbitbrush and grassland community, covering a large portion of the Study Area, is dominated by viscid rabbitbrush (*Chrysothamnus viscidiflorus*), smooth brome (*Bromus inermis*), red brome (*Bromus rubens*), and muttongrass (*Poa eatonii*). Other plants in this community include the shrubs black sagebrush (*Artemisia nova*), figwort (*Scrophulariaceae*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and coyote willow (*Salix exigua*) where water was present because of a canal. Some of the grasses found in this community are smooth brome, downy chess (*Bromus tectorum*), foxtail barley (*Hordeum jubatum*), Kentucky bluegrass (*Poa pratensis*), and reedgrass (*Calamagrostis canadensis*) in the moister areas. Common forbs found in this plant community include annual sunflowers (*Helianthus annuus*), and aster.



Sagebrush

The sagebrush community, which covers a large section of the Study Area, is dominated by black sagebrush. Other shrubs in this community are greasewood, rabbitbrush, shadscale, Mormon tea (*Ephedra viridis*), African mustard (*Malacolmia africana*), and prickly pear (*Opuntia fragilis*). Some of the grasses found in this community are fowl bluegrass (*Poa palustris*) and nodding brome (*Bromus anomalus*).

Tamarisk

The tamarisk plant community is found along the shoreline of the reservoir and the drainage basins below the dams. The dominate tree species in this plant community is the cottonwood. The coyote willow and tamarisk are also numerous but concentrated into groupings throughout this plant community. The most prevalent shrubs in the plant community are the rabbitbrush, Wood's rose (*Rosa woodsii*), saltbush (*Atriplex canescens*), summer-cypress (*Kochia scoparia*), and sagebrush. The grasses include juncus, saltgrass, snakeweed (*Gutierrezia microcephala*), and wheatgrass (*Eremopyrum triticeum*). The dominant forb is aster.

Landscaped/Maintained Area

The landscaped/maintained area is located within the State Park Area. The vegetation includes cottonwood, Norway maple (*Acer platanoides L.*), Austrian pine (*Pinus nigra*), poplar (*Populus L.*), Russian olive (*Elaeagnus angustifolia*), mountain ash (*Sorbus hybrida*), bur oak (*Quercus macrocarpa*), and turf areas. This area is irrigated and maintained by the State Park staff.

Disturbed Areas

There are a number of disturbed areas located within the Study Area. The majority are either native-surface roads used for access around the reservoir or parking areas used by visitors accessing the reservoir outside of the State Park Area.

Impervious Areas

The impervious areas within the Study Area are those areas occupied by asphalt roads, parking areas, buildings, and picnic pavilions.

Agriculture Lands

The Study Area is bordered by many agricultural lands, which include two small portions of pasture land on the north side of the reservoir. There is no active farming within these areas.

Noxious Weeds

Under the Federal Noxious Weed Act of 1974, noxious weeds are defined as those plants that are "... of foreign origin, are new to or not widely prevalent in the United States, and can directly or indirectly injure crops, or other useful plants, livestock, or poultry or other interests of agriculture, including irrigation, or navigation, or the fish or wildlife resources of the United States or the public health." Noxious weeds typically have characteristics that enhance their capability to successfully reproduce and spread over long distances. For example, these species often have prolific seed production, the ability to reproduce vegetatively, and highly effective means of seed dispersal (e.g., the presence of hooks or barbs on the seeds enabling them to attach to animal fur, clothing, vehicles, and equipment). Characteristics such as these allow for rapid natural spread into pristine or semi-pristine environments, thus interfering with the species composition, structure, and ecosystem processes of native plant communities.

The State of Utah defines noxious weeds as "... any plant that is especially injurious to public health, crops, livestock, land, or other property." Plants that appear on the Utah Noxious Weed list can be found in Table 2-11. The list of Utah's new and invading potential noxious weeds appears in Table 2-12.

Table 2-11. Noxious weeds in the State of Utah.

SPECIES	COMMON NAME
<i>Acroptilon repens</i>	Russian knapweed
<i>Cardaria</i> spp.	whitetop, hoary cress
<i>Carduus nutans</i>	musk thistle
<i>Centaurea diffusa</i>	diffuse knapweed
<i>Centaurea maculosa</i>	spotted knapweed
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Centaurea squarrosa</i>	squarrosa knapweed
<i>Cirsium arvense</i>	Canada thistle
<i>Convolvulus</i> spp.	bindweed, wild morning glory
<i>Cynodon dactylon</i>	Bermudagrass
<i>Elytrigia repens</i>	quackgrass
<i>Euphorbia esula</i>	leafy spurge
<i>Isatis tinctoria</i>	dyer's woad
<i>Lepidium latifolium</i>	broad-leaved peppergrass, tall whitetop
<i>Lythrum salicaria</i>	purple loosestrife
<i>Onopordum acanthium</i>	Scotch thistle, cotton thistle
<i>Sorghum</i> spp.	Johnsongrass
<i>Taeniatherum caput-medusae</i>	medusahead

Source: State of Utah (2001).

Noxious weeds found in the Study Area include: Russian olive, field bindweed (*Convolvulus arvensis*), spotted knapweed (*Centaurea maculosa*), purple loosestrife (*Lythrum salicaria*), medusahead (*Taeniatherum caput-medusae*), perennial pepperweed (*Lepidium latifolium*), Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), dyer's woad (*Isatis tinctoria*), poison hemlock (*Conium maculatum*), black henbane (*Hyoscyamus niger*), and hoary cress (also called white top) (*Cardaria* spp.). It is possible that other noxious weeds, including submerged vegetation, occur in the Study Area.

Riparian-Wetlands

Riparian-wetlands are defined as those plant communities found in the transition zone between aquatic (water) and terrestrial (land) habitats. Within the Study Area, riparian wetlands occur generally along the shorelines of Huntington North Reservoir, isolated seeps, and along irrigation canals. The mapping and analysis of riparian-wetland plant communities were done concurrently

Table 2-12. New and invading potential noxious weeds in the State of Utah.

SPECIES	COMMON NAME
<i>Abutilon theophrasti</i>	velvetleaf
<i>Aegilops cylindrica</i>	jointed goatgrass
<i>Alhagi camelorum</i>	camelthorn
<i>Centaurea calcitrapa</i>	purple starthistle
<i>Cicuta douglasii</i>	water hemlock
<i>Conium maculatum</i>	poison hemlock
<i>Cyperus esculentus</i>	yellow nutsedge
<i>Galega officinalis</i>	goatsrue
<i>Hyoscyamus niger</i>	black henbane
<i>Hypericum perforatum</i>	St. Johnswort
<i>Linaria dalmatica</i>	Dalmation toadflax
<i>Linaria vulgaris</i>	yellow toadflax
<i>Panicum miliaceum</i>	wild proso millet

Source: State of Utah (2001).

with the mapping and analysis of the upland vegetation. A total of 10.4 hectares (25.7 acres) of riparian-wetlands was delineated within the Study Area (see Table 2-10).

Riparian-wetlands are limited in both their areal cover and distribution within the Study Area (see Figure 2-6). Occurring primarily in isolated areas associated with inflows and/or bays along the reservoir's shoreline, riparian-wetlands are limited as a result of the wide, seasonal fluctuation in the reservoir's water levels and soil constraints. The majority of the shoreline does not support significant riparian-wetland habitat. It also appears that riparian-wetlands occur primarily below the ordinary high-water mark of the reservoir. In general, riparian-wetlands surrounding Huntington North Reservoir appear to be sparse and of poor quality.

Riparian-wetlands increase in both areal cover and distribution nearer the inlet, which appears to be the largest area of riparian-wetlands in the Study Area. There is also an isolated bay near the west end of the reservoir that contains a disjunct band of willows along the shore. The area east of the inflow and above the ordinary high-water mark has developed a scrub-shrub/forested wetland likely caused by formation of a delta from the deposition of upstream sediment. Further south, the shore appears to have a gentler topography, thus facilitating an scrub-shrub/forested wetland habitat and a riparian-wetland that extends into portions of the open water.

All of the riparian-wetlands along the shoreline appear to have similar vegetative composition. The dominant tree species is cottonwood. The scrub-shrub community consists of mostly coyote willow and tamarisk with mixed herbaceous ground cover. Emergent vegetation typically occurs below the ordinary high-water mark.

Outside of the reservoir's shorelines, small wetlands are found within the Study Area associated with irrigation ditches and seeps. Vegetative composition within these areas is primarily the same vegetation in varying dominance. The wettest portions of the seep areas tend to be dominated by wire grass (*Juncus* sp.) and saltgrass transitioning to rabbitbrush communities along the borders. One small isolated seep has become dominated by tamarisk. Along the North Ditch, sporadic vegetation cover is dominated by reed canary grass (*Phalaris arundinacea*) and annual sunflowers.

In general terms, riparian-wetlands can potentially support many important ecological functions, such as providing habitat for fish and wildlife, improving water quality by filtering sediment and nutrients from upland runoff, providing shoreline and streambank stabilization, and providing recreational opportunities (e.g., wildlife viewing).

The highest quality wetland found during the site visit actually lies immediately outside of the project boundary, in the area immediately south of the dam (see Figure 2-6). This approximate 4-hectare (10-acre) site has been proposed as a possible donation to Huntington State Park or Reclamation. This area appears to be a remnant of a historically larger wetland complex that has been greatly impacted by previous development. A portion of the area is dominated by cattail and willow. The perimeter, which is slightly less wet, is becoming gradually dominated by saltgrass and wiregrass.

The following is a description of the riparian-wetland plant communities that occur within the Study Area. Some of the many plant species found in the Study Area will be common to both upland and riparian-wetland plant communities. These species include: cottonwood, tamarisk, saltgrass, and aster.

Juncus/Saltgrass

The *Juncus/Saltgrass* Plant Community is found on lower elevations where water tends to collect and stand. Rabbitbrush is the dominant shrub. Grasses in this plant community include reed canary grass, saltgrass, wheatgrass, muttongrass, juncus, and foxtail barley. Forbs in these areas include aster.

Willow/Cottonwood/Tamarisk

The *Willow/Cottonwood/Tamarisk* Plant Community is found along the shore line of the reservoir and the drainage basins below the dams. The dominate tree in the plant community is cottonwood. Coyote willow and tamarisk are also numerous but concentrated into groupings throughout this plant community. The most prevalent shrubs in the plant community are rabbitbrush, Wood's rose, saltbush, summer-cypress, and sagebrush. The grasses include saltgrass, wheatgrass, juncus, and snakeweed. The dominant forb is aster.

Reed Canary Grass/Annual Sunflower

The *Reed Canary Grass/Annual Sunflower* Plant Community is influenced by the open canal flowing into the Study Area. The canal has been recently dredged, and the plants inhabiting the banks include field bindweed, spotted knapweed, purple loosestrife, perennial pepperweed, Canada thistle, musk thistle, poison hemlock, hoary cress, reed canary grass, and annual sunflower. This plant community would not exist without the moisture provided by the irrigation canals throughout the year.

Wildlife

Wildlife of interest to State and Federal agencies and the general public in the Study Area include special status species (Federal and State threatened and endangered species and other species of concern), big game, raptors, waterfowl, and general wildlife populations. Wildlife viewing opportunities, big game/vehicle conflicts, presence of nuisance wildlife species, and the effect of reservoir uses on wildlife habitats are also concerns in the Study Area.

General Habitat

The majority of the wildlife habitat in the Study Area is composed of upland plant communities (e.g., sagebrush and rabbitbrush/grassland). The upland vegetation types are highly fragmented by roads and recreational facilities. Nevertheless, they are important to a wide range of wildlife including rodents, big game, lizards, snakes, upland game birds, raptors, and songbirds.

Riparian-wetland plant communities (e.g., juncus/saltgrass, reed canary grass/annual sunflower, willow/cottonwood/tamarisk) comprise a smaller percentage of the wildlife habitat in the Study Area. Riparian-wetland vegetation types are primarily located along the shorelines and within tributary inflow areas of Huntington North Reservoir. Despite the limited amount of riparian-wetland vegetation types and fragmented nature, these habitats substantially add to the biological diversity of the Study Area by attracting a diverse assemblage of wildlife species that otherwise would not occur. Riparian-wetland habitats are considered a limited resource in the surrounding arid environment, and yet they are used by a number of waterfowl, shorebirds, passerines, and amphibians. Figure 2-7 shows the location of these important wildlife habitat areas. Detailed descriptions of the upland and riparian-wetland vegetation types are presented in the Upland Vegetation and Riparian-Wetlands sections.

In general, wildlife in the Study Area are adversely affected by recreational use and water management. In particular, recreational use degrades habitat conditions and causes disturbance to and displacement of wildlife. Camping, picnicking, and boating occur throughout the Study Area. Wide-spread recreational use of the Study Area results in trampling and fragmentation of habitat. In addition, disturbance associated with campers, boats, and vehicular traffic increases stress to some wildlife that are intolerant of human presence, such as nesting birds. Depending on the level of disturbance, some species may be displaced from the Study Area or to adjacent habitats.

The fluctuating water levels in Huntington North Reservoir affect wildlife in a number of ways. For instance, when water levels are low, species that prefer mudflats and shallow water, such as shorebirds, benefit by having available habitat and prey. However, low water levels also cause riparian-wetland habitats to be a greater distance from the water, and thereby result in habitat of reduced value. When water levels are raised during the breeding season, nesting and roosting sites may become flooded. Fish spawning areas, a source of food for many waterfowl, also vary with the changing water levels. The greatest adverse effect to wildlife from fluctuating water levels is related to shore scouring that prevents vegetation from becoming established and limits bankside vegetation in some areas. This reduces the overall amount of available habitat for some species and makes the water inaccessible where the erosion has resulted in steep cut banks.

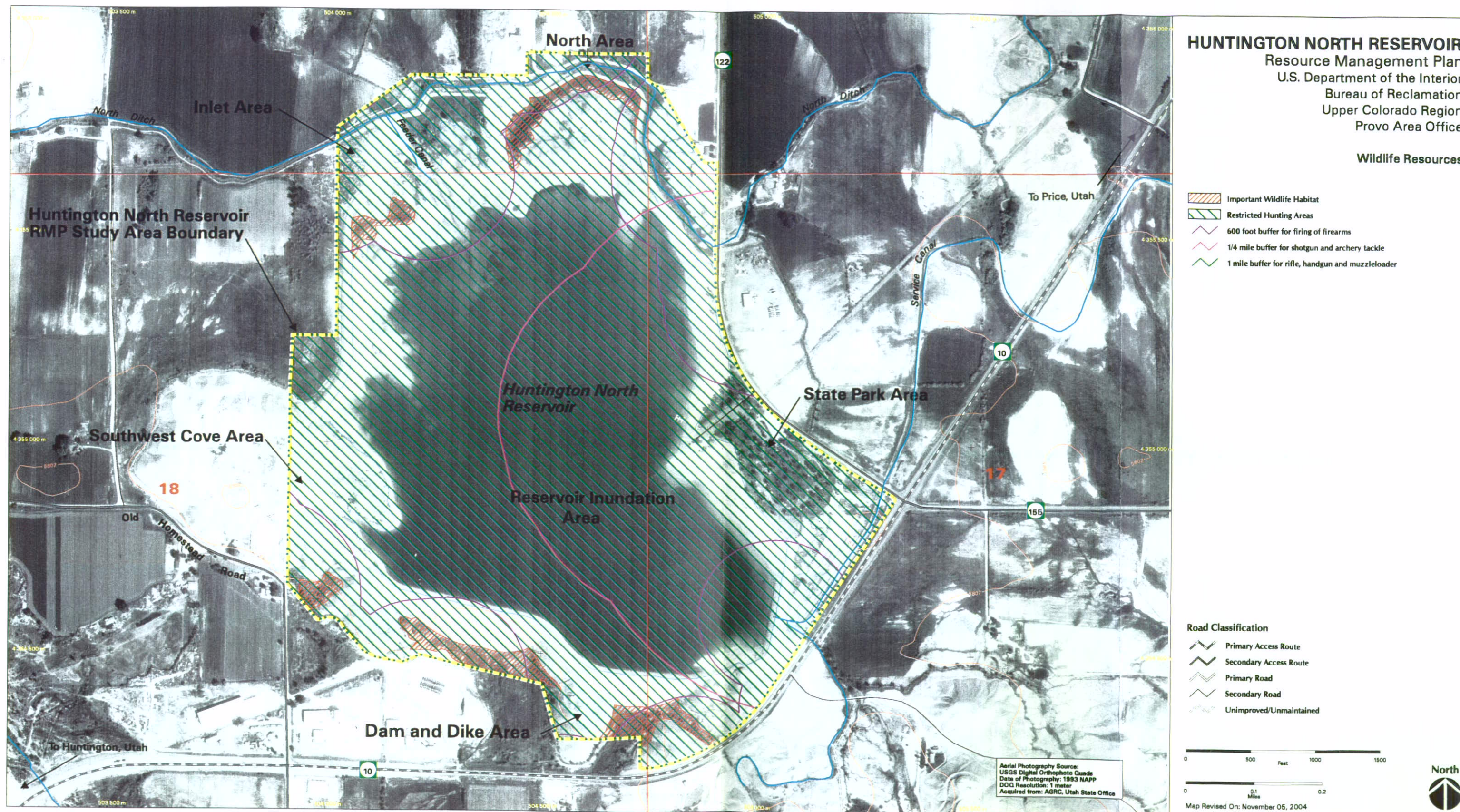


Figure 2-7. Huntington North Reservoir Resource Management Plan (RMP) Study Area wildlife resources map.

Birds

Huntington North Reservoir receives a great deal of bird use during all seasons of the year because of the presence of a complex of open water, riparian-wetland, and upland habitats. This complex provides resources required by shorebirds and waterfowl such as food items (e.g., fish, macroinvertebrates, emergent vegetation), sites to loaf and rest, protective cover, nest material, and secluded nesting areas. Such resources are directly associated with riparian-wetland vegetation types that are larger than 0.4 hectare (1.0 acre) in size and are generally located in inflow areas in the northern and southern end of Huntington North Reservoir. The quality of the habitat for waterfowl and shorebirds is influenced by the high degree of disturbance resulting from recreational use and fluctuating water levels. Currently, hunting for waterfowl is allowed within certain portions of the Study Area between November and January (see Figure 2-7).

Raptors, such as red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), and American kestrel (*Falco sparverius*), likely occur throughout the Study Area. The upland areas provide an abundance of small mammal prey including deer mouse (*Peromyscus maniculatus*) and gophers (*Thomomys* spp.). However, few roosting and nesting sites are available for raptors.

Habitat for most songbirds is associated with the riparian-wetland areas with dense growth and complex vertical structure. These areas support nesting, migrating, and wintering populations of songbirds and provide nesting sites, protective cover from weather and predators, and prey items (e.g., seeds, plant material, insects).

Mammals

Mammals, including rodents and big game, inhabit all vegetation types in the Study Area. The Study Area also likely supports a high number of bat species because of the availability of a stable insect prey source associated with the reservoir and riparian-wetland habitats.

Herpetofauna

Suitable habitats for amphibians include riparian-wetland habitats and the reservoir. Reptiles, such as gopher snakes (*Pituophis melanoleucus*) and prairie rattlesnakes (*Crotalus viridis*), likely occur throughout the Study Area in the upland and riparian-wetland habitats. Several species of garter snakes (*Thamnophis* spp.) are also likely present.

Fisheries

Huntington North Reservoir provides a year-round fishery in central Utah for both warm water and cold water species. There is also a cold water fishery upstream of this off-channel reservoir in Huntington Creek.

Fish assemblages for Huntington North Reservoir and Huntington Creek have varied historically but currently contain 12 species of fish representing six families (Table 2-13). Currently, the reservoir is managed as a two-story fishery with cold water and warm water game species. The cold water portion consists of rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), cutthroat trout (*Oncorhynchus clarki*), and tiger trout (*Salmo trutta* x *Salvelinus fontinalis*); and the warm water portion consists of largemouth bass (*Micropterus salmoides*), channel catfish (*Ictalurus punctatus*), green sunfish (*Lepomis cyanellus*), and bluegill (*Lepomis macrochirus*). Bag and possession limits for both Huntington North Reservoir and Huntington Creek are shown in Table 2-14.

Table 2-13. Fish species occurring in Huntington North Reservoir and Huntington Creek within the Study Area.

COMMON NAME (SCIENTIFIC NAME)	HUNTINGTON NORTH RESERVOIR	HUNTINGTON CREEK
Family <i>Cyprinidae</i> – carp and minnow		
Utah chub (<i>Gila atraria</i>)	✓	-
Speckled dace (<i>Rhinichthys osculus</i>)	-	✓
Family <i>Catostomidae</i> – suckers		
Bluehead sucker (<i>Catostomus discobolus</i>)	✓	✓
Family <i>Ictaluridae</i> – catfishes		
Channel catfish (<i>Ictalurus punctatus</i>)	✓	-
Family <i>Salmonidae</i> – trout		
Brown trout (<i>Salmo trutta</i>)	✓	✓
Cutthroat trout (<i>Oncorhynchus clarki</i> ssp.)	✓	✓
Rainbow trout (<i>Oncorhynchus mykiss</i>)	✓	✓
Tiger trout (<i>Salmo trutta</i> x <i>Salvelinus fontinalis</i>)	✓	-
Family <i>Cottidae</i>		
Mottled sculpin (<i>Cottus bairdi</i>)	-	✓
Family <i>Centrarchidae</i> – sunfishes		
Bluegill (<i>Lepomis macrochirus</i>)	✓	-
Largemouth bass (<i>Micropterus salmoides</i>)	✓	-
Green sunfish (<i>Lepomis cyanellus</i>)	✓	-

Source: Berg (2001, pers. comm.).

Table 2-14. Daily bag and size limits for sportfish in Huntington North Reservoir and Huntington Creek.

SPECIES	HUNTINGTON NORTH RESERVOIR	HUNTINGTON CREEK
Bluegill and green sunfish ^a	50 in aggregate	-
Channel catfish ^a	8	-
Largemouth bass	2 (all bass over 12 inches must be immediately released)	-
Trout and trout hybrids in aggregate ^a	4	4

Source: UDWR (2002a).

^a No minimum or maximum size limit.

Huntington North Reservoir

Huntington North Reservoir has approximately 6,685,461 cubic meters (5,420 acre-feet) of storage, a surface area of 98 hectares (242 acres), and a maximum depth of approximately 16.9 meters (55.8 feet) at full-pool elevation. The shoreline has intermixed vegetated and nonvegetated slopes, in addition to a few areas that have been stabilized with riprap or a cement wall. The sparsely vegetated southwest shoreline is comprised of cottonwood and bare cobble, and likely provides limited cover to fish in various life stages during periods of higher-water levels. However, as water levels decrease, shoreline vegetation close to the high-water level provides little cover for fish along the shoreline.

The entire south and east shores of the reservoir are riprapped and nonvegetated but likely provide a relatively high amount of interstitial holding cover for larval, juvenile, and smaller-sized adult fishes. Aside from deep-water habitat, this area of Huntington North Reservoir likely provides the majority of fisheries habitat at mid- to low-water levels. Habitat along the remainder of the reservoir (i.e., the east and north shores) is comprised primarily of sand and silt with a small amount of cobble present closer to the high-water line. By themselves, these areas likely provide limited habitat to fish species at any life stage but are good areas for aquatic vegetation to develop, thereby providing potential feed areas and habitat for larval and juvenile fish as well as crayfish (a prey species of largemouth bass).

Water quality problems relative to the fishery of Huntington North Reservoir are similar to other shallow Utah reservoirs that are supplied with water affected by transport in natural earthen ditches. Water diverted from Huntington Creek is relatively low in turbidity before it enters a canal for transport to Huntington North Reservoir. Once in this canal, turbidity is sharply increased from irrigation return flows into the canal prior to the water entering the reservoir. Also, because the canal is unlined, turbidity is increased from the natural material comprising the bottom and sides of the canal (P. Abate 2001, pers. observation). Although turbidity does not directly affect the function of the Huntington North Reservoir fishery, it is some indication that excessive amount of nutrients are entering the reservoir.

Although the Utah State fishery biologist for Huntington North Reservoir indicated that nuisance algal blooms are not a problem, rainbow trout stocking is conducted only during the fall when reservoir water temperatures are lower and low dissolved oxygen levels are not a problem (L. Berg 2001, pers. comm.). Increased nutrient levels have likely resulted in accelerated eutrophication, providing increased amounts of nutrients for excessive aquatic vegetation to grow during summer months. Eventually these excessive amounts of aquatic vegetation are deposited on the bottom of the reservoir. Decomposition of this material then causes low dissolved oxygen levels as microbes uptake available oxygen.

One of the most recent fish health and water quality issues facing waters in the State of Utah is contamination by the parasite *Myxobolus cerebralis*. This parasite causes whirling disease in some salmonid species and has recently been found in numerous drainages throughout the western United States. The parasite infects salmonids at the young-of-the-year life stage and usually has no effect on adult salmonids or non-salmonid species. If infected, young fish can develop skeletal deformations and other developmental problems that often result in death. Fortunately, whirling disease is currently not a problem in the Huntington Creek drainage or southeastern Utah (L. Berg 2001, pers. comm.).

The Statewide Aquatic Habitat Classification System is used to rate stream sections and bodies of water according to aesthetics, availability, and productivity. Ratings for these categories are then totaled, weighed, and given a numerical rating of 1-6. Huntington North Reservoir has been classified as a Class 3 body of water (L. Berg 2001, pers. comm.). A brief description of each class is as follows:

- ▶ **Class 1** waters are blue ribbon trout streams of the state that possess excellent productivity that supports large fish populations.
- ▶ **Class 2** waters also provide excellent fishing but are lacking in one category. Many of these waters are comparable with Class 1 waters, except they are smaller in size. Water fluctuations may differentiate these waters from Class 1 streams.
- ▶ **Class 3** waters are very important because they comprise about half of the total stream fishery habitat and support the majority of recreational fishing opportunities in Utah.
- ▶ **Class 4** waters are usually poor in quality with limited fishery habitat. These waters are usually small and have poor scenic value with a short growing season. Drawdown or dewatering may occur. Stocking of catchable sized fish is required to maintain a fishery.
- ▶ **Class 5** waters are of little value to the sport fishery because of the degradation of the natural environment from human development. A long-term sport fishery cannot be established by natural or artificial means.
- ▶ **Class 6** waters are streams that are dewatered for a significant period each year.

Sport species in Utah water bodies are given a management classification in addition to the aquatic habitat classification. The management classification denotes how a species or group of species is managed relative to fishing pressure, fish production of the system, and presence of wild fish, species of special concern, or trophy fishery conditions. Huntington North Reservoir is managed with an Intensive Yield classification for rainbow trout and a Wildfish Water classification for all other species. (L. Berg 2001, pers. comm.). Intensive Yield Waters are those that provide fishing opportunities in areas where angling pressure is extensive or where habitat is marginal for fishery success. Wildfish Waters are those that can be naturally sustained with the fish species and habitat that are presently in the system. The fishery or fish species is maintained exclusively via natural reproduction (UDWR 2000).

Huntington North Reservoir was managed primarily as a rainbow trout fishery from the 1960s through the mid 1980s. During the late 1970s and early 1980s, warm water species such as largemouth bass, channel catfish, bluegill, and green sunfish were stocked to provide fish that could survive in the low dissolved oxygen levels and warmer water temperatures of summer (UDWR 2001). Currently, largemouth bass, channel catfish, bluegill, and green sunfish are managed as self-sustaining populations. Rainbow trout (25 centimeter [10 inch]) are stocked in the fall at the rate of about 5,000 per year (L. Berg 2001, pers. comm.). One area of concern that exists with the current Huntington North Reservoir management situation is the entrainment of fish into the outflowing Service Canal. Observation of the outflow of the canal during October 2001 found several hundred fingerling-sized fish in a pool at the beginning of the Service Canal.

At the time of observation it was unclear exactly what the species these fish were; however, judging by their size and behavior they were likely Utah chub (*Gila atraria*) and bluehead sucker (*Catostomus discobolus*) (P. Abate 2001, pers. observation). Regardless of the species being lost into the delivery canal, this is an area of concern and should receive further investigation in order to prevent future fish losses.

Huntington Creek

Although Huntington Creek is not in the Study Area, it is directly affected by its diversion into Huntington North Reservoir. Currently, the section of Huntington Creek from the Huntington North Reservoir diversion upstream to the confluence of the Left and Right Forks of Huntington Creek is managed as a Class 3 stream with a Basic Yield management classification for rainbow trout and Wildfish management classification for brown and cutthroat trout. Of particular concern to the fishery in this section of stream is loss of fish into the diversion canal. Currently, there is no barrier or screen to prevent fish entrainment into the canal and no minimum stream flow required in Huntington Creek below the diversion. Bluehead sucker is a Utah state species of special concern because of population declines, and Colorado River cutthroat trout (*Salmo clarki pleuriticus*) are a State conservation species. Collections from electrofishing surveys of this section of river have included bluehead sucker and a presently unknown subspecies of cutthroat trout.

Threatened, Endangered, and Other Special Status Species

The protection of Federally listed threatened and endangered species is mandated by the ESA. In compliance with the ESA, a list of Federally listed, proposed, and candidate species that potentially occur in or near the Study Area has been received from the USFWS (USFWS 2002). In addition, the UDWR provided a list of species that are of concern to the State of Utah (UDWR 2002b). The potential for each of these species to occur within the Study Area was assessed based on range distribution and habitat requirements. Threatened, endangered, and other special status animal species identified as potentially occurring in the Study Area are summarized in Table 2-15.

Wildlife

Species listed in Table 2-15 that are known or suspected to occur within or near the Study Area are discussed below. Although Mexican spotted owl (*Strix occidentalis lucida*) was noted by the USFWS as potentially occurring in the Study Area, suitable habitat (i.e., mature coniferous forests, cliff areas) is not present. Similarly, the black-footed ferret (*Mustela nigripes*) is listed as an endangered species in Emery County and is listed only because portions of Emery County were part of its historical range. There are presently no black-footed ferrets in Emery County and there is no suitable habitat or prey base for black-footed ferret within the Study Area.

Bald eagle (*Haliaeetus leucocephalus*) and ferruginous hawk (*Buteo regalis*) are known to nest within Emery County (UDWR 2002b, USFWS 2002). However, suitable nesting habitat within the Study Area is extremely limited for these species. Occurrences would be temporary and infrequent due to recreational use of the area and lack of suitable habitat.

Table 2-15. Federal and State listed threatened, endangered, and other special status species that potentially occur near Huntington North Reservoir, Emery County, Utah.

COMMON NAME (SCIENTIFIC NAME)	USFWS STATUS ^a	UDWR STATUS ^b
Birds		
Bald eagle (<i>Haliaeetus leucocephalus</i>)	T ^c	S-ESA ^d
Ferruginous hawk (<i>Buteo regalis</i>)	--	SPC ^e
Mexican spotted owl (<i>Strix Occidentalis Lucida</i>)	T	S-ESA
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E ^f	S-ESA
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	C ^g	S-ESA
Mammals		
Black-footed ferret (<i>Mustela nigripes</i>)	E Extirpated ^h	S-ESA
Fish		
Bluehead sucker (<i>Catostomus discobolus</i>)	--	CS ⁱ
Bonytail (<i>Gila elegans</i>)	E	S-ESA
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	E	S-ESA
Colorado River cutthroat trout (<i>Salmo clarki pleuriticus</i>)	--	SPC
Flannelmouth sucker (<i>Catostomus latipinnis</i>)	--	CS
Humpback chub (<i>Gila cypha</i>)	E	S-ESA
Razorback sucker (<i>Xyrauchen texanus</i>)	E	S-ESA
Roundtail chub (<i>Gila robusta</i>)	--	CS
Plants		
Bameby reed-mustard (<i>Schoenocrambe bamebyi</i>)	E	Rare ^j , G1 ^k /S1 ^l
Jones' cycladenia (<i>Cycladenia humilis var jonesii</i>)	T	Rare, G2 ^m /S2 ⁿ
Last chance townsendia (<i>Townsendia aprica</i>)	T	Rare, G1/S1
Maguire daisy (<i>Erigeron maguirei</i>)	T	Rare, G2/S2
Marcus Jones' beardtongue (<i>Penstemon marcusii</i>)	--	Rare, G1G2/S1S2
San Rafael cactus (<i>Pediocactus despainii</i>)	E	Rare, G2/S2
Winkler pincushion cactus (<i>Pediocactus winkleri</i>)	T	Rare, G1/S1
Wright fishhook cactus (<i>Sclerocactus wrightiae</i>)	E	Rare, G2/S2

^a USFWS = Listed by the U.S. Fish and Wildlife Service.

^b UDWR = Listed by the Utah Department of Wildlife Resources.

^c T = Threatened.

^d S-ESA = Federally listed or candidate species under the Endangered Species Act.

^e SPC = Species of Concern because of declining populations.

^f E = Endangered.

^g C = Candidate.

^h E Extirpated = Endangered and extirpated from Utah.

ⁱ CS = Species requiring special management under a Conservation Agreement.

^j Rare = Plants with known or suspected viability concern.

^k G1 = Extreme rarity (five or fewer populations) worldwide.

^l S1 = Extreme rarity (five or fewer populations) within Utah.

^m G2 = Rarity or other factors making the species very vulnerable to extinction or extirpation (6-20 populations) worldwide.

ⁿ S2 = Rarity or other factors making the species very vulnerable to extinction or extirpation (6-20 populations) within Utah.

The southwestern willow flycatcher (*Empidonax traillii extimus*) is Federally listed as an endangered species. It breeds in the southwestern United States but is currently very rare throughout its range. Portions of its range occur within the south and eastern parts of Emery County. Its presence and occurrence in Utah is rare and it typically can only be found in Southern Utah during the summer months on lower elevation riparian/riverine corridors. It is most typically found in dense riparian habitats, especially in areas of dense willow or tamarisk. It is highly unlikely that the southwestern willow flycatcher would be found within the Study Area. Occurrences would be rare because of unsuitable habitat, higher elevations, and higher latitudes.

Habitat for the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is characterized by dense lowland riparian areas with a dense sub-canopy of shrubs. These birds nest in lower to mid elevations from 750-1,820 meters (2,500-6,000 feet) and typically require large, 40-80-hectare (100-200-acre) tracts of contiguous riparian habitat for nesting. It is unlikely that the western yellow-billed cuckoo would nest within the Study Area. Occurrences would be temporary and infrequent because of recreational use and lack of suitable habitat.

Fish

Four endangered "big river" fishes, Colorado pikeminnow (*Ptychocheilus lucius*), bonytail (*Gila elegans*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*) inhabit the Green River near the mouth of the San Rafael River in Emery County (UDWR 2002b). None of these species are known to inhabit small, headwater streams like Huntington Creek, but may be found in the mouth of the San Rafael River.

State-sensitive fish species known to have historically occurred in the Huntington drainage basin include bluehead sucker, flannelmouth sucker (*Catostomus latipinnis*), and roundtail chub (*Gila robusta*) (UDWR 2002b). Currently, bluehead sucker can be found in the Huntington North Reservoir, and flannelmouth sucker likely occur incidentally upstream of the reservoir diversion structure and downstream of the reservoir where sufficient instream flow and habitat exist. Roundtail chub, which currently occur in the San Rafael River, were likely found in the lower portion of Huntington Creek on a historical basis. Roundtail chub are not currently found in Huntington North Reservoir or Huntington Creek (L. Berg 2002, pers. comm.).

The Colorado River cutthroat trout (*Salmo clarki pleuriticus*) is listed by the State of Utah as a "conservation species." The State of Utah, in cooperation with the USFWS and other Federal, State, and local agencies, has developed a Conservation Agreement and Strategy for Colorado River Cutthroat Trout in Utah (Lentsch et al. 1997). This agreement is in accordance with guidelines contained in the ESA and those established by the USFWS Ecological Services. This cooperative, voluntary agreement is designed to identify threats to Colorado River cutthroat trout that may warrant Federal listing, determine actions necessary to minimize these threats, and present a schedule for implementation of these actions.

Current Colorado River cutthroat trout populations are primarily restricted to headwaters (i.e., first-order streams). This is usually more reflective of habitat refuge rather than habitat preference, and this is the situation with Huntington Creek. Currently, Colorado River cutthroat trout are known to reside in the tributaries of Huntington Creek; however, none are known to

reside in the lower portion of Huntington Creek or Huntington North Reservoir (L. Berg 2001, pers. comm.).

Plants

Central Utah is home to many plant species that are not found anywhere else in the world. Several of these endemic plants are listed by the USFWS and the State of Utah as threatened, endangered, or rare. Eight species have been identified by the USFWS as occurring within the general region of the Study Area, namely Emery County (UDWR 2002b). One species, Marcus Jones' beardtongue (*Penstemon marcusii*), is known to occur in the Study Area (UDWR 2002b) and was found during a rare plant survey conducted as part of this RMP process. Suitable habitat for another plant, Wright fishhook cactus (*Sclerocactus wrightiae*) exists in the Study Area, and a single living plant was tentatively found. However, the plant can be positively identified by floral characteristic only visible during the plant's flowering period in the early spring, and the survey was conducted in the fall. There is suitable habitat in the Study Area for two other plant species, Jones' cycladenia (*Cycladenia humilis var jonesii*) and last chance townsendia (*Townsendia aprica*), but these have not been found in the Study Area during any previous plant surveys. However, a rare plant survey for these species was also conducted as part of the RMP process. The other four species have no suitable habitat in the Study Area.

Barneby reed-mustard (*Schoenocrambe barnebyi*) is a Federally listed endangered herbaceous perennial plant that is currently known only from two populations in Emery and Wayne County, Utah (Ecosphere 1992, Welsh et al. 1993). This plant has a woody base, rather showy white- or lilac-colored flowers, and is found on gypsum-rich soils on or near the contact between the Moenkopi and Chinle geologic formations (Welsh et al. 1993). Barneby reed-mustard is found on steep, north-northeast facing slopes. Habitat for this species does not exist within the Study Area.

Jones' cycladenia is a Federally listed threatened plant found only in the canyon lands of the Colorado Plateau in Emery County, Garfield County, Grand County, and Kane County, Utah, as well as in the immediately adjacent Coconino County, Arizona (Spence 1994). This rhizomatous herbaceous perennial has succulent basal leaves and hairy, pink flowers that are small but showy (Welsh et al. 1993). It is found on saline clay soils and gypsum-rich substrates from members of the Chinle, Cutler, and Summerville geologic formations (Sipes et al. 1994). Suitable Jones' cycladenia habitat as we currently know it does not occur in the Study Area. However, because the species has fairly broad habitat requirements, it was included in the rare plant survey.

Last chance townsendia is a Federally listed threatened plant that occurs in Emery County, Sevier County, and Wayne County, Utah. It is found in clay, clay-silt, or gravelly clay soils derived from the Mancos Formation; these soils are often densely covered with biological soil crusts (Armstrong and Thorne 1991, UDWR 2002b). The species grows in salt desert shrub and pinyon-juniper communities at elevations ranging from 1,686 to 2,560 meters (5,532 to 8,400 feet). Habitat for this species occurs in the Study Area and it was, therefore, included in the rare plant survey.

Maguire daisy (*Erigeron maguirei*) is a Federally listed threatened plant that occurs in Emery County, Garfield County, and Wayne County, Utah. It is an herbaceous perennial with a woody base. The petal color ranges from white to pink, while the foliage is densely covered with hairs spread along the leaf surface. Maguire daisy grows on the sand and detritus weathered from Navajo sandstone and, rarely, the Kayenta Formation. It is found in slickrock crevices, on ledges, and at the bottom of washes at elevations ranging from 1,600 to 2,500 meters (5,250 to 8,200 feet) (Cronquist 1994). Habitat for this species does not occur in the Study Area.

Marcus Jones' beardtongue is not listed as endangered or threatened by the Federal government; however, it is listed as rare by the State of Utah. One population of this species has been reported in the Study Area, but the exact location of this population was not recorded (UDWR 2002c). This plant was found on the Study Area during the fall plant survey conducted as part of the RMP process. This perennial herbaceous plant is 12-26 centimeters (5-10 inches) tall, with three to five violet to lilac flowers with darker purple striping per stem. The species is found mainly in Castle Valley, an area stretching from Price to Emery, Utah (Welsh et al. 1987, Welsh et al. 1993). Marcus Jones' beardtongue is found on clay and silty soils derived from Mancos Shale, usually with surface gravels in desert scrub- and juniper-dominated plant communities (UDWR 1998).

San Rafael cactus (*Pediocactus despainii*) is a Federally listed endangered plant that occurs in Emery County, Utah, mainly in the San Rafael Swell area near the Wedge Overlook, within 20 miles of the Study Area. This cactus is small and has a solitary stem at or near ground level (USFWS 1995). The flowers, which bloom in April or May, are showy and yellowish bronze or pink. San Rafael cactus is found on limestone gravels of the Carmel Formation, the Sinbad Member of the Moenkopi Formation, and the Brushy Basin Member of the Morrison Formation (on shale barrens) (UDWR 2002b, Welsh et al. 1993). The species occurs in association with juniper and pinyon pine woodlands. No habitat for this species occurs in the Study Area.

Winkler pincushion cactus (*Pediocactus winkleri*) is a Federally listed threatened plant that occurs in extreme southwestern Emery County and Wayne County, Utah. This cactus is small, has solitary or a few multiple stems, blooms in March to May, and has pink or peach flowers. It is found on fine-textured soils derived from the Dakota Formation and the Brushy Basin Member of the Morrison Formation. Winkler pincushion cactus grows in areas associated with open salt desert scrub vegetation on mesas, benches, and gentle slopes (UDWR 2002b, USFWS 1995). No habitat for this species occurs in the Study Area.

Wright fishhook cactus is a Federally listed endangered plant that occurs in Emery County, Sevier County, and Wayne County, Utah. This cactus is 6-12 centimeters (2-5 inches) tall and has a single, hemispherical ribbed stem (Welsh et al. 1993). The nearly white to pink flowers bloom late April through May (Welsh et al. 1993). It is mostly found on clay to sandy silt soils, usually with well developed biologic soil crusts (USFWS 1985, Neese 1987). It has a fairly wide elevational range and occurs in areas of salt desert scrub to pinyon and juniper pine woodland. During the rare plant survey, conducted as part of the RMP process, a single specimen was found that may be Wright fishhook cactus. However, this species can only be distinguished from Whipple's fishhook cactus (*Sclerocactus whipplei*) by a floral characteristic visible only during the early spring flowering period, and the rare plant survey was conducted in the fall. Numerous cactus skeletons were also found that may have been Wright's fishhook

cactus. A report was given to the interagency botanist at Capitol Reef National Park, who will examine the plant in the spring of 2005.

Cultural Resources

The following is a summarized historic and cultural resource overview of Emery County and the immediate Study Area. For more information on the prehistoric and historic cultural past of central Utah and the region, please see *A Cultural and Paleontological Resource Overview and Intensive Level Survey of Huntington North Reservoir* (Sagebrush 2002).

Historic Overview of Emery County

In 1855 members of the Huntington Exploration Party traveled through Emery County on their way to establish the Elk Mountain Mission settlement at Moab, Utah. Oliver Huntington led the expedition, which included his two brothers William and Dimmick. After passing through Castle Valley again and exploring Huntington Creek a year or two later, they named the stream and the canyon after themselves (Howell and Peterson 1986, Montgomery 1990). Prior to 1875 most explorers and travelers had the same impression of Castle Valley, describing it with words like "bare . . . forlorn . . . desolate . . . awful . . . unpromising . . . rough . . . and repulsive" (Geary 1998).

Colonization of the Huntington area did not begin until 1874, when several stockmen from Tooele County visited Castle Valley in search of winter rangeland. The following spring, James McHadden and Leander Lemmon returned with Bill Gentry and Alfred Starr. They lived in dugouts and began to irrigate the area along Huntington Creek. The following year, more stockmen arrived in Castle Valley with their families and herds of sheep and horses (Geary 1996). Their establishments attracted attention in the years to follow, prompting more to take up homesteads in what would become the settlements of Huntington, Castle Dale, Ferron, and Orangeville. Emery County was officially established in 1880 and named in honor of George W. Emery, territorial governor of Utah from 1875 to 1880.

Mormon pioneers originally resisted settlement of the Castle Valley region. With the high Wasatch Range to the east, high plateaus to the west and north, and other mountains to the south, the valley was quite isolated and inaccessible. Reports of infertile soils and insufficient water sources also limited colonization initially, as did the presence of inhospitable Indians. On August 22, 1877, Brigham Young requested that at least 50 families relocate to the Castle Valley area (Geary 1996). This would be the final directive by Brigham Young. He became ill the next day and died 1 week later on August 29 (Geary 1998).

Responding to that call, a group under the leadership of Bishop Orange Seely of the Mount Pleasant North Ward arrived in November 1877. A second group that included William Avery, John and Elias H. Cox, and Heber and Benjamin Jones, among others, arrived the next month (Beckstead 1990, Geary 1998).

Realizing the potential of Huntington Creek and the overwhelming need for water, these settlers dug the first irrigation ditches that would water the Huntington town site. The McHadden Ditch was the first ditch completed in 1875. The second ditch was named Avery Ditch, while the third was known as Wakefield Ditch. In 1884 these three ditches were widened, deepened, and connected to form the Huntington Canal. Together with three extensions, Field Ditch, Town

Ditch, and Starvation Ditch, the irrigation problems of Huntington were somewhat alleviated (NRHP 1991). Agriculture and farming became the early economic foundation of Emery County.

By 1883 the Denver and Rio Grande Western Railroad Company (D&RGW) had created a route passing through Emery County (Robertson 1986). The county residents, who had been struggling for economic security, were now offered a break. The recently established coal mines of Carbon County became accessible employment opportunities, with many men commuting to work in Scofield, Castle Gate, and Sunnyside via train. The railroad provided an efficient route for transporting the coal and ores to outside markets, and the increasing numbers of miners required to meet the demands of consumers. Miners and their families who immigrated into the region needed commodities such as fruits, vegetables, meats, butter, eggs, and honey, creating a market where local farmers could sell their goods. Ranchers were now able to transport their livestock with more efficiency. In addition, the construction of the railroad itself created much needed employment for locals.

With railroad transportation in place, central Utah became a more hospitable place to live. Not only could building materials be delivered easily up and over the mountains, but food, clothing, and domestic supplies necessary for surviving the harsh winters could also be obtained for reasonable cost and effort. From the years 1880 to 1890, the population of Huntington grew from 126 to 738 residents, making it the settlement with the highest population in Emery County (Geary 1994).

Coal mining continued to boom into the 1920s; however, the onset of the Great Depression, coupled with over development and inflation, led to the slowdown and closure of many small mines in the area. In addition, severe drought hit the area in the early 1930s. With impacts to both agriculture and mining, population growth in Emery county came to a virtual standstill for the next two decades. World War II saw a resurgence in the demand for coal, but the industry in Carbon and Emery counties never fully recovered (Watt 1997).

Emery County continued to go through more economic “ups and downs” throughout the 20th century. A uranium boom in the 1950s found the county prospering from deposits located in the San Rafael Swell. Again, when the demand dwindled in the 1960s, the county was left with a struggling economy. Limited employment was created during the 1960s as a result of the construction of Interstate 70 from Green River through Emery County. This opportunity ceased, however, once the project ended (Geary 1998).

In the 1970s Utah Power and Light (UP&L) constructed the area’s first coal-fired electric generating plant located in Huntington Canyon, as well as several large coal mines to fuel the power plant. A reservoir located in upper Huntington Canyon named Electric Lake was completed in 1973 to supply water to run the steam-powered plant (Murphy 1988). All of this activity created a plethora of employment opportunities for engineers, mine workers, plant operators, and construction workers. As a result, the population in Emery County grew by 155 percent between 1970 and 1983 (Geary 1998).

The boom of the 1970s and early 1980s brought the county once again out of an economic slump, only to find itself unprepared for the drastic changes that were about to occur. The smaller communities were most affected as they began scrambling to accommodate the population influx. There were housing shortages and inadequate water supply and delivery systems, as well as inefficient sewage needs and waste disposal facilities. Health care and law-enforcement facilities, school systems, fire stations, churches, and even jails were all in need of expansions and upgrades. As city officials felt the overwhelming pressure, there were numerous resignations during the boom years as well (Geary 1996).

Almost as abruptly as it began, the boom ended in the early 1980s. Demands for industrial energy were on the decline, leading to massive layoffs. Residents of Emery County were once again moving away, and economic security was vacillating. By the end of the 1980s, the population and the economy had stabilized itself again.

The changes that the county has seen since inception have resulted in a work force that has been spread relatively evenly over several categories. In 1990 the service industry employed approximately 24 percent of the work force; the transportation, public utilities, and communication sectors together employed roughly 15 percent; while the mining and retail/wholesale industries each employed approximately 16 percent of the labor force. Surprisingly, only 3 percent claimed their primary source of income as agriculture (Geary 1996).

The population of Emery County has fluctuated drastically over time, reflecting the economic situation of the day. Railroad and mining opportunities produced a steady population increase from 2,866 in 1890 to 7,411 in 1920. The county population leveled off at 6,304 in 1950, and then declined at the end of the uranium boom to 5,137 in 1970. The boom in the 1970s, facilitated by the UP&L Huntington Canyon plant, resulted in a population increase to 13,100 in 1983. With the end of the last boom, the population again decreased. As of 2000, the population of Emery County numbered 10,860 (Geary 1996).

Existing Cultural Resource Information

A file search for previously recorded cultural resource sites near the Study Area was conducted at the Utah State Historic Preservation Office, Salt Lake City, to determine if any cultural resource projects have been conducted or sites recorded near the Study Area. Eight previous cultural resource projects and one cultural resource site have been previously recorded in the vicinity of the current Study Area. However, none of these were performed within or near the Study Area.

Sagebrush Consultants undertook a complete intensive level survey (Sagebrush 2002) of the Study Area above the reservoir's high-water line. The total area inventoried during this project was (23.5 hectares) 58.0 acres. The inventory of the Huntington North Reservoir Study Area resulted in identification of a segment of a once-longer historic canal called the Mohrland Ditch or Mohrland Lateral, a portion of a modern ditch system, and two out-of-period domestic dump areas. The Mohrland Ditch, designated site 42Em2812, was constructed between 1898 and 1907 and abandoned upon initiation of construction of the Huntington North Reservoir in 1962. During its existence, the ditch served five families, located to the west and south of where the segment that remains still exists. Because of the Mohrland Ditch's fragmented condition and

lack of significant history, it is recommended NOT eligible to the National Register of Historic Places (NRHP).

No additional cultural resource sites have been recorded in the vicinity of the Study Area. The NRHP was consulted prior to commencement of fieldwork for the Project, and two NRHP-listed sites were found to be located in the vicinity of the current Study Area. These listed sites include the Huntington Tithing Granary and the Huntington Roller Mill and Miller's House. No additional localities were found to be listed on the NRHP at this time; however, the Huntington Canal has been nominated for NRHP status.

Paleontological Resources

Regional Geology and Paleontology

Physiographically, Huntington North Reservoir is located on the east flank of the Wasatch Plateau within the Colorado Plateau Province. Cretaceous-aged strata are the dominate rocks in a broad exposure striking from Price in the northeast to Salina Canyon in the southwest. The Huntington anticline, a gentle, elongate upwarp of the earth's crust to the west of Huntington, has yielded shows of oil and gas (Kuehnert 1954). To the southwest of Huntington lies the San Rafael Swell, a classic Laramide (i.e., latest Cretaceous to early Tertiary) crustal upwarp. Cretaceous, Jurassic, and Triassic strata encircle the upwarp while Paleozoic units are exposed in its core (Witkind 1988). The flanks of the San Rafael Swell are paleontologically important because Jurassic and early to mid Cretaceous strata preserve abundant and significant vertebrate fossils. A sampling of localities includes the famous Jurassic Cleveland-Lloyd dinosaur quarry (Madsen 1976), an array of early to mid-Cretaceous dinosaur localities (Kirkland et al. 1997), a theropod dinosaur eggshell site (Fiorillo 1999), plus numerous microvertebrate sites (Cifelli et al. 1997). A mastodon (*Mammuth americanum*), remains of which were found several miles to the northwest of the Study Area, represents one of the youngest occurrences of the mammoth in North America with a reported age of about 7,000 years (Miller 1987).

Study Area Geology and Paleontology

Three geologic units are prevalent in the Study Area. The youngest is Holocene (recent) alluvium consisting of an unconsolidated veneer of clay- to gravel-sized particles. No fossils will be found in this unit. The next youngest unit is a pediment deposit derived from strata exposed in the Wasatch Plateau. Sediments include silt- to sand- to boulder-sized particles. These may be unconsolidated or cemented and range from Pliocene to Holocene (recent) in age. It is possible that poorly preserved vertebrate fossils may be found in this unit, but none have been reported from the Study Area.

The oldest unit exposed in the Study Area is the Cretaceous-aged lower Blue Gate Member of the Mancos Shale Formation. It represents fine-grained sediments deposited along the westernmost portion of the Upper Cretaceous epicontinental seaway that extended from what is today the Arctic Ocean to the Gulf of Mexico. The Blue Gate Member was deposited relatively close to shore as evidence by thin, inter-layered sandstone beds that represent distal seaward extensions of subaqueous deltaic sediments. The unit is predominantly shale, attains a maximum thickness of about 610 meters (2,000 feet), and weathers to low, rolling hills. The shale is relatively unstable under load. Consequently, care must be taken when building roads and other structures on this geologic unit. Invertebrate fossils are common in some horizons and generally

consist of ammonites (i.e., extinct shelled cephalopods) with scaphites, baculites, and placenticeras being typical. Vertebrate fossils in the Mancos Shale are rare but include pterosaurs, shark teeth, and marine reptiles such as plesiosaurs and mosasaurs (Kass 1999). Surprisingly, a juvenile hadrosaurid dinosaur was recovered from a stratigraphically high position in the Mancos Shale of Colorado (Wolney et al. 1990). Although none have been reported to occur in the Study Area, it is possible that excavation may expose significant vertebrate fossils.

In conclusion, although an array of very important vertebrate fossils have been found in surrounding areas, and undoubtedly invertebrate body and trace fossil could be found in the immediate area, no significant fossils have been found in the Huntington North Reservoir RMP Study Area.

Indian Trust Assets

Indian Trust Assets (ITAs) are "legal interests" in assets held in trust by the U.S. Government for Indian tribes or individual Native Americans. Examples of ITAs are lands, minerals, water rights, hunting and fishing rights, other natural resources, money, or claims. A characteristic of an ITA is that it cannot be sold, leased, or otherwise alienated without the approval of the U.S. government.

The ITA assessment process for the Huntington North Reservoir RMP Study Area, which includes Reclamation contacting the Bureau of Indian Affairs to determine the nature of potential ITAs in the area, has been initiated. At the publication of this document, no ITAs have yet been identified within the Study Area.

Energy, Minerals, and Other Extractive Resources

Mineral resources are divided into three categories: locatable, leasable, and saleable. Locatable minerals include gold, silver, lead, zinc, and other "high value" metallic ores subject to the Mining Law of 1872, as amended by 30 U.S.C. Ch. 2. Leasable minerals are oil and gas, oil shale, coal, potash, phosphate, sodium, gilsonite, and geothermal resources. These are subject to lease under the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181, et. seq.), the Mineral Leasing Act for Acquired Lands as amended (30 U.S.C. 351-359), and the Geothermal Steam Act of 1970, (30 U.S.C. 1001-1025).

Saleable minerals are of the common variety and include sand, stone, gravel, pumice, cinders, clay; and other minerals extracted in bulk such as petrified wood. These minerals are subject to sale and disposal at the discretion of Reclamation under the Act of July 31, 1947, as amended (30 U.S.C. 601 et. seq.); the Act of July 23, 1955 (30 U.S.C. 601); the Act of September 28, 1962 (30 U.S.C. 611); and Section 10 of the Reclamation Projects Act of 1939 (43 U.S.C. 387). Except for minerals and conditions meeting the provisions of section 10 of the Reclamations Projects Act of 1939, leases for mineral and geothermal resources on all land acquired or withdrawn by Reclamation are issued by the BLM.

Leasable minerals are under discretionary authority, meaning they are open to development through application and permitting by the BLM with concurrence of Reclamation. Under the present Interagency Agreement (December 1982), the BLM will, in all issues involving mineral and geothermal leases, request that Reclamation determine whether leasing is permissible and,

if so, provide any stipulations required to protect the interests of the United States. Currently, no formal Reclamation stipulations exist for the Study Area.

No evidence of mineralization was observed during the Project Team site visit in October 2001. No past locatable mineral development has occurred within the Study Area. Because of the limited surface area that is not occupied by steep slopes, water, recreational facilities, or administrative areas, any locatable mineral resource exploration or development is unlikely. The potential for hydrocarbon resources does exist within the Study Area. Several gas fields are located in the vicinity of the reservoir. As with locatable mineral resources, the exploration or development of leasable minerals is unlikely because of the limited surface area that is not occupied by steep slopes, water, recreational facilities, or administrative areas. Saleable mineral resources (e.g., sand, gravel, and cobbles) exist in the Study Area. Limited quantities of cobble and gravel resources were observed in the Southwest Cove Area during the Project Team site visit in October 2001.

Waste Water, Solid Waste, and Hazardous Materials

Wastewater

Wastewater generated by the restrooms and office facilities at the State Park is treated using septic tanks and absorption fields. There is a separate septic tank for each restroom facility and the office facility (R. Taylor 2001, pers. comm.). There have been problems with the septic tanks for the restroom facilities. In the past, the volleyball pit in the State Park Area was occasionally flooded with effluent from the septic tanks. These tanks have been removed and relocated to another, more suitable area (Taylor R. 2001, pers. comm.). There are no other sanitary facilities in the Huntington North Reservoir Study Area.

Solid Waste

All solid waste is transported out of the Study Area for disposal in a local landfill.

Hazardous Materials

Hazardous materials are not used in the Study Area. No evidence of spills, contamination problems, or hazardous materials or problems were identified within the Study Area. Aboveground storage tanks are found on Savage Industries' property, located north of the State Park Area, and on Cox Rock Products' property, located south of the Study Area. Both facilities appeared to have spill containment structures in place.

Land Management

The Huntington North Reservoir Study Area is located in Emery County, Utah, a county with one of the highest percentages of Federal government land ownership in Utah. Of the total 1,153,602 hectares (2,850,601 acres) in Emery County, 79.8 percent is owned by the Federal government, while another 11.9 percent is owned by State government. The remaining land in the county is private, municipal, tribal, and State sovereign land. Table 2-16 summarizes land ownership in Emery County.

Table 2-16. Land ownership in Emery County, Utah.

LANDOWNER	HECTARES	ACRES
Bureau of Land Management	834,496	2,062,075
National Forest	85,248	210,652
Private	97,297	240,425
Private / public water reserve	98	242
State trust lands	134,297	331,854
State Park / Recreation Area	159	394
National Parks	844	2,085
State wildlife reserves	1,148	2,837
American Indian	15	37
Totals	1,153,602	2,850,601

Note: Numbers are approximate.
Source: DWS (2002).

Transportation

Primary access to Huntington North Reservoir and Huntington State Park is via State Route 10 and State Route 122 (Mohrland Road). These two roads intersect approximately 0.35 kilometer (0.22 mile) northeast of the Huntington City limits. Another access road to the Study Area is the Old Homestead Road, which crosses private land and provides access off a spur road to an unpaved parking lot near the Southwest Cove Area. The Old Homestead Road is owned by Emery County.

The paved road within the State Park, maintained by State Parks, services the campsites, parking lot, boat ramp, and administration buildings. The road begins at the entrance of the park off State Route 122, continues around to the camp sites, and loops back to the entrance. The EWCD maintains a dirt road on top of the dam and dikes, allowing access to the canals. This road circles the entire reservoir and allows only authorized vehicular traffic. The public is allowed to use this unpaved road as a hiking and biking trail around the reservoir, however.

There are no railroads or airports within the immediate vicinity that bring visitors to the State Park. Table 2-17 summarizes the access and transportation routes to and within the Study Area. A traffic count station has been installed periodically at the intersection of State Route 10 and State Route 122. Annual average daily traffic was 7,720 in 1997 and 8,510 in 2000. This number is projected to increase to 12,934 by 2020.

Planning Criteria

Planning Criteria are the legal, institutional, and land-use constraints that affect Study Area resource management. Legal constraints include legislative acts, compacts, and agreements that govern the diversion and use of water from Huntington Creek and, specifically, water stored in Huntington North Reservoir. Institutional constraints include water delivery contracts or water rights and Reclamation's administrative procedures that govern the management and use of Project facilities. Land use constraints include existing Memorandums of Understanding, contracts, lease agreements, permits, easements, and rights-of-way (ROWs) that govern the

Table 2-17. Access and transportation routes to and within Huntington North Reservoir.

ROAD NUMBER	ROAD NAME	TYPE	ACCESS PROVIDED
State Route 10	State Route 10	Two-laned paved	Access from the North and South to the Study Area
State Route 122	Mohrland Road	Two-laned paved	Access from State Route 10 and Carbon County to the Study Area
None	State Park Loop	One-lane paved	Accesses campsites, boat ramp, parking lot, and administration buildings
None	Canal Road	One-lane unpaved	Accesses canals, inflow and outflow of reservoir

management and use of Study Area resources. These planning criteria establish the boundaries within which RMP alternatives can be developed and compared.

Legal Constraints

Reclamation Act of 1902

In the Reclamation Act of June 17, 1902 (43 U.S.C. § 301), the U.S. Congress authorized construction of irrigation projects in arid and semiarid lands that now comprise the western United States. General authority over these projects was assigned to the U.S. Secretary of the Interior with project administration oversight by Reclamation. Proceeds from sales of public lands were placed into a Reclamation fund to assist in paying for the irrigation projects. Reclamation is the agency responsible for overall resource and facility management within the Study Area.

Colorado River Storage Project Act of 1956 as amended 1962, 1964, 1968, and 1980

This act provides for the following: the comprehensive development of the water resources of the Upper Colorado River Basin to regulate the flow of the Colorado River; water storage for beneficial consumptive use, making it possible for states of the Upper Basin to use the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Basin Compact, respectively; and the reclamation of arid and semiarid land, the control of floods, and the generation of hydroelectric power.

The act authorizes the U.S. Secretary of the Interior to construct, operate, and maintain initial units of the Colorado River Storage Project and additional reclamation projects (referred to as "participating projects") in the Upper Colorado River Basin. The units and projects consist of dams, reservoirs, powerplants, transmission facilities, and appurtenant works. The Emery County Project, which included Huntington North Reservoir and Dam, was authorized as one of these participating projects of this act.

Reclamation Recreation Management Act of 1992

The Reclamation Recreation Management Act (Public Law 102-575) provides uniform policies regarding recreation developments, fish and wildlife enhancements, cost sharing of Federal multipurpose water resource projects, and other purposes. As part of the policies section on management of Reclamation lands, the U.S. Secretary of the Interior is authorized to develop, maintain, and revise RMPs for Reclamation lands. The RMPs shall provide for the development, use, conservation, protection, enhancement, and management of resources on Reclamation lands in a manner that is compatible with the authorized purposes of each specific Reclamation project.

Institutional Constraints

Reclamation's Emergency Management Policies and Directives

Reclamation's Emergency Management Policies and Directives provide for safety and protect environmental resources from incidents at Reclamation storage dams and reservoirs by: (1) taking the reasonable and prudent actions necessary to ensure timely notification to potentially affected jurisdictions of such incidents, and (2) defining program needs and requirements essential to maintain self regulation by line managers, be responsive to public safety, and satisfy legal requirements during operations or emergency incidents at Reclamation facilities. This program also requires that an Emergency Action Plan be rewritten for each dam to include emergency management initiating conditions, response levels, and expected actions. The Emergency Action Plan for Huntington North Reservoir was completed and signed March 14, 2001.

Standing Operating Procedures (SOPs)

Standing Operating Procedures (SOPs) are prepared for all Reclamation dams and reservoirs to establish, in one primary document, the complete, accurate, current, structure-oriented operating instructions for each dam and reservoir and its related structures. The document's purpose is to ensure adherence to approved operating procedures over long periods of time and during changes in operating personnel. Operating procedures shall not deviate from those stated in the SOPs without appropriate authorization. The SOP for Huntington North Reservoir and Dam was signed into effect on May 10, 1990.

Water Rights and Water Operations

Huntington North Reservoir has a total capacity of 6,685,461 cubic meters (5,420 acre-feet) and a surface area of 98 hectares (242 acres). Management of all water operations associated with Huntington North Reservoir are the responsibility of the EWCD. Water is released to downstream users upon demand.

Land Use Constraints

Land use constraints are existing policies and agreements that define management and agency jurisdiction, authorities, and responsibilities for the use, enhancement, and protection of resources within the Study Area. The following is a list of contracts and agreements that could potentially have the most influence on the RMP.

Contract No. 14-06-400-2427, Dated 05/15/62

Repayment contract between the United States and the EWCD.

Contract No. N/A, Dated 05/25/62

Contract between the EWCD and the Cottonwood Creek Consolidated Irrigation Company for the sale of the Use of Irrigation Water.

Contract No. 14-06-400-2522, Dated 06/25/62

Contract between the United States and Cottonwood Creek Consolidated Irrigation Company relating to exchange and adjustment of water rights. Includes a water service subcontract between EWCD and Cottonwood Creek Irrigation Company.

Contract No. 14-06-400-2523, Dated 06/27/62

Contract between the United States and Huntington Cleveland Irrigation Company providing for the exchange and adjustment of water rights.

Contract No. 87-07-40-WS014, Dated 06/27/62

Water service subcontract between the EWCD and the Huntington Cleveland Irrigation Company for the sale of irrigation water.

Contract No. 14-06-400-2795, Dated 01/10/63

Contract for relocation of Utah State Highways 10 and 236 to bypass Huntington North Reservoir and for State Highway 29 to bypass Joes Valley Reservoir.

Contract No. 14-06-400-3818, Dated 11/23/64

Drainage and minor construction contract among the United States, EWCD, and Huntington Cleveland Irrigation Company for access.

Contract No. N/A, Dated 12/19/69

Agreement among Huntington Cleveland Irrigation Company, Cottonwood Creek Consolidated Irrigation Company, and Utah Power and Light Company (UP&L).

Contract No. 14-06-400-5906, Dated 11/17/72

Contract among the EWCD, United States, and the UP&L for the sale of the use of water.

Amending Contract, Dated 06/27/62. Dated 11/17/72

Amendatory contract among the EWCD and Huntington Cleveland Irrigation Company.

Amending Contract, Dated 06/25/62. Dated 11/17/72

Amendatory contract between EWCD and Cottonwood Creek Consolidated Irrigation Company.

Amending Contract, Dated 11/17/72. Contract No. 14-06-400-5906, dated 06/08/78

Amendatory contract among EWCD, the United States, and UP&L.

Contract No. N/A, Dated 02/08/85

Letter of understanding between the United States, UP&L, EWCD, and Huntington-Cleveland Irrigation Company concerning water rights.

Contract No. 14-06-400-2522, Dated 09/08/87

Amendatory contract among EWCD and Cottonwood Creek Consolidated Irrigation Company regarding relinquished water sold to UP&L for steam generation at Hunter Plant.

Contract No. 14-06-400-2523, Dated 09/08/87

Amendatory contract among EWCD and Huntington Cleveland Irrigation District regarding relinquished water sold to UP&L for steam generation at Hunter Plant.

Contract No. 14-06-400-2427, Dated 09/08/87

Amendatory contract among the United States and EWCD regarding the reallocation of water to UP&L.

Contract No. 7-07-40-R0510, Dated 09/08/87

Water service contract among the United States, EWCD, and UP&L regarding municipal and industrial water to be used for power production.

Assignment Letter, Dated 02/11/89

Assignment letter between the United States, EWCD, and PacifiCorp (UP&L), pertaining to Contract No. 14-06-400-5906 dated November 17, 1972, as amended, and Contract No. 7-07-40-R0510 dated September 8, 1987, between the EWCD, the United States, and UP&L.

Contract No. 14-06-400-2427, Dated 07/14/94

Amendatory contract among EWCD and Cottonwood Creek Consolidated Irrigation Company regarding relinquishment of water for municipal and industrial use.

Contract No. 0-LM-41-00230, Dated 5/23/90

A 50-year license agreement between the United States and Emery County Road Department, to extend and existing 42-inch-diameter reinforced concrete pipe to accommodate widening the county road that crosses the structure.

Contract No. 01-LM-40-02110, Dated 12/04/03

Memorandum of agreement between the United States and the State of Utah for the administration, operation, maintenance, and development of recreation at eleven Utah reservoirs.

Contract No. 03-LM-41-0630, Dated 05/15/04

License agreement between the United States and PacifiCorp to construct a fenced enclosure for an automated trash screen and associated items.

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ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

CHAPTER 3: MANAGEMENT DIRECTION



Diverse vegetation and habitats surround Huntington North Reservoir.

INTRODUCTION

This chapter provides long-range management direction for Huntington North Reservoir and surrounding lands in response to public issues and management concerns. Implementation of management directives is key to translating Resource Management Plan (RMP) goals and objectives to actual on the ground application and practice, ultimately resulting in the desired future condition. All uses and activities of the area covered by the RMP, including permits, contracts, and other instruments, must be consistent with current U.S. Department of the Interior, Bureau of Reclamation (Reclamation) policy as well as the screening criteria and management direction noted below.

Screening Criteria

The following criteria have been developed to use as a standard when evaluating existing/proposed uses and activities within the Huntington North Reservoir RMP Study Area (Study Area). As such, it is important that an activity or use:

- ▶ does not change the operation of the reservoir outside the existing operational criteria;
- ▶ does not adversely affect water quality;
- ▶ complies with federal, state, and county planning, zoning, and building requirements;
- ▶ does not adversely impact threatened or endangered species;
- ▶ meets public health/safety standards and regulations;
- ▶ complies with laws, regulations, and policies of the natural environment;
- ▶ is reasonable and financially feasible;
- ▶ can be implemented; and
- ▶ is contained within the designated boundary displayed on Figure 1-2 and is consistent with restrictions and status of project lands.

Management Direction

Management directives for the Study Area have been developed at two levels:

- ▶ Area-Wide Management Directions, and
- ▶ Specific Area Management Directions.

GOALS AND OBJECTIVES

The Goals and Objectives developed for the Huntington North Reservoir RMP are in direct response to the Issue Statements detailed in Appendix A. However, each Issue Statement may not require a specific set of Goals and Objectives and, in some cases, a set of Goals and Objectives may address several Issue Statements. In all cases, an effort has been made to translate the issues and opportunities identified in the Issue Statements into the Goals and Objectives for the RMP.

Each Goal provides a description of a desired future resource condition within the Study Area. Listed along with each Goal is a set of Objectives describing a series of activities to be accomplished in order to achieve each Goal. When each of the Objectives is implemented, the corresponding Goal will be attained. The Goals and Objectives are presented in the following Goal Categories: (A) Partnerships, (B) Water Resources, (C) Recreational and Visual Resources,

(D) Natural and Cultural Resources, and (E) Land Management. A detailed discussion of the Goals and Objectives developed for the RMP is presented in Appendix A while a summary of the Goal Categories is presented in Table 3-1.

Table 3-1. Summary of Goal Categories identified for the Huntington North Reservoir Resource Management Plan (RMP) Study Area.

PARTNERSHIPS
Support Agreements and Contracts, and Encourage Partnerships That Pursue Best Resource Management Practices
WATER RESOURCES
Protect Water Quality in Huntington North Reservoir
Operate Huntington North Reservoir to Optimize Natural Resource Values
RECREATIONAL AND VISUAL RESOURCES
Provide for Safe, Quality Recreational Opportunities That Minimize Conflicts
Provide Adequate Recreational Support Facilities
Protect and Manage the Visual Resources
NATURAL AND CULTURAL RESOURCES
Control/Manage Noxious and Invading Weeds, Pests, and Aquatic Nuisances
Protect and Enhance the Quality of the Fishery
Protect and Enhance Native Vegetation and Wildlife Habitat
Control Erosion
Protect and Manage Cultural Resources
LAND MANAGEMENT
Provide Appropriate and Safe Access to all Public Use Areas
Evaluate Proposed Additional Land Acquisitions

DESIRED FUTURE CONDITION

This section describes the desired future condition Huntington North Reservoir and its surrounding lands following implementation of this RMP. The desired future condition reflects the water-related purposes for which the reservoir was created and the traditional and ongoing uses of the area for public purposes. Managing entities balance objectives associated with maintaining water quality and delivery, protecting wildlife habitat, and preserving cultural and natural resources, with the public's desire for a visually appealing, accessible, high-quality recreation experience. Table 3-2 provides a detailed summary of the area-wide and specific area management strategy specifics along with management direction, monitoring strategies, and anticipated partnerships and responsibilities.

Table 3-2. Hingtinton North Reservoir Resource Management Plan (RMP) summary.

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Applicable Goals: ▶ Support Agreements and Contracts and Encourage Partnerships that Pursue Best Resource Management Practices.			
Contracts and Operations			
<u>Project Purposes</u> Fully protect the purposes for which the Huntington North Dam and Reservoir lands were acquired or withdrawn.	Contract No. 14-06-400-2427, Dated 05/15/62: Repayment contract between the United States and the Emery Water Conservancy District (EWCD). Contract No. N/A, Dated 05/25/62: Contract between the EWCD and the Cottonwood Creek Consolidated Irrigation Company for the sale of the Use of Irrigation Water. Contract No. 14-06-400-2522, Dated 06/25/62: Contract between the United States and Cottonwood Creek Consolidated Irrigation Company relating to exchange and adjustment of water rights. Includes a water service subcontract between EWCD and Cottonwood Creek Irrigation Company. Contract No. 14-06-400-2523, Dated 06/27/62: Contract between the United States and Huntington Cleveland Irrigation Company providing for the exchange and adjustment of water rights.	Evaluate proposed use activities against original purposes, contracts, and agreements. Evaluate at the time of activity proposal and document in Reservoir Management Reviews.	Documents on file with Reclamation, Provo Area Office. Potential Partnerships include: EWCD, Utah Division of State Parks and Recreation (State Parks), Emery County, Huntington City, Utah Department of Natural Resources, Division of Wildlife Resources (UDWR), U.S. Fish and Wildlife Service (USFWS), and other entities.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Contracts and Operations (cont.)			
	<p>Contract No. 87-07-40-WS014; Dated 06/27/62: Water service subcontract between the EWCD and the Huntington Cleveland Irrigation Company for the sale of irrigation water.</p> <p>Contract No. 14-06-400-2795, Dated 01/10/63: Contract for relocation of Utah State Highways 10 and 236 to bypass Huntington North Reservoir and for State Highway 29 to bypass Joes Valley Reservoir.</p> <p>Contract No. 14-06-400-3818, Dated 11/23/64: Drainage and minor construction contract among the United States, EWCD, and Huntington Cleveland Irrigation Company for access.</p> <p>Contract No. N/A, Dated 12/19/69: Agreement among Huntington Cleveland Irrigation Company, Cottonwood Creek Consolidated Irrigation Company, and Utah Power and Light Company (UP&L).</p> <p>Contract No. 14-06-400-5906, Dated 11/17/72: Contract among the EWCD, United States, and the UP&L for the sale of the use of water.</p>		

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Contracts and Operations (cont.)			
	<p>Amending Contract, Dated 06/27/62. Dated 11/17/72: Amendatory contract among the EWCD and Huntington Cleveland Irrigation Co.</p> <p>Amending Contract, Dated 06/25/62. Dated 11/17/72: Amendatory contract between EWCD and Cottonwood Creek Consolidated Irrigation Co.</p> <p>Amending Contract, Dated 11/17/72. Contract No. 14-06-400-5906, dated 06/08/78: Amendatory contract among EWCD, the United States, and UP&L.</p> <p>Contract No. N/A, Dated 02/08/85: Letter of understanding between the United States, UP&L, EWCD, and Huntington-Cleveland Irrigation Co. concerning water rights.</p> <p>Contract No. 14-06-400-2522, Dated 09/08/87: Amendatory contract among EWCD and Cottonwood Creek Consolidated Irrigation Co. regarding relinquished water sold to UP&L for steam generation at Hunter Plant.</p> <p>Contract No. 14-06-400-2523, Dated 09/08/87: Amendatory contract among EWCD and Huntington Cleveland Irrigation District regarding relinquished water sold to UP&L for steam generation at Hunter Plant.</p>		

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Contracts and Operations (cont.)			
	<p>Contract No. 14-06-400-2427, Dated 09/08/87: Amendatory contract among the United States and EWCD regarding the reallocation of water to UP&L.</p> <p>Contract No. 7-07-40-R0510, Dated 09/08/87: Water service contract among the United States, EWCD, and UP&L regarding municipal and industrial water to be used for power production.</p> <p>Assignment Letter, Dated 02/11/89 Assignment letter between the United States, EWCD, and PacifiCorp (UP&L), pertaining to Contract No. 14-06-400-5906 dated November 17, 1972, as amended, and Contract No. 7-07-40-R0510 dated September 8, 1987, between the EWCD, the United States, and UP&L.</p> <p>Contract No. 14-06-400-2427, Dated 07/14/94: Amendatory contract among EWCD and Cottonwood Creek Consolidated Irrigation Company regarding relinquishment of water for municipal and industrial use.</p>		

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Contracts and Operations (cont.)			
	<p>Contract No. 0-LM-41-00230, Dated 5/23/90: A 50-year license agreement between the United States and Emery County Road Department, to extend and existing 42-inch-diameter reinforced concrete pipe to accommodate widening the county road that crosses the structure.</p> <p>Contract No. 01-LM-40-02110, Dated 12/04/03: Memorandum of agreement between the United States and the State of Utah for the administration, operation, maintenance, and development of recreation at eleven Utah reservoirs.</p> <p>Contract No. 03-LM-41-0630, Dated 05/15/04: License agreement between the United States and PacifiCorp to construct a fenced enclosure for an automated trash screen and associated items.</p>		

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Fish and Wildlife			
<u>Fish and Wildlife Management</u> Work with the UDWR and USFWS to protect, propagate, manage, conserve, and distribute protected wildlife throughout the state.	The UDWR is the fish and wildlife authority for the State of Utah and the USFWS is the Federal fish and wildlife authority. State management activities are subject to the broad policy-making authority of the Utah State Wildlife Board. Activities regulated by the UDWR are specified in Title 23 of the Utah Code, or addressed in rules or proclamations as provided by Utah Code. The UDWR has primary responsibility for enforcement of fish and wildlife related laws. However, any peace officer of the State has the same authority to enforce these laws.	Enforce and field review.	The UDWR, USFWS, and appropriate law enforcement agencies.
<u>Fish and Wildlife Use</u> Manage for fish and wildlife uses as appropriate.	Same as above.	Track in Reservoir Management Reviews.	Reclamation, EWCD, UDWR, and USFWS.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Highway and Road Maintenance Partnerships			
<u>Maintenance</u> Encourage maintenance of access roads to Huntington North Reservoir.	The Utah Department of Transportation (UDOT) is responsible for maintenance of SR 122 and SR 10 adjacent to the Huntington North Reservoir Resource Management Plan (RMP) Study Area (Study Area). Emery County is responsible for maintenance of the old homestead road and the county road through the northern portion of the Study Area.		UDOT and Emery County.
Information and Interpretation			
<u>Interpretive Partnerships</u> Coordinate interpretive efforts with appropriate entities.			Reclamation, State Parks, UDWR, EWCD, Emery County, Huntington City, Utah State Historic Preservation Office (SHPO), churches, and others.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Information and Interpretation (cont.)			
<p><u>Interpretive Programs</u></p> <p>As appropriate, describe geological, paleontological, biological, archaeological, or historical features and management concerns that are unique or of high interest. As appropriate, develop interpretive information for these sites.</p>	<p>Design interpretive service programs to help resolve management problems, reduce management costs, obtain visitor feedback, increase public understanding of project management, enhance visitor use, and provide safe use of the Study Area. Program elements could include:</p> <ol style="list-style-type: none"> 1. Facility use guidelines and regulations. 2. Water and land use etiquette and safety regulations. 3. Project purposes and public benefits. 4. Opportunity guides and maps. 5. Reservoir watercraft conditions and hazards. 6. Developed and dispersed recreation regulations. 7. Environmental interpretation and education. 8. Off-highway vehicle (OHV) access status, guidelines, and maps. 9. Waste management, fire prevention, sanitation, and use of fuels and chemicals. 	<p>Determine visitor profile and interpretive themes/media in Reservoir Management Reviews.</p>	<p>Reclamation, EWCD, State Parks, UDWR, and other interested parties.</p>

Table 3-2. Hingtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Information and Interpretation (cont.)			
<u>Signage</u> Establish clear, consistent signage to orient the public and identify available opportunities at use areas and facilities. Provide signs at key locations for effective visitor orientation, such as entrances, boat ramps, picnic areas, and camping areas. Coordinate warning, traffic control, interpretive, and informational signs. Post boundary signs at pertinent locations.	Use Upper Colorado Region Regional Sign Guide, the State Parks Sign Handbook, and the UDOT sign standards.	Document compliance/needs in Reservoir Management Reviews.	Reclamation, EWCD, UDOT, State Parks, UDWR, Emery County, Huntington City, and other interested parties.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Law Enforcement and Fire Suppression			
<u>Appropriate Law Enforcement</u> Share/coordinate interagency law enforcement (civil, wildlife resources, and recreation public use regulations) between Emery County, UDWR, and State Parks. Maintain law and order to protect the health and safety of persons using the area. Control litter, discourage vandalism, and perform search and rescue operations as appropriate. Notify County sheriffs and Reclamation immediately when there is a life-threatening situation, criminal act, project structure failure, resource contamination (oil or chemical spills), or natural phenomenon (landslides and fires).	Responsibility assigned to State Parks under Utah Title 73, Chapter 18.	Report safety hazards and other enforcement difficulties annually to involved entities.	State Parks, UDWR, and Emery County.
<u>Discharge of Firearms</u> Prohibit discharge of firearms, bow and arrow, or air and gas weapons across, into, or from the Study Area.	State Parks Regulation R651-612. The UDWR Big Game Proclamation.	Enforce.	State Parks, UDWR, and Emery County Sheriffs Department.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Law Enforcement and Fire Suppression (cont.)			
<u>Emergency Communications</u> Provide emergency communication and coordinate with local law enforcement.	Reclamation Emergency Action Plan.	Maintain.	Documents on file with Reclamation, Provo Area Office.
<u>Fire Regulations</u> Ensure appropriate fire management regulations and procedures are in place and enforced in developed and dispersed areas.	Develop fire prevention programs. Construct fire breaks and/or manipulate vegetation as necessary to reduce the risk and spread of wildfires. Revegetate burned areas promptly with an appropriate seed mixture to reestablish vegetation and prevent erosion. Restrict fires to designated fire pits, grills, stoves, and lanterns. Post restrictions. State Parks Regulations: R651-613 and R651-613-1.	Contract/permitted entities will observe fuel conditions and apply appropriate action. Contract/permitted entities will monitor burned areas annually for revegetation success.	State Parks, Reclamation, EWCD, and adjacent land owners.
<u>Hunting in Developed Areas</u> Close the Study Area to hunting.	State Parks Regulation R651-603-5. The UDWR Big Game Proclamation.	Enforce.	State Parks and UDWR.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Local, State, Federal, and Private Entities, Etc.			
<u>Community and County Governments</u> Support and encourage partnerships with the community governments of Huntington City, Emery County, and others to facilitate best management of resources while providing benefits to partners. Work with local communities to determine activities they believe either benefit or adversely affect them. Strive to implement projects and programs beneficial to local communities that are also consistent with the RMP.		Document progress/need in Reservoir Management Reviews.	Reclamation, Huntington City, Emery County, and other local communities.
<u>Private, Conservation, Volunteer, and Other Groups</u> Pursue new partnerships with private land owners, local water districts, local conservation, sporting, education, and volunteer groups to provide public awareness of and protect water quality, cultural, vegetation, and wildlife values. Invite private, non-profit, church, school, volunteer, and other local interests to assist with projects and activities that enhance resources and recreational experiences.		Document progress/need in Reservoir Management Reviews.	Reclamation, State Parks, EWCD, fishing organizations, adjacent land owners, local churches, schools, and others.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
PARTNERSHIPS			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Local, State, Federal, and Private Entities, Etc. (cont.)			
<u>State and Federal Governments</u> Pursue/continue partnerships to facilitate best management while providing benefits to partners.		Document progress/need in Reservoir Management Reviews.	Utah Department of Environmental Quality (UDEQ), Division of Water Quality (DWQ); Reclamation; State Parks; UDWR; UDOT; USFWS; and others.
Recreation Management			
<u>Recreation Management</u> Encourage other partners for recreation management responsibilities.	Accommodate public recreation as per PL 89-72 and Title 28 of PL 102-575. Current management is as a state park within the Utah State Park system.	Comply with current contracts and agreements. Evaluate prior to issuance of new agreements.	Document on file with Reclamation, Provo Area Office.
Water Quality			
<u>Water Quality Coordinated Management</u> Support partnership efforts to reduce undesirable water quality impacts in the watershed.	Sections R 317-2-14 and R 317-2-7.2 of UDWQ Standards (1997).	Participate with current efforts to improve water quality within the Study Area.	UDEQ/DWQ, State Parks, UDWR, Emery County, USFWS, Reclamation, EWCD, and other interested parties.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
WATER RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Applicable Goals: <ul style="list-style-type: none"> ▸ Protect Water Quality in Huntington North Reservoir. ▸ Operate Huntington North Reservoir to Optimize Natural Resource Values. 			
Water Operations			
<u>Care, Operation, and Maintenance</u> Continue administration for dam and appurtenance construction works and factors affecting water integrity.	Operate by the: <ul style="list-style-type: none"> ▸ Annual Operating Plan ▸ Standing Operating Procedures ▸ Emergency Action Plan ▸ Designer's Operating Criteria ▸ Integrated Pest Management Plan 	Refer to Documents.	Documents with contracts on file with Reclamation, Provo Area Office.
<u>Reservoir Water Level Fluctuations</u> Inform State Parks, Reclamation, and UDWR when sudden and major reservoir fluctuations are planned.			EWCD and Reclamation.
Watershed Protection			
<u>Watershed Protection Management</u> Encourage management practices in the Huntington North Reservoir watershed that maintain or improve reservoir water quality and stream flows. Encourage neighboring jurisdictions to construct and maintain facilities to protect and improve water quality before it enters Huntington North Reservoir.	Manage towards achieving reductions in total phosphorous levels and increases in dissolved oxygen levels.	Comply with current water quality standards. Document in Reservoir Management Reviews.	Reclamation, UDEQ/DWQ, EWCD, State of Utah, State Parks, Emery County, and surrounding property owners.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
WATER RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Water Quality			
<u>Best Management Practices (BMPs)</u> Implement Best Management Practices (BMPs) relative to water quality in all resource activities. As appropriate, implement a public education program to interpret the benefits of water quality and to prevent activities that produce pollution. Coordinate with UDOT to ensure that controls to limit the impacts from highway spills (including hazardous materials spills) are implemented.	Comply with the State of Utah drinking water source protection rule. Where appropriate, meet or exceed State and Federal water quality standards for domestic purposes with prior treatment, recreation, wildlife, fish, and agricultural uses. Coordinate with counties, water districts, and Reclamation to ensure BMPs are being implemented.	Comply with water quality standards and regulations. Document in Reservoir Management Reviews.	Reclamation, EWCD, UDEQ/DWQ, State Parks, UDWR, Emery County, local communities, and others.
<u>Facilities</u> Construct facilities to meet State and County standards. Protect reservoir water quality from the impact of development.	Provide for adequate restrooms and waste disposal. Control erosion and pollutant loading, including fuel spills.	Comply with current water quality standards, sanitation standards, and all applicable policies to maintain facilities.	Environmental Protection Agency (EPA), Utah Division of Environmental Response and Remediation, Reclamation, State Parks, EWCD, UDEQ, and DWQ.
<u>Water Development and Conservation</u> Implement water conservation measures.	Develop and implement water conservation measures.		Reclamation, State Parks, EWCD, and others.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
WATER RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Water Quality (cont.)			
<u>Water Quality Protection</u> Identify water quality impacts coming from inside the Study Area and determine mitigation strategies. Where possible, improve and maintain water quality and manage all areas to protect water quality.	Manage to maintain clean water standards. Where possible, manage water quality to be compatible with the following State beneficial use designations: 2A, 2B, 3B, and 4. As necessary, limit or restrict other uses to protect water quality.	Comply with set standards or procedures. Document compliance or violations in Reservoir Management Reviews.	Reclamation, EPA, EWCD, UDEQ, and DWQ.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Applicable Goals: <ul style="list-style-type: none"> • Provide Adequate Recreational Support Facilities. • Provide for Safe, Quality Recreational Opportunities That Minimize Conflicts. • Protect and Manage the Visual Resources. 			
Concessions and Special Uses			
<u>Applications</u> Respond to recreation special-use applications according to the following priorities: 1. Public service operations. 2. Group type operations. 3. Private operations.	An application for permit may be denied if the authorizing office determines that: 1. The proposed use would be inconsistent or incompatible with the purposes for which the lands are managed, or with other uses, or 2. The proposed use would not be in the public interest, or 3. The applicant is not qualified, or 4. The use would be inconsistent with Reclamation or State Parks policies and regulations. 5. The applicant does not or cannot demonstrate technical or financial capability.	Comply with special use agreements. Document in Reservoir Management Reviews.	Reclamation, State Parks, and EWCD.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Development			
<u>Construction Priority</u> Generally place priority for construction/ reconstruction or restoration of existing facilities presently below standards.		Assess ranking order. Monitor in Reservoir Management Reviews. Comply in design and construction.	Reclamation, State Parks, EWCD, UDWR, and Emery County.
<u>Development Requirements</u> Comply with applicable Federal, State, and local laws, rules, and regulations in the development of facilities, including sanitation facilities. Develop facilities based on compatibility with authorized reservoir project purposes, long-term management and funding capability, management goals and objectives, and environmental protection factors. <i>See Specific Area Management Direction.</i>	Federal, State, and local laws, rules and regulations. Guidelines and principles contained in PL 89-72 as amended by Title 28 102-575 and other laws and agreements as applicable.		Reclamation, State Parks, EWCD, UDWR, and Emery County. Reclamation, State Parks, EWCD, UDWR, and Emery County.
<u>Facility Renovation or Replacement</u> Generally replace facilities when renovation costs are 50 percent or more of replacement costs or when existing facilities cease to be compatible with site design or Recreation Opportunity Spectrum (ROS) classification.	Refer to specific Area Management Direction and ROS classification.	Evaluate facility condition. Document in Reservoir Management Reviews or more often if needed.	State Parks, EWCD, and Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Development (cont.)			
<u>Landscaping</u> Allow shade tree planting above the Huntington North Reservoir high-water mark only under the Integrated Pest Management Plan.		Document compliance in Reservoir Management Reviews.	Reclamation, State Parks, and EWCD.
<u>Private Exclusive Facilities</u> Prohibit private, exclusive facilities by Reclamation, its managing partners, or other private entities. Phase out existing recreation facilities deemed to be exclusive use when lands are needed for greater public purposes.		Enforce.	Reclamation, State Parks, and EWCD.
<u>Recreation Opportunity Spectrum (ROS) Classification</u> Provide recreation facilities appropriate for the established ROS classification. Facilities may include water, power, sanitation, electricity, roads, camp spurs, pavilions, etc. See <i>Specific Area Management Direction</i> .		Comply with contracts, agreements, and planning documents. Document in Reservoir Management Reviews.	Reclamation and State Parks.
<u>Trails</u> Construct appropriate pedestrian, bike, fishing, and access trails. Include sanitation and waste facilities as needed. See <i>Specific Area Management Direction</i> .		Comply with contracts, agreements, and planning documents. Document in Reservoir Management Reviews.	Reclamation, State Parks, and private land owners.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Management			
<u>Activities</u> Manage for a year-round spectrum of recreation experiences while meeting the adopted ROS class. See <i>Specific Area Management Direction</i> .	U.S. Department of Agriculture (USDA), Forest Service (Forest Service) ROS System; Chapter 60, Project Planing ROS Users Guide; and Chapter 63, ROS Setting Indicator and Analysis Technique Guidelines or current Reclamation systems.	Determine user profile and preference at RMP planning intervals (by State Parks). Prepare an annual recreation use data report.	State Parks, Reclamation, and UDWR.
<u>Health and Safety</u> Ensure appropriate law enforcement, waste, and fire management regulations and facilities are in place and enforced in recreation areas.		Enforce.	State Parks, UDWR, Emery County, and Reclamation.
<u>Maintenance in General</u> Provide facility maintenance to ensure an acceptable level of public safety, health, and sanitation, and to protect natural resources.	Manage by an operation and maintenance plan that prescribes maintenance level, schedules, and tasks.	Perform annual facility condition inventories and coordinate with Reclamation on conditions and needs. Document in Reservoir Management Reviews.	State Parks, Reclamation, and other interested parties.
<u>Management by Others</u> Encourage other qualified entities to assume recreation management responsibility.	Existing agreements and contracts.	Comply.	Reclamation and State Parks.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Management (cont.)			
<u>Management Agreement</u> Manage recreation consistent with this Huntington North Reservoir RMP and the current Recreation Management Agreement.	Federal Water Project Recreation Act (PL 89-72) and current amendments. Use a Memorandum of Agreement as the mechanism to formalize relationships and responsibilities.	Comply with agreements and plans. Document in Reservoir Management Reviews.	Reclamation, State Parks, and EWCD.
<u>Overnight Camping</u> Allow overnight camping in designated areas. See <i>Specific Area Management Direction</i> .		Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Parking Below the High Water Mark</u> Generally prohibit public motorized land vehicles from driving or parking on beaches or below the high water mark, with the exception of watercraft launching at approved sites.		Interpret and enforce.	State Parks, Reclamation, UDWR, and EWCD.
<u>Picnicking</u> Allow picnicking in designated areas. See <i>Specific Area Management Direction</i> .		Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Reservoir Water Quality Maintenance</u> Restrict recreation uses that threaten or exceed MCLs for products, such as volatile and synthetic organic compounds.	EPA Safe Drinking Water Act rules and regulations.	Prescribe and conduct water quality and biological monitoring of Huntington North Reservoir and its tributaries and releases as appropriate.	UDEQ/DWQ, EWCD, Reclamation, State Parks, and UDWR.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Management (cont.)			
<u>Special Events</u> Give precedence to normal park activities/operations when scheduling special events.	Review special event requests by the recreation manger.	Comply before scheduling.	State Parks.
<u>Use Conflicts</u> Minimize recreation and environmental resource conflicts and promote user safety.	Comply with State Parks guidelines. Boating capacity will be based upon Strategic Boating Plan.	Interpret and enforce.	State Parks.
<u>User Fees</u> Charge appropriate user fees based on cost-effective, year-round service. Provide cost-effective service.	Comply with State Parks Board, State Parks guidelines, and provisions of the recreation Memorandum of Agreement between Reclamation and State Parks.	Monitor compliance annually.	State Parks Board approved fee structure and State Parks.
<u>Watercraft Launching</u> Restrict watercraft launching that requires motorized tow vehicles to designated boat ramps and permitted areas only. See <i>Specific Area Management Direction</i> .		Assess launching location. Document in Reservoir Management Reviews or more often if needed.	State Parks, EWCD, and Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Management (cont.)			
<p><u>Watercraft Limit</u></p> <p>Consider establishing and implementing a watercraft capacity if public safety, natural resources, recreational purposes, or recreational experiences become compromised. Additional reductions may occur to control user conflicts and promote health and safety.</p>	<p><u>Physical/Biological:</u></p> <p>Protect water quality at the fluctuating reservoir source.</p> <p><u>Managerial:</u></p> <p>Provide recreation administration by managing through the Utah State Boating Act, rather than providing single-purpose water use areas for individual recreation activities.</p> <p>Under Utah Title 73, Chapter 18, State Parks governs the operation, equipment, and numbering of vessels... on the waters of this state. "Waters of this state" means any waters within the territorial limits of this State.</p> <p><u>Social:</u></p> <p>Provide multi-purpose opportunities with low to moderate potential for conflicts. Uses may include wind craft, personal watercraft use, fishing, motor boating and other water-related activities.</p>	Enforce.	State Parks.
<p><u>Wakeless/No Watercraft Zone</u></p> <p>Maintain and identify wakeless/no watercraft zones to protect reservoir resources and users.</p>	Follow State Boating Guidelines.	Enforce.	State Parks

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Management (cont.)			
<u>Winter Recreational Opportunities</u> As appropriate, provide fishing and other non-motorized recreational opportunities and reservoir access through the winter months.			State Parks, UDWR, EWCD, and Reclamation.
Recreation Planning			
<u>Inventory System</u> Distinguish between developed and undeveloped (dispersed) use areas and management. Utilize a nationally approved ROS system appropriate to the scale of the project. Inventory the recreation resource and evaluate it as an integrated part of the planning and implementation process at detail ROS mapping scales that address: 1. Physical setting 2. Social setting 3. Managerial setting	Forest Service ROS System; Chapter 25, ROS Users Guide or current Reclamation System. <i>See Specific Area Management Direction.</i>	Prepare an annual use data report.	Reclamation, State Parks, and UDWR. Inventory map on file at Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreation Planning (cont.)			
<p>General National Forest ROS Classes are defined in the ROS Glossary, and include:</p> <ol style="list-style-type: none"> 1. Primitive 2. Semi-Primitive, Non-motorized 3. Semi-Primitive, Motorized 4. Roaded Natural 5. Rural 6. Urban 			
<p><u>Motorized Vehicle Use</u></p> <p>Allow motorized vehicle use where appropriate. See <i>Specific Area Management Direction</i>.</p>	<p>Generally, Study Area lands are closed to motorized uses, unless specifically opened.</p>	<p>Review proposals.</p>	<p>Reclamation, State Parks, and EWCD.</p>
Visual Enhancement			
<p><u>Development</u></p> <p>Achieve landscape enhancement through addition, deletion, or alteration of landscape elements. Examples of these include:</p> <ul style="list-style-type: none"> ► Addition of vegetation species to introduce unique form, line, color, or texture to existing plant communities. ► Vegetation manipulation to open up vistas or screen out undesirable views. ► Addition of structures that enhance the natural landscapes. 	<p>Forest Service Visual Management System, Volume 2, Ch. 1 The Visual Management System Ch. 2 Utilities Ch. 3 Range Ch. 4 Roads Ch. 6 Fire Ch. 8 Recreation</p>	<p>Field inspect.</p>	<p>Reclamation, State Parks, and other interested parties.</p>

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Management and Development			
<p><u>Development</u></p> <p>Design and implement management activities to blend with or complement the characteristic landscape at the adopted Scenic Integrity Objective (SIO).</p> <p><u>Duration of Impact</u></p> <p>The maximum time limit after construction activities have ceased for project rehabilitation to meet the adopted SIO is generally:</p> <ul style="list-style-type: none"> ▸ Very High (Immediately) ▸ High (2 years) ▸ Moderate (2 years) ▸ Low (5 years) ▸ Very Low (5 years) <p><u>Exceptions</u></p> <p>The dam, because of its strong contrasts with the natural appearing environment.</p>	<p>Forest Service Visual Management System, Volume 2,</p> <p>Ch. 1 The Visual Management System</p> <p>Ch. 2 Utilities</p> <p>Ch. 3 Range</p> <p>Ch. 4 Roads</p> <p>Ch. 6 Fire</p> <p>Ch. 8 Recreation</p>	<p>Comply with recovery duration time limit.</p> <p>Document in Reservoir Management Reviews.</p>	<p>Reclamation.</p>

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Planning			
<u>Inventory</u> Inventory the visual resource and integrate it as part of the planning process at detail mapping scales that address: 1. Variety Classes: the landscape's visual attractiveness, 2. Sensitivity levels: the public's visual expectation at various viewing distances, and 3. SIO: the visual prescription for definitive land areas.	Forest Service Visual Management System, Volume 2, Ch. 1 The Visual Management System Ch. 2 Utilities Ch. 3 Range Ch. 4 Roads Ch. 6 Fire Ch. 8 Recreation		Reclamation. Inventory Map on file at Reclamation's Provo Area Office.
Visual Rehabilitation			
<u>Rehabilitation</u> Rehabilitate facilities and areas that do not meet the adopted SIO. See <i>Specific Area Management Direction</i> .	Forest Service Visual Management System, Volume 2.	Comply with desired visual condition. Document at project completion and in Reservoir Management Reviews.	Reclamation.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
RECREATIONAL AND VISUAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Rehabilitation (cont.)			
<p><u>Priorities</u></p> <p>Set rehabilitation priorities for existing conditions, as follows:</p> <ol style="list-style-type: none"> 1. Relative importance of the site and amount of deviation from the adopted SIO. Foreground areas have the first priority, middle ground areas have the second priority, and background areas have the third priority. 2. Length of time it will take natural processes to reduce the visual impacts so that they meet the adopted SIO. 3. Benefits to other resource management objectives gained through rehabilitation. 		Field inspection.	Reclamation and other interested parties.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Applicable Goals: <ul style="list-style-type: none"> ▸ Control/Manage Noxious and Invading Weeds, Pests, and Aquatic Nuisances. ▸ Protect and Enhance the Quality of the Fishery. ▸ Protect and Enhance Native Vegetation and Wildlife Habitat. ▸ Control Erosion. ▸ Protect and Manage Cultural Resources. 			
Air Quality			
<u>Air Quality</u> Meet Federal Air Quality standards and State air quality regulations during construction and management activities.	Implement methods to control smoke and dust. Obtain agricultural burn permits and do not exceed appropriate clearing indexes where control burning is implemented.	Enforce.	UDEQ and Reclamation.
Cultural/Paleontological			
<u>Inventories</u> Perform appropriate Class 1, 2, or 3 surveys to determine areas of high and low potential for cultural resources.	36 CFR 800. Perform site-specific Class III surveys in areas prior to development and consult with SHPO before project approval. A Class III Survey has been completed for the entire Study Area.	Enforce.	Reclamation and SHPO.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Cultural/Paleontological (cont.)			
<p><u>Listed Sites</u></p> <p>Protect and find adaptive use for, and/or interpret cultural and paleontological resources that are listed on the National Register of Historical Places (NRHP), the National Register of Historic Landmarks, or which may be determined to be eligible for the national registers.</p> <p>Restrict use on areas where protected sites may occur.</p> <p>Develop and implement a cultural resources interpretation and education program as funds become available.</p> <p>Evaluate and inventory all sites with significant potential for listing as cultural or historical sites according to SHPO and/or NRHP guidelines. Listed sites would be restored in accordance with SHPO and Advisory Council recommendations and developed for uses consistent with their historic stature.</p> <p>Determine damage/destruction from unauthorized and uncontrollable natural agents.</p>	<p>36 CFR 800.</p> <p>36 CFR 800.</p> <p>SHPO and/or NRHP guidelines.</p>	<p>Determine damage/destruction from unauthorized activities and uncontrollable natural agents. Document in Reservoir Management Reviews.</p> <p>Monitor and Document in Reservoir Management Reviews.</p>	<p>Reclamation and SHPO.</p> <p>U.S. National Parks Service, Reclamation, SHPO, and State Parks.</p> <p>SHPO, NRHP, and Advisory Council.</p>

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Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Cultural/Paleontological (cont.)			
<u>Nomination</u> Nominate or recommend cultural or paleontological sites to the NRHP or National Natural Landmarks in the following priority: 1. Sites representing multiple themes, 2. Sites representing those that are not currently on the NRHP within the State, or 3. Sites representing themes that are currently represented by single sites.	36 CFR 60. 36 CFR 800.	Nominate as appropriate. Document in Reservoir Management Reviews.	Reclamation.
Fisheries/Habitat Management			
<u>Fisheries/Habitat Management</u> Maintain or enhance the habitat quality of the fishery as appropriate.	Enforce fishing regulations according to the Utah Fish and Game Code. Construct habitat enhancement structures where compatible with water operations management and safety of the public.	Report unexpected fish kills to UDWR and Reclamation. Prepare annual use data report.	UDWR, State Parks, and Reclamation.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Geology/Minerals/Soils			
<p><u>Appropriate Minerals Management</u></p> <p>Ensure that mineral development is permissible and compatible with project purposes. Ensure that mineral activities do not adversely affect planned or current uses.</p>	<p>Leaseables: Reclamation withdrawn lands are restricted from minerals entry by Commissioner's order of 8-22-1952 and PLO-3676, 6-10-1965. Other lands are subject to Mineral Leasing Act of 1920, as amended and supplemented (30 U.S. Code [USC] 181, et. seq.), the Mineral Leasing Act for Acquired Lands as amended (30 USC 351-359), and the Geo-thermal Steam Act of 1970 (30 USC 1001-1025) Coordinated with the USDI, Bureau of Land Management (BLM) through an interagency agreement between Reclamation and BLM, 3-25-83.</p> <p>Locatables: Subject to the 1872 Mining Law, amended by 30 USC Ch. 2. Coordinate with the Utah Division of Oil, Gas, and Mining (authority for review and issuance of private minerals permits). Written permission from State Parks for mineral removal required by Utah Title 63, Chapter 11.</p>	<p>Ensure compliance where Reclamation has control. Document in Reservoir Management Reviews.</p>	<p>Reclamation, BLM, State Parks, Utah Division of Oil, Gas, and Mining, and other interested parties.</p>

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Geology/Minerals/Soils (cont.)			
	Salables: Subject to Reclamation's discretion for review and issuance of permits. Act of July 31, 1947, amended (30 USC 601 et. seq.), the Act of July 23, 1955 (30 USC 601), the Act of September 28, 1962 (30 USC 611), and Section 10 of Reclamation Projects Act of 1939 (43 USC 387). Written permission from the State Parks for mineral removal is required by Utah Title 63, Chapter 11.		
<u>Geologic Hazards</u> During construction and/or ground-disturbing activities, avoid geologic hazards where possible.	Analyze site-specific geologic hazards prior to locating permanent facilities.	Comply in design and construction.	Reclamation.
<u>Soil Protection</u> Minimize adverse impacts to the soil resource, including accelerated erosion, compaction, contamination, and displacement as appropriate.	Protect and conserve topsoil when conducting surface-disturbing activities. Provide adequate drainage and revegetation on areas disturbed during construction or use activities. Stabilize these areas to control soil erosion. Rehabilitate disturbed areas that are eroding excessively and/or are contributing significant sediment to Huntington North Reservoir or streams.	Document compliance at project completion, and during Reservoir Management Reviews.	Reclamation, State Parks, UDWR, EWCD, and other interested parties.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Geology/Minerals/Soils (cont.)			
<u>Shoreline Protection</u> As appropriate, implement Erosion Control measures that reduce shoreline erosion		Monitor and document in Reservoir Management Reviews.	Reclamation, State Parks, and EWCD.
Integrated Pest Management			
<u>Pest/Aquatic Nuisance Management</u> First control and reduce the spread of pest/aquatic nuisance species, then work on local established populations.	Coordinate with State of Utah and Emery County Pest Control and other interested parties to regulate undesirable or invasive pests.	Monitor depredations by insects and the presence of disease and aquatic nuisances. Document in Reservoir Management Reviews.	Utah Division of Water Rights (DWR), Reclamation, State Parks, EWCD, local pest control officials, adjacent landowners, concessionaires, and other interested parties.
<u>Weeds/Noxious Weeds</u> Develop an Integrated Pest Management Plan and use to control and reduce noxious weeds and poisonous plants in the Study Area.	Require those authorized to conduct soil-disturbing activities to control noxious and/or invading weeds on the disturbed area during the use or construction period. Apply pesticides only after approval by Reclamation. Apply restricted-use pesticides under the direction of certified applicators. Follow label instructions. Reference Noxious Weed Field Guide for Utah and Emery County ordinances.	Monitor and document in Reservoir Management Reviews.	USDA, Utah State University Extension, Reclamation, State Parks, Emery County, EWCD, permittees, concessionaires, proponents, and other interested parties.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Vegetation Management			
<u>Enhance Wildlife Habitat</u> Enhance wildlife habitat where appropriate.		Evaluate habitat condition. Document in Reservoir Management Reviews.	Reclamation, State Parks, UDWR, and other interested parties.
<u>Livestock Grazing</u> Grazing is restricted at Huntington North Reservoir. See <i>Specific Area Management Direction</i> .	Prohibit grazing in the Study Area. Encourage practices that protect or enhance water quality, such as fencing.	Enforce.	Reclamation and State Parks.
<u>Revegetate Disturbed Areas</u> Revegetate disturbed or damaged areas.	Close or restrict roads as needed. Rehabilitate closed roads to approximate original contour, drain, seed and sign. Gate and/or sign restricted roads. Grade and revegetate disturbed areas from recreation development areas.	Comply in project planning and during implementation. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.
<u>Surface Disturbing Activities</u> Minimize surface-disturbing activities that alter vegetative cover.	Restrict use or close sites where erosion or environmental damage is occurring.	Document vegetative condition during Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.
<u>Vegetative Condition</u> Maintain healthy, diverse plant communities.	Do not use disking or ripping vegetation treatments unless visual objectives can be met.	Comply in the use of treatment methods. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other vegetative managing entities.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Vegetation Management (cont.)			
<u>Wetlands and Floodplains</u> Provide effective protection and management of wetlands and floodplains.	Prior to implementation of surface-disturbing activity, delineate and evaluate riparian and/or wetlands that may be impacted. Determine impacts to wetlands and, if required, obtain U.S. Army Corps of Engineers Clean Water Act 404 permit for wetlands disturbance.	Comply in planning and management. Document in Reservoir Management Reviews.	Executive Orders 11988 and 11990.
Wildlife Management			
<u>Threatened, Endangered, and Sensitive Species</u> Manage habitat of sensitive species to prevent Federal listings, and manage habitat of threatened and endangered species for recovery. Where activities or uses may limit threatened and endangered species or their habitats, initiate consultation procedures and integrate the results to determine viability of activity or use.	Coordinate with the USFWS to provide effective protection and management of threatened and endangered species.	Comply in planning and management. Document in Reservoir Management Reviews.	Reclamation, USFWS, UDWR, and other interested parties.
<u>Vegetation and Wildlife Habitat</u> Identify and protect sensitive vegetation areas and conserve long-term wildlife habitat.		Enforce and Review. Document in Reservoir Management Reviews.	State Parks and UDWR.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Applicable Goals: ▶ Provide Appropriate and Safe Access to Public Use Areas. ▶ Evaluate Proposed Additional Land Acquisitions.			
Fire Suppression			
<u>Fire Suppression</u> Employ best wildfire prevention techniques. Control wildfires at all intensity levels.		Control wildfires. Document in Reservoir Management Reviews or more often if needed.	Reclamation and State Parks.
Lands			
<u>Boundary Fences</u> Construct and maintain fences where needed to conform with acceptable standards in order to control trespass. Provide for passage and migration of wildlife.	The BLM 1995 Fencing Manual Handbook H-1741-1.	Inspect fence conditions annually. Identify maintenance and/or repair needs. Document in Reservoir Management Reviews. Contact livestock owners and take other appropriate action when animals are in trespass. Document in Reservoir Management Reviews.	Reclamation, State Parks, and UDWR.
<u>Boundary Location</u> Locate, mark, and post land lines according to the following priorities: 1. Lines needed to meet planned activities, 2. Lines needed to protect lands from encroachment, and 3. All other lines.		Report attainment. Document in Reservoir Management Reviews.	Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Lands (cont.)			
<u>Land Acquisition/Use</u> Consider requests for exchanges on a case-by-case basis when it benefits Reclamation.		Record in the Foundation Information for Real Property Management (FIRMS) or current land management system. Document in Reservoir Management Reviews.	Reclamation, EWCD, and State Parks.
<u>Land Disposal</u> Dispose of lands that are no longer needed for project purposes.	Disposal based on Federal Property and Administrative Services Act of 1949 and 41 CFR 101-47.	Record in FIRMS or current land management system. Document in Reservoir Management Reviews.	Reclamation, EWCD, and State Parks.
<u>Land/Easement Acquisition</u> Identify and evaluate lands and/or easements necessary to pursue Reclamation purposes according to the following priorities: 1. Where lands or easements are needed to meet project or resource management goals and objectives. 2. Lands that provide habitat for threatened and endangered species of animals and plants. 3. Lands having historical or cultural resources, outstanding scenic values or critical ecosystems, when these resources are threatened by change of use.		Record in the FIRMS or current land management system. Document in Reservoir Management Reviews.	Reclamation, EWCD, and other interested parties.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Lands (cont.)			
<p><u>Land Withdrawals, Disposals, and Fee Title Lands</u></p> <p>Retain existing withdrawals and lands needed for project purposes.</p> <p>Relinquish existing withdrawals and lands no longer needed for project purposes.</p>	<p>Section 204 of the Federal Land Policy and Management Act of 1976 (43 USC 1714).</p> <p>Disposal based on Federal Property and Administration Services Act of 1959 and 41CFR 101-47.</p>	<p>Conduct informal withdrawal reviews to evaluate the continuation of Reclamation withdrawals (20-year intervals, generally).</p> <p>Record relinquishments in the FIRMS or current land management system. Document in Reservoir Management Reviews.</p>	<p>Reclamation, EWCD, BLM, and State Parks.</p>
<p><u>Non-Recreation Special Use Management</u></p> <p>Act on special-use applications according to the following priorities:</p> <ol style="list-style-type: none"> 1. Land and use activity requests relating to public safety, health and welfare; for example, highways, power lines, and public service improvements. 2. Land and use activities that benefit only private users; for example, road permits, rights-of-way for power lines, telephone lines, and water lines. 	<p>Section 10 of the Reclamation Project Act of 1939 and 43 CFR 429. Discretionary consideration to deny a permit could include the following:</p> <ol style="list-style-type: none"> 1. The proposed use would be incompatible with the purpose(s) for which the lands are managed, or with other uses, or 2. The proposed use would not be in the public interest, or 3. The applicant is not qualified, or 4. The use would be inconsistent with applicable Federal and/or State laws, or 5. The applicant does not demonstrate technical or financial capability. 	<p>Review special-use permits, leases, license, easements, applications, amendments, transfers, and administration for compliance.</p>	<p>Reclamation, EWCD, State Parks, and other interested parties.</p>

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Lands (cont.)			
<u>Off-site Influences to Recreation Sites</u> Approve special-use applications for areas adjacent to recreation sites when the proposed use is compatible with project purposes and use of the recreation site.	Section 10 of the Reclamation Project Act of 1939 and 43 CFR 429.	Evaluate recreation setting, experience, and management objectives.	Reclamation, State Parks, and other interested parties.
<u>Pollution Control and Abatement</u> Verify that all activities requiring a Spill Prevention Control and Counter Measure Plan are in compliance.	Report oil and chemical spills to the EPA National Response Center in Denver, Colorado; the Utah Emergency Response Center in Salt Lake City; Emery County Sheriff's Department; and Reclamation, as directed by the Emergency Action Plan.	Comply with the Emergency Action Plan.	Reclamation, State of Utah, and Emery County.
<u>Resource Activities</u> Comply with the intent of project purposes in the design and implementation of resource development activities.	Verify crossing agreements, out grants, unauthorized uses, and health and safety hazards. Identify lands not needed for project purposes.	Update Land Use Inventories annually. Document in Reservoir Management Reviews.	Reclamation, EWCD, State Parks, UDWR, and other interested parties.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Lands (cont.)			
<u>Utility Lines</u> Encourage burying utility lines, except when: <ol style="list-style-type: none"> 1. Visual quality objectives of the area can be met using an overhead line. 2. Burial is not feasible because of soil erosion, geological hazard, or unfavorable geologic conditions. 3. Greater long-term site disturbance would result. 4. It is not technically feasible or economically reasonable. 		Conduct on-site inspections.	Reclamation, State Parks, and other entities.
Roads/Trails			
<u>Private Purpose Roads</u> Put roads under special-use permits or Right-of-Way easements that are needed for private uses. Exceptions are for public travel and administration.	Section 10 of the Reclamation Project Act of 1939 and 43 CFR 429.	Record in FIRMS or current land management systems. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.
<u>Roads Across Private Lands</u> Where appropriate, acquire rights-of-way for roads and trails that cross private lands.		Record in the FIRMS or current land management system. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Roads/Trails (cont.)			
<u>Road Maintenance and Use</u> Pursue agreements with private or public entities to provide ongoing maintenance of roads and parking areas. Restrict vehicular traffic to designated improved roads, except for authorized uses. Close roads when unacceptable environmental or road damage is occurring. Maintain structures, bridges, cattle guards, etc., to be structurally sound and safe for use. Coordinate with UDOT to assure safe ingress and egress.		Document in Reservoir Management Reviews. Comply with agreements and permits. Document road condition. Conduct on-site inspections.	Reclamation, State Parks, and UDOT.
<u>Road Rehabilitation</u> As appropriate, convert roads not needed for authorized activities to trails, or rehabilitate the road to approximate predisturbed conditions.		Record in FIRMS or current land management system. Document at Reservoir Management Reviews.	Reclamation, EWCD, and State Parks.
<u>Special Purpose Roads and Trails</u> Meet existing and potential needs by encouraging development of roads or trails when constructed or reconstructed for special purposes.		Comply with existing contracts and agreements.	Reclamation and State Parks.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Roads/Trails (cont.)			
<u><i>Specific Purpose Roads and Trails</i></u> Construct or reconstruct local roads and trails to provide access for specific resource activities such as campgrounds, trailheads, wildlife management, and leases. Fit roads/trails to the topography and minimize the amount of surface disturbance. See <i>Specific Area Management Direction</i> .		Comply with existing contracts and agreements.	Reclamation, EWCD, State Parks, and other entities.
<u><i>Trail Maintenance and Use</i></u> Maintain trails for designated uses and restrict trails from inappropriate uses.		Determine trail condition and travel status. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.
Travel/Access			
<u><i>Automobile/Motorized Vehicle Travel</i></u> Prohibit vehicles from traveling and parking outside designated roads and parking areas.	43 CFR 420.		Reclamation, UDOT, State Parks, and Emery County Sheriff's Department.
<u><i>Disability Access</i></u> Construct accessible facilities that meet current guidelines.	Americans with Disabilities Act Accessibility Guidelines and Uniform Federal Accessibility Standards .	Comply. Document in Reservoir Management Reviews.	Reclamation and State Parks.
<u><i>Land Trespass</i></u> Where practicable, resolve land ownership, roads, and trespass issues.	Identify land owners, involved management entities, roles, and issues. Encourage coordination and cooperation among all involved entities.	Monitor in reservoir reviews.	Reclamation, State Parks, and other interested parties.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

AREA-WIDE MANAGEMENT DIRECTION			
LAND MANAGEMENT			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Travel/Access (cont.)			
<u>Off-highway Vehicles (OHV)</u> Restrict OHV use as appropriate. Provide OHV enforcement through Federal, State, County, or local law enforcement agencies.	OHV Use Designations: All Reclamation lands are closed to OHV use, except for areas or trails specifically designated as open.	Evaluate the necessity of all roads and trails and document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties
<u>Visitor Access</u> Provide appropriate access. See <i>Specific Area Management Direction</i> .			State Parks and Reclamation:

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
DAM AND DIKE AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Restrict public access as appropriate to protect public health, safety and welfare. Manage primarily for water operations and maintenance.		Comply with and manage for water related project purposes.	EWCD and Reclamation.
Water Resources			
<u>Water Operations</u> Operate according to contracts between Reclamation and EWCD.	Agreements between Reclamation, UDWR, USFWS, and EWCD.	Review plans and agreements as often as needed.	Reclamation, EWCD, UDWR, and USFWS.
<u>Water Quality</u> Establish/support partnerships with all appropriate parties to ensure that contaminant levels do not approach maximum levels established by the EPA. As appropriate, determine the effects of reservoir water operations on reservoir resources.	Comply with current water quality and sanitation standards and reporting requirements.	Review plans and agreements as often as needed.	Reclamation, EWCD, and UDEQ/DWQ.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
DAM AND DIKE AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Prohibit public activities in the Dam and Dike Area as appropriate.		Enforce.	Reclamation, State Parks, and EWCD.
<u>Visual Management</u> Manage for a low visual integrity as viewed from on site.	<u>Low Visual Integrity Level</u> Allow developments that are visually dominating, but that harmonize with the natural landscape. Allow up to 5 years after project completion for revegetation to meet this objective on site.		Reclamation and EWCD.
Natural and Cultural Resources <i>See Area-Wide Management Direction.</i>			
Land Management			
<u>Access</u> If dam safety and security are not compromised, maintain existing non-motorized trail access. Consider proposals for developing a dike trail inside the Study Area along State Highway 122 between the State Park and the existing dike trail to the north to facilitate a safe trail connection to existing facilities. Generally, do not develop or maintain other access points.		Monitor and document in Reservoir Management Reviews.	Reclamation, EWCD, and State Parks.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
STATE PARK AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Manage as a Developed Overnight Recreation Area, Developed Day Use Recreation Area, and Administration Area. Allow uses that protect reservoir water quality and that compliment day use and overnight recreation activities. Allow private concessions that compliment recreation uses and do not conflict with water operations.	Comply with water and related project agreements and purposes while managing primarily for developed recreation.	Document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
<u>Facilities</u> Control erosion and pollutant loading including fuel spills.	Comply with current water quality and sanitation standards and reporting requirements.	Inspect fuel storage facilities. Document in Reservoir Management Reviews.	State Parks, Reclamation, Federal, State, and Emery County water and sanitation entities.
<u>Water Conservation and Development</u> Apply water conservation techniques in the development of restrooms, drinking water, and landscape irrigation facilities.		Document in Reservoir Management Reviews or as needed.	State Parks, EWCD, Reclamation, Emery County, and sanitation entities.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
STATE PARK AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Manage for a Rural land-based recreation opportunity experience.	<u>Rural Recreation Opportunity Spectrum (ROS) Class and Development Scale 4</u> Provide highly developed facilities that are mostly designed for user comfort and convenience. Allow a development density of approximately 5 family units per acre. Facilities may be formalized and the architecture may be contemporary.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Facility Development</u> Improve existing facilities. Consider providing amenities such as new pavilions, landscaping, restrooms, trails, and parking. Provide environmental and cultural resource interpretation information as appropriate.	<u>Rural Recreation Opportunity Spectrum (ROS) Class and Development Scale 4</u> Encourage the use of formal walks and hard-surfaced use areas. Plant material may be foreign to the environment, including turf.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Recreational Opportunities</u> Continued uses could include picnicking, camping, hiking, interpretation, and access to water-based recreation activities. Boating capacity would be based on land facility constraints (e.g., parking facilities).		Document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
STATE PARK AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources (cont.)			
<u>Visual Management</u> Manage for moderate visual integrity as viewed from off-site.	<u>Moderate Visual Integrity Level</u> Allow developments that appear subordinate to the natural landscape. Allow up to 5 years after project completion for vegetation to meet this objective on site.	Evaluate site condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources See Area-Wide Management Direction.			
Land Management			
<u>Site Protection</u> Determine specific location of the Study Area boundary and provide fencing as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.

**Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary
(cont.).**

SPECIFIC AREA MANAGEMENT DIRECTION			
NORTH AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Manage as a Primary Jurisdiction Area, Natural Area, and Administrative Area. Allow uses that protect water quality, reduce trespass, and are compatible recreation day-use activities.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
<u>Water Quality Protection</u> See Area-Wide Management Direction.			

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
NORTH AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Manage for a Roaded Natural/Semi-primitive Motorized Land-based recreation opportunity experience. Restrict overnight uses.	<u>Roaded Natural/Semi-primitive Motorized Recreation Opportunity Spectrum (ROS) Class and Development Scale 2</u> Minimize site modification. Provide improvements for protection of the site rather than comfort of users. Avoid using synthetic materials where possible. Make visitor controls subtle. Minimize obvious visitor regimentation. Allow motorized land access for administrative purposes. Restrict or prohibit public motorized vehicle use to enhance natural resources. Minimize development of public recreation facilities; protect and interpret natural resources as appropriate. Comply in planning, design, and construction. State Park Rule R651-605.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Visual Management</u> Manage for a Moderate Visual Integrity as viewed from off site.	<u>Moderate Visual Integrity Level</u> Allow developments that appear subordinate to the natural landscape. Allow up to 2 years after project completion for vegetation to meet this objective.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
NORTH AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Natural and Cultural Resources			
<u>Cultural Site Protection</u> See Area-Wide Management Direction.			
<u>Erosion Control</u> See Area-Wide Management Direction.			
<u>Noxious Weeds and Pests</u> See Area-Wide Management Direction.			
<u>Vegetation and Wildlife Habitat</u> Identify and protect sensitive vegetation areas and conserve long-term wildlife habitat.		Enforce and review. Document in Reservoir Management Reviews.	State Parks and UDWR.
Land Management			
<u>Access</u> Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Site Protection</u> Determine specific boundary location and control trespass.		Monitor and document in Reservoir Management Reviews.	State Parks, Reclamation, and Emery County.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
INLET AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Manage as a Primary Jurisdiction Area and Natural Area. Allow uses that protect water quality, reduce trespass, and are compatible recreation day-use activities.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
<u>Water Quality Protection</u> See Area-Wide Management Direction.			
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Manage for a Roaded Natural/Semi-primitive Motorized land-based recreation experience. Restrict overnight uses.	<u>Road Natural/Semi-primitive Motorized Recreation Opportunity Spectrum (ROS) Class and Development Scale 2</u> Minimize site modification. Provide improvements for protection of the site rather than comfort of users. Avoid using synthetic materials where possible. Make visitor controls subtle. Minimize obvious visitor regimentation. Allow motorized land access for administrative purposes. Restrict or prohibit public motorized vehicle use to enhance natural resources. Minimize development of public recreation facilities; protect and interpret natural resources as appropriate.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
INLET AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources (cont.)			
<u>Visual Management</u> Manage for moderate visual integrity as viewed from off site.	<u>Moderate Visual Integrity Level</u> Allow developments that appear subordinate to the natural landscape. Allow up to 2 years after project completion for vegetation to meet this objective on site.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
<u>Cultural Site Protection</u> See Area-Wide Management Direction.			
<u>Erosion Control</u> See Area-Wide Management Direction.			
<u>Noxious Weeds and Pests</u> See Area-Wide Management Direction.			
<u>Vegetation and Wildlife Habitat</u> Identify and protect sensitive vegetation areas and conserve long-term wildlife habitat.		Enforce and review. Document in Reservoir Management Reviews.	State Parks and UDWR.
Land Management			
<u>Access</u> Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
SOUTHWEST COVE AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Manage as a Primary Jurisdiction Area. Restrict public access as appropriate to protect public health, safety, and welfare. Allow uses that protect water quality and natural resources, and that compliment day-use recreation activities.	Comply with water and related project agreements and purposes while managing primarily for dispersed recreation.	Document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
<u>Water Quality Protection</u> See Area-Wide Management Direction.			
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Manage for a Roaded Natural/Semi-Primitive Motorized land-based recreation opportunity experience.	<u>Roaded Natural/Semi-Primitive Motorized Recreation Opportunity Spectrum (ROS) Class and Development Scale 2</u> Provide improvements for protection of the site rather than comfort of the user. Avoid the use of synthetic materials, where possible. Make visitor controls subtle. Allow motorized land access for administrative purposes. Restrict or prohibit public motorized vehicle use to enhance natural resources. Minimize development of public recreation facilities. Protect and interpret natural resources as appropriate.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
SOUTHWEST COVE AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources (cont.)			
<u>Facility Development</u> Generally, do not provide recreation facilities, except consider a non-motorized trail.		Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Visual Management</u> Manage for moderate visual integrity as viewed on site.	<u>Moderate Visual Integrity Level</u> Allow developments that appear subordinate to the on-site natural appearing landscape. Allow up to 2 years after project completion for revegetation to meet this objective.	Evaluate site condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources <i>See Area-Wide Management Direction.</i>			
Land Management			
<u>Site Protection</u> Determine specific boundary location. Study feasibility of fencing project boundary.		Monitor and document in Reservoir Management Reviews.	Reclamation, State Parks, and Cache County.
<u>Access</u> Access is provided as walk-in/boat-in only. Close access when liability, safety, or security is threatened.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
RESERVOIR INUNDATION AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
General Management and Partnerships			
<u>Area Management</u> Manage for project and recreation purposes.	Agreements between Reclamation, EWCD, State Parks, and UDWR.	Monitor and document in Reservoir Management Reviews.	Reclamation, EWCD, State Parks, and UDWR.
Water Resources			
<u>Water Operations</u> Operate according to contracts between Reclamation and EWCD.		Review plans and agreements as often as needed.	Reclamation and EWCD.
<u>Water Quality</u> <i>See Area-Wide Management Direction.</i> Support partnerships with all appropriate parties to ensure that contaminant levels do not approach maximum levels establish by the EPA. Determine the effects of reservoir water operations on reservoir resources.	Comply with current water quality and sanitation standards and reporting requirements.	Review plans and agreements as often as needed.	Reclamation, EWCD, UDEQ/DWQ, and USFWS.

Table 3-2. Huntington North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
RESERVOIR INUNDATION AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Recreational and Visual Resources			
<u>Appropriate Recreation Opportunity Spectrum (ROS) Management</u> Manage for a Roaded Natural Appearing/Urban water-based recreation opportunity experience.	<u>Urban Recreation Opportunity Spectrum (ROS) Class and Development Scale 5</u> Allow high-density use such as beach and group uses as appropriate.	Evaluate ROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Facility Development</u> See adjacent land management areas.		Document in Reservoir Management Reviews.	State Parks and Reclamation.
<u>Recreational Opportunities</u> Provide for water-based recreation activities such as swimming, boating, skiing, sailing, and fishing. Manage portions of Huntington North Reservoir near the North Area, State Park Area, and Southwest Cove Area as wakeless.		Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
<u>Erosion Control</u> See Area-Wide Management Direction.			
<u>Fishery</u> Coordinate and cooperate with UDWR and other appropriate agencies to develop a fishery management program that provides appropriate fishing opportunities.		Review and document in Reservoir Management Reviews.	Reclamation, State Parks, and UDWR.
<u>Shoreline Protection</u> See Area-Wide Management Direction.			

Table 3-2. Hungtinton North Reservoir Resource Management Plan (RMP) summary (cont.).

SPECIFIC AREA MANAGEMENT DIRECTION			
RESERVOIR INUNDATION AREA			
MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACT AND REFERENCE
Land Management			
<u>Access</u> Maintain and improve (i.e., extend) the existing boat ramp access at the State Park Area.		Monitor and document in the Reservoir Management Reviews.	Reclamation and State Parks.

RESOURCE MANAGEMENT PLAN IMPLEMENTATION

INTRODUCTION	4-1
HUNTINGTON NORTH RESERVOIR RESOURCE MANAGEMENT PLAN (RMP) REVISION AND AMENDMENT	4-2
HUNTINGTON NORTH RESERVOIR RESOURCE MANAGEMENT PLAN (RMP) COMPONENTS FOR IMPLEMENTATION	4-3

ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

CHAPTER 4: RESOURCE MANAGEMENT PLAN (RMP) IMPLEMENTATION



The Southwest Cove area is a popular “no-fee” area at Huntington North Reservoir.

INTRODUCTION

During implementation of this Resource Management Plan (RMP), the U.S. Department of the Interior (USDI), Bureau of Reclamation (Reclamation) and its partners will be guided by existing and future laws, regulations, policies, and guidelines. This RMP is designed to supplement, not replace, direction from these sources.

The RMP will protect and maintain the congressionally authorized Huntington North Project purposes, such as ensuring water integrity, to provide direction for contracts, permits, leases, and license agreements and to meet the requirements of the Reclamation Act of June 17, 1902 (32 Stat. 388, 43 U.S.C. 391), and the following acts amendatory thereof and supplementary thereto:

Federal Water Project Recreation Act (PL 89-72, 79 Stat. 213, 16 U.S.C. 460); Reclamation Recreation Management Act of 1992, (PL 102-575, Title 28, 16 U.S.C. 460L); Fish and Wildlife Coordination Act (PL 85-624, U.S.C. 661, 662); Endangered Species Act (PL 93-205, 16 U.S.C. 1531 et seq.); National Historic Preservation Act of 1966 (80 Stat. 915, 16 U.S.C. 470) as amended; National Environmental Policy Act of 1969 (PL 91-190, Stat. 852); Clean Water Act (PL 95-217 33 U.S.C. 466 et seq.); National Safe Drinking Water Act (PL 93-523 S. 433; and other applicable environmental, cultural resources, fish and wildlife, mineral, disabilities, conservation, real property, and pesticide statutes, executive orders, Code of Federal Regulations, and Departmental policies.

Coordination and cooperation with administering entities is necessary for successful implementation of the RMP. Entities include: Emery County and other local governments; the Emery Water Conservancy District; the Utah Department of Parks and Recreation; the Utah Department of Natural Resources, Division of Wildlife Resources; the Utah Department of Environmental Quality, Division of Water Quality; the USDI Fish and Wildlife Service; the U.S. Army Corps of Engineers; permittees; users; interested public; and others.

HUNTINGTON NORTH RESERVOIR RESOURCE MANAGEMENT PLAN (RMP) REVISION AND AMENDMENT

If needed, a decision to amend the RMP will be determined by Reclamation as issues arise. Factors that could affect a plan revision include the following:

- ▶ plan implementation that substantially alters the goals of the RMP;
- ▶ changes necessitated by changed social, physical and environmental, or economic conditions; and
- ▶ uses that require authorization from permits, contracts, and cooperative agreements that are not consistent with the RMP.

It is expected that a comprehensive RMP revision would occur within the next 10 to 15 years. Resource Management Plan monitoring should occur every 3 to 5 years or more often as needed.

This RMP responds to 2001 to 2004 circumstances, information, and managerial roles and relationships. Amendments may be necessary over time to maintain a viable, workable RMP for management of Huntington North Reservoir resources. The need for plan amendment will likely be identified during implementation or monitoring by the user public or interested agencies if there are resource or use changes or new issues that need to be addressed. The user public or interested agencies may also identify deficiencies, problems, or issues that need to be addressed. It is recommended that a process similar to that employed in the development of this RMP be used to prepare RMP amendments.

HUNTINGTON NORTH RESERVOIR RESOURCE MANAGEMENT PLAN (RMP) COMPONENTS FOR IMPLEMENTATION

A precise schedule cannot be developed for implementing provisions of the RMP due to the uncertainty of funding availability. Therefore, the implementation discussion that follows indicates general phasing considerations and priorities. Those actions that do not require new or additional funding are scheduled for immediate implementation. Since this RMP identifies such items as capital and facility improvements for budgeting purposes, improvements that require additional appropriations of funds will occur over a period of years as funds become available. Table 4-1 provides a summary of the RMP implementation schedule.

**Table 4-1. Huntington North Reservoir Resource Management Plan (RMP)
implementation schedule.**

MANAGEMENT DIRECTION (CHAPTER 3)	IMPLEMENTATION COMPONENT	TARGET YEAR
Partnerships		
Project Purposes (page 3-4)	Evaluate proposed use activities against original purposes, contracts, and agreements.	2005 and Continuing
Fish and Wildlife Management and Use (page 3-9)	Manage Study Area lands for fish and wildlife use as appropriate. Work with appropriate entities to protect, propagate, manage, conserve, and distribute fish and wildlife resources.	2005 and Continuing
Interpretive Partnerships and Programs (pages 3-10 and 3-11)	Coordinate interpretive efforts with appropriate entities. Promote interpretive and educational programs to help resolve management problems, reduce management costs, obtain visitor feedback, increase public understanding of project management, enhance visitor use, and provide safe use of the Study Area.	2005 and Continuing

**Table 4-1. Huntington North Reservoir Resource Management Plan (RMP)
implementation schedule (cont.).**

MANAGEMENT DIRECTION (CHAPTER 3)	IMPLEMENTATION COMPONENT	TARGET YEAR
Partnerships (cont.)		
Signage (page 3-12)	Establish clear, consistent signage to orient the public and identify available opportunities at use areas and facilities. Provide signs at key locations for effective visitor orientation, such as entrances, boat ramps, picnic areas, and camping areas. Coordinate warning, traffic control, interpretive, and informational signs. Post boundary signs at pertinent locations.	2005 and Continuing
Appropriate Law Enforcement (page 3-13)	Maintain law and order to protect the health, safety, and welfare of persons using the Study Area.	2005 and Continuing
Discharge of Firearms and Hunting (pages 3-13 and 3-14)	Prohibit discharge of firearms, bow and arrow, or air and gas weapons across, into, or from the Study Area. Close the Study Area to hunting.	2005 and Continuing
Local, State, Federal, and Private Entities (pages 3-15 to 3-16)	Support, encourage, pursue, and/or continue partnerships to facilitate best management of resources while providing benefits to partners.	2005 and Continuing
Water Resources		
Watershed Protection Management (page 3-17)	Encourage management practices that maintain or improve reservoir water quality and stream flows. Encourage neighboring jurisdictions to construct and maintain facilities to protect and improve water quality.	2005 and Continuing
Best Management Practices (BMPs) (page 3-18)	Implement BMPs relative to water quality protection in all resource management activities. As appropriate, implement a public education program to interpret the benefits of water quality and to prevent activities that produce pollution.	2005 and Continuing
Water Quality Protection (page 3-19)	Identify water quality impacts coming from inside the Study Area and improve and maintain water quality as possible.	2005 and Continuing

Table 4-1. Huntington North Reservoir Resource Management Plan (RMP) implementation schedule (cont.).

MANAGEMENT DIRECTION (CHAPTER 3)	IMPLEMENTATION COMPONENT	TARGET YEAR
Recreational and Visual Resources		
Development Requirements (page 3-21)	Comply with applicable Federal, State, and local laws, rules, and regulations in the development of facilities, including sanitation facilities. Develop facilities based on compatibility with authorized reservoir project purposes, long-term management and funding capability, management goals and objectives, and environmental protection factors.	2005 and Continuing
Facility Renovation or Replacement (page 3-21)	Generally replace facilities when renovation costs are 50 percent or more of replacement costs or when existing facilities cease to be compatible with site design or Recreation Opportunity Spectrum (ROS) classification.	2005 and Continuing
Health and Safety (page 3-23)	Ensure appropriate law enforcement, waste, and fire management regulations and facilities are in place and enforced in recreation areas.	2005 and Continuing
Maintenance in General (page 3-23)	Provide facility maintenance to ensure an acceptable level of public safety, health, and natural resources protection.	2005 and Continuing
Parking Below the High Water Mark (page 3-24)	Generally prohibit public motorized land vehicles from driving or parking on beaches or below the high water mark, with the exception of watercraft launching at appropriate sites.	2005 and Continuing
Watercraft Limit (page 3-26)	Manage watercraft capacity through the State Boating Act and State of Utah Strategic Boating Plan as needed to protect public safety, recreational purposes, natural resources, and recreational experiences.	2005 and Continuing
Dam and Dike Area (page 3-50)	Prohibit public activities in the Dam and Dike Area as appropriate.	2005 and Continuing
State Park Area Management (page 3-52)	Manage for highly developed recreational facilities that include day use, overnight camping, and administrative uses.	2005 and Continuing

Table 4-1. Huntington North Reservoir Resource Management Plan (RMP) implementation schedule (cont.).

MANAGEMENT DIRECTION (CHAPTER 3)	IMPLEMENTATION COMPONENT	TARGET YEAR
Recreational and Visual Resources (cont.)		
State Park Area Facilities Development (page 3-52)	Construct/rehabilitate recreation facilities.	As specific projects are proposed and funds become available
North Area Management (page 3-55)	Manage as a Primary Jurisdiction Area, Administrative Area, and Natural Area. Allow uses that protect water quality, reduce trespass, and protect the area's natural resources.	2005 and Continuing
Inlet Area Management (page 3-57)	Manage as a Primary Jurisdiction Area and Natural Area. Allow uses that protect water quality, reduce trespass, and protect the area's natural resources.	2005 and Continuing
Southwest Cove Area Management (page 3-59)	Manage as a Primary Jurisdiction Area. Allow uses that do not interfere with water operations and that protect water quality and the area's natural resources.	2005 and Continuing
Southwest Cove Area Facilities Development (page 3-60)	Generally, do not provide recreation facilities, except to allow a trailhead and non-motorized trail until such time as liability, maintenance, safety, and security concerns require closure.	As specific projects are proposed and funds become available
Reservoir Inundation Area Management (page 3-62)	Manage for authorized project purposes.	2005 and Continuing

**Table 4-1. Huntington North Reservoir Resource Management Plan (RMP)
implementation schedule (cont.).**

MANAGEMENT DIRECTION (CHAPTER 3)	IMPLEMENTATION COMPONENT	TARGET YEAR
Natural/Cultural/Paleontological Resources		
Cultural and Paleontological Resources Management (page 3-34)	Protect and foster public use and enjoyment of cultural and paleontological resources.	2005 and Continuing
Fisheries Habitat Management (page 3-35)	Maintain or enhance the habitat quality of the fishery as appropriate.	As specific projects are proposed and funds become available
Soil Protection (page 3-37)	Minimize adverse impacts to the soil resource, including accelerated erosion, compaction, contamination, and displacement as appropriate.	2005 and Continuing
Nuisance Pest, Aquatic, Weeds, and Noxious Weeds Management (page 3-38)	Develop an Integrated Pest Management Plan and use to control and reduce nuisance species in the Study Area. First control and reduce the spread of nuisance species, then work on local established populations.	2005 and Continuing
Threatened, Endangered, and Sensitive Species Management (page 3-40)	Where activities or uses may adversely affect threatened and endangered species or their habitats, initiate consultation procedures and integrate the results to determine viability of activity or use.	As activities are identified
Vegetation and Wildlife Habitat Management (page 3-40)	Identify and protect sensitive vegetation areas and conserve long-term wildlife habitat.	2005 and Continuing

**Table 4-1. Huntington North Reservoir Resource Management Plan (RMP)
implementation schedule (cont.).**

MANAGEMENT DIRECTION CHAPTER 3	IMPLEMENTATION COMPONENT	TARGET YEAR
Land Management		
Fire Suppression (page 3-41)	Employ best wildfire prevention techniques. Control wildfires at all intensity levels.	2005 and Continuing
Boundary Fences (page 3-41)	Construct and maintain fences where needed to conform with acceptable standards in order to control trespass. Provide for passage and migration of wildlife.	2005 and Continuing
Boundary Location (page 3-41)	Locate, mark, and post land lines.	2005 and Continuing
Road Maintenance and Use (page 3-46)	Restrict vehicular traffic to designated improved roads, except for authorized uses.	2005 and Continuing
Land Trespass (page 3-47)	Where practicable, resolve land ownership, road, and trespass issues.	2005 and Continuing
Off-highway Vehicles (OHV) (page 3-48)	Restrict OHV use as appropriate. Provide OHV enforcement through Federal, State, County, or local law enforcement agencies.	2005 and Continuing

Chapter
5

LIST OF PREPARERS

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ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

CHAPTER 5: LIST OF PREPARERS



View of the Dam and Dike Area including hiking trail at Huntington North Reservoir.

INTRODUCTION

The following is a list of preparers who participated in the development of the Final Environmental Assessment (EA) (Reclamation 2004) and Resource Management Plan (RMP). They include Huntington North Reservoir RMP Project Team Members; U.S. Department of Interior, Bureau of Reclamation Team Members; and other contributors.

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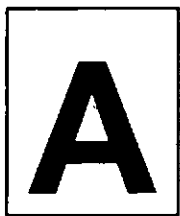
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APPENDICES

APPENDIX A:

ISSUE STATEMENTS AND GOALS AND OBJECTIVES

**APPENDIX A: ISSUE STATEMENTS
AND GOALS
AND OBJECTIVES**

ABBREVIATIONS

BLM	USDI Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Federal Clean Water Act
DEQ	Utah Department Environmental Quality
DWR	Utah Department of Natural Resources, Division of Water Rights
DWQ	Utah Department of Environmental Quality, Division of Water Quality
EA	Environmental Assessment
EWCD	Emery Water Conservancy District
Forest Service	USDA Forest Service
GIS	Geographic Information System
ITAs	Indian Trust Assets
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PAOT	persons at one time
Plan	Huntington North Reservoir RMP
Project Team	Huntington North Reservoir RMP Interdisciplinary Team
Study Area	Huntington North Reservoir RMP Study Area
PWG	Resource Management Planning Work Group
Reclamation	USDI Bureau of Reclamation
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
SCS	Soil Conservation Service
SHPO	Utah State Historic Preservation Office
State Parks	Utah Department of Natural Resources, Division of Parks and Recreation
TCP	Traditional Cultural Properties
UDOT	Utah Department of Transportation
UDWR	Utah Department of Natural Resources, Division of Wildlife Resources
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMS	Visual Management System

APPENDIX A: ISSUE STATEMENTS AND GOALS AND OBJECTIVES

The Huntington North Reservoir Resource Management Plan (RMP) Project Issue Statements and Project Goals and Objectives represent the guidelines that were used for developing resource management alternatives. Appendix A is divided into two sections: (1) Issue Statements and (2) Goals and Objectives. The Issue Statements identify the issues and opportunities, identified through public and agency scoping, that will be addressed and solved through the course of the RMP process. The Goals and Objectives respond to the issues and opportunities identified in the Issue Statements. The Goals give a description of the desired future resource conditions at Huntington North Reservoir, while the Objectives define those activities required to achieve each Goal. The RMP project Issue Statements and project Goals and Objectives are detailed below.

ISSUE STATEMENTS

These Issue Statements are the results of an exploration of identified issues and opportunities that should be addressed by the Huntington North Reservoir RMP Project. The Issue Statements provide detailed discussions of the primary issues or opportunities identified by the public and involved agencies. Although the Issue Statements provide a necessary foundation for the RMP process by representing both public and entities opinions, some of the statements may reflect “perceptions” rather than factual data. The Issue Statements are intended to clarify the scope of each concern and to provide the foundation for the development of RMP Goals and Objectives.

The contents of these Issue Statements were based on comments received (1) from the general public at the Public Workshop held January 23, 2002, in Huntington, Utah; (2) from the general public through the Voluntary Mail-In Response Form contained in the first Huntington North Reservoir RMP newsletter; (3) from agency personnel interviewed during the planning process; and (4) from the Planning Work Group (PWG) formed for the RMP project. The PWG is comprised of approximately 20 individuals who represent agencies and resource user groups that have a significant interest in the future management and use of Huntington North Reservoir. The PWG has provided the primary input for the development of these Issue Statements.

The first draft of the Issue Statements was reviewed and discussed at the PWG’s first meeting in January 2002. A series of revised drafts of the Issue Statements was distributed and reviewed by PWG and Huntington North Reservoir RMP/Environmental Assessment (EA) Interdisciplinary Project Team (Project Team) members in February, March, and April 2002. A final draft of the Issue Statements is presented below. The Issue Statements are divided into the following Issue Categories: (A) Partnerships, (B) Water Resources, (C) Recreational and Visual Resources, (D) Natural and Cultural Resources, and (E) Land Management.

Issue Category A: Partnerships

Issue A1: Partnership Contracts

Existing contracts should be considered/protected before defining secondary public roles and responsibilities of involved entities to make sure proposed actions are consistent with contractual and legal obligations. Explore the possibility of additional partnerships that could mutually improve management of Huntington North Reservoir.

Issue Category B: Water Resources

Issue B1: Water Quality

Current State designated beneficial uses of Huntington North Reservoir are primary contact recreation such as swimming (class 2A); secondary contact recreation such as boating, wading, or similar uses (class 2B); warm-water species of game fish and other warm-water aquatic life, including the necessary aquatic organisms in their food chain (class 3B); and agricultural uses including irrigation of crops and stock watering (class 4). Water quality may be an issue at Huntington North Reservoir for the State-designated beneficial use of a warm-water fishery. The State water quality standard for minimum dissolved oxygen readings has not been met for this designated use (5.0/3.0 mg/l) at lower depths (below 2.7 meters [9.0 feet]), during sampling in August 1995, 1997, 1999, and once in June 1979. In addition, individual total phosphorus concentrations exceeded State water quality indicators (.025 mg/l) for this same designated use in June and August 1991, and again in June 1999. The Project Team will research the necessary data to identify effects, if any, to water quality for all State beneficial use designations.

Issue B2: Water Operations

Water level fluctuations at Huntington North Reservoir are a concern for recreation as a secondary use of Study Area lands. Of particular concern is the affect of low water levels on park visitation and park facilities. Contractual limitations between the water district and Reclamation, and mutual alternatives to keep reservoir levels as high as possible, should be considered. It should be noted that in summer months, up to 12,335 cubic meters (10 acre-feet) of water are lost to evaporation and seepage on a weekly basis.

Issue Category C: Recreational and Visual Resources

Issue C1: Recreation Development

Huntington State Park needs a larger picnic/day-use area. The park could also use a group-use area but may lack the space for one. Existing park facilities are at capacity when the campground is full. The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) and Utah State Division of Parks and Recreation (State Parks) have recently provided seven additional picnic pavilions for the day-use area. Long-range plans for the nature trail include developing a rest area with benches and an interpretation kiosk near the inlet facilities. A recreation design capacity limit needs to be identified at the reservoir. An accessible fishing dock should be located and developed where feasible.

Issue C2: Huntington State Park Facilities

In the Southwest Cove area, the lack of adequate parking, restroom facilities, and accessible facilities, such as a trail and fishing dock, are concerns. Management requirements will need to be addressed if new facilities are provided. There are also security and law enforcement concerns about such facilities, mostly related to vandalism and littering. Currently there is no group camping area in the park. In addition, the Huntington State Park irrigation system needs to be upgraded so that landscaped areas can be irrigated during low water levels.

Issue C3: Use Conflicts

Conflicts between boaters, personal watercraft users, sailors, and anglers are a problem at Huntington North Reservoir. This situation occurs because the premium fishing and/or sailing months are typically concurrent with the high-use boating season. Because of the small size of the reservoir, it is difficult for anglers and sailors to find an area free of wave action. Therefore, boating management goals should be implemented by park management if warranted and needed. Designated wakeless zones may be needed on the reservoir to help minimize such conflicts. Recommended wakeless zones include the Southwest Cove Area, the southeast corner near the dike, and/or the reservoir's inlet. Completing a visitor use survey and review of the State boating regulations and boating plan would help to determine what is desired and allowed. Illegal swimming and diving in unregulated areas of the reservoir also need to be addressed.

Issue C4: Hunting on Study Area Lands

Safety is a concern as it pertains to hunting on Study Area lands. Distances between hunters and structures at Huntington North Reservoir and surrounding lands are questionable. The RMP process should study hunting as a viable recreational use and identify those areas where hunting is permissible.

Issue C5: Visual Quality

At full pool, the reservoir's visual variety is distinctive, giving the appearance of an "oasis" in an otherwise desert environment. By the end of the irrigation season, when the reservoir is at its low point, the reservoir becomes much less distinctive and displays expanses of muddy, unvegetated reservoir bottom. Design of recreation structures and facilities should blend or compliment each other to protect the existing visual resource.

Issue Category D: Natural and Cultural Resources

Issue D1: Noxious and Invasive Weeds

The introduction and spread of noxious and invasive weeds within the Study Area, particularly purple loosestrife, tamarisk, white top, musk thistle, Canada thistle, Russian olive, and others are major concerns. The Emery Water Conservancy District and Emery County expend major resources on weed control. The RMP should suggest a plant list for the State Park that is agreeable to all concerned parties and that can be referenced when planting is needed. There are also concerns about mosquito breeding habitat in the Study Area and some types of submerged aquatic weeds that are being introduced by boats. An Integrated Pest Management Plan is also needed.

Issue D2: Reservoir Fishery

Maintaining a good fishery at Huntington North Reservoir is very important since it is one of the few managed warm-water fisheries in southeastern Utah. It is also a recreation concern for Huntington State Park, since the quality of fishing has an effect on State Park visitation. The lack of fish habitat is also a concern. Any proposal for adding fish habitat structures must not interfere with water operations. There are some concerns about illegal plantings of fish in the reservoir and fish trapped in the outlet.

Issue D3: Threatened, Endangered, and Sensitive Species

The potential occurrence of threatened, endangered, and special status species should be evaluated. Bald eagles are known to roost within the Study Area during winter, and peregrine falcons potentially occur in the area. There are also concerns for protecting riparian areas. Some type of education or interpretation for these species may be helpful for informing the public.

Issue D4: Soil Erosion and Deposition

Bank erosion is occurring in certain areas of Huntington North Reservoir, including the inlet area, the retaining wall abutting the State Park, and the southwest shoreline area. Eroding shorelines in public use areas should be further identified.

Issue D5: Cultural Resources

Identification, management, and interpretation of the cultural and area resources within the Study Area should be considered. One of those resources includes the historical highway that is currently under the reservoir. Existing interpretive facilities include three monuments within the Study Area that describe the nearby historical communities of Hiawatha, Victor, and Mohrland. Cultural resource sites are susceptible to erosion and vandalism.

Issue Category E: Land Management**Issue E1: Access**

Accessible facilities for boating and fishing activities need to be addressed. The access road to the Southwest Cove area is in poor condition, crosses private land, and allows access to undeveloped areas of the park, thereby presenting security and safety issues. If the Southwest Cove Area continues to be used for recreational activities, public access and road maintenance would be needed. Other access issues include parking problems such as in the Southwest Cove Area and the north entrance to the nature trail. Improvements to these parking areas and others need to be explored.

Issue E2: Potential Land Donation

South of the dike are approximately 4 hectares (10 acres) of private land that the current owner has indicated he wishes to donate to State Parks or Reclamation. Land donations would be evaluated at the time of the proposal.

GOALS AND OBJECTIVES

The Goals and Objectives developed for the Huntington North Reservoir RMP are in direct response to the preceding Issue Statements. However, each Issue Statement may not require a specific set of Goals and Objectives and, in some cases, a set of Goals and Objectives may address several Issue Statements. In all cases, an effort has been made to translate the issues and opportunities identified in the Issue Statements into the Goals and Objectives for the RMP. The Goals and Objectives were derived from discussions with (1) the public (via the public workshop, newsletter responses, and the PWG); (2) participating local, State, and Federal government agencies; and (3) Reclamation.

The Goals and Objectives will serve as the primary foundation on which alternatives for the RMP will be developed and a final array of alternatives displayed. Each Goal provides a description of a desired future resource condition within the Study Area. The Issue Statements that each Goal addresses are in parentheses. Listed along with each Goal is a set of Objectives describing a series of activities to be accomplished in order to achieve each Goal. When each of the Objectives is implemented, the corresponding Goal will be attained. The Goals and Objectives are presented in the following goal categories: (A) Partnerships, (B) Water Resources, (C) Recreational and Visual Resources, (D) Natural and Cultural Resources, and (E) Land Management.

It is not the intent of the RMP or the RMP process to challenge or change existing law, treaties, formal agreements, or water rights. All Goals, Objectives, and alternatives developed as part of this RMP will be formulated in agreement with existing laws, treaties, formal agreements, water rights, and the operating constraints of Huntington North Reservoir.

Goal Category A: Partnerships

Goal A1: **Support Agreements and Contracts, and Encourage Partnerships That Pursue Best Resource Management Practices (Issue A1)**

Objectives:

1. Evaluate proposed use activities against project purposes, contracts, and agreements.
2. Pursue partnerships with Emery County, Huntington City, the Utah Division of Wildlife Resources (UDWR), and other interested entities to facilitate best management of resources.

Goal Category B: Water Resources

Goal B1: Protect Water Quality in Huntington North Reservoir (Issue B1)

Objectives:

- B.1.1 Identify water quality impacts coming from within the Huntington North Reservoir Study Area and suggest ways to meet beneficial use designations.
- B.1.2 Identify areas where sanitation facilities (e.g., restrooms, refuse containers) are needed.

Goal B2: Operate Huntington North Reservoir to Optimize Natural Resource Values (Issue B2)

Objectives:

- B.2.1 Identify water commitments.
- B.2.2 Describe the affects of reservoir water operations on natural resources.
- B.2.3 Explore possibilities to maintain reservoir levels as high as possible in order optimize recreation, fishing, and wildlife opportunities.

Goal Category C: Recreational and Visual Resources

Goal C1: Provide for Safe, Quality Recreational Opportunities That Minimize Conflicts (Issues C3, C4)

Objectives:

- C.1.1 Identify appropriate recreational use areas.
- C.1.2 Identify recreation capacities for both land- and water-based recreation. (Also see C.2.1.)
- C.1.3 Identify potential wakeless zones.
- C.1.4 Explore ways to increase safety and security, and reduce user conflicts.
- C.1.5 Evaluate hunting activities and identify legal hunting boundaries that comply with State regulations.

Goal C2: Provide Adequate Recreational Support Facilities (Issues C1, C2)

Objectives:

- C.2.1 Recommend appropriate recreational facilities at appropriate locations. (Also see C.1.2.)
- C.2.2 Recommend facility improvements and visitor needs (e.g., accessibility).
- C.2.3 Explore the need for group-use facilities.
- C.2.4 Recommend rest area and interpretation facilities for the dike access trail.
- C.2.5 Explore recreational opportunities in the Southwest Cove Area.
- C.2.6 Explore the possibility for an accessible fishing dock.
- C.2.7 Recommend landscape watering system upgrade and explore water conservation methods.
- C.2.8 Explore the possibilities of providing additional recreational opportunities such as canoe and paddle boat rentals.

Goal C3: Protect and Manage the Visual Resources (Issue C5)

Objectives:

- C.3.1 Establish Visual Integrity Objectives.
- C.3.2 Compliment or enhance the natural surroundings when maintaining and/or designing new facilities.

Goal Category D: Natural and Cultural Resources

Goal D1: Control/Manage Noxious and Invading Weeds, Pests, and Aquatic Nuisances (Issue D1)

Objectives:

- D.1.1 Identify the location and extent of noxious and invading weeds, pests, and aquatic nuisances.
- D.1.2 Initiate development of an Integrated Pest Management Plan.
- D.1.3 Coordinate with appropriate agencies (e.g., Emery County Weed and Mosquito Department, Emery Water Conservancy District) to control noxious and invading weeds, pests, and aquatic nuisances.

- D.1.4 Develop an appropriate plant list for future landscaping, erosion control, and water conservation.

Goal D2: Protect and Enhance the Quality of the Fishery (Issues C3, D2)

Objectives:

- D.2.1 Coordinate with the UDWR to identify possible fishery enhancement opportunities.
- D.2.2 Work to find mutually agreeable strategies for reducing conflicts between anglers and recreational boaters.
- D.2.3 Recommend appropriate development criteria for improving fish habitat.

Goal D3: Protect and Enhance Native Vegetation and Wildlife Habitat (Issues D1, D3)

Objectives:

- D.3.1 Identify occurrences of known threatened, endangered, or special status species.
- D.3.2 Identify sensitive vegetative and wildlife areas.
- D.3.3 Identify undeveloped areas at suitable locations to conserve long-term, viable habitat for a variety of wildlife and fish species.
- D.3.4 Cooperate with appropriate entities in managing undeveloped areas and protecting wildlife values.
- D.3.5 Identify wetland and riparian vegetation areas and protect such areas in accordance with existing Federal and State regulations.
- D.3.6 Develop an appropriate plant list for future landscaping, erosion control, and water conservation.

Goal D4: Control Erosion (Issue D4)

Objectives:

- D.4.1 Identify erosion problem locations and causes.
- D.4.2 Work with water users, State Parks, and other entities as appropriate to implement erosion control strategies.

Goal D5: **Protect and Manage Cultural Resources (Issue D5)**

Objectives:

- D.5.1 Identify the present integrity and eligibility of cultural resources, including historic, prehistoric, and paleontological resources, where development is proposed.
- D.5.2 Recommend mechanisms to protect, preserve, restore, recognize, and interpret historic, prehistoric, and paleontological resource sites.

Goal Category E: Land Management

Goal E1: **Provide Appropriate and Safe Access to Public Use Areas (Issues C1, E1)**

Objectives:

- E.1.1 Determine the location and extent of access rights-of-way and easements.
- E.1.2 Evaluate current access to the Southwest Cove Area.
- E.1.3 Explore the feasibility and appropriate locations of accessible boating and fishing facilities.
- E.1.4 Identify parking problems and explore improvement options.
- E.1.5 Restrict access to sensitive areas where public safety and natural resources protection are concerns (e.g., wildlife habitat, hazardous areas, Dam/Primary Jurisdiction Area).

Goal E2: **Evaluate Proposed Additional Land Acquisitions (Issue E2)**

Objectives:

- E.2.1 Allow for evaluation of potential land donations or acquisitions at the time of the proposal.