PRO-EA-12-005

RECLAMATION

Managing Water in the West

Steinaker Reservoir Resource Management Plan Final Environmental Assessment

Upper Colorado Region

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

August 2013

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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PRO-FONSI-12-005

FINDING OF NO SIGNIFICANT IMPACT

Steinaker Reservoir
Resource Management Plan
Environmental Assessment
Uintah County, Utah

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

Recommended by:

Chief, Environmental Group — Date: 9/6/13

Concur:

Chief, Water and Environmental Resources Division — Date: 9/6/13

Approved by:

Curt Pledger
Area Manager, Provo Area Office — Date: 9/6/13

FINDING

The Bureau of Reclamation (Reclamation) has determined that implementing the preferred alternative for the Steinaker Reservoir Resource Management Plan (RMP) 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 comments received during the public review process and the environmental impacts as described in the Steinaker 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 C, the Recreation Development Emphasis Alternative, which was identified as the preferred alternative in the Final EA. The preferred alternative prescribes a management plan for Steinaker Reservoir that will allow for upgraded and expanded recreation facilities while also protecting important environmental and historic resource values at Steinaker Reservoir. The preferred alternative provides for and expands a variety of multiple uses, including improved recreation facilities along with designation of natural areas. Improvements to facilities and access will be provided, dependent upon available funding, including boating, fishing, camping, picnicking, hiking, and parking facilities. Specific components would include: expansion of group recreation sites; addition of rental cabins or yurts; expanded hiking trails, improved shoreline access and an accessible fishing dock; and development of motorized and nonmotorized trailheads and trail connectivity. Opportunities to contract services with private concessionaires would be considered as appropriate. Pursuant to 43 CFR 423 Subpart E, Reclamation would also approve a long-term camping area as a special use area at Steinaker Reservoir. Activities that improve or protect environmental quality are included, as well as the development of interpretation systems to inform the public about important Study Area resource issues. Coordination with jurisdictions managing resources at the reservoir and the surrounding lands will be explored under this alternative. This alternative will not affect normal operations of the reservoir.

REASONS FOR THE DECISION

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

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

2. The environmental effects of the preferred alternative are neither controversial nor do they involve unique or unknown risks.

3. The preferred alternative will have no adverse effect on species either currently listed or proposed for listing as candidate, threatened, or endangered species and no adverse effect on designated critical habitat for these species.

4. The preferred alternative does not threaten to violate Federal, State, or local laws or requirements imposed for protection of the environment.

5. Reclamation has analyzed the environmental effects, public comments, and the alternatives in detail and believes that the preferred alternative best meets the purpose and need described in the EA.

PUBLIC INVOLVEMENT

Preparation of the EA for the Steinaker Reservoir RMP required extensive public involvement activities throughout the planning process. The public scoping process, to contact and solicit comment from interested parties, was initiated in October 2011. The public scoping methods included publishing newsletters, holding 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 preferred 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 committed to carry out the mitigation measures 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.

Steinaker Reservoir
Resource Management Plan
Final Environmental Assessment

Upper Colorado Region

prepared by

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U.S. Department of the Interior
Bureau of Reclamation

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Table of Contents

List of Tables

List of Figures

Chapter 1: Purpose and Need

Purpose of and Need for the Resource Management Plan (RMP)

The federal action being considered in this Environmental Assessment (EA) is the development and implementation of a Resource Management Plan (RMP) for Steinaker Reservoir, located in northeastern Utah approximately 2 miles north of Vernal City in Uintah County (Figure 1-1). The U.S. Department of the Interior (USDI), Bureau of Reclamation's (Reclamation's) authority to prepare RMPs is vested in the broad authority of the Reclamation Act of 1902 (Chapter 1093, 32 Statute 388); the Reclamation Project Act of 1939 (Chapter 418, 53 Statute 1187); the Federal Water Project Recreation Act (Public Law [P.L.] 89-72, 79 Statute 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."

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 Steinaker Reservoir's land and water resources. The RMP is also important in assisting Reclamation in making decisions regarding the management of recreational resources. Resource management issues and problems at Steinaker Reservoir are addressed through various management solutions. The RMP document will include long-term management Goals and Objectives for the Steinaker Reservoir RMP Study Area, which includes the reservoir and its associated lands. (Study Area) (Figure 1-2).

Scope of the Environmental Assessment (EA)

As part of the RMP development process, Reclamation has prepared this EA in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, which requires federal agencies to consider the potential impact(s) of a federal action on the human environment before implementing the action. This EA is intended to meet the disclosure and environmental resource consideration requirements of NEPA for the preparation of the RMP. Resource management alternatives and development scenarios are presented and analyzed for environmental impacts. This EA specifically analyzes and discusses the consequences associated with each of two RMP action alternatives (developed as part of the resource management planning process) and the No Action Alternative (as required by NEPA as the base alternative for making comparisons). This EA evaluates potential impacts associated with alternatives proposed for the RMP to determine if the impacts would be significant and would therefore require preparation of an Environmental Impact Statement. The responsible official has decided that impacts from the proposed RMP are not significant, and a Finding of No Significant Impact (FONSI) has been prepared. The FONSI is a document briefly presenting the reasons why the action will not have significant impacts on environmental quality (40 CFR 1508.13) and can be found at the beginning of this document prior to the Table of Contents.

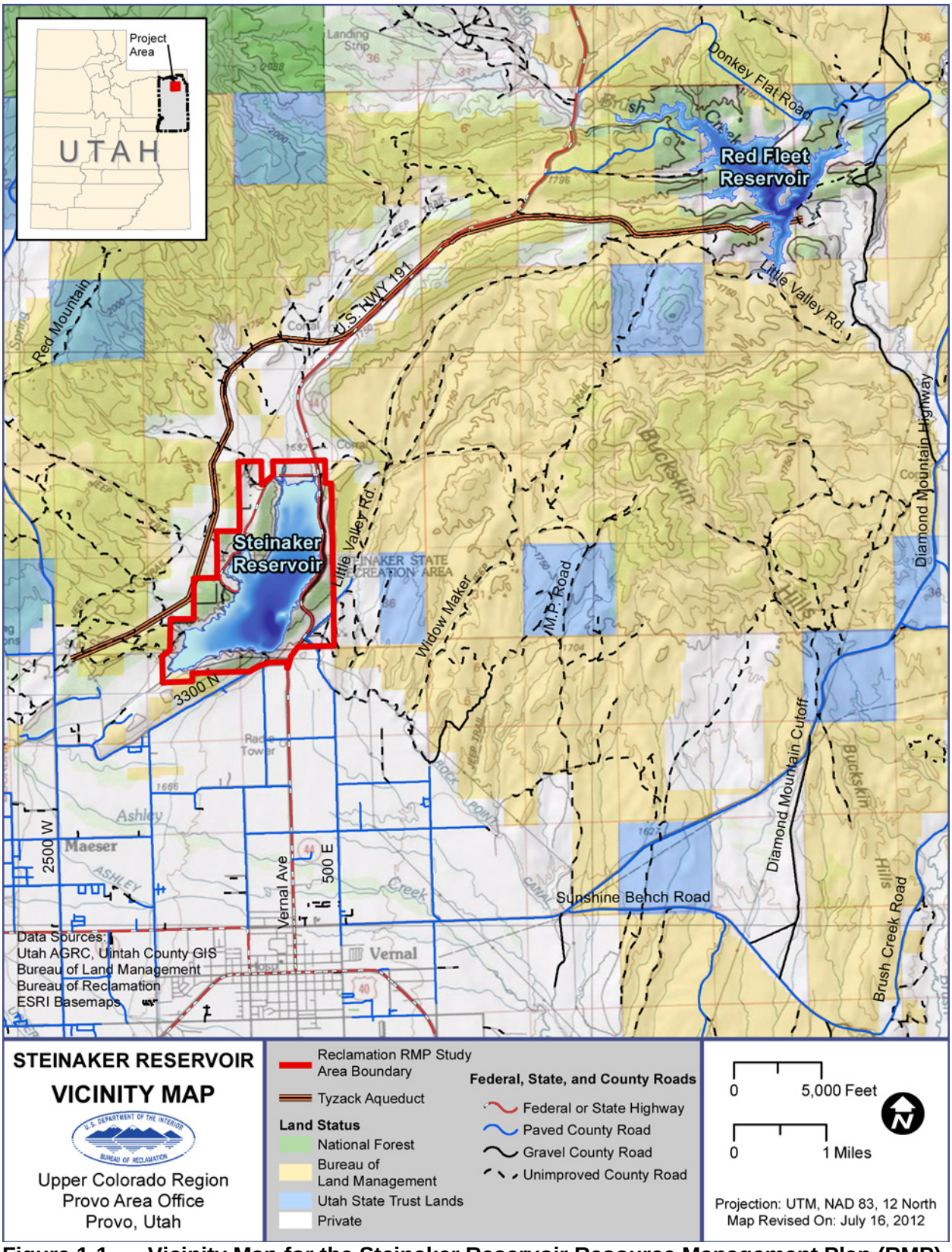

Figure 1-1. Vicinity Map for the Steinaker Reservoir Resource Management Plan (RMP).

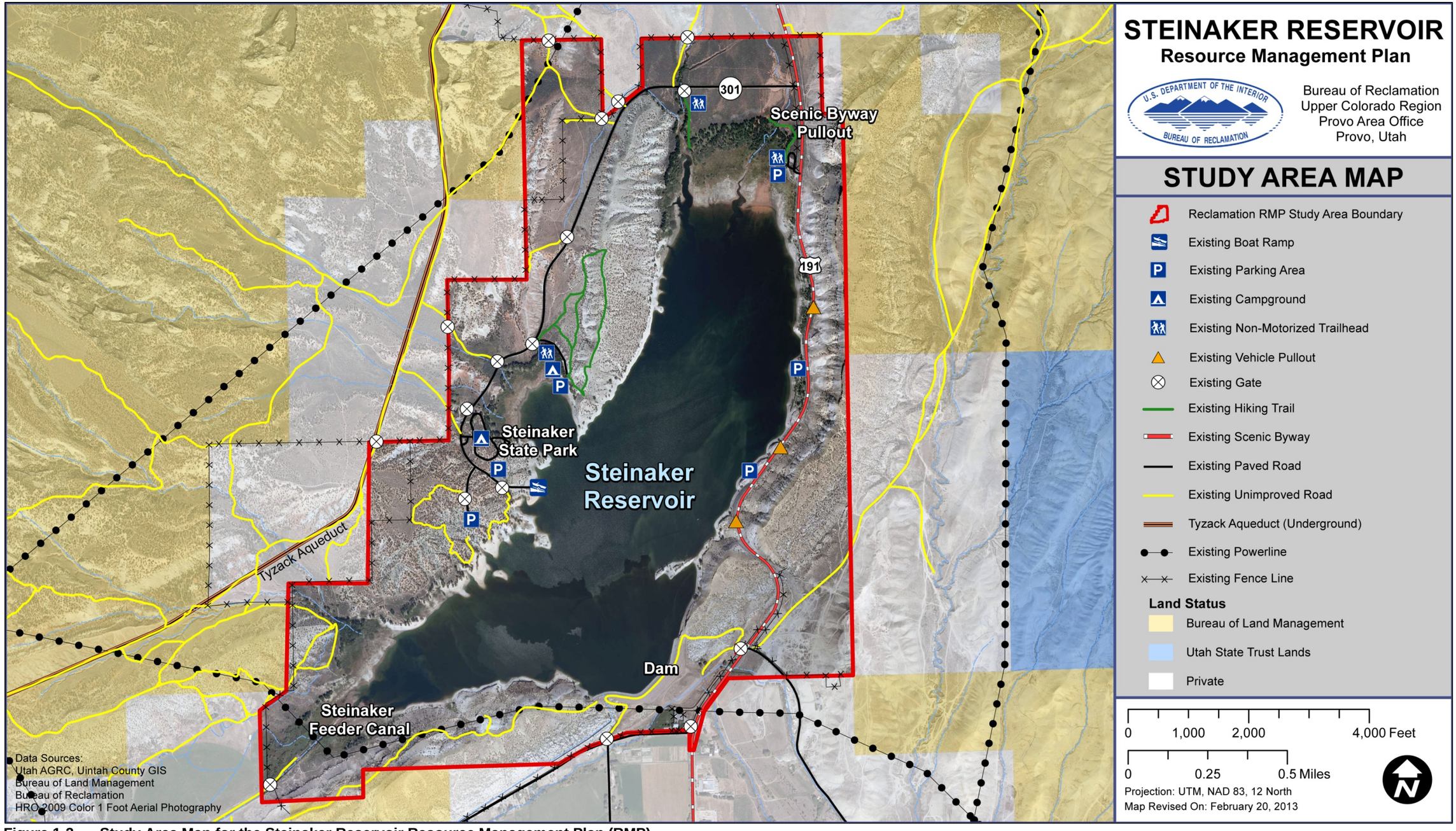

Figure 1-2. Study Area Map for the Steinaker Reservoir Resource Management Plan (RMP).

The RMP will establish a conceptual framework for managing resources at Steinaker Reservoir. Therefore, the scope (level of detail) of this EA focuses on the broadest scale of potential impacts associated with selection of a RMP alternative. The planning-level scope of this EA does not address site-specific impacts. Selection of any site specific plans that could be proposed under a selected RMP would represent a separate federal action and would therefore require site-specific NEPA compliance.

Existing contracts and agreements between Reclamation and other entities are also outside the scope of the RMP decision and evaluation of alternatives in this EA. Legal constraints include legislative acts, compacts, and agreements that govern the diversion and use of water from Ashley Creek and, specifically, water stored in Steinaker 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 management and use of Study Area resources. These land use planning constraints are described in Chapter 3 of this EA.

Management Areas

For purposes of developing alternatives and describing existing resource conditions, the Study Area was divided into separate management areas based upon natural resource features, land management considerations, recreational activities, and existing facilities. These geographical areas are illustrated in Figure 1-3 and defined below.

State Park Area

This area encompasses the existing Steinaker State Park developed recreation facilities including the boat launch, boat parking areas, day use parking, day use areas, overnight campground, group use area, and State Park administrative facilities.

Entrance Area

This area includes the northwestern portion of the Study Area where the main access road, State Route (SR) 301, enters the State Park. There is also an existing private land access location from the main access road. There are currently no developed public facilities in this area.

Scenic Byway Area

This area is characterized by U.S. Route 191, a designated National Scenic Byway and includes an existing parking area, vault-type restrooms, and interpretive boardwalk along the northeastern shoreline of Steinaker Reservoir.

Honda Hills Area

This area was once a source of material for Steinaker Dam that is currently used as an off-highway vehicle trailhead and open-riding area by motorized recreationists. There are currently no developed public facilities in this area.

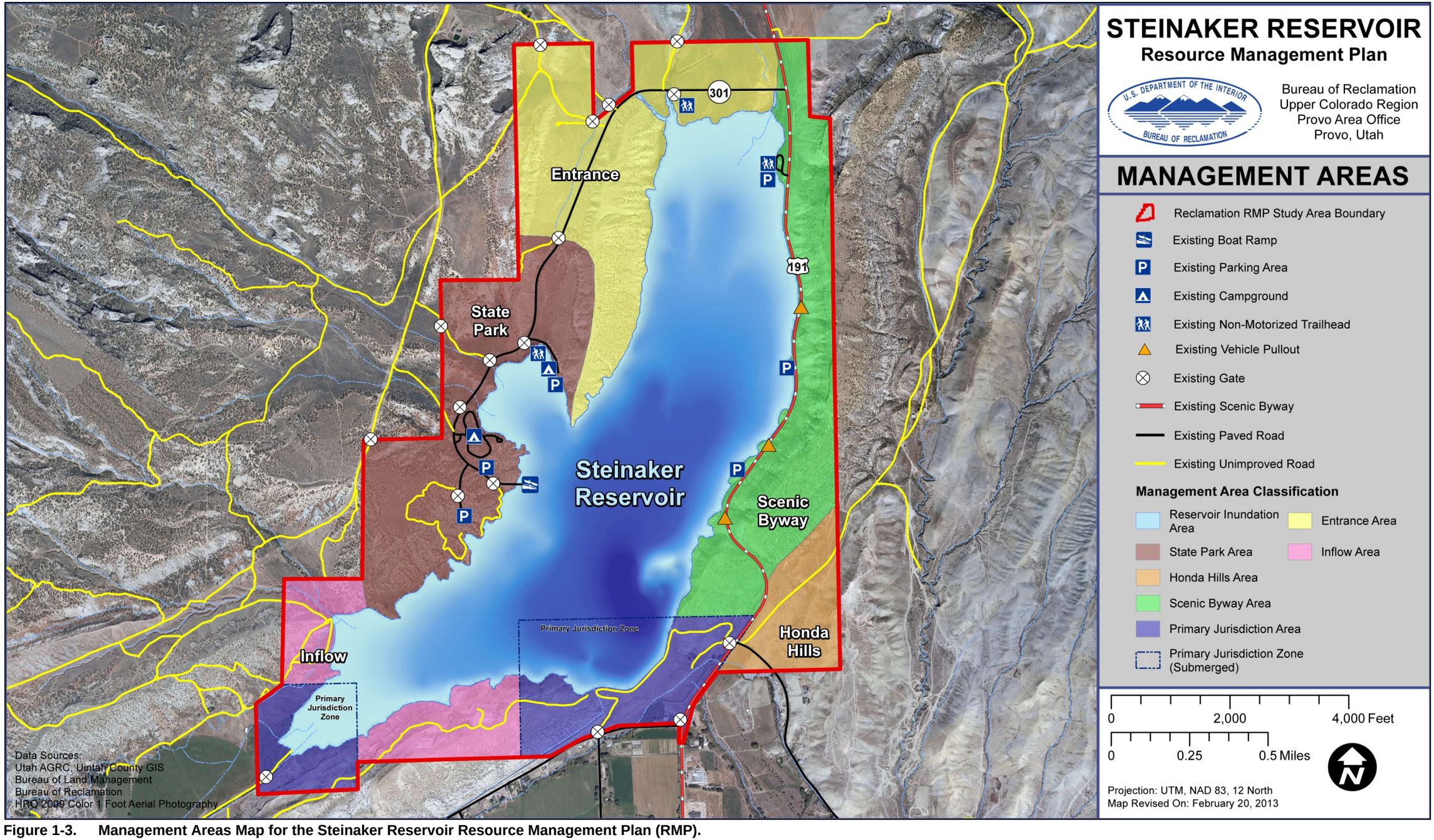

Figure 1-3. Management Areas Map for the Steinaker Reservoir Resource Management Plan (RMP).

Primary Jurisdiction Area
This area includes Steinaker Dam and lands surrounding the dam and the Steinaker Feeder Canal inflow. For the protection of public health, safety, and welfare, public access to this area and recreational uses (including trail use) are not permitted unless approved by Reclamation and the Uintah Water Conservancy District.

Inflow Area
This is an undeveloped area surrounding the portion of the Primary Jurisdiction Zone where Steinaker Feeder Canal enters Steinaker Reservoir. There are currently no developed public facilities in this area.

Reservoir Inundation Area
This 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.

Background

Plan Location and Setting
The Study Area is located in northeastern Utah approximately 2 miles north of Vernal City in Uintah County. Uintah County has a semi-arid climate with average annual rainfall of 10.9 inches and average snowfall of 40.6 inches (Bestplaces.net 2012, Desertusa.com 2012). Uintah County is well known for fossil deposits found in the region, valuable mineral resources, and oil and gas development. Vernal, the county seat, is located in the Ashley Valley at an elevation of just over 5,000 feet above sea level. Ashley Valley, approximately 6 miles wide and 9 miles long, contains the largest population concentration in Uintah County, including the municipalities Maeser, Vernal, Naples, and Jensen.

Settlement of the Ashley Valley by cattle ranchers began in 1873 in the Ashley Creek drainage. Farm crops were difficult to grow in the area due to lack of water late in the growing season. In 1879 a group of farmers united to build the Ashley Central Canal. A second canal company formed shortly thereafter and constructed the Ashley Upper Canal. Rights to the entire flow of Ashley Creek had been claimed by 1897 (Eastman 2012).

Plan History
While canal companies were successfully utilizing Ashley Creek for crop irrigation, they recognized a need to store water for late-season crop watering. Beginning in 1903, surveys by Reclamation identified Steinaker Draw as a good location for an off-channel reservoir site. However, other federal- and state-funded projects took precedence over the construction of Steinaker Dam. Local irrigation districts explored a number of other potential reservoir projects and watershed diversions and then in 1938 Reclamation established a Vernal office. The Vernal Unit was eventually approved as a component of the Colorado River Storage Project, passed by Congress in 1956. Local interests formed the Uintah Water Conservancy District (UWCD) as a repayment agency. Construction of Steinaker Dam, the Fort Thornburgh Diversion Dam on Ashley Creek, and the Steinaker Feeder Canal were complete in 1961 (Eastman 2012). Steinaker

Dam is a 162-foot-tall, rolled-earthfill structure. Total reservoir capacity is 38,173 acre-feet and surface area is 820 acres (Reclamation 2007). The crest elevation of the spillway is at an elevation of 5,520.5 feet. The mean depth at full pool is 46 feet with a maximum depth of approximately 130 feet (UDWQ 2011, Reclamation 2011a). These figures reflect a decision in 2007 by Reclamation to increase the normal water surface elevation at the request of the UWCD (Reclamation 2007).

The Steinaker Dam, Steinaker Feeder Canal, and Fort Thornburgh Diversion Dam are operated and maintained by the UWCD under a partnership agreement with Reclamation. Recreation facilities and public access are managed by the Utah Division of State Parks and Recreation (State Parks) through a Memorandum of Agreement. Chapter 3 of this EA includes additional details regarding interagency partnerships and contracts. To date, an RMP document has not been completed for Steinaker Reservoir.

Participating Agencies and their Management Responsibilities

Reclamation is the lead agency charged with preparing the RMP document and this EA. Other government agencies having resource management responsibilities within the Study Area include the UWCD, State Parks, the Utah Division of Wildlife Resources (UDWR), the U.S. Fish and Wildlife Service (USFWS), and the Utah State Historic Preservation Office. Additional participants in the RMP planning process include the U.S. Bureau of Land Management (BLM), Uintah County, and Vernal City.

Scoping Summary and Issues of Concern

The Steinaker Reservoir RMP/EA scoping process was initiated in October 2011 concurrently and in conjunction with the Red Fleet Reservoir RMP/EA. The purpose of scoping was to receive interagency and public input on the appropriate scope of the EA, consistent with NEPA requirements and associated implementing regulations. An effort was made to notify all potentially interested parties about the RMP scoping process and to provide opportunities for comment. The following methods for soliciting input were utilized: (1) the formation of a Resource Management Planning Work Group (PWG), (2) facilitation of public workshops, and (3) distribution of RMP newsletters. Media releases were used to inform the public of scheduled meetings and events. Each method is described in detail below. A more detailed discussion of consultation and coordination activities is provided in Chapter 5 of this EA.

Resource Management Planning Work Group (PWG)

The PWG was formed to serve as a broad representation of agencies and special interest groups that have a significant interest in the future management and use of Study Area resources. Members of the PWG were selected primarily from those organizations and agencies directly involved with management of resources within the Study Area and included representatives of the UWCD, State Parks, UDWR, USFWS, BLM, Uintah County, and Vernal City. The purpose of the PWG was to facilitate information exchange and to provide an open forum for discussing all aspects of the RMP and the planning process. In addition, the PWG provided input into the identification of issues, development of goals and objectives, and formulation of a full range of RMP alternatives. The PWG initially met in October 2011, and subsequently in February and May 2012, and in March 2013.

Public Workshops

Public workshops were also held at each stage of the RMP planning process to inform interested parties of progress on the RMP and to solicit comments from the general public. Resource and management issues, future resource management goals and objectives, and potential management approaches for the Study Area were discussed at these workshops. Workshops were held in November 2011, May 2012, and March 2013.

Newsletters

Three newsletters designed to inform the public about progress of the planning process were sent to individuals, landowners, and agency personnel involved with the RMP. The distribution list was updated throughout the resource management planning process.

Public Issues and Concerns

Many key issues, problems, and concerns for the Study Area were identified by the public, participating agencies, and special interest groups during the RMP/EA scoping process. These elements were classified into Issue Categories to aid in understanding the scope of each concern and to assist in the development of Goals and Objectives for the RMP. A summary of the Issue Categories is presented in Table 1-1. Table 1-2 summarizes the Goals and Objectives identified to address RMP issues. However, each issue may not require a specific set of Goals and Objectives and, in some cases, a set of Goals and Objectives may address several issues simultaneously.

Table 1-1. Summary of Issue Categories Identified for the Steinaker Reservoir Resource Management Plan (RMP) Study Area.

PARTNERSHIPS
Partnership Contracts
WATER RESOURCES
Water Quality
RECREATIONAL AND VISUAL RESOURCES
Recreation Development
Visual Quality
NATURAL AND CULTURAL RESOURCES
Reservoir Fishery
Aquatic Invasive Species and Pathogens
Vegetation Communities
Wildlife and Special Status Species
Soil Erosion and Deposition
Paleontological Resources
Cultural Resources
LAND MANAGEMENT
Access Control
Fencing and Grazing
Mineral Development

Table 1-2. Summary of Goal Categories Identified for the Steinaker Reservoir Resource Management Plan (RMP) Study Area.

PARTNERSHIPS
Support Existing Agreements and Contracts and Encourage New Partnerships that Improve Management Practices for Steinaker Reservoir's Associated Lands and Resources
WATER RESOURCES
Protect Water Quality in Steinaker Reservoir
RECREATIONAL AND VISUAL RESOURCES
Increase Visitation and Revenue by Improving Existing Recreational Facilities, Expanding and Enhancing Recreation Opportunities, and Providing Access to Regional Recreation Resources
Provide for Safe, Quality Recreation Opportunities that Minimize Conflicts
Protect and Manage Visual Resources
NATURAL AND CULTURAL RESOURCES
Protect and Enhance the Quality of the Fishery and Fishing Opportunities
Protect and Enhance Native Vegetation and Wildlife Habitat
Determine Occurrence of Special Status Species and Identify Important Habitat Areas
Control Erosion
Protect and Manage Paleontological Resources
Protect and Manage Cultural Resources
LAND MANAGEMENT
Provide Appropriate and Safe Access to Public Use Areas
Address Fencing and Cattle Trespass Issues
Manage Mineral Development

Goals and Objectives serve as a primary foundation on which alternatives for the RMP were developed and evaluated. Each Goal provides a description of the desired future condition within the Study Area. Along with each Goal is a set of Objectives describing a series of activities that must be accomplished in order to achieve each Goal. When each of the Objectives is implemented, the corresponding Goal will be attained. The complete text of Issue Statements and Goals and Objectives can be found in Appendix A.

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Chapter 2: Description of the Alternatives

This chapter presents the process used to formulate resource management alternatives, the alternatives considered in detail, the alternatives eliminated from detailed study, and a summary comparison of the alternatives and their impacts at Steinaker Reservoir. The three alternatives considered in detail are described, beginning with the No Action Alternative (expected future conditions based on current and historical resource management). The two action alternatives were designed to provide a broad spectrum of management options. One action alternative would emphasize conservation of resources; the other would emphasize recreational development. The names of the alternatives reflect the emphasis they represent.

Process Used to Formulate Alternatives

Alternatives for the Steinaker Reservoir Resource Management Plan (RMP) Environmental Assessment (EA) were formulated through a systematic process using public input, technical information, interdisciplinary discussions, and professional judgment. The process began with consideration of the RMP Issue Statements and the RMP Goals and Objectives (Chapter 1 and Appendix A), in addition to recommendations and comments from public scoping activities.

In February and April 2012, the Steinaker Reservoir Resource Management Planning Work Group (PWG) and the Steinaker Reservoir RMP/EA Interdisciplinary Project Team (Project Team) convened to formulate the RMP alternatives. The Project Team developed two RMP alternatives, ranging from emphasizing conservation of resources to emphasizing recreational development, and presented these alternatives to the PWG. The alternatives were then presented to the public at a Public Workshop held in Vernal, Utah, in April 2012 and in a project newsletter (RMP Newsletter Volume 2). The public was asked to comment on the range of preliminary alternatives as part of the EA process. Based on public and participating agency input, the Project Team made appropriate revisions to the preliminary alternatives.

Land-Use Categories

To facilitate development of the RMP alternatives, several "land-use categories" were defined to help describe present and future management strategies for different portions of Steinaker Reservoir and its associated lands (Study Area). Land-use categories are used to facilitate understanding and consistency between land management agencies. These land-use categories are described in the following paragraphs.

Land-Use Category 1: Developed Overnight Recreation Area

Developed Overnight Recreation Areas may contain improved recreational campsites with some or all utilities (e.g., water and 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 Steinaker State Park Campground is an example of a Developed Overnight Recreation Area.

Land-Use Category 2: Developed Day Use Recreation Area

Developed Day Use Recreation Areas contain improved recreational picnic sites, and utilities (e.g., water and 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 Areas is the Steinaker State Park beach area.

Land-Use Category 3: Developed Overnight and Day Use Group Recreation Area

Developed Overnight and Day Use Group Recreation Areas contain improved recreational camp and picnic sites designed to accommodate a large recreational group. Designated sites are paved and contain picnic tables, grills, shelters, water, and restrooms with water or vault toilets. An example of a Developed Overnight and Day Use Group Recreation Area is the Steinaker State Park group use reservation area.

Land-Use Category 4: Undeveloped Day Use Recreation Area

Undeveloped Day Use Recreation Areas consist of unimproved day-use recreational areas that may or may not have vault toilets and are accessible either by road or by boat. Activities in these areas may include picnicking, fishing, hiking, beach combing, etc. An example of an Undeveloped Day Use Recreation Area is the Eagle Ridge Trail at Steinaker Reservoir.

Land-Use Category 5: Administrative Area

Administrative Areas are set aside for management headquarters. Public access to Administrative Areas may be restricted. Administrative Areas include State Park offices, storage areas, and maintenance equipment. An example of an Administrative Area is the Steinaker Reservoir administrative offices and maintenance facilities area.

Land-Use Category 6: 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 recreational uses (including trail use) are not permitted unless approved by the U.S. Bureau of Reclamation (Reclamation) and the Uintah Water Conservancy District (UWCD). Examples of a Primary Jurisdiction Area are the Steinaker dam and inflow facility areas.

Land-Use Category 7: Reservoir Inundation Area

The Reservoir Inundation 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 8: Natural Area

Natural Areas contain important natural, historical, or cultural features (e.g., wildlife habitat, fossils, and archaeological sites) and/or are generally undeveloped areas in which public use is discouraged or limited to appropriate nonmotorized activities. In addition, access to these areas may be temporally restricted. These areas may include limited and appropriate facilities for low-impact recreation and interpretation of natural, historical, and cultural resources. There are currently no designated Natural Areas at Steinaker Reservoir.

Recreational Development Suitability

Development suitability within the Study Area was determined by the location of sensitive physical, natural, and cultural resource constraints that would limit future recreational facility developments and/or uses. These sensitive resource factors may constrain the ability to accommodate development in a particular area. As such, the recreational development suitability analysis for the Study Area also considered 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.

Figure 2-1 illustrates areas considered both suitable and unsuitable for recreational development within the Study Area. As shown in the figure, factors used to determine these areas included:

- Slopes with greater than 20 percent steepness
- 50-foot stream channel buffers
- Important vegetation types (riparian and wetland vegetation communities)

All RMP alternatives include provisions for developing facilities only on lands determined to be suitable for such uses. In addition to consideration of these suitability factors, detailed site analysis would need to be conducted whenever specific development is proposed. Other suitability factors to be considered in site-specific analysis would include: cultural and archaeological sites, geologic hazards (e.g., rock fall areas), areas open for shotgun and archery hunting, and soil conditions that would be poor for building foundations or septic systems. Chapter 3 provides additional descriptions of each of these resource constraint factors.

Alternatives Considered in Detail

The three alternatives considered in detail are described below, beginning with the No Action Alternative, which provides a baseline for comparison. The two remaining "action" alternatives (i.e., Alternatives B and C, which prescribe a change in current resource management) have been developed and evaluated in detail and were designed to provide a broad spectrum of options.

Alternative B has a resource conservation emphasis and Alternative C has a recreational development emphasis.

Details of each alternative are divided into the five categories established by the Issue Statements and Goals and Objectives (see Chapter 1 and Appendix A). To facilitate evaluations of how the proposed changes would differ from the current management situation at the Study Area, each action alternative is presented for comparison with the No Action Alternative (Alternative A). Table 2-1 highlights the differences between alternatives in terms of acreages allocated to each of the eight land-use categories.

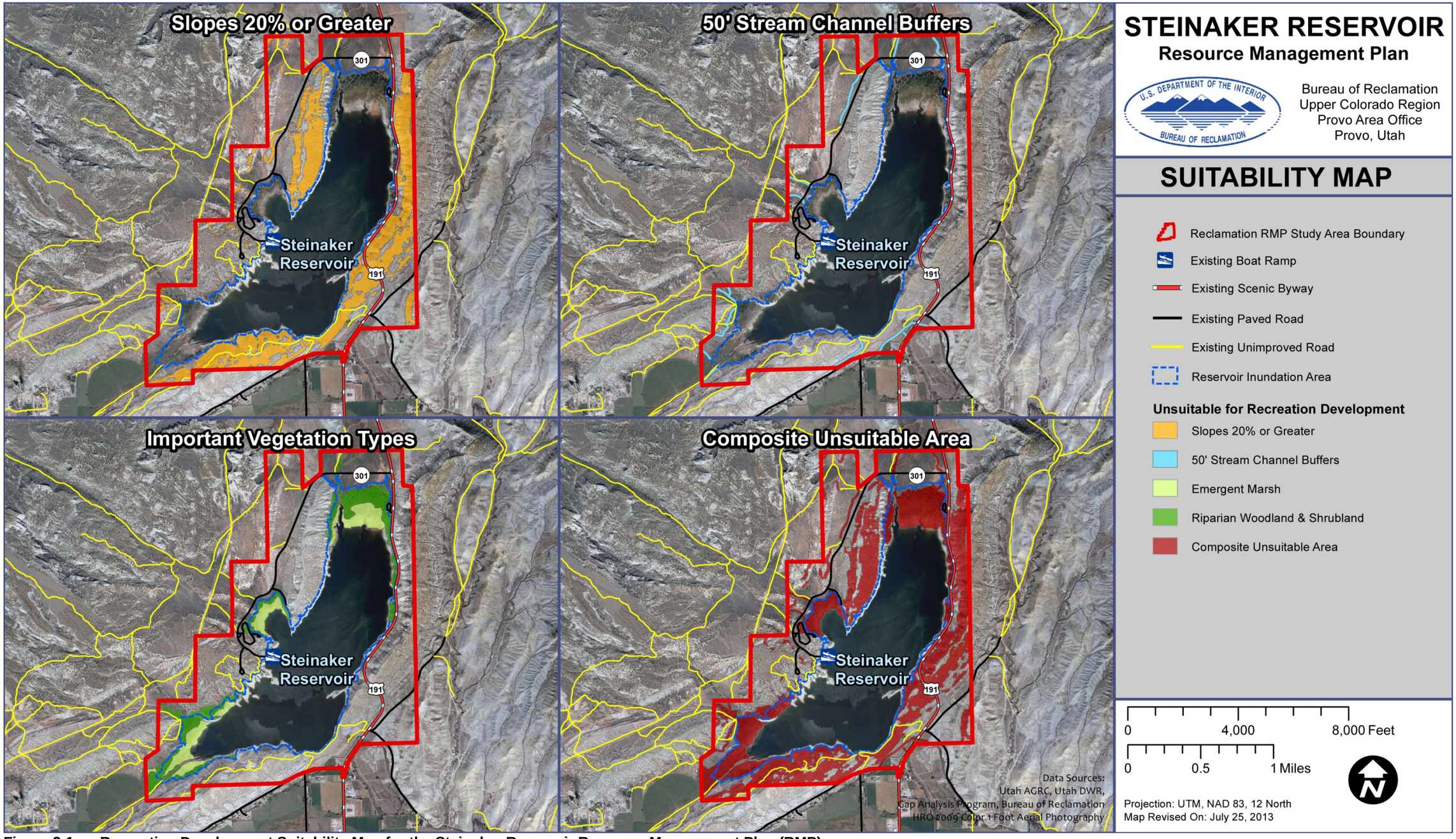

Figure 2-1. Recreation Development Suitability Map for the Steinaker Reservoir Resource Management Plan (RMP).

Table 2-1. Acres of Study Area Lands in Land-Use Categories by Project Alternative.

LAND-USE CATEGORIES	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
	NO ACTION	RESOURCE CONSERVATION EMPHASIS	RECREATION DEVELOPMENT EMPHASIS
Developed Day Use Recreation Area	10.4	10.4	27.1
Developed Overnight Recreation Area	13.9	13.9	18.7
Developed Day Use and Overnight Group Recreation Area	2.4	2.4	7.5
Undeveloped Day Use Recreation Area	889.7	113.5	537.6
Natural Area	-	775.6	325.0
Administrative Area	4.9	4.9	4.9
Primary Jurisdiction Area	135.4	135.4	135.4
Reservoir Inundation Area	824.0	824.0	824.0
Total Acres [a]	**1,880.1**	**1,880.1**	**1,880.1**

[a] Acreages within categories may not add to total acres due to rounding.

Alternative A: No Action

The No Action Alternative (Figure 2-2) maintains existing recreation development areas without expansion beyond existing disturbances. No new recreational facility site development would occur, but facility upgrades and site redesign would be completed as needed and as funding becomes available. Public information programs and interpretive opportunities are included in this alternative. Activities that help to clarify management policy and minimize resource degradation are also included. Consistent with existing use, the majority of Study Area lands (889.7 acres) are designated as Undeveloped Day Use Recreation Areas (Table 2-1). These lands would be managed much as they are currently.

Alternative A: Area-Wide Management

Partnerships The various partnerships that exist between state and federal agencies through statutes, regulations, and agreements would continue under Alternative A. The Utah Division of State Parks and Recreation (State Parks) would continue to manage recreation activities and provide law enforcement at Steinaker Reservoir. When necessary, Uintah County would continue to provide additional law enforcement and fire protection support to State Parks. The Utah Division of Wildlife Resources (UDWR) would continue to manage fish and wildlife resources within the Study Area. Reclamation would work to formalize and continue any existing partnerships that have not been formalized to establish roles and commitments of resources from respective management entities.

Water Resources Water operations, managed by UWCD, would continue as normal under the No Action Alternative. Maintaining water quality is important for meeting designated beneficial uses of water at Steinaker Reservoir. Under the No Action Alternative, water quality would continue to be monitored by the Utah Division of Water Quality (UDWQ). Reclamation and UWCD would continue to coordinate with UDWQ to monitor potential contaminants, bacteria, and viruses that would pose threats to aquatic life and human health. Any site redesign of

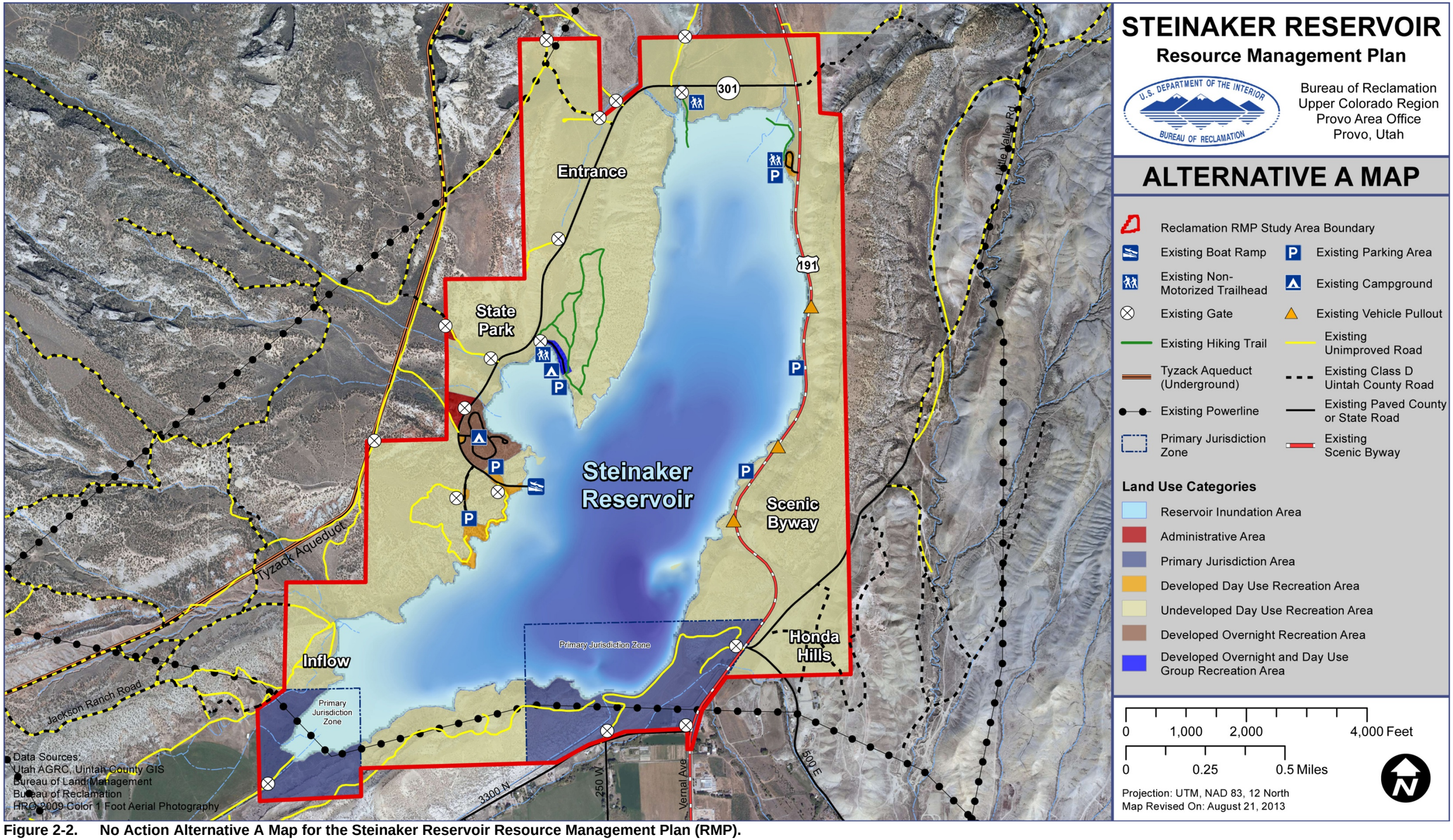

Figure 2-2. No Action Alternative A Map for the Steinaker Reservoir Resource Management Plan (RMP).

existing recreation facilities would need to incorporate adequate sanitation facilities to prevent water contamination in Steinaker Reservoir. Existing site redesign or facility rehabilitation would also incorporate improved stormwater control design elements.

Recreation and Visual Resources Under the No Action Alternative, existing Developed Day Use and Developed Overnight Recreation Areas would be maintained at their current sizes and locations. The number of developed campsites (31) would remain the same. Site redesign or rehabilitation of existing recreation facilities would be implemented, based on needs and available funding as determined by State Parks and Reclamation. However, no new recreation development sites would be proposed or developed under this alternative. Reclamation would evaluate consistency with visual quality management objectives in the renovation and redesign of existing recreation facilities.

State Parks would continue to be responsible for identifying and enforcing recreation capacities for both land- and water-based recreation, identifying appropriate recreational use areas for various activities, and managing user conflicts. Some programs would likely be implemented as funding becomes available; these would include interpretive displays and improved access for persons with disabilities.

By regulation 43 CFR § 420.2, Reclamation lands are closed to off-highway vehicle (OHV) use, except where specifically designated as open and in accordance with a public process specified in § 420.21. Further, § 420.25 states that Reclamation lands managed by non-federal entities (such as State Parks) will be administered in a manner consistent with all applicable non-federal laws and regulations (including operation of OHVs).

State of Utah legal code also states that currently registered OHVs may be operated on public land, trails, streets, or highways that are posted by sign or designated by map or description as open to OHV use by the controlling federal, state, county, or municipal agency (Utah Code 41-22-10.1(1)). At the present time, State of Utah administrative rules (R651-411-2(2)) specify that OHVs may be used to access ice fishing areas at Steinaker Reservoir from the State Park boat ramp. Under Alternative A, Reclamation would officially designate that use under the federal regulation, but would not designate any other areas, roads, or trails open to public OHV use at Steinaker Reservoir.

Natural and Cultural Resources Currently, Reclamation and partner agencies provide erosion control, revegetation, and road and parking area maintenance throughout the Study Area, as necessary. Under the No-Action Alternative, necessary maintenance activities would continue to be performed; however, no comprehensive plans would be developed for habitat management or integrated pest management. Reclamation would rely upon UDWR to continue to manage the fishery and wildlife within the Study Area, and to monitor and prevent introduction of aquatic invasive species and pathogens. No special efforts would be implemented to enhance the fishery, fishing opportunities, or wildlife habitat.

Consistent with federal and state laws and regulations, cultural and paleontological sites would continue to be protected from the unauthorized collection and excavation of artifacts and all other ground-disturbing activities. The level of protection of cultural and paleontological sites

and scenic quality would be the same as at present; however, impacts to sites would likely increase as use of the Study Area increases. Under Alternative A, these conditions would continue.

Land Management Reclamation and its partners would continue to evaluate access and access controls and recommend improvements as needed. No new trails or trailhead facilities would be developed. Public access along U.S. Route 191 (US-191) would remain similar to the current conditions. Reclamation and State Parks would work with Uintah County to manage OHV use within the Study Area in accordance with State and County laws. For purposes of the RMP, an unimproved road is defined as a road that does not have a paved or gravel surface and is irregularly maintained or not maintained. At Steinaker Reservoir, there are currently a number of user-created unimproved roads that are not designated as county roads and that are not used for administrative access purposes. With Alternative A, none of the user-created unimproved roads would be actively decommissioned; however, boundary fencing, gates, and cattle guards would be installed, maintained, or upgraded as needed.

Reclamation would determine the appropriate uses for borrow pit areas, identify mineral rights for Reclamation lands, and coordinate with appropriate entities managing surrounding lands regarding any potential indirect effects to Reclamation lands and the reservoir.

Alternative A: Specific Area Management

The Study Area has been divided into seven management areas based upon natural resource features, land management, recreational activities, and existing facilities. The management areas are displayed on Figure 1-3 and are described below and shown on Figure 2-2.

State Park Area This area is designated as having Administrative, Developed Day Use Recreation, Developed Overnight Recreation, Developed Overnight and Day Use Group, and Undeveloped Day Use Recreation Areas. Under Alternative A, State Parks would continue to maintain this area as necessary. Facilities would be upgraded or redesigned as needed but not expanded beyond existing disturbance areas. Facility upgrades/additions that were being implemented at the initiation of the RMP planning process include a boat trailer parking expansion and an accessible fishing pier located near the existing boat ramp. These facilities are included with Alternative A.

Entrance Area Consistent with existing use, the Entrance Area would be managed as an Undeveloped Day Use Recreation Area under Alternative A. Existing parking, hiking, and OHV access trails would be maintained as necessary.

Scenic Byway Area Consistent with existing use, the Scenic Byway Area would be managed as an Undeveloped Day Use and Developed Day Use Recreation Area under Alternative A. Existing parking, restroom, and hiking trails would be maintained as necessary. No additional developed trails or improved parking areas would be proposed by Reclamation.

Honda Hills Area Consistent with existing use, the Honda Hills Area would be managed as an Undeveloped Day Use Recreation Area under Alternative A. At present, portions of the Honda Hills Area are informally used as an OHV riding area. Under Alternative A, areas currently used

for OHV riding could be designated as open to that use; however, no new facilities would be proposed by Reclamation.

Primary Jurisdiction Area Management of the Primary Jurisdiction Area would be the same under any RMP alternative. The Primary Jurisdiction Area is set aside for operation and maintenance of the dam and feeder canal facilities. It is not open to access for the protection of the health, safety, and welfare of the public. Permitted access and use of this area would be determined by Reclamation and UWCD.

Inflow Area Consistent with existing use, the Inflow Area would be managed as an Undeveloped Day Use Recreation Area under Alternative A. No new facilities are proposed by Reclamation.

Reservoir Inundation Area Management of the Reservoir Inundation Area would be the same under any RMP Alternative. State Parks has determined that Steinaker Reservoir has a maximum boat-carrying capacity of 70 boats; however, existing parking areas can only accommodate approximately 40 boat trailers at a given time. A planned boat parking expansion would increase the parking capacity to a maximum of about 60 boat trailers (M. Murray 2012a, pers. comm.). State Parks would continue to maintain the current maximum boat-carrying capacity of 70 boats, reducing this number as necessary to compensate for reservoir water level fluctuations and available parking, and to promote public health and safety. Reclamation would allow the public to use OHVs to access ice fishing areas from the boat ramp as conditions permit and in accordance with existing State of Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use.

Alternative B: Resource Conservation Emphasis

The emphasis of Alternative B is conservation, protection, and enhancement of natural and cultural resources. Some improvements to existing recreational facilities, such as utility upgrades and facility redesigns, are included. Additions to facilities would include improvements to existing managed and maintained roads and development of facilities that either improve environmental quality in the area or inform the public about regulations and expectations of resource protection. Coordination with surrounding property owners and jurisdictions would be explored in order to assure that surrounding land uses are compatible with and complementary to the conservation theme.

In terms of land use (Table 2-1), Alternative B would designate 775.6 acres as Natural Area. Locations of these land-use designations are illustrated in Figure 2-3. The amount of Study Area lands devoted to developed recreation, administrative, reservoir inundation, and primary jurisdiction under Alternative B would be the same as described for Alternative A. Consistent with the conservation emphasis of Alternative B, Natural Areas would be primarily managed for wildlife habitat and to preserve natural and cultural resource features. Day-use recreation consistent with these objectives would continue to occur in these areas.

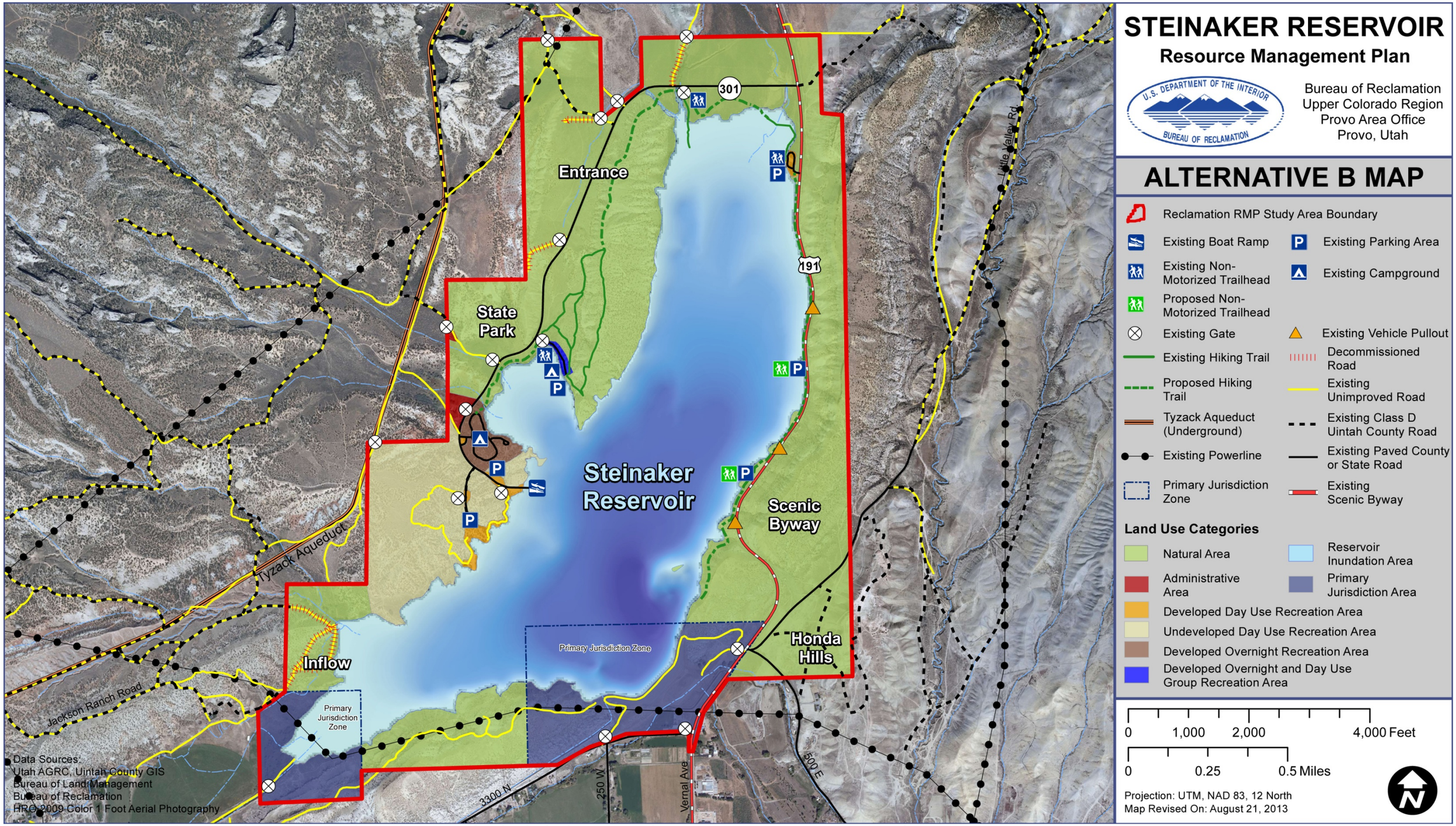

Figure 2-3. Resource Conservation Emphasis Alternative B Map for the Steinaker Reservoir Resource Management Plan (RMP).

Lands surrounding the existing State Park facilities, approximately 113.5 acres, would continue to be managed as an Undeveloped Day Use Recreation Area. Due to proximity to developed facilities, these areas already have a significant amount of day use such as off-trail hiking. These areas would remain open for day use but developed facilities would not be expanded.

Alternative B: Area-Wide Management

Partnerships The various partnerships that exist between State and Federal agencies through statutes, regulations, and agreements would continue under Alternative B. State Parks would continue to manage recreation activities and provide law enforcement. When necessary, Uintah County would continue to provide additional law enforcement support to State Parks as well as fire protection for the Study Area. The UDWR would continue to manage fish and wildlife resources within the Study Area. Reclamation would need to expand existing partnerships or pursue new ones to achieve Alternative B planning objectives. Reclamation would work to formalize and continue any existing partnerships that have not been formalized to establish roles and commitments of resources from respective management entities.

Reclamation would pursue additional partnerships with Uintah County, Vernal City, UDWR, U.S. Bureau of Land Management (BLM), the National Scenic Byways Program, and other entities to facilitate best management of study area resources. Reclamation would consider contracts with qualified private concessioners for provision of specific public recreation facilities and/or activities and would consider formal partnerships with private nonprofit recreation user groups for provision and maintenance of specific public recreation facilities and/or activities.

Water Resources Water operations, managed by UWCD, would continue as normal under Alternative B. Any site redesign or rehabilitation of existing recreation facilities would need to incorporate adequate sanitation facilities to prevent water contamination in Steinaker Reservoir. Site redesign or facility rehabilitation would also incorporate improved stormwater control design elements. Reclamation would identify water quality impacts originating in Steinaker Reservoir and suggest ways to meet beneficial use designations. Under Alternative B, water quality would continue to be monitored by UDWQ. Reclamation and the UWCD would continue to coordinate with UDWQ to monitor potential contaminants, bacteria, and viruses that would pose threats to aquatic life and human health.

Recreation and Visual Resources Under Alternative B, Developed Day Use Recreation Areas and Developed Overnight Recreation Areas would be maintained at their current sizes and locations. The number of designated campsites (31) would remain the same under Alternative B. Site redesign or rehabilitation of existing recreation facilities would be implemented, based on needs and available funding as determined by State Parks and Reclamation. Reclamation would evaluate consistency with visual quality management objectives in the renovation and redesign of existing recreation facilities.

There is an existing need to expand and link existing hiking trails within the Study Area and to provide a trail along US-191 for fishing access. These facilities would be consistent with Alternative B land-use designations and have been included in the alternative as illustrated in Figure 2-2. Alternative B does not include any additional buildings, picnic areas, campsite areas, OHV riding areas, or trailheads.

State Parks would continue to be responsible for identifying and enforcing recreation capacities for both land-and water-based recreation, identifying appropriate recreational use areas for various activities, and managing user conflicts. Some programs would likely be implemented as funding becomes available; these would include installing interpretive displays and providing improved access for persons with disabilities.

Under Alternative B, Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use. Reclamation would also coordinate with the appropriate management entities regarding potential OHV use on designated state and county roads, or portions thereof, within the Study Area. However, Reclamation would not propose any new developed OHV trailhead facilities under Alternative B. Additionally, an existing informal OHV riding area (Honda Hills Area) would be closed to that use, consistent with the conservation emphasis of Alternative B.

Natural and Cultural Resources With Alternative B, management of the Study Area would focus on conservation of natural and cultural resources. For example, Reclamation would encourage and work with the UDWR to develop a Fishery Management Plan that would seek to enhance recreational fishing opportunities where feasible within existing reservoir operating criteria and a Habitat Management Plan that would seek to conserve viable wildlife habitat where feasible using management strategies to protect wildlife values. In developing these plans Reclamation and its partners would also consider plantings of native plant species that are beneficial aquatic plants in vegetated shallows and shrubs and trees along shorelines and riparian areas where appropriate.

The RMP would also include specific objectives to develop and implement drainage improvements, stormwater best management practices, and an Integrated Pest Management Plan. The latter would focus on controlling noxious and invading weeds, pests, and aquatic nuisances within the Study Area. Control methods could include mowing, applying chemicals, burning, removing, pulling, and trapping. This plan would improve current vegetation management within the Study Area.

Reclamation would continue to cooperate with UDWR, UDWQ, and other entities that monitor accumulations of selenium and mercury and provide adequate public information and education. Working with State Parks, Reclamation would continue fencing maintenance efforts to keep livestock and OHVs out of riparian wetlands and other sensitive areas. In developing recreation site redesign or rehabilitation activities, Reclamation and State Parks would develop an appropriate plant list for future landscaping, erosion control, and water conservation.

Consistent with Federal and State laws and regulations, cultural and paleontological sites would continue to be protected from the unauthorized collection and excavation of artifacts and all other ground-disturbing activities. Reclamation would coordinate with the Utah State Historical Preservation Office (SHPO) and the cultural resource sections of State Parks and Reclamation, as necessary, to protect cultural and paleontological resources. Specific objectives would be developed to identify, manage, and interpret cultural and paleontological resources under Alternative B.

Land Management Reclamation and its partners would continue to evaluate access and access controls and recommend improvements as needed. Reclamation and State Parks would work with Uintah County to manage OHV use within the Study Area in accordance with State and County laws. For purposes of the RMP, an unimproved road is defined as a road that does not have a paved or gravel surface and is irregularly maintained or not maintained. With Alternative B, user-created unimproved roads (unimproved roads that are not designated as county roads or that are not used for administrative access purposes) would be decommissioned, particularly wherever these roads present erosion problems, provide access to unsafe areas, or enable trespass into the Primary Jurisdiction Area. Boundary fencing, gates, and cattle guards would be installed, maintained, or upgraded as needed to prevent trespass.

As is currently the case, Reclamation would determine the appropriate uses for borrow pit areas, identify mineral rights for Reclamation lands, and coordinate with appropriate entities managing surrounding lands regarding any potential indirect effects to Reclamation lands and the reservoir.

Alternative B: Specific Area Management

Specific Management Area designations under Alternative B are described below and shown on Figure 2-3.

State Park Area This area includes an Administrative Area, Developed Day Use Recreation area, Developed Overnight Recreation Area, Developed Overnight and Day Use Group Recreation Area, and Undeveloped Day Use Recreation Area. A portion of the Administrative Area would be redeveloped as a long-term camping area. The proposed location was previously developed as a staff housing area with two residential mobile homes. The residential mobile homes have been moved off site, and the location is currently used for equipment storage. There is an existing 1,000-gallon underground septic system located in the area that is currently unused. State Parks would redevelop this site to provide 6–10 full service campsites (water, sewer, and 50-amp electric service) that could be rented for longer periods of time than recreational campsites, which are limited to 14-day stays during any period of 30 consecutive days [43 CFR 423.33(b)]. Pursuant to 43 CFR 423 Subpart E, Reclamation would approve the long-term camping area as a special use area at Steinaker Reservoir. This Environmental Assessment serves as the public process required by the federal regulation prior to making such designation. In making the designation, Reclamation would allow State Parks to lease and manage the long-term camping sites. State Parks would determine and collect fees and would lease sites on a month-by-month basis.

As illustrated in Figure 2-3, portions of the State Park Area would also be managed as a Natural Area to protect natural and cultural resources. The existing Eagle Ridge hiking trail would be expanded and linked with the main State Park facilities area and other hiking trails along the north end of the reservoir. Consistent with the conservation emphasis of Alternative B, developed facilities would not be expanded into new areas, but existing facilities would be redesigned or upgraded as needed. Facility upgrades and additions that were being implemented at the initiation of the RMP planning process include a boat trailer parking expansion and an accessible fishing pier located near the existing boat ramp. These facilities are also incorporated into Alternative B. An unimproved road that is not a county road and is not used for administrative access purposes would be decommissioned.

Reclamation would allow public OHV access to the Reservoir Inundation Area from the State Park Area boat ramp for ice fishing, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use. During the RMP planning process, State Parks expressed interest in increasing overnight camping stays by allowing public OHV use within the State Park Area and on the entrance road to Steinaker Reservoir. As described above for Area-Wide management of Recreation and Visual Resources under Alternative B, Reclamation would coordinate with the appropriate management entities regarding this potential designation.

Entrance Area Under Alternative B, the Entrance Area would be managed as a Natural Area. Disturbed areas would be re-vegetated and erosion control would be provided as necessary. A hiking trail would be added and an existing trailhead/parking area would be improved. Reclamation would coordinate with the appropriate management entities regarding potential designation of OHV use on the entrance road or portions thereof; however, no OHV trailhead or other new developed facilities would be included with Alternative B. Two unimproved roads that are not county roads and that are not used for administrative access purposes would be decommissioned.

Scenic Byway Area Under Alternative B, the Scenic Byway Area would be managed primarily as a Natural Area to protect natural and cultural resources, including scenic quality along the highway. The existing scenic byway pullout site would be managed as a Developed Day Use Recreation Area. Existing walking paths and parking pullouts along the highway would be improved for safety and to provide improved shoreline fishing access while limiting erosion.

Honda Hills Area Under the conservation emphasis of Alternative B, the Honda Hills Area would be designated as Natural Area to restore habitat values for wildlife. No new facilities would be developed and the unimproved roads, trails, and existing informal OHV riding areas would be closed to that use. Disturbed areas would be revegetated and erosion control would be provided as necessary to return the area to more natural conditions.

Primary Jurisdiction Area Management of the Primary Jurisdiction Area would be the same under any RMP alternative. The Primary Jurisdiction Area is set aside for operation and maintenance of the dam and feeder canal facilities. It is not open to access for the protection of the health, safety, and welfare of the public. Permitted access and use of this area would be determined by Reclamation and UWCD.

Inflow Area Under Alternative B, the Inflow Area would be designated as Natural Area to protect natural and cultural resources. Disturbed areas would be re-vegetated and erosion control would be provided as necessary. No new facilities would be developed. User-created unimproved roads in the Inflow Area would be decommissioned.

Reservoir Inundation Area Management of the Reservoir Inundation Area would be the same under any RMP Alternative. State Parks has determined that Steinaker Reservoir has a maximum boat-carrying capacity of 70 boats; however, existing parking areas can only accommodate approximately 40 boat trailers at a given time. A planned boat parking expansion would increase the parking capacity to a maximum of about 60 boat trailers (M. Murray 2012a, pers. comm.).

State Parks would continue to maintain the current maximum boat-carrying capacity of 70 boats, reducing this number as necessary to compensate for reservoir water level fluctuations and available parking, and to promote public health and safety. Under Alternative B, Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2).

Alternative C: Recreation Development Emphasis

Alternative C provides for and expands a variety of recreational opportunities by locating new facilities on accessible lands suitable for recreational development to meet demand. New boating, camping, picnicking, and parking facilities, and the accompanying access roads, would be developed. Specific components would include: expansion of group recreation sites; addition of rental cabins or yurts; expanded hiking trails, improved shoreline access and an accessible fishing dock; and development of motorized and nonmotorized trailheads and trail connectivity. Opportunities to contract services with private concessionaires would be considered as appropriate. Facilities that improve or protect environmental quality would be included, as well as regulation and information systems to increase public awareness.

To accommodate these elements, Alternative C would allocate additional lands to developed recreation purposes, as illustrated in Figure 2-4. Table 2-1 indicates allocation of 27.1 acres to Developed Day Use Recreation, 18.7 acres to Developed Overnight Recreation, and 7.5 acres to Developed Overnight and Day Use Group Recreation Area. Collectively, these designations double the area available for developed use compared to existing conditions (Alternative A). Administrative, Primary Jurisdiction, and Reservoir Inundation areas would not change. A large proportion of the Study Area, 537.6 acres, would remain Undeveloped Day Use Recreation Area while 325.0 acres would be designated as Natural Area.

Alternative C: Area-Wide Management

Partnerships The same management actions and policies for partnerships described under Alternative B would be implemented under Alternative C.

Water Resources The same management actions and policies for water resources described under Alternative B would be implemented under Alternative C.

Recreation and Visual Resources The emphasis of Alternative C is accommodating expanded recreation facilities and opportunities. Figure 2-4 illustrates specific area designations that are consistent with recreation development suitability analysis. The footprint of the State Park facilities would be expanded beyond existing boundaries to accommodate new facilities. Developed Overnight Recreation Area facilities would be redeveloped within the existing footprint and would be expanded to the southeast. Some of this expanded area would be devoted to proposed rental cabins or yurts. The number of designated campsites would increase to 58 under Alternative C. Similarly, the Developed Day Use Recreation Area would be redesigned within its existing footprint and also expanded to fill in currently undeveloped area between the boat ramp and existing beach day-use area. For group use facilities, the existing Developed Overnight and Day Use Group Recreation Area would be expanded to the northeast to include additional facilities.

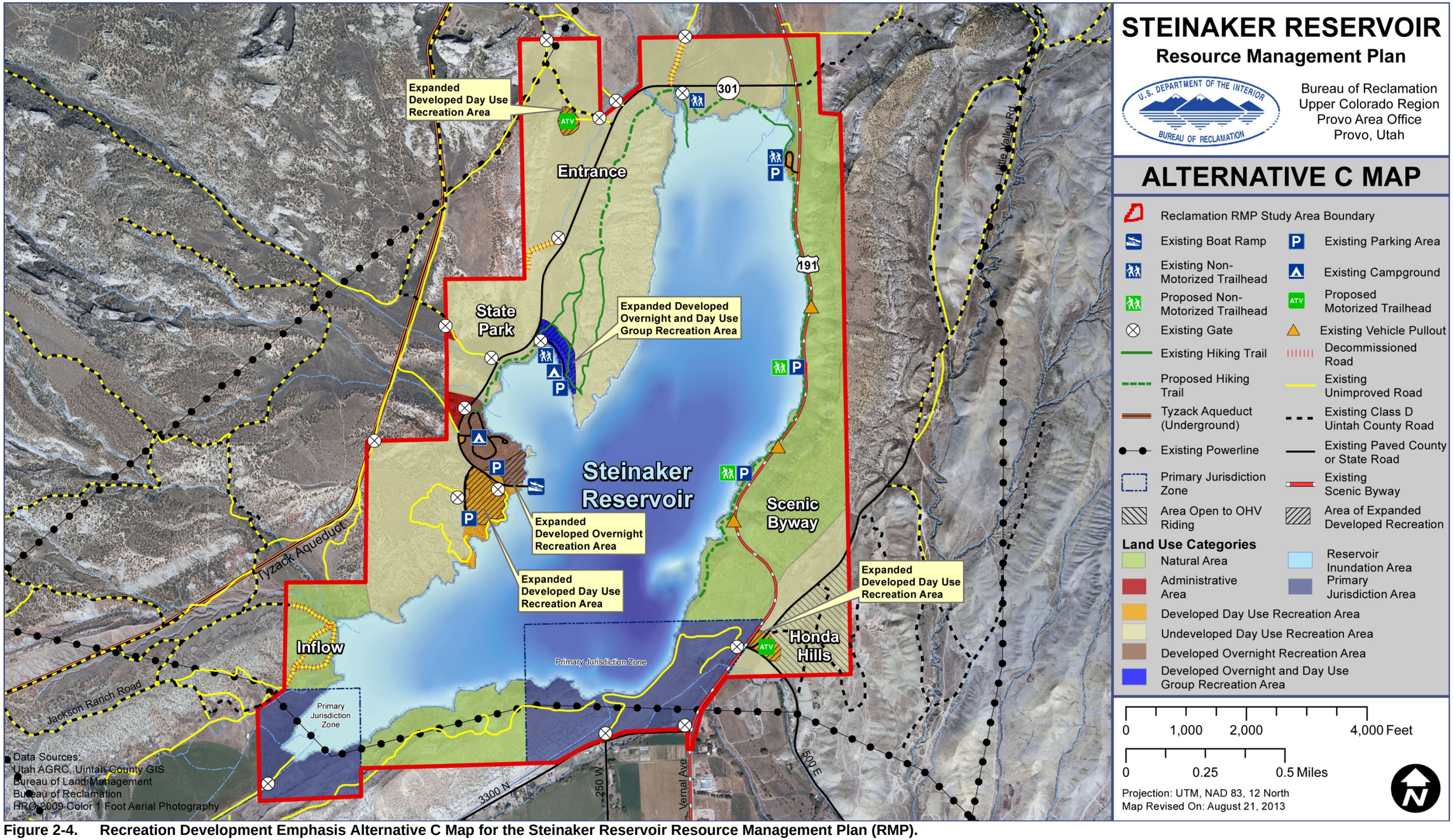

Figure 2-4. Recreation Development Emphasis Alternative C Map for the Steinaker Reservoir Resource Management Plan (RMP).

Under Alternative C, Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). Reclamation would also coordinate with the appropriate management entities regarding potential OHV use on designated state and county roads, or portions thereof, within the Study Area. Additionally, new OHV trailheads would be developed in two locations as shown on Figure 2-4. A trailhead in the Honda Hills Area would include vault toilets and designated parking. A similar trailhead would be developed in the northwest portion of the Study Area, providing access through the Study Area onto BLM motorized trails known as the Doc's Beach area to the west of Steinaker Reservoir. The proposed locations for trailheads are adjacent to existing designated trails and are currently used as trailheads with no facilities. Site conditions would be improved with development of new facilities. State Parks and/or Uintah County would maintain these trailheads and collect day-use fees as warranted.

Implementation of any of the proposed facilities would be contingent on assessment of demand, available funding, and site-specific environmental evaluation as required by NEPA. Reclamation would also evaluate consistency with visual quality management objectives in the design of renovated or new recreation facilities.

State Parks would continue to be responsible for identifying and enforcing recreation capacities for both land-and water-based recreation, identifying appropriate recreational use areas for various activities, and managing user conflicts. Programs would likely be implemented as funding becomes available; these would include installing interpretive displays and providing improved access for persons with disabilities.

Natural and Cultural Resources While additional Study Area lands would be converted to developed uses under Alternative C, natural and cultural resources would be planned for and actively managed in the same manner as described for Alternative B. Therefore, the same management actions and policies for natural and cultural resources described for Alternative B would be implemented under Alternative C.

Land Management Reclamation and its partners would continue to evaluate access and access controls and recommend improvements as needed. Reclamation and State Parks would work with Uintah County to manage OHV use within the Study Area in accordance with State and County laws. For purposes of the RMP, an unimproved road is defined as a road that does not have a paved or gravel surface and is irregularly maintained or not maintained. With Alternative C, user-created unimproved roads (unimproved roads that are not designated as county roads or that are not used for administrative access purposes) would be decommissioned, particularly wherever these roads present erosion problems, provide access to unsafe areas, or enable trespass into the Primary Jurisdiction Area. Boundary fencing, gates, and cattle guards would be installed, maintained, or upgraded as needed to prevent trespass.

As is currently the case, Reclamation would determine the appropriate uses for borrow pit areas, identify mineral rights for Reclamation lands, and coordinate with appropriate entities managing surrounding lands regarding any potential indirect effects to Reclamation lands and the reservoir.

Alternative C: Specific Area Management

Specific Management Area designations under Alternative C are described below and shown on Figure 2-4.

State Park Area Under Alternative C, portions of the State Park Area would continue to be managed as Administrative Area, Developed Day Use Recreation Area, Developed Overnight Recreation Area, Developed Overnight and Day Use Group Recreation Area, and Undeveloped Day Use Recreation Area. A portion of the Administrative Area would be redeveloped as a long-term camping area. The proposed location was previously developed as a staff housing area with two residential mobile homes. The residential mobile homes have been moved off site and the location is currently used for equipment storage. There is an existing 1,000-gallon underground septic system located in the area that is currently unused. State Parks would redevelop this site to provide 6–10 full service campsites (water, sewer, and 50-amp electric service) that could be rented for longer periods of time than recreational campsites, which are limited to 14-day stays during any period of 30 consecutive days [43 CFR 423.33(b)]. Pursuant to 43 CFR 423 Subpart E, Reclamation would approve the long-term camping area as a special use area at Steinaker Reservoir. This Environmental Assessment serves as the public process required by the federal regulation prior to making such designation. In making the designation, Reclamation would allow State Parks to lease and manage the long-term camping sites. State Parks would determine and collect fees and would lease sites on a month-by-month basis.

Consistent with the recreation development emphasis of Alternative C, existing Developed Overnight and Developed Day Use Recreation Areas would be expanded in size to accommodate new facilities. Existing facilities would also be redesigned or rehabilitated as needed. The existing Eagle Ridge hiking trail would be expanded and linked with the main State Park facilities area and other hiking trails along the north end of the reservoir. Facility upgrades and additions that were being implemented at the initiation of the RMP planning process include a boat trailer parking expansion and an accessible fishing pier located near the existing boat ramp. These facilities are also incorporated into Alternative C. An unimproved road that is not a county road and is not used for administrative access purposes would be decommissioned.

Reclamation would allow public OHV access to the Reservoir Inundation Area from the State Park Area boat ramp for ice fishing, as conditions permit and in accordance with Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use. During the RMP planning process, State Parks expressed interest in increasing overnight camping stays by allowing public OHV use within the State Park Area and on the entrance road to Steinaker Reservoir. As described above for Area-Wide management of Recreation and Visual Resources under Alternative C, Reclamation would coordinate with the appropriate management entities regarding this potential designation.

Entrance Area The Entrance Area would be managed primarily as an Undeveloped Day Use Recreation Area under Alternative C. A new hiking trail would be constructed to connect the Eagle Ridge Trail to the Scenic Byway Trailhead and an existing trailhead and parking area at the north end of the reservoir would be improved. A new, OHV trailhead with vault toilets and designated parking would be constructed within a Developed Day Use Recreation Area to provide access onto BLM motorized trails known as the Doc's Beach area to the west of Steinaker Reservoir. State Parks and/or Uintah County would maintain the trailhead and collect

day-use fees as warranted. An unimproved road that is not a county road and that is not used for administrative access purposes would be decommissioned.

Scenic Byway Area Under Alternative C, management of the Scenic Byway Area would be the same as Alternative B., The Scenic Byway Area would be managed as a Natural Area to protect natural and cultural resources, including scenic quality along the highway. The existing scenic byway pullout site would be managed as a Developed Day Use Recreation Area. Existing walking paths and parking pullouts along the highway would be improved for safety and to better provide shoreline fishing access while limiting erosion.

Honda Hills Area The Honda Hills Area would be managed as an Undeveloped Day Use Recreation Area. Consistent with the recreation development emphasis of Alternative C, a new OHV trailhead with vault toilets and designated parking would be developed within a Developed Day Use Recreation Area and open riding of OHVs would be allowed within a designated area. State Parks and/or Uintah County would maintain the trailhead and collect day-use fees as warranted.

Primary Jurisdiction Area Management of the Primary Jurisdiction Area would be the same under any RMP alternative. The Primary Jurisdiction Area is set aside for operation and maintenance of the dam and feeder canal facilities. It is not open to access for the protection of the health, safety, and welfare of the public. Permitted access and use of this area would be determined by Reclamation and UWCD.

Inflow Area Under Alternative C, the Inflow Area would be managed the same as under Alternative B. The Inflow Area would be designated as a Natural Area to protect natural and cultural resources. Disturbed areas would be re-vegetated and erosion control would be provided as necessary. No new facilities would be developed. User-created unimproved roads in the Inflow Area would be decommissioned.

Reservoir Inundation Area Management of the Reservoir Inundation Area would be the same under any RMP Alternative. State Parks has determined that Steinaker Reservoir has a maximum boat-carrying capacity of 70 boats; however, existing parking areas can only accommodate approximately 40 boat trailers at a given time. A planned boat parking expansion would increase the parking capacity to a maximum of about 60 boat trailers (M. Murray 2012a, pers. comm.). State Parks would continue to maintain the current maximum boat-carrying capacity of 70 boats, reducing this number as necessary to compensate for reservoir water level fluctuations and available parking, and to promote public health and safety. Under Alternative C, Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use.

Summary Comparison of Alternatives and Impacts

Table 2-2 summarizes the land-use designations for each of the Steinaker Reservoir management areas, by alternative. None of the alternatives would modify existing management of the Primary Jurisdiction or Reservoir Inundation areas. Under any alternative, developed recreation facilities

Table 2-2. Comparison of Land-Use Designations for Resource Management Plan (RMP) Alternatives by Management Area.

MANAGEMENT AREAS	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
	NO ACTION	RESOURCE CONSERVATION EMPHASIS	RECREATION DEVELOPMENT EMPHASIS
State Park Area	AA[a], DDURA[b], DORA[c], DGRA[d] UDURA[e]	AA, DDURA, DORA, DGRA, UDURA, NA[f]	AA, DDURA, DORA, DGRA UDURA
Entrance Area	UDURA	NA	DDURA, UDURA
Scenic Byway Area	UDURA, DDURA	NA, DDURA	NA, DDURA
Honda Hills Area	UDURA	NA	DDURA, UDURA
Primary Jurisdiction Area	PJA[g]	PJA	PJA
Inflow Area	UDURA	NA	NA
Reservoir Inundation Area	RIA[h]	RIA	RIA

[a] AA = Administrative Area
[b] DDURA = Developed Day Use Recreation Area
[c] DORA = Developed Overnight Recreation Area
[d] DGRA = Developed Overnight and Day Use Group Recreation Area
[e] UDURA = Undeveloped Day Use Recreation Area
[f] NA = Natural Area
[g] PJA = Primary Jurisdiction Area
[h] RIA = Reservoir Inundation Area

in the Study Area are concentrated at the State Park Area. Under Alternative A, most of the Study Area would be managed as an Undeveloped Day Use Recreation Area, which is consistent with existing use. Consistent with the conservation emphasis, under Alternative B Reclamation would designate areas outside of the State Park Area as Natural Area. The Natural Area designation would limit development of recreation facilities to nonmotorized uses. With Alternative C, only the Scenic Byway and Inflow areas would be designated as Natural Area; two OHV trailhead facilities would be allowed, one within the Honda Hills Area and the other within the Entrance Area.

Table 2-3 summarizes the impacts of each alternative for the Steinaker Reservoir RMP Study Area. For a detailed description of impacts by resource, see Chapter 4: Environmental Consequences. Based on the impact assessments, Table 2-4 summarizes how well each alternative would fulfill the RMP goals. A full statement of RMP goals and objectives is provided in Appendix A.

The No Action Alternative would be least effective at fulfilling the RMP goals, particularly goals related to expanding and enhancing recreation opportunities (Goal C1) and providing quality recreation opportunities that minimize conflicts (Goal C2). While existing recreation facilities could be redesigned or rehabilitated under the No Action Alternative, there would not be opportunities to provide expanded facilities at the location of the existing State Park facilities, to improve shoreline fishing access, to expand hiking trails, or to work with other entities to develop and improve connectivity to motorized and nonmotorized trails beyond the Study Area.

Table 2-3. Summary of Resource Management Plan (RMP) Impacts by Alternative.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
		Partnerships	
Change in the number and type of resource management partnerships	No change to the number and type of partnerships. Existing partnerships include: • U.S. Bureau of Land Management • U.S. Fish and Wildlife Service • Utah Division of State Parks and Recreation • Uintah Water Conservancy District • Utah Division of Wildlife Resources • Utah Department of Environmental Quality • Utah Department of Transportation • Uintah County	Current partners listed for Alternative A would remain with increased responsibilities related to a conservation emphasis. Potentially new resource management partners include local conservation organizations and adjacent landowners.	Same as Alternative B, plus additional responsibilities and/or partnerships related to a recreation development emphasis. Potentially new resource management partners include those listed for Alternative B and also local recreation interest groups.
		Water Resources	
Change in the amount of unimproved roads due to decommissioning	No change from existing conditions (5 total miles of unimproved roads, including 0.7 mile within 50 feet of the reservoir or a tributary stream).	Decrease of 1.1 miles of unimproved roads, with less than 0.1 mile decrease within 50 feet of a stream or the reservoir.	Decrease of 1.0 mile of unimproved roads, with less than 0.1 mile decrease within 50 feet of the reservoir or tributary stream.
Change in the amount of nonmotorized trails	No change from existing conditions (1.7 miles of nonmotorized trails within the Study Area, including 0.4 mile within 50 feet of the reservoir or tributary stream).	Increase of 2.8 miles of nonmotorized trails within the Study Area, including 1.4 miles within 50 feet of the reservoir or tributary stream.	Same as Alternative B.
Change in the amount of developed recreation areas	No change from existing conditions (26.7 acres of existing developed recreation areas; see Table 2-1).	No change from existing conditions (26.7 acres of existing developed recreation areas; see Table 2-1).	Increase to a total of 53.3 acres of developed recreation areas, including 1.1 new acres within 50 feet of the reservoir or tributary stream.
Change in the amount of Natural Areas	No change from existing conditions (see Table 2-1).	Increase of 776 acres of Natural Area, including 50.6 acres within 50 feet of the reservoir or tributary stream.	Increase of 325 acres of Natural Area, including 23.4 acres within 50 feet of the reservoir or tributary stream.
Change in the number and types of toilet facilities	No change from existing conditions.	Additional use of existing septic systems within the State Park Management Area with the addition of 6–10 long-term camping sites.	Additional number of vault toilets and additional septic system use within the expanded State Park Area where developed recreation areas would be expanded and 6–10 long-term camping sites would be added. Vault toilets would be added at OHV trailheads in the Entrance and Honda Hills areas.

Table 2-3. (Cont.)

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Recreation and Visual Resources			
Change in recreational opportunities	No change from existing conditions.	Developed Recreation Areas would remain the same. Undeveloped Day Use Recreation Areas would decrease by 776.2 acres as Natural Areas would be designated. Administrative, Primary Jurisdiction, and Reservoir Inundation areas would remain the same.	Developed Day Use Recreation Areas would increase by 16.7 acres. Developed Overnight Recreation Areas would increase by 4.8 acres. Developed Overnight and Day Use Group Recreation Areas would increase by 5.1 acres. Undeveloped Day Use Recreation Areas would decrease by 352.1 acres as 325.0 acres of Natural Areas would be designated and 26.6 acres of Developed Recreation Areas would be designated.
Change in visitation and recreational facilities	No change from existing conditions. Total developed campsites at 31. Total day-use picnic sites at 38. Group camping at 50 PAOT. Total boat parking at 36. Total Trailhead parking at 63. Total persons at one time (PAOT): 795. Total boat ramps at 1.	Increase in boat parking stalls to 60. Total PAOT increases to 915. Total boat ramps remain at 1.	Expanding the footprint of the existing State Park Area facilities to Developed Overnight and Developed Day Use Recreation Areas would increase campsites from 31 to 39 and the picnic sites from 41 to 49. Total PAOT increases to 790. Total boat ramps remain at 1.
Change in Water and Land Recreation Opportunity Spectrum (WALROS) Classification	No change from existing conditions.	The Inflow Area WALROS Classification would change from RN7 to SP8. The Scenic Byway Area WALROS Classification would change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.	The Inflow Area WALROS Classification would change from RN7 to SP8. The Scenic Byway Area WALROS Classification would change from RD5 to RD4. The Honda Hills Area WALROS Classification would change from RN7 to RN6. The Entrance Area WALROS Classification would change from RN6 to RD6. The State Park Area WALROS Classification would change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.
Change in visual-resource conditions	No change from existing conditions.	No change in visual-resource conditions.	No change in visual-resource conditions.
Natural and Cultural Resources			
Change in the amount of shoreline erosion	Shoreline erosion would be expected to continue. No change from existing conditions and trends.	Slightly reduced shoreline erosion with designation of Natural Area.	Same as Alternative B, with fewer acres designated as Natural Area.
Change in the amount of soil disturbance	91.9 acres (total existing soil disturbance).	76.4 acres (total existing and new soil disturbance).	96.5 acres(total existing and new soil disturbance).

Table 2-3. (Cont.)

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the quantity, condition, and level of disturbance of upland vegetation communities	Existing level of disturbance is 91.9 acres. No change in current upland vegetation conditions and trends.	Level of disturbance reduced to 76.4 acres through designation of 776 acres of Natural Area. Construction of 2.8 miles of new trails. Overall potential for improved condition of upland vegetation.	Level of disturbance increases to 96.5 acres through development of new facilities. Construction of 2.8 miles of new trails. Conversion of 26 acres to developed recreational uses. Overall slight potential for decreasing condition of upland vegetation.
Change in the quantity, condition, and level of disturbance of riparian-wetland vegetation communities	No change from existing riparian-wetland conditions and trends.	Potential for some impacts due to new trails proposed within riparian-wetland areas. Potential for improvement due to designation of Natural Areas within riparian-wetland areas.	Potential for some impacts due to new trails proposed within riparian-wetland areas and recreation facility expansion adjacent to riparian-wetlands. Potential for improvement due designation of Natural Areas within riparian-wetlands.
Change in the overall quality and amount of wildlife habitat	No change from existing conditions and trends.	Little or no impacts related to the loss of wildlife habitat. Enhancement and protection of important habitats as a result of designating Natural Areas.	Minimal impacts related to habitat loss as a result of facility development and uses.
Change in the amount of human-related disturbance	No change from existing conditions and trends.	Decrease in disturbance related to restrictions of vehicle access and designated parking areas. Short-term increase in disturbances during construction of facilities in localized areas where human activity would increase in association with the development of new facilities. Impacts would be minimal because of the limited amount of proposed development, current condition of areas proposed for development, and availability of similar habitat in the surrounding area.	New facilities would be constructed under Alternative C, resulting in more short- and long-term wildlife disturbances. Impacts would be minimal because of the current condition of areas proposed for development and the availability of similar habitat in the surrounding area.
Change in the quality and quantity of fish spawning and recruitment habitat	Ongoing negative impacts associated with unfettered shoreline access around Steinaker Reservoir.	Minimal impact associated with designating Natural Areas and creating hiking trails.	Negative impact associated with continued unfettered shoreline access, as well as developing new recreational facilities.
Change in the amount of angling pressure	No change from existing conditions. However, a future increase in visitation would continue to increase fishing pressure.	Slight negative impact with increased walking/hiking access and shoreline access, which would increase fishing pressure.	Negative impact associated with developing new recreational facilities with more boat launching and recreational capacity, as well as increased shoreline fishing access through trail use.

Table 2-3. (Cont.)

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the threat of aquatic invasive species infestation	No change from existing conditions. However, a risk is always present.	Little to no impact without increases or improvements to facilities and boat ramps.	Negative impact associated with developing new recreational facilities and increasing boat launching traffic allowing for greater potential for infestation.
Change in the quantity and quality of habitat for special status species	No change from existing conditions and trends.	Minimal impacts to the quantity and quality of habitat related to facility upgrades and improvements. Enhancement of habitat through designation of Natural Areas and development of a Habitat Management Plan.	Minimal impacts of habitat loss due to facility improvements and new facility developments; site-specific environmental analysis required. Enhancement of habitat through designation of Natural Areas and development of a Habitat Management Plan.
Change in the level of human-related disturbance for special status species	No change from existing conditions and trends.	Short-term increase in disturbance during improvements to facilities in localized areas. Long-term decrease in disturbance due to decommissioning of unimproved roads and Natural Area designations. This would also provide minor benefits to vegetation communities with potential to support rare plants.	Some localized increase in disturbance with facility improvement and new facility development; site-specific environmental analysis required. Long-term decrease in disturbance due to decommissioning of unimproved roads and Natural Area designations. This would also provide minor benefits to vegetation communities with potential to support rare plants.
Change in the integrity of cultural resource sites	Potential impacts to integrity of surficial and subsurface cultural resources unchanged.	Potential slight increased impact to the integrity of surficial and subsurface cultural resources.	Increased potential to impact the integrity of surficial and subsurface cultural resources caused by increased development.
Change in the condition of paleontological resource localities	Potential impacts to condition of surficial and subsurface paleontological resources.	Potential impacts to condition of surficial and subsurface paleontological resources.	Increased potential to impact the condition of surficial and subsurface paleontological resources caused by increased development.
Change in the use and quality of Indian Trust Assets (ITAs)	No projected impact to ITAs.	No projected impact to ITAs.	No projected impact to ITAs.
Land Management			
Change in the development of locatable, saleable, or leasable mineral resources	No projected impacts to energy, minerals, and other extractive resources.	No projected impacts to energy, minerals, and other extractive resources.	Possible impacts to the development of saleable mineral resources in the Honda Hills portion of the Study Area.
Change in the amount of sanitation facilities	No change from existing conditions.	Additional use of existing septic systems with the addition of a long-term camping area.	Increase in the number of vault toilets and possible expansion of existing septic systems.

Table 2-4. Resource Management Plan (RMP) Goal Fulfillment by Alternative.

STEINAKER RESERVOIR RMP GOALS		ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Goal Category A: Partnerships				
Goal A1:	Support Existing Agreements and Contracts and Encourage New Partnerships that Improve Management Practices for Steinaker Reservoir's Associated Lands and Resources (Issue A1)	⊙	●	●
Goal Category B: Water Resources				
Goal B1:	Protect Water Quality in Steinaker Reservoir (Issue B1)	⊙	●	⊙
Goal Category C: Recreational and Visual Resources				
Goal C1:	Increase Visitation and Revenue by Improving Existing Recreational Facilities, Expanding and Enhancing Recreation Opportunities, and Providing Access to Regional Recreation Resources (Issue C1)	○	⊙	●
Goal C2:	Provide for Safe, Quality Recreation Opportunities that Minimize Conflicts (Issue C1)	○	⊙	●
Goal C3:	Protect and Manage Visual Resources (Issue C2)	●	●	●
Goal Category D: Natural and Cultural Resources				
Goal D1:	Protect and Enhance the Quality of the Fishery and Fishing Opportunities (Issues D1 and D2)	⊙	●	●
Goal D2:	Protect and Enhance Native Vegetation and Wildlife Habitat (Issues D3 and D4)	⊙	●	⊙
Goal D3:	Determine Occurrence of Special Status Species and Identify Important Habitat Areas (Issue D4)	⊙	●	⊙
Goal D4:	Control Erosion (Issue D5)	⊙	●	⊙
Goal D5:	Protect and Manage Paleontological Resources (Issue D6)	●	●	⊙
Goal D6:	Protect and Manage Cultural Resources (Issue D7)	●	●	⊙
Goal Category E: Land Management				
Goal E1:	Provide Appropriate and Safe Access to Public Use Areas (Issue E1)	⊙	⊙	●
Goal E2:	Evaluate Access Needs for Adjacent Private Land Owners (Issue E2)	●	●	●
Goal E3:	Manage Mineral Development (Issue E3)	●	●	●

Legend: ● Fulfills goal; ⊙ Partially fulfills goal; ○ Does not fulfill goal.

Under Alternative B, Reclamation would not allow expansion of recreation facilities beyond existing disturbances and would designate the majority of lands surrounding the reservoir as Natural Area. Additionally, under Alternative B, Reclamation would work cooperatively with partner entities in developing a Fishery Management Plan, Habitat Management Plan, and Integrated Pest Management Plan. Consequently, this alternative best fulfills RMP goals related to protecting natural and cultural resources (Goal Category D). Alternative B partially fulfills goals related to recreation facilities (Goal C1) and recreation opportunity (Goal C2). This is because Reclamation and its partners would work toward the objectives of redesigning or rehabilitating existing facilities and making improvements to shoreline access and hiking trails within the Study Area.

Under Alternative C, Reclamation would work with partners toward the goals of not only improving existing recreation facilities but also adding new recreation facility sites at Steinaker Reservoir. Therefore, this alternative would best fulfill goals C1 and C2, as well as Goal E1. However, as a result of increasing recreation development, fewer lands surrounding the reservoir would be designated as Natural Area. Sensitive resources would still be avoided and Reclamation would still work cooperatively with partner entities in developing Fishery Management, Habitat Management, and Integrated Pest Management Plans. Consequently, Alternative C would partially fulfill Category D goals related to protecting natural resources (Goals D2, D3, D4, and D5).

Under any of the RMP alternatives (A , B, or C) Reclamation would continue to have responsibility for protecting and managing visual, paleontological, and cultural resources (Goals C3, D5, and D6) and to manage access and mineral development (Goals E2 and E3). Reclamation would continue to work with partner entities to meet these goals. Therefore, these goals would reasonably be fulfilled regardless of the RMP alternative selected. Because Alternative C would be expected to increase the geographical extent and frequency of recreational activity on Study Area lands, however, it would have greater potential to have effects on cultural and paleontological resources. Thus, Alternative C was rated as partially fulfilling Goals D5 and D6.

Special Use Area Designation for Long-Term Camping

This EA includes evaluation of a proposed long-term camping area, included as a Special Use Area designation under Alternative B or C. This Special Use Area would constitute a private exclusive use as defined in federal regulation 43 CFR 429. Based on the evaluation in this EA, Reclamation determined that this exclusive use would not conflict with authorized project purposes and would not create any new public safety or security issues at Steinaker Reservoir. Additionally, this exclusive use would not conflict with public recreational uses and would not limit Reclamation's ability to expand public recreation facilities as needed to meet future demand. Reclamation is required to notify the public at least 15 days prior to making the designation (43 CFR 423.61). Reclamation is also required to review all private exclusive use at least every 5 years to ensure compliance with certain established criteria pursuant to 43 CFR 429.32. This requirement has been included in the specific area management direction for the State Park Management Area (Appendix B).

Preferred Alternative

Based on public comments, input from the Planning Work Group, and internal deliberations, Reclamation has identified Alternative C as the Preferred Alternative.

Alternatives Considered and Eliminated from Detailed Study

No other potential RMP alternatives were suggested or developed; however, there were some suggested additions to Alternative C that were not adopted as components of the alternative. These suggestions included development of a picnic, rest area, and trailhead facility near the dam. Reclamation lands at this location are within the Primary Jurisdiction Zone of the dam. Consequently, Reclamation would not allow development of facilities in this area. Other suggestions included expansions of parking areas along US-191, and development of a biking trail along US-191. While such facilities would not be proposed by Reclamation as part of the RMP, under any RMP alternative Reclamation would consider proposals offered by other entities (such as Uintah County, the local National Scenic Byway committee, and/or the Utah Department of Transportation) to develop such facilities.

Another suggestion was to develop a OHV trailhead at the State Park entrance adjacent to US-191. Instead, under Alternative C, Reclamation proposes to develop a OHV trailhead adjacent to an existing motorized trail access located in the northwest portion of the Study Area. As discussed for Alternative C, this trailhead would provide access onto existing BLM motorized trails known as the Doc's Beach area to the west of Steinaker Reservoir. If Alternative C is selected for the RMP, Reclamation would work with partner agencies and recreation interest groups to facilitate motorized and nonmotorized trail linkages onto lands beyond the Study Area; thus, while a trailhead is not proposed on Reclamation lands adjacent to US-191, Reclamation would consider allowing trail linkage to occur in this vicinity should future trails be developed by other entities.

A proposal was also made to develop an "overflow" camping area as a component of Alternative C located between the existing Developed Overnight Recreation Area and the Developed Overnight and Day Use Group Area. Reclamation has instead proposed that existing facilities would be redesigned or rehabilitated under any RMP Alternative and that Alternative C would expand new facilities onto currently undeveloped but suitable lands that are adjacent to the existing facilities.

Mitigation Measures

The following measures will be implemented to avoid potential adverse effects to resources within the Study Area. Unless otherwise noted, each of these mitigation measures will be implemented for any of the three alternatives. For reference purposes, these mitigation measures are also stated in Appendix C: Environmental Commitments.

Water Resources

Potential impacts to water quality associated with RMP action alternatives would be mitigated through proper design, installation, and maintenance of stormwater best management practices

(BMPs), placement of vault toilet facilities in high-use recreation areas, and use of animal-proof garbage receptacles. Stormwater BMPs would reduce or eliminate stormwater-generated sediment and potentially eliminate untreated stormwater discharge into the reservoir. Vault toilets address impacts from untreated human waste entering the reservoir, and animal-proof garbage receptacles also reduce the amount of trash potentially entering the water body.

Riparian vegetation restoration and bank stabilization, as well as maintaining existing riparian buffers, would provide protection from soil erosion, reduce sediment loads to the reservoir or tributary streams, and filter pollutants transported by stormwater runoff. Locating trails outside of the riparian and marsh vegetation present between the full-pool and low-reservoir elevations would provide a buffer to help mitigate any runoff impacts from the proposed trail.

Under any alternative, Reclamation will continue existing interagency partnerships that maintain Steinaker Reservoir water quality and will participate in any future interagency coordination and partnership efforts associated with the Ashley Creek watershed.

Recreation and Visual Resources

In site-specific design, visual-resource impacts can be reduced or eliminated by using facility-design and land-planning techniques that borrow from naturally established line, form, color, and texture. Design considerations include building materials, size and scale, color, location, screening, and distance from critical viewpoints or transportation corridors. Visual-resource values must be considered throughout the RMP process as the assignment of visual-management classes is based on the management decisions made in the RMP. All proposed actions that would result in surface disturbances must consider the importance of the visual resource and the impacts the project may have on the characteristic landscape. Management decisions must reflect the importance of visual resources within the Study Area while also giving consideration to other resource values and uses.

Geology and Soils

Shoreline erosion is currently occurring along the reservoir full pool elevation throughout much of the Study Area, except in those areas where shoreline stabilization has been provided (e.g., along the dam and Highway 191). Appropriate erosion control and shoreline stabilization measures will be installed where appropriate to prevent further erosion in high-use areas.

To mitigate soil erosion impacts, Reclamation would implement erosion control measures for individual projects under Alternatives B and C. Implementation of proper erosion controls would mitigate impacts caused by construction activities and stormwater runoff. Mitigation measures would include requiring a Storm Water Pollution Prevention Plan for all construction operations that disturb 1.0 acre or more; this would require use of published BMPs for controlling erosion and sedimentation from stormwater runoff and would address runoff from all roads (paved and unpaved), trails, campgrounds, parking lots, and administrative buildings.

Vegetation Including Wetlands

Mitigation measures for either action alternative will include the development of noxious and invasive weed control strategies as a part of an Integrated Pest Management Plan. Fence lines can facilitate weed invasion as winds blow invasive vegetation against fences, where it becomes

trapped and releases seed. Therefore, including a provision for removal of redundant or unnecessary fence lines as part of the Integrated Pest Management Plan would provide some weed management benefit. Additionally, the plan should address weed control strategies to be implemented along all existing and future boundary and access control fences in the Study Area.

After site-specific environmental assessment and design, appropriate sediment and erosion control strategies would be implemented during construction activities to limit impacts to the upland and riparian-wetland vegetation communities. In site-specific designs, disturbed areas would be replanted with appropriate native species. Should it be found that any site-specific projects would involve filling riparian-wetland communities, Reclamation would comply with Section 404 of the Clean Water Act. Section 404 requires wetland impacts be mitigated and that no net loss of wetland occurs. The Section 404 permitting and mitigation process is under the jurisdiction of the U.S. Army Corps of Engineers.

Wildlife and Fisheries

Mitigation measures that would minimize or avoid impacts to wildlife are recommended below. These measures would be integrated into development of a Habitat Management Plan if either action alternative is selected for the RMP:

- At appropriate locations, signs would be posted to encourage recreationists to stay on the trail and within developed recreation facility boundaries to minimize the amount of vegetation trampling and disturbance to wildlife.

- Wetland and riparian habitats would be protected in accordance with existing federal regulations. During the development and expansion of recreation facilities, construction would, to the extent possible, avoid disturbance (both directly and indirectly) of wetland and riparian areas.

- Wildlife management would be coordinated between Reclamation and appropriate partner agencies to specify suitable recreation within the Natural Areas and identify measures to target areas that were previously impacted by recreationists and are in need of restoration.

Under Alternative B or C, Reclamation will engage partners, particularly State Parks and UDWR, in developing a Fishery Management Plan. Among other elements, the Fishery Management Plan would include goals to emphasize aquatic invasive species awareness and preventive measures for the Study Area.

Threatened, Endangered, and Other Special Status Species

Mitigation measures for special status species are inclusive of those previously described for vegetation, wildlife, and fisheries. Surveys for special status species (wildlife and rare plants) would be completed as a component of site-specific environmental analysis prior to implementing any recreation facility developments.

Cultural Resources

Reclamation will ensure the completion of cultural resource compliance for all site-specific undertakings as a means to fulfill Section 106 of the National Historic Preservation Act, as well

as to avoid, reduce, or mitigate impacts to the integrity of cultural resources. Avoidance is the preferred method of cultural resource mitigation. If historic properties are located within the area of potential effects associated with a specific undertaking, and if they would be impacted by activities associated with the undertaking, a Memorandum of Agreement (MOA) would be developed. The MOA would be among Reclamation, the Utah State Historic Preservation Office, the Advisory Council on Historic Preservation (if it chooses to participate), and any other party that assumes responsibility under the agreement. The MOA would include the terms and conditions agreed upon to resolve (mitigate) the impacts of the undertaking upon historic properties.

Paleontological Resources

Reclamation will ensure the completion of paleontological resource compliance for all site-specific projects as a means to fulfill Section 6302 of the Paleontological Resources Preservation Act, as well as to avoid, reduce, or mitigate impacts to the condition of paleontological resources. Avoidance is the preferred method of paleontological resource mitigation. If avoidance of paleontological resources is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to paleontological resources.

Indian Trust Assets

Reclamation will ensure the completion of Indian Trust Asset (ITA) compliance for all site-specific projects as a means to fulfill both U.S. Department of the Interior (512 DM 2) and Reclamation policies regarding ITAs, as well as to avoid, reduce, or mitigate impacts to ITAs. Avoidance is the preferred method of ITA mitigation. If avoidance of ITAs is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to ITAs.

Energy, Minerals, and Other Extractive Resources

Under Alternative C, potential mitigation measures for saleable mineral resources will include designing and developing the proposed Developed Day Use Recreation Area in the Honda Hills Area such that the saleable mineral resources continue to be accessible.

Wastewater, Solid Waste, and Hazardous Materials

Under Alternative C and pending site specific environmental analysis and design, local and state regulations concerning septic tank renovations will be followed during the possible expansion of the existing septic systems in the Developed Overnight Recreation Area. Additionally, providing adequate refuse collection frequency at all refuse collection locations in the Study Area will help reduce the potential of groundwater, soil, or surface water contamination.

Chapter 3: Affected Environment

This chapter of the Environmental Assessment (EA) describes the existing environment that would potentially be affected by the proposed Steinaker Reservoir Resource Management Plan (RMP) alternatives. The resource information presented in this chapter is of sufficient detail to support and clarify the impact analyses provided in Chapter 4 of this document. The resources discussed in this chapter were identified by the public and various groups and agencies that have an interest in the Steinaker Reservoir RMP Study Area (Study Area). Chapter 1 of this document provides a detailed description of the scoping process and outcomes. The resource conditions described in this chapter existed in 2011 and 2012; these conditions established the baseline for analysis of effects in Chapter 4. Resource conditions were determined by onsite inspections, literature searches, and through coordination with local, state, and federal agency personnel.

Local Setting

The Study Area is located between the southern slopes of the Uinta Mountains and the Ashley Valley. Steinaker Dam is located approximately 2 miles north of the Vernal city limits. Additional characteristics of the local setting and project history are described in Chapter 1; this section provides an overview of the existing economic, population, housing, and tourism characteristics of Uintah County.

Economy

Uintah County's economy is characterized by development of oil and gas resources and mining; consequently, international market prices for these natural resources have a strong influence on fluctuations in the local economy. Table 3-1 summarizes employment by industry for Uintah County in the first quarter of 2011. The mining, oil, and gas sector had the largest number of establishments in the county (197) accounted for the largest average employment (2,933 jobs), and had the largest payroll (more than $56 million). Total private sector employment was 10,760 and the total private sector payroll was $126.8 million. The public sector accounted for an additional 2,872 jobs and $24.3 million in payroll.

Growth in oil and gas production in recent years has helped to support growth in the construction, manufacturing, trade, and service sectors, particularly in the Vernal area. As shown in Figure 3-1, employment in Uintah County grew steadily from 2001 to 2008 with average annual employment increasing from 9,866 jobs to 15,273 jobs. Employment has declined somewhat since, with a relatively quick decline to 13,321 jobs in 2009 and a slower rate of decline for the subsequent 2 years. Average employment during the first quarter of 2011 was 12,933 jobs.

Population

Changes in rates of population growth and decline in Uintah County are also closely tied to oil, gas, and mining development trends. Figure 3-2 illustrates population by year from 1940 to 2009. The County's population grew somewhat gradually from 1940 to 1970, with an average

Table 3-1. Uintah County Employment and Income by Sector, First Quarter 2011.

INDUSTRY SECTOR	ESTABLISHMENTS	AVERAGE EMPLOYMENT	PAYROLL	AVERAGE MONTHLY WAGE
Private Sector				
Agriculture, Forestry, Fishing and Hunting	12	50	$311,871	$2,079
Mining (including oil and gas)	197	2,993	$56,243,820	$6,264
Utilities	6	143	$3,034,701	$7,074
Construction	137	769	$8,522,702	$3,694
Manufacturing	32	180	$1,366,712	$2,531
Wholesale Trade	69	618	$9,639,194	$5,199
Retail Trade	123	1,452	$9,386,118	$2,155
Transportation and Warehousing	116	850	$11,095,144	$4,351
Information	13	133	$1,055,381	$2,645
Finance and Insurance	41	185	$1,693,210	$3,051
Real Estate and Rental and Leasing	77	402	$5,809,084	$4,817
Professional Scientific and Technical Services	92	393	$3,651,186	$3,097
Admin., Support, Waste Management Remediation	41	296	$2,600,631	$2,929
Education Services	8	21	$65,145	$1,034
Health Care and Social Assistance	63	965	$6,638,583	$2,293
Arts, Entertainment, and Recreation	11	23	$37,344	$541
Accommodation and Food Services	65	952	$2,802,980	$981
Other Services (except Public Administration)	79	378	$3,112,934	$2,745
Total Private Sector	**1,172**	**10,760**	**$126,837,234**	**$3,929**
Public Sector				
Federal Government	27	370	$5,272,640	$4,750
State Government	16	157	$1,526,337	$3,241
Local Government	60	2,345	$17,500,320	$2,488
Total Public Sector	**103**	**2,872**	**$24,299,297**	**$2,820**

Source: UDWS (2012).

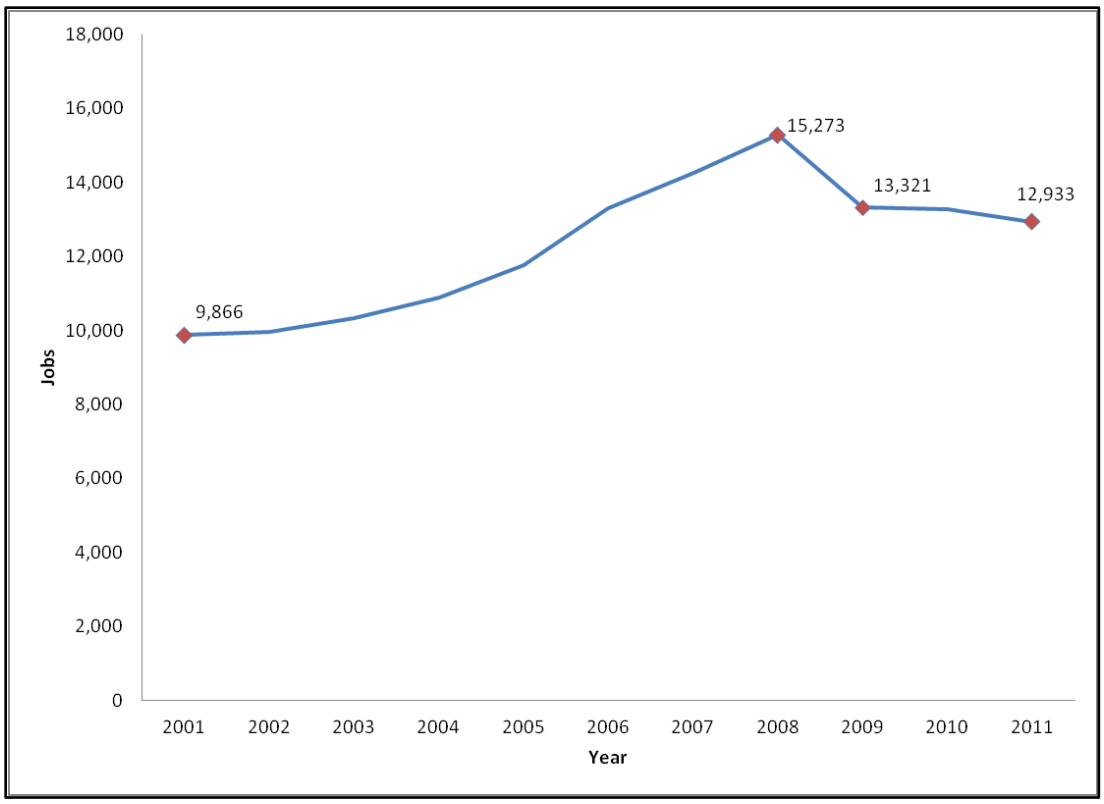

Figure 3-1. Uintah County Average Employment, 2001–2011 (UDWS 2012).

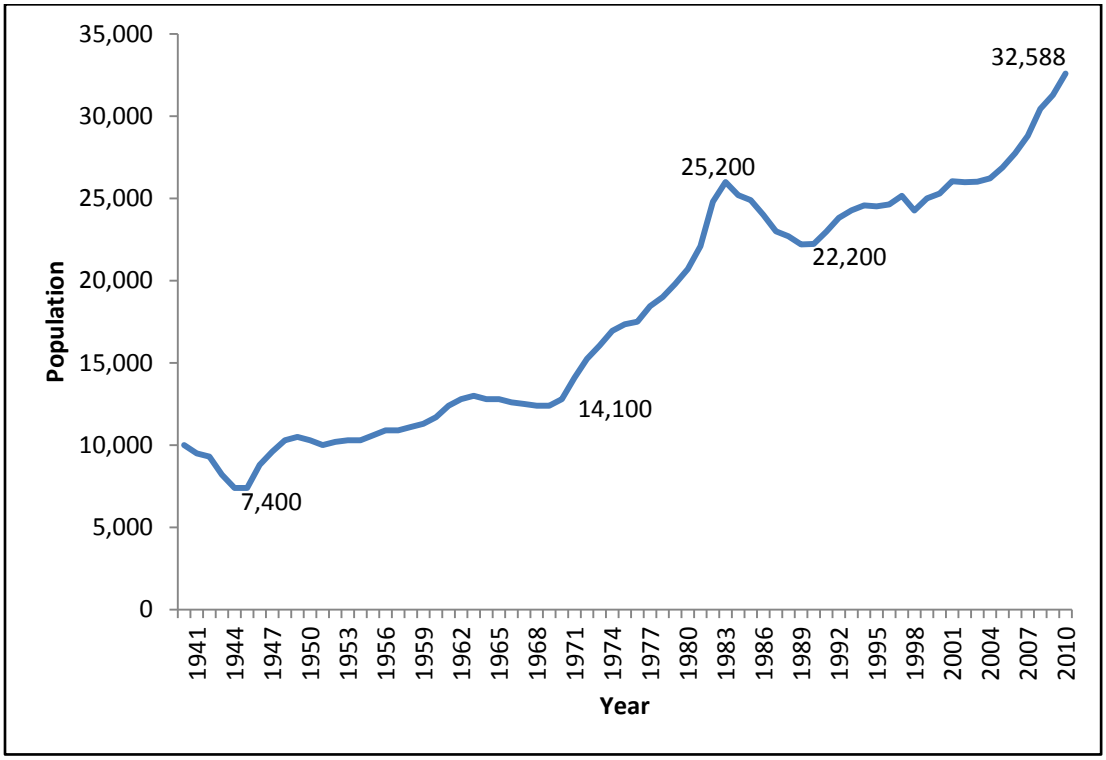

Figure 3-2. Uintah County Population 1940–2010 (GOPB 2012, U.S. Census Bureau 2012).

annual growth rate of about 1 percent during this period. There was significant out-migration in most years during this period, with growth largely due to natural increase. In 1970 the population of Uintah County was 12,800. Beginning in that year, the rate of growth increased significantly, averaging about 5 percent annually until 1982 when the population peaked at 26,000. However, collapse of the oil shale industry that year resulted in a decline in regional population throughout the 1980s. Uintah County's population declined by an annual average of about 2.6 percent during this period, to 22,200 in 1989. The county's population has been on an upswing since 1990, increasing gradually during the 1990s and the first half of the next decade. The rate of population growth increased beginning in 2005 to an average annual increase of about 3.6 percent. This rate of increase was associated with increased activity in natural gas exploration and development. The 2010 U.S. Census showed Uintah County's population had reached an all-time high of 32,588.

Housing

Population growth in the late 1970s and early 1980s also created a residential construction boom in Uintah County, as illustrated in Figure 3-3. From 1975 to 1978, Uintah County averaged about 273 new residential buildings per year. This increased to an annual average of 418 new buildings per year from 1979 to 1982. A significant number of multiple-unit dwellings must have been constructed in 1983, as the number of units constructed in that year spiked while the number of new buildings plummeted from 515 in 1982 to 74 in 1984. This was followed by a bust, where residential construction nearly ceased for the remainder of the decade. A new construction boom commenced in 2002 and continued through 2009. During this period, new building construction averaged about 283 structures per year, with a peak of 537 new structures in 2006. The 2006 building year was also a peak in terms of the value of residential construction, which suggests that higher-valued residences were constructed during this period. Higher-value nonresidential construction was also built in the 2006–2008 timeframe.

Tourism

Natural and historical resources in Uintah County have drawn tourists for many years, bringing economic benefits. Destinations include Dinosaur National Park, Flaming Gorge Reservoir, Steinaker State Park, Red Fleet State Park, museums, and Uintah County's Western Park multi-activity conference complex. The county strives to balance increased recreation and tourism with the area's rural lifestyle and traditional resource uses (Uintah County 2005). Travel and tourism accounted for 1,236 Uintah County jobs in 2010 and traveler spending totaled $65.7 million, which ranked Uintah County 14th among Utah's 29 counties (Utah Office of Tourism 2012).

Research by the Utah Division of State Parks and Recreation (State Parks) found that Steinaker Reservoir is a primary destination for park visitors and most visitors appear to be local. State Parks has also estimated that visitors supported approximately $288,376 in local wages, earnings, rents, and tax revenues within Uintah County in 2009. Since many visitors are local, however, much of these expenditures do not represent money that is "new" to the regional economy. Through its operations at Steinaker Reservoir, State Parks itself paid just more than $7,000 in sales and use taxes and, along with Red Fleet State Park, paid $2,593 in transient room taxes to Uintah County (State Parks 2011).

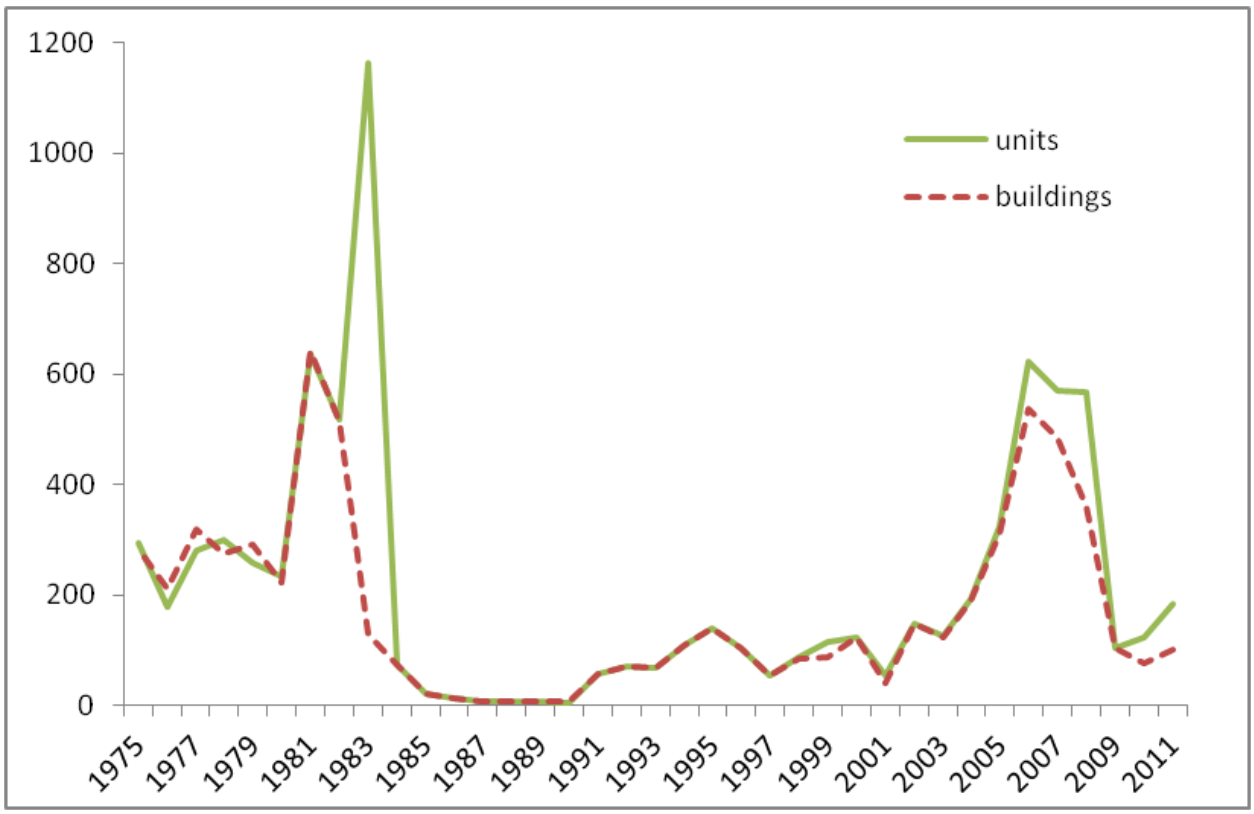

Figure 3-3. Uintah County New Residential Construction, 1975–2011 (BEBR 2012).

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 data from the U.S. Census Bureau (2012), Uintah County had a population of 32,588 in 2010; this was a 29 percent increase from the population count of 25,224 in 2000. The majority of the population in both of these census years was predominantly white alone/not Hispanic or Latino, with nearly 86 percent of the population in 2000 and about 83 percent in 2010. Approximately 3.5 percent of the population was Hispanic or Latino in 2000, which increased to just over 7 percent in 2010. The largest minority race category in both 2000 and 2010 was Native American, with 2,599 persons in 2000 and 2,905 persons in 2010.

Uintah County median household income in 2010 was $59,730. This median income level was $3,400 above the state median. In 2010, 11.7 percent of Uintah County's population lived at or

below the poverty level. This was 3.2 percent higher than the state average but 2.1 percent below the United State average poverty level.

Partnerships

The U.S. Department of the Interior (DOI), Bureau of Reclamation (Reclamation) owns a total of 1,880 acres at Steinaker Reservoir. This figure includes the full pool surface area of the reservoir, 829 acres. Water operations, recreation facilities, fish and wildlife resources, minerals, and other resources are managed through the following interagency partnerships.

Water Operations and Water Rights

Steinaker Dam water operations were turned over to the Uintah Water Conservancy District (UWCD) in a contract which became effective January 1, 1967. Reclamation retains title to the Steinaker Dam, water rights, reservoir, surrounding land, canals, and appurtenant works, while UWCD has a permanent right to the use of water within the provisions of the contract. The UWCD supplies irrigation water to about 14,781 acres of agricultural lands in the Ashley Valley (Reclamation 2011a).

Recreation Management

With the signing of a Memorandum of Agreement between Reclamation and Utah Division of State Parks and Recreation (State Parks) in 1974, and subsequent agreements, State Parks has managed recreation at Steinaker Reservoir. The agreements obligate 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 Steinaker Reservoir. Other activities include sunbathing, picnicking, camping, sightseeing, hiking, and biking.

Fish and Wildlife Management

The Utah Division of Wildlife Resources (UDWR) has full authority to enforce state fishing and hunting regulations within the Study Area. By regulation, shotgun and archery hunting are not permitted in state parks within 0.25 miles of developed recreational areas where camping, picnicking, boating, and other activities take place. The UDWR conducts a fisheries stocking program at Steinaker Reservoir and works with Reclamation, State Parks, and other entities in providing fishing and wildlife enjoyment opportunities for all persons.

The U.S. Fish and Wildlife Service (USFWS) is responsible for working with Reclamation in protecting fish and wildlife and their habitats under the auspices of the Fish and Wildlife Coordination Act (1958 as amended). Reclamation is responsible for management and recovery of Threatened and Endangered Species within the Study Area under the Endangered Species Act of 1973 (ESA), as amended, with recommendations and consultation provided by the USFWS.

Minerals Development and Withdrawn Lands Management

Through an Interagency Agreement dated December 1982, Reclamation and the U.S. 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 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 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.

Law Enforcement and Fire Suppression

Law enforcement and fire suppression activities are primarily provided by State Parks, UDWR, Uintah County, and the Uintah Basin Interagency Fire Center.

Road Maintenance

Access to Steinaker State Park (State Park) begins on U.S. Route 191 (US-191) and proceeds northwesterly on State Route 301 (SR-301) a distance of 1.7 miles to the boat ramp at the park. State Route 301 is under the jurisdiction of the Utah Department of Transportation (UDOT) and is maintained by UDOT (Utah Code 72-3-206).

Water Quality

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

Water Resources

This section provides a detailed description of the Steinaker Reservoir watershed, water operations, and water quality conditions. Sources of information consulted to develop this description of existing conditions included U.S. Geological Survey (USGS) gage station records, UDWQ reports, Reclamation reports, U.S. Environmental Protection Agency (EPA) Storage and Retrieval (STORET) water quality data, consultations with agency personnel, and onsite observations during a field visit in October 2011.

Watershed

Steinaker Reservoir is an off-channel reservoir that stores water diverted from Ashley Creek. Water is diverted from the creek into the Steinaker Feeder Canal at the Fort Thornburgh Diversion Dam about 4 miles northwest of Vernal. The total watershed area, illustrated in Figure 3-4, is approximately 167,900 acres. This includes both the Ashley Creek and Dry Creek sub-basins. The headwaters of Ashley Creek originate high in the Uinta Mountains at a peak elevation of approximately 12,200 feet above sea level. The majority of the Ashley Creek watershed area is located within the Ashley National Forest, while the southern portion of the watershed includes lands managed by the BLM. Ashley Creek is a tributary to the Green River with its confluence near Jensen, Utah (Crosby and Bartlett 2005).

A USGS gage (09266500) records flows on Ashley Creek at a site about 6 miles upstream of the Fort Thornburgh Diversion. This is the closest gage to the diversion point, but it is located upstream of the Dry Creek confluence and, therefore, it represents only part of the total flow in the creek at Fort Thornburgh Dam. Several other significant diversions occur on Ashley Creek

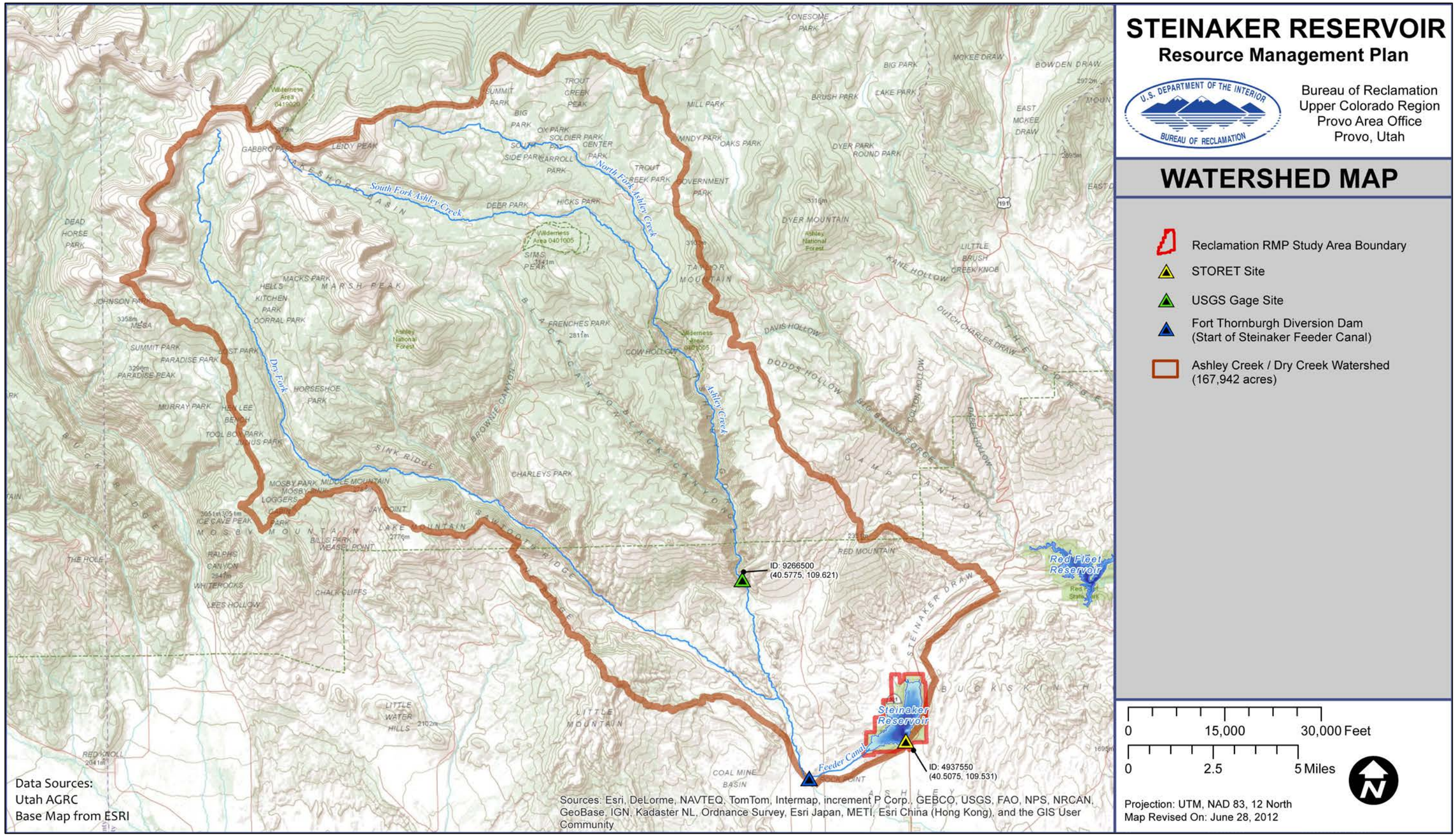

Figure 3-4. Steinaker Reservoir Resource Management Plan (RMP) Study Area Watershed Map.

between the USGS gage and Fort Thornburgh Dam. Although the USGS gage does not take these flow contributions and withdrawals into account, it does provide an indication of the overall seasonal patterns and hydrologic regime of the creek. Therefore, daily flow data were analyzed for water years 1980 through 2010. Mean annual discharge for this time period is approximately 92.8 cubic feet per second (cfs). The largest instantaneous peak flow recorded at this site was 4,100 cfs on June 15, 1995. Average peak flow for the 1980–2010 time period is 1,353 cfs. The Ashley Creek hydrograph is largely driven by snowmelt runoff. Peak flow generally occurs in May. A secondary flow peak is sometimes observed in early fall, a result of "monsoon" rainstorms. Figure 3-5 shows a typical annual hydrograph for Ashley Creek. Except during the spring snowmelt period, Ashley Creek is commonly dewatered below Fort Thornburgh Dam, which diverts flows into the Steinaker Feeder Canal and four other major canals.

Reservoir

Steinaker Reservoir is an off-channel impoundment of Ashley Creek, which drains from the eastern Uinta Mountains. Water is supplied by the Steinaker Feeder Canal, which receives water through the Fort Thornburgh Diversion Dam on Ashley Creek (Reclamation 2007, UDWQ 2011a). Water impounded in Steinaker Dam is supplied to the Steinaker Service Canal, which delivers water to various canals and ditches throughout Ashley Valley. A siphon on the Service Canal that makes it possible to release water (up to 300 cfs) from the canal back into Ashley Creek south of the Steinaker Reservoir; however, this return system is not typically used unless unusual conditions require water to be spilled from the reservoir (Reclamation 2007).

Reclamation's daily water elevation data from October 1979 through September 2010 are illustrated in Figure 3-6. Typical seasonal fluctuations are on the order of 25 to 35 feet, which is a typical pattern for a reservoir managed for irrigation storage. Reservoir levels during the first few months of the water year are primarily a function of conditions at the end of the previous year. Levels then increase during winter and spring when there is no demand for irrigation water and high snowmelt runoff flows are available for diversion. Typically, about 200 to 300 cfs (Figure 3-7) are diverted from Ashley Creek into the Steinaker Feeder Canal during the springtime high-flow period (Reclamation 2007). Water levels in the reservoir drop during summer and fall when water is released for irrigation and withdrawals into Steinaker Feeder Canal are minimal. This seasonal pattern holds during dry, average, and wet water years, but the rates, timing, and magnitude of the fluctuations vary.

Typical wet, average, and dry years were determined based on USGS gage data for Ashley Creek and are illustrated in Figure 3-8. In dry water years (e.g., 1988), water levels increase more slowly, drop more rapidly and to lower levels, and do not completely fill the reservoir. Prior to 2005 Steinaker Reservoir was operated with a normal pool elevation of 5,517.8 feet, meaning that this was the typical full-reservoir elevation reached in springtime (Figure 3-6). Beginning in 2005 the reservoir has been operated with a normal pool elevation of 5,520.5, which equals the spillway crest elevation of Steinaker Dam. Reclamation completed an EA in 2007 (Reclamation 2007) that found this change would allow for increased carryover storage of irrigation water without causing any significant environmental impacts.

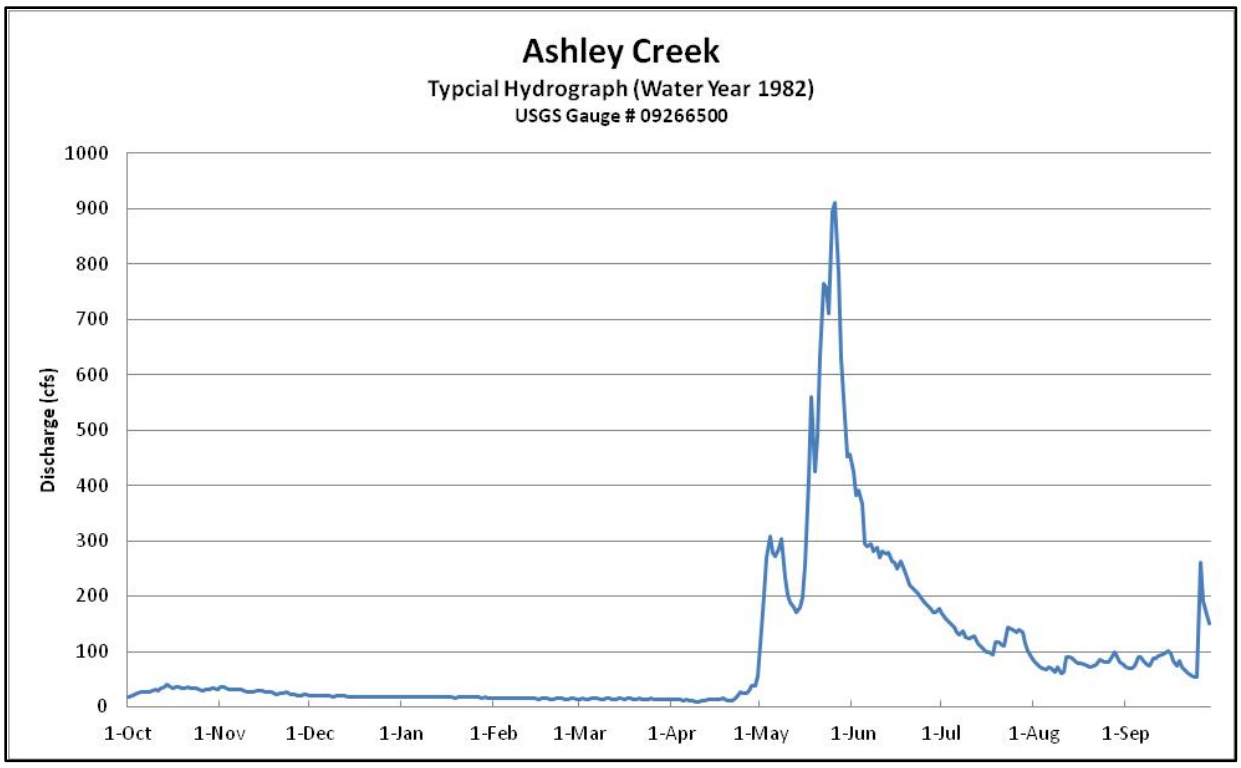

Figure 3-5. Typical Hydrograph for Ashley Creek 6 Miles Upstream of the Fort Thornburgh Diversion.

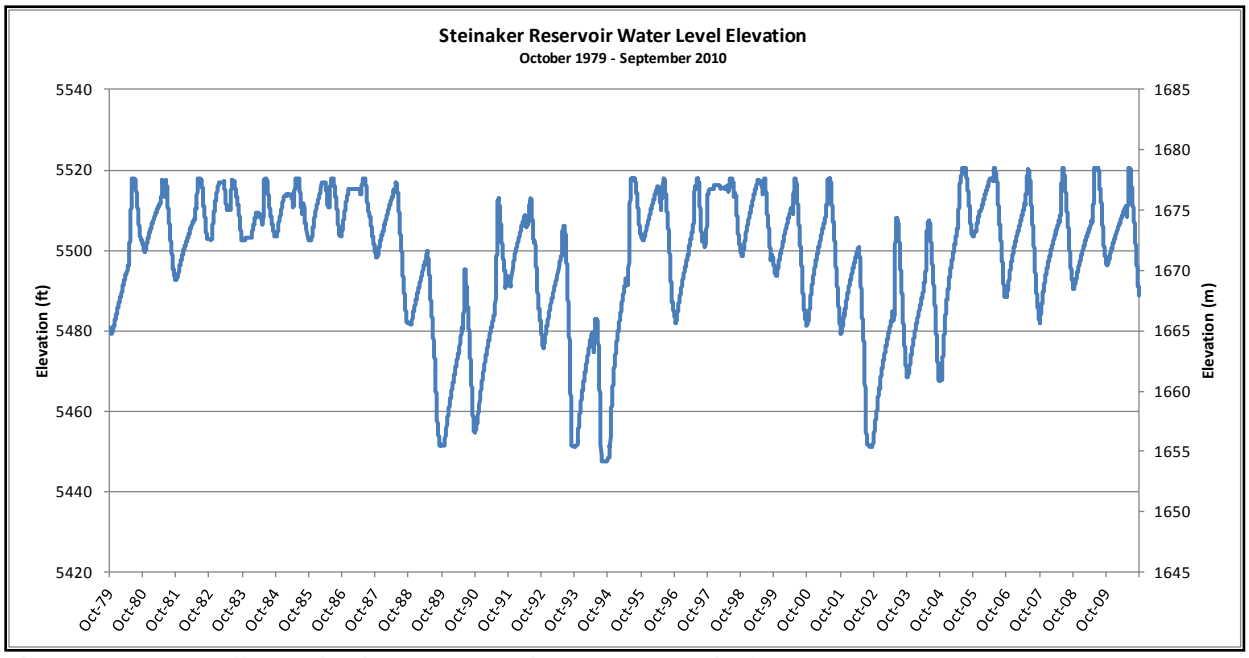

Figure 3-6. Daily Steinaker Reservoir Water Levels for Water Years 1980–2010.

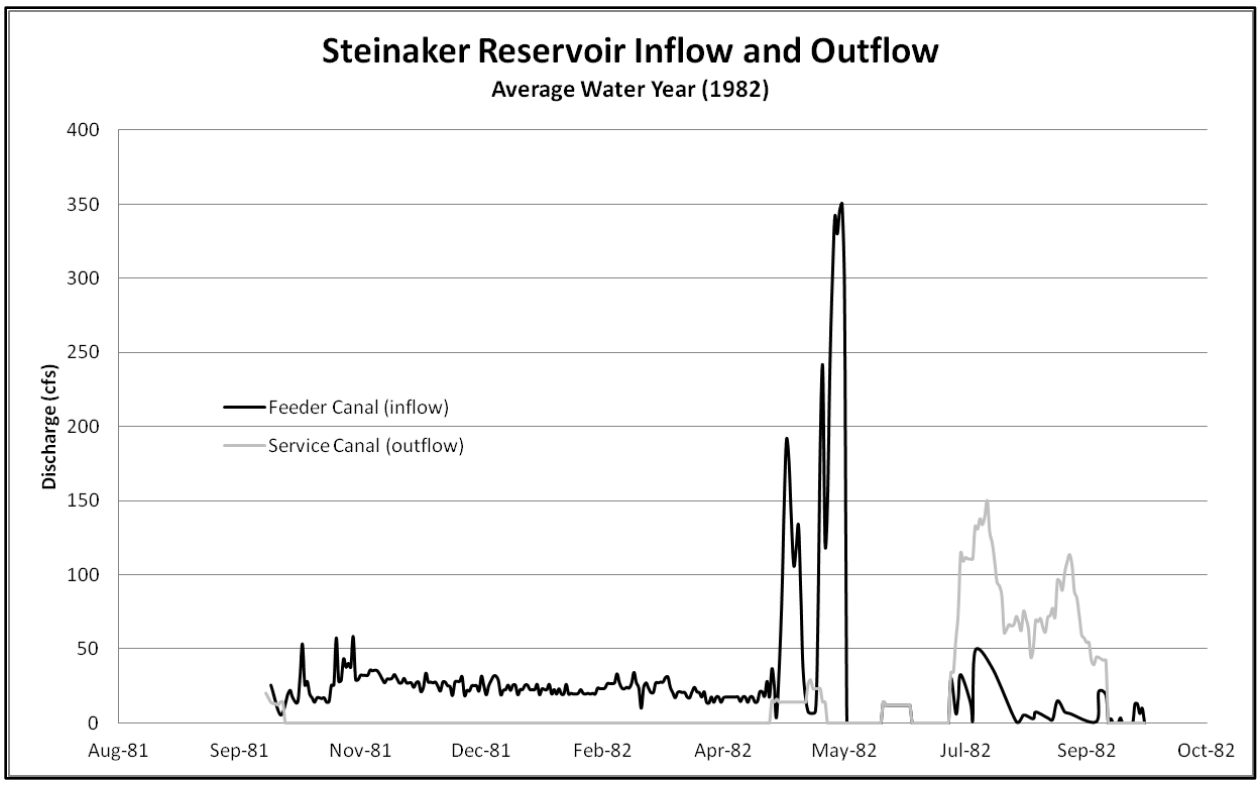

Figure 3-7. Steinaker Reservoir Inflows and Outflows during an Average Water Year.

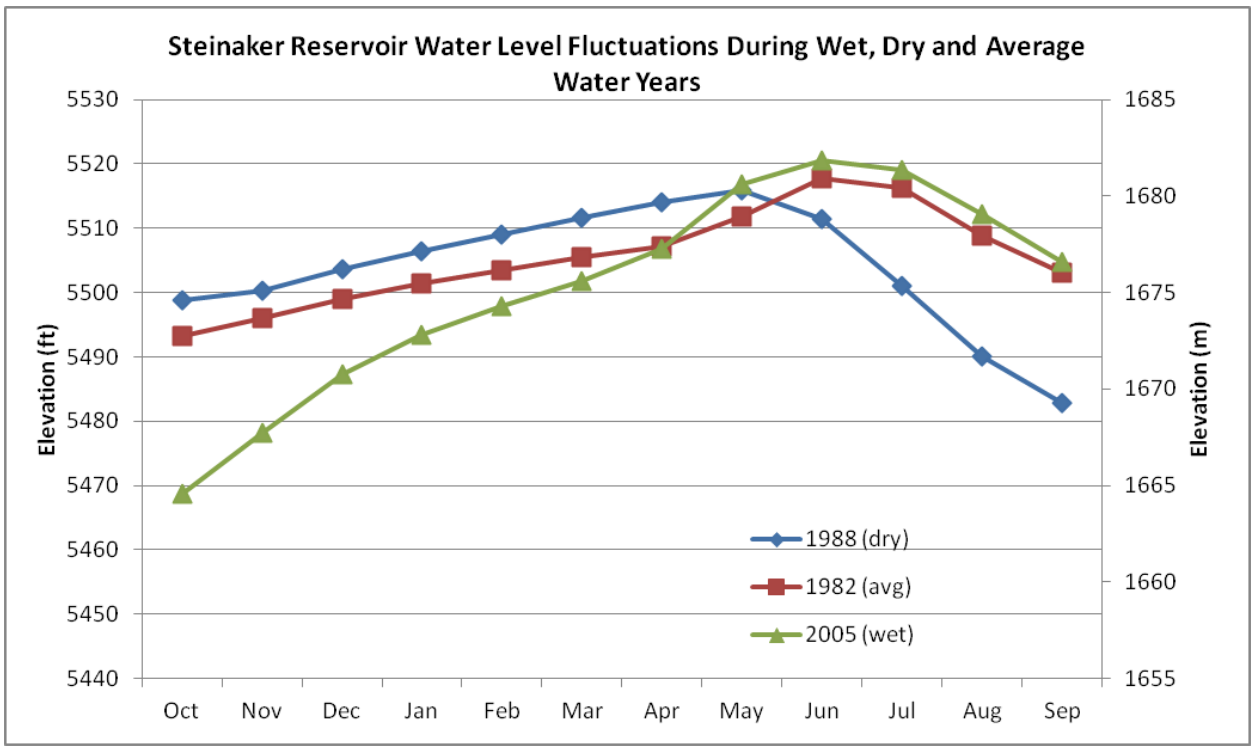

Figure 3-8. Monthly Steinaker Reservoir Water Level Fluctuations during Wet, Dry, and Average Water Years.

Sedimentation

Quantitative studies on sedimentation rates in Steinaker Reservoir have not been completed. Sediment inputs from the Steinaker Feeder Canal are most likely low relative to a natural creek because most bedload sediment is assumed to be trapped at the Fort Thornburgh Diversion Dam. However, potentially significant amounts of suspended sediment are most likely conveyed through Steinaker Feeder Canal into Steinaker Reservoir during the spring snowmelt period, when a relatively large portion of Ashley Creek's flow is diverted. Some evidence of fine sediment deposition at the canal inflow point can be seen in available aerial imagery; apparent deposition has also occurred at the north end of Steinaker Reservoir where flows from Steinaker Draw enter the reservoir. In the past, high flows and sediment from Steinaker Draw have washed out the entrance road to the State Park. Data are not available to quantify these sediment inputs.

Field observations indicate that shoreline erosion also contributes sediment to Steinaker Reservoir. Conditions are often windy, contributing to wave action. Areas of shoreline erosion can be seen on the south shore of the reservoir west of the dam and on the east shore north of the dam. During a field visit in October 2011, a short vertical wave-cut cliff was also evident in the constructed beach areas on the western shore; it is assumed that this cut bank is associated with wave action during periods when the reservoir is full.

The developed portions of the State Park are other potential sediment sources. Soils in the developed parts of the State Park are very sandy and susceptible to erosion, and rills and gully erosion occur in association with drainage from some paved parking areas and concrete pathways.

Non-motorized trails, user-created trails, and other high foot-traffic areas are additional sources of sediment within the Study Area. For example, erosion was observed along the southeast part the Eagle Ridge trail where it crosses a steep, sandy slope near the reservoir. Along portions of the eastern shore of the reservoir, user-created trails and heavy foot traffic associated with fishing access have trampled vegetation, compacted soils, and increased the potential for erosion in the area.

Floodplain Functions

The primary inflow and outflow of Steinaker Reservoir are canals with controlled flow that do not function as natural streams and do not have functioning natural floodplains. Steinaker Draw, a smaller natural tributary that enters Steinaker Reservoir from the north, does not appear to support perennial flow or significant floodplain functions within the Study Area. Outside the Study Area, below Fort Thornburgh Diversion, flows on Ashley Creek are typically dewatered except during the snowmelt runoff period in spring. The loss of natural baseflows on lower Ashley Creek has likely affected riparian vegetation, bank stability, and other floodplain functions. Additional detailed studies beyond the scope of this document would be needed to quantify the type and extent of such effects.

Water Quality

As previously noted Steinaker Reservoir is an off-channel reservoir that receives water from the Ashley Creek drainage through a feeder canal. The State has assigned Ashley Creek from the reservoir to the creek headwaters as having designated beneficial use classifications 1C, 2B, 3A,

and 4. These classes are described in Table 3-2. According to the 2010 Integrated Report (UDWQ 2011b), Ashley Creek currently meets all water quality standards and is attaining its designated beneficial uses. Steinaker Reservoir has beneficial use classes 1C, 2A, 2B, 3A, and 4. In 2010, the State identified temperature as a cause of impairment to the coldwater aquatic life beneficial use class, 3A (UDWQ 2010). The state also previously listed Steinaker Reservoir as impaired by low dissolved oxygen levels, but recently removed the listing, related to a change in EPA's Total Maximum Daily Load (TMDL) for dissolved oxygen (UDWQ 2010).

Table 3-2. Designated Beneficial Use Classes and Attainment Status.

BENEFICIAL USE CLASSES	DESCRIPTION	ATTAINMENT STATUS	
		Ashley Creek	Steinaker Reservoir
1C	Domestic Water Source (with prior treatment)	Attained	Attained
2A	Frequent Primary Contact Recreation (swimming, kayaking)	Not a designated use	Attained
2B	Infrequent Primary Contact Recreation (fishing, hunting)	Attained	Attained
3A	Coldwater Aquatic Life	Attained	Impaired (2010), low-priority TMDL
4	Irrigation	Attained	Attained

Source: UDWQ (2011b).

Temperatures measured above Steinaker Dam at STORET station 4937550 (USEPA 2011) indicate that during July, water temperatures at the surface exceed the state numeric criteria of 20 degrees Celsius for Class 3A streams (Figure 3-9). The July data illustrate how high air temperatures create a lens of warmer water at the surface, while water temperatures remain consistent below 10 meters. In contrast, data from October (Figure 3-10) show a much less pronounced difference between water temperatures at the surface and at depth. Solar radiation is likely the primary source of increases in temperature. Water level management also affects temperature, but has some positive effects through turnover of lake water on a seasonal basis. Other factors such as wind and surface disturbance from boats may also facilitate mixing, at least in shallower portions of the reservoir.

State Parks has also noted cyanobacteria present at the reservoir and algal blooms often occur in September (M. Murray 2011, pers. comm.). Because the Steinaker Feeder Canal inflow point is located fairly close to Steinaker Dam, flow circulation in the northern two-thirds of the reservoir may be limited, and this would facilitate conditions favorable to algal blooms.

With respect to dissolved oxygen concerns, Steinaker Reservoir is considered to be a mesotrophic to oligotrophic (low productivity) water body (UDWQ 2010). This limits the potential extent of the dissolved oxygen concern. Dissolved oxygen is used when organisms are active and respiring and also when organic matter decomposes. During the day, photosynthesis increases dissolved oxygen levels. Under eutrophic conditions, dissolved oxygen concentrations tend to drop overall and may go to very low levels or even become anoxic at night.

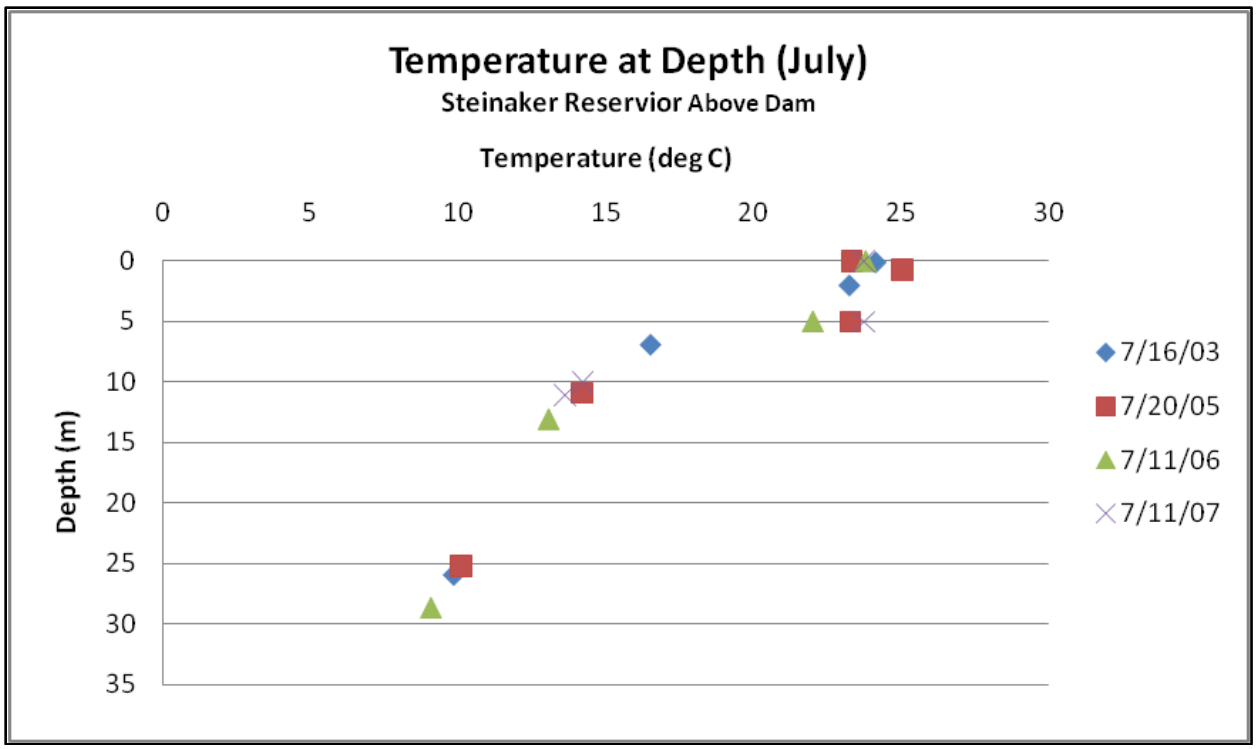

Figure 3-9. July Water Temperatures at Indicated Depths at STORET Station 4937550 (USEPA 2011).

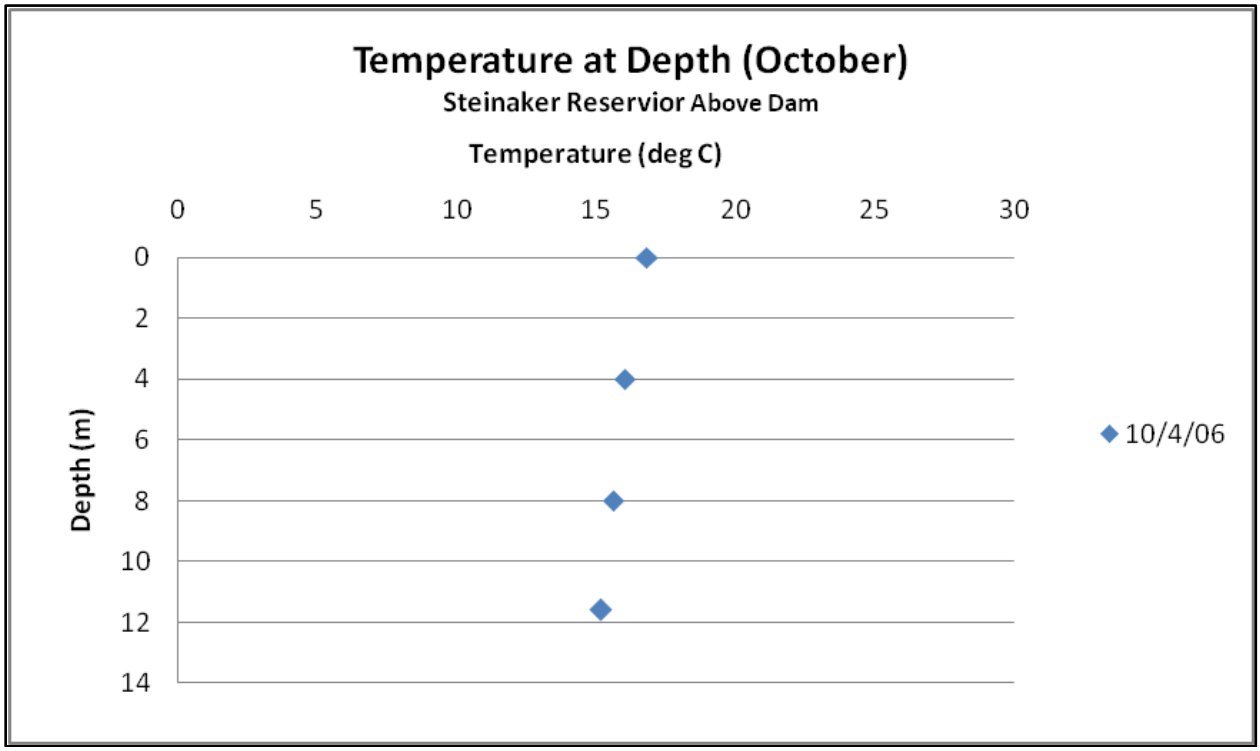

Figure 3-10. October Water Temperatures at Indicated Depths at STORET Station 4937550 (USEPA 2011).

If additions of nitrogen and phosphorus (often associated with sewage and organic matter) were to increase, the reservoir could become eutrophic. There have been instances when measurements at depth have exceeded the state numerical criteria for phosphorus (0.025 milligrams per liter); however, this is usually not the case, and elevated nutrient levels are not considered to be a major concern at Steinaker Reservoir. There are no upstream wastewater treatment plants that could result in long-term elevated phosphorous levels for water entering the reservoir.

The most obvious nonpoint source of potential pollutants is stormwater runoff from the paved surfaces surrounding the reservoir. Stormwater from the parking areas will transport debris and pollutants that have deposited on the paved surface including oils and grease, nutrients, trash, and pet waste. In addition, stormwater may cause erosion and rilling off of the paved areas, which would facilitate transport of sediment to the reservoir. In areas with inadequate riparian buffers along the edge of the reservoir, stormwater easily and directly enters the reservoir. Some land uses in the watershed outside of Reclamation property are also sources of nonpoint source pollutants; logging and grazing in the watershed are listed by the state as existing nonpoint sources (UDWQ 2011a) for sediment and nutrients. Overall, however, sediment and nutrient levels are not creating a water quality concern for Steinaker Reservoir at the present time.

Other water quality health concerns at reservoirs can include bacteria and heavy metals. Bacteria, such as *E. Coli* and cryptosporidium are currently issues at Steinaker Reservoir. Heavy recreational use and pet waste are the largest potential sources for bacteria and other human health-related water quality issues such as viruses. The restroom facilities at the reservoir include flush toilets at the campground and vault toilets at the day use beach areas. Vault toilets are good for helping to prevent human waste from unintentionally contaminating the water body. However, the current availability of vault toilets may be lacking in some areas that currently receive high levels of recreation use, such as the eastern shoreline of the reservoir. This may pose a concern for bacteria contamination. The existing flush toilet facilities at the campground are on septic systems. If poorly maintained or situated, septic systems can be another potential source of bacteria pollution. In terms of heavy metals, the state has issued fish consumption advisories for largemouth bass and bluegill from Steinaker Reservoir (UDWQ 2010). These advisories are indicative of mercury occurring in the water column; however, the current mercury levels do not impair water quality.

Recreation and Visual Resources

Recreation activities within the Study Area are managed by State Parks for outdoor public recreation purposes. Access to the Study Area is provided by SR-301 off US-191 approximately 5.6 miles north of downtown Vernal. Sources of information used to develop this assessment of existing recreation and visual resources included State Parks reports, tourism websites, Reclamation reports and technical guidance documents, BLM's visual resource management system, consultation with agency personnel, and field observations made in fall 2011 and summer 2012.

Recreation Opportunities and Facilities

The dominant recreational opportunities and attractions at Steinaker Reservoir are water-based activities including fishing, swimming, waterskiing, pleasure boating, and personal watercraft use. Camping, picnicking, hiking, sightseeing, and sunbathing are also enjoyed in conjunction with the water-based activities. The reservoir provides year-round recreation opportunities; ice fishing continues through winter. Motorized and nonmotorized riding trails are located nearby.

By regulation 43 CFR § 420.2, Reclamation lands are closed to off-highway vehicle (OHV) use, except where specifically designated as open and in accordance with a public process specified in §420.21. By state regulation (R651-411-2), OHV use is allowed only within designated areas at State Parks. At present, Reclamation has not designated any areas, roads, or trails as open to OHV use at Steinaker Reservoir.

The Study Area has been divided into seven management areas which are shown in Figure 1-3. Recreation facilities within each management area are described below.

State Park Area

Access to the State Park Area is provided by SR-301, approximately 1.7 miles from the US-191 intersection. The developed campground sits on a slope overlooking Steinaker Reservoir and offers 31 sites including 8 full hookups and 8 partial hookups (electric only) for recreational vehicles (RVs) and 15 standard campsites. The sites are suitable for tents and RVs up to 35 feet long. Mature trees provide shade at many sites, and there are flush toilets available. There is a developed day-use area with a 38-stall asphalt parking lot, picnic tables, 2 picnic pavilions, 5 vault toilets, and a group day-use pavilion that must be reserved. Other day-use facilities include a boat ramp, boat trailer parking area, and fish cleaning stations. The reservoir can accommodate a maximum of 34 boats based on designated parking stalls at the ramp area and an overflow boat parking area. There are plans for an accessible fishing dock to be located near the boat ramp. There is a single vault toilet at the boat ramp. There is also a group-camping/day use area across a cove from the general-use camping area which includes 7 back-in sites with no hookups, a double vault toilet, and a picnic pavilion with 8 tables, a fire pit and a barbeque pit, and 13 designated parking stalls. The group site accommodates a maximum of 50 people.

Entrance fees are $7 for day use including watercraft launches, $4 day use for Utah seniors 62 years and older, $75 for an annual pass, and $35 for a Senior Adventure (annual) Pass. The State Park is open year-round with no holiday closures. Summer hours are 6:00 a.m. to 10:00 p.m.; winter hours are 8:00 a.m. to 5:00 p.m. (Utah.com 2012). There is one hiking trail within the State Park Area, located on Eagle Ridge, which provides an overview of the reservoir.

Scenic Byway Area

The Scenic Byway Area shown in Figure 1-3 includes the portion of Reclamation lands located along US-191. The highway is part of the Flaming Gorge-Uintas National Scenic Byway. The scenic byway consists of portions of US-191 and State Route 44 (SR-44), and is approximately 80 miles long. The south end of the scenic byway starts in Vernal at the intersection of US-40 and US-191. It runs north on US-191, passes Steinaker and Red Fleet Reservoirs, enters the Ashley National Forest, climbs into the Uinta Mountains, and leaves Utah into Wyoming after crossing Flaming Gorge Dam. This scenic byway was designated as Utah's first Forest Service Scenic Byway in 1988. It was added to the National Scenic Byways system on June 9, 1998.

There are informational signs along the byway explaining the geology of the area. Visitors can use turn-outs, view areas, and nature trails to view and explore the high desert and forested landscape. There is a visitor center near the junction of US-191 and SR-44 at Red Canyon Overlook which provides vistas of Flaming Gorge Reservoir. The Flaming Gorge-Uintas National Scenic Byway is listed on the "Fall Colors Tour" at Utah.com (FGCOC 2012, Utah.com 2012).

Within the Study Area, there is an interpretative boardwalk trailhead located just south of the entrance to Steinaker State Park. This trailhead is one of the 18 Flaming Gorge-Uintas National Scenic Byway designated sites. There is a parking area with 24 designated parking stalls, double vault toilets, and information kiosk located at the trailhead. There are two informal vehicle turn-outs along US-191 within the Scenic Byway Area where travelers can stop to enjoy overlooks of Steinaker Reservoir. These pullouts are also used for parking by day users and can accommodate approximately 31 vehicles. On busy days these areas become full and additional parking occurs in non-designated areas along both sides of US-191. No fees apply to this area.

Honda Hills Area

The Honda Hills Area shown in Figure 1-3 is informally used as a parking and staging area for OHV riding. This area is used to access locally popular riding areas outside of Reclamation-managed lands. There are currently no developed facilities located within this management area and no fees are required.

Entrance Area

This area is accessed from the Scenic Byway and includes a portion of the entrance road (SR-301). There is an existing trailhead along the entrance road that provides access to the reservoir, with parking space for approximately 8 vehicles. No fees apply to this area.

Inflow Area

This is an undeveloped area surrounding the portion of the Primary Jurisdiction Zone where the Steinaker Feeder Canal enters Steinaker Reservoir. Public access is limited to foot traffic or from boats along the shoreline. There are currently no developed public facilities in this area and no fees are required.

Primary Jurisdiction Area

This area includes Steinaker Dam and lands surrounding the dam and the Steinaker Feeder Canal. For the protection of public health, safety, and welfare, public access to this area and recreational uses (including trail use) are not permitted unless approved by Reclamation and the UWCD. These areas are used primarily by anglers who fish from the dam or shoreline. Public access is limited to foot traffic or from boats along the shoreline. No fees apply to this area.

Reservoir Inundation Area

This area includes the reservoir water surface at full pool. Developed public facilities include the movable floating boat dock. State park entrance fees apply to this area.

Visitation and Visitor Characteristics

According to visitation information collected from State Parks, the majority of visitations to Steinaker Reservoir occur from May to September. These figures also indicate that the months of

June, July, and August are typically peak months for visitation during the year. Further evaluation of these figures also indicates that visitation levels have consistently risen over the last 9-year period. At this time, accurate annual visitation rates are available for 2003 through 2011. A summary of visitation rates for these years is contained in Table 3-3.

Table 3-3. Summary of Annual Visitation at Steinaker Reservoir from 2003 to 2010.

YEAR	NUMBER OF VISITORS	PERCENT (%) CHANGE PER YEAR
2003	35,400	(not applicable)
2004	27,612	-28.21
2005	35,136	27.25
2006	45,615	29.82
2007	57,621	26.32
2008	70,312	22.03
2009	73,378	4.36
2010	81,517	11.09
2011	91,434	12.17

Source: State Parks (2012).

Recreation Conflicts and Concerns

No current information concerning the public's perception of recreation opportunities at Steinaker Reservoir is available at this time. Therefore, no specific information is available concerning user conflicts within the Study Area. There was a "swimmer's itch" outbreak during Summer 2012, which hasn't happened for approximately 14 years. Swimmer's itch is a short-lived skin rash caused by an immune reaction to water-borne parasites. Factors that likely contributed to the outbreak include increasing water temperature, algal growth, and rapid water draw down (M. Murray, pers. comm., 2012a).

Water and Land Recreation Opportunity Spectrum Analysis (WALROS)

An analysis and classification of the recreation opportunities that currently exist within the Study Area is included in this section. The analysis was conducted using the Water and Land Recreation Opportunity Spectrum (WALROS) system developed by Reclamation (Reclamation 2011b). The WALROS is modeled after the Recreation Opportunity Spectrum, or ROS, and Water Recreation Opportunity Spectrum, or WROS, systems, but is updated and tailored for use on land and water resources such as reservoirs, lakes, rivers and bays.

The WALROS system is a means by which the water and land related recreation opportunities of an area can be inventoried and mapped by classes. This is accomplished by analyzing the physical, social, and managerial setting components for each use area (Reclamation 2011b). The WALROS system characterizes the type of experience a visitor could expect when visiting a particular area. The scale of degree of major development for the six major classifications, shown in Table 3-4, range from fully developed (Urban) to completely undeveloped (Primitive). The WALROS classifications serve as the basis from which to compare future WALROS levels associated with various land and water resource use strategies.

Table 3-4. Scale of Degree of Major Development Used in WALROS Classifications.

URBAN (U)	SUBURBAN (SU)	RURAL DEVELOPED (RD)	RURAL NATURAL (RN)	SEMI PRIMITIVE (SP)	PRIMITIVE (P)
80–100%	50–80%	20–50%	10–20%	3–10%	0–3%
Dominant	Very prevalent	Prevalent	Occasional	Minor	Very minor
Extensive	Widespread	Common	Infrequent	Little	Very little
A great deal	Very obvious	Apparent	Periodic	Seldom	Rare
Extremely	Very	Moderately	Somewhat	Slightly	Not at all

Source: Reclamation (2011b).

The six major recreation opportunity classes were mapped and inventoried using protocols from Reclamation's handbook (Reclamation 2011b) and expert opinion. The recreation attributes that differentiate the WALROS classes are described in Table 3-5. Three attributes of the recreation setting are assessed—physical setting, managerial setting, and social setting. Using these attributes, a rating from 1 (Urban) to 11 (Primitive) is given to inventoried sites.

Table 3-5. Setting Descriptors by Attribute Categories Used in WALROS.

PHYSICAL ATTRIBUTES	SOCIAL ATTRIBUTES	MANAGERIAL ATTRIBUTES
• Degree of development • Sense of closeness to a community • Degree of natural resource modification • Distance to development on or adjacent to a water resource • Degree that natural ambiance dominates the area	• Degree of visitor presence • Degree of visitor concentration • Degree of recreation diversity • Distance to visitor services, security, safety, comforts, and conveniences • Degree of solitude and remoteness • Degree of non-recreational activity	• Degree of management structures • Distance to on-site developed recreation facilities and services • Distance from developed public access facilities • Frequency of seeing management personnel

Source: Reclamation (2011b).

A WALROS analysis showing the current recreation opportunities was developed for the seven management areas defined for Steinaker Reservoir, which are illustrated in Figure 1-3. The results are presented in Table 3-6 and are illustrated on Figure 3-11. The inventory was conducted during Fall 2011 by the Project Team. Each management area was treated as an inventory site. The physical, social, and managerial attributes were noted on a WALROS inventory protocol sheet. Project Team members circled the degree extent or magnitude that each attribute was rated and the results were compiled for each management area. Then a map was created showing the WALROS class in each management area.

Visual Resources

Visual resources include the visible physical features on a landscape, such as land, water, vegetation, animals, structures, and other features. A viewshed is the landscape that can be directly seen under favorable atmospheric conditions from a specific viewpoint or along a transportation corridor (BLM 1984). For the purposes of this RMP project, the Study Area falls under one viewshed.

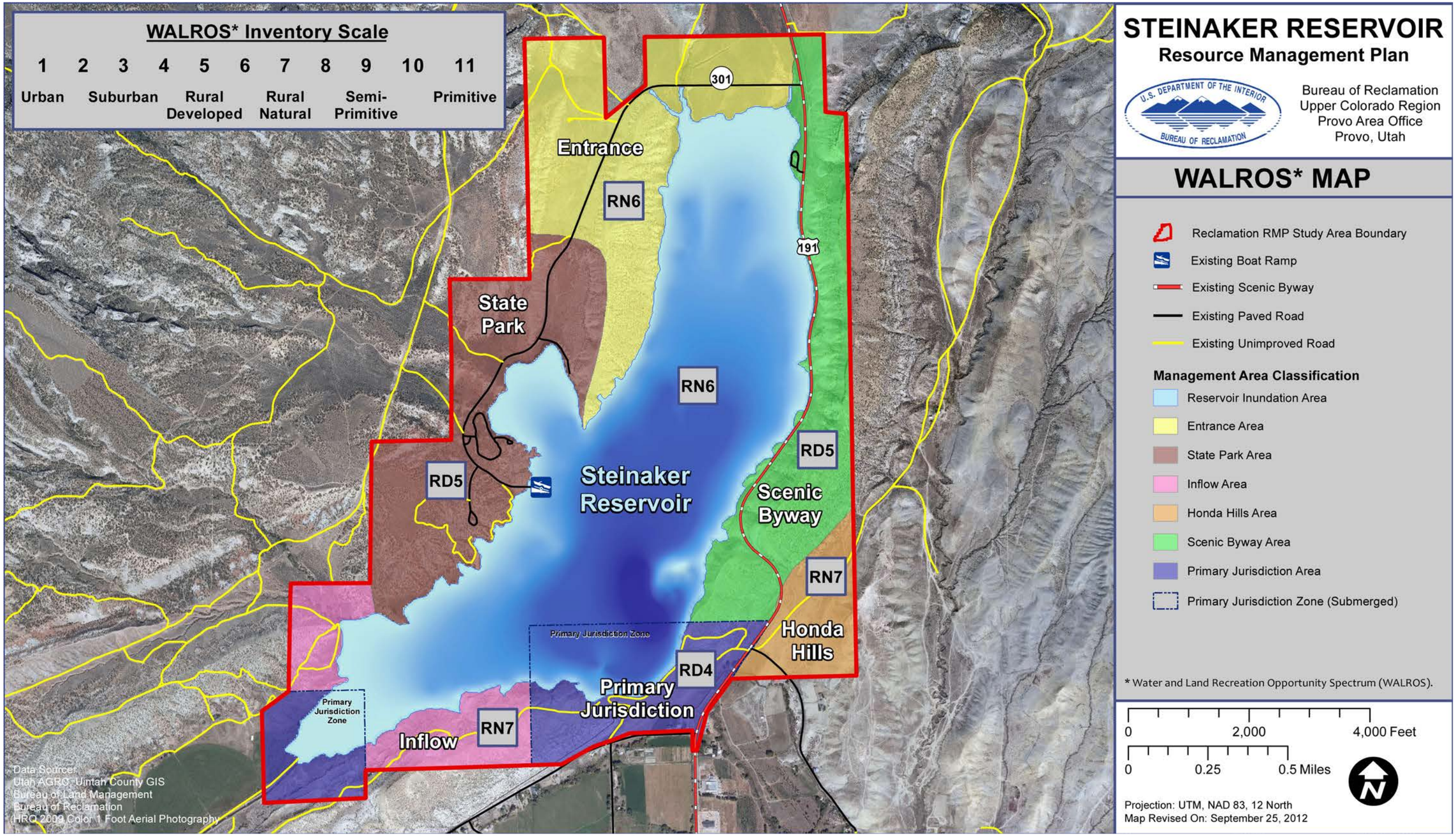

Figure 3-11. Steinaker Reservoir Resource Management Plan (RMP) Study Area WALROS Map.

Table 3-6. Setting Attribute Ratings and Overall WALROS Classification for Each Steinaker Reservoir Management Area.[a]

MANAGEMENT AREA (INVENTORY SITE)	PHYSICAL SETTING ATTRIBUTE RATING	SOCIAL SETTING ATTRIBUTE RATING	MANAGEMENT SETTING ATTRIBUTE RATING	OVERALL WALROS CLASSIFICATION
Scenic Byway Area	RD5	RD6	RD5	RD5
Entrance Area	RN6	RN7	RN6	RN6
State Park Area	RD6	RD4	RD4	RD5
Inflow Area	RN7	RN8	RN7	RN7
Primary Jurisdiction Area	RD4	RD5	RD4	RD4
Honda Hills Area	RN7	RN8	RN7	RN7
Reservoir Inundation Area	RN6	RN6	RN6	RN6

[a] See Table 3-4 for abbreviation descriptions and Figure 3-11 for numeric scale descriptions.

The BLM Visual Resource Management (VRM) system (BLM 1986) was used as the technical approach to assess and classify the existing visual setting that may be experienced by visitors to Steinaker Reservoir. The VRM system is designed to inventory existing scenic values and provide baseline visual conditions for assigning visual resource management objectives to lands under BLM agency management and to determine whether a proposed action/alternative will meet those management objectives. The primary objective of the VRM is to maintain the existing visual quality of BLM-administered public lands and to protect unique and fragile visual resources. In short, the VRM system identifies visual values, establishes objectives for managing those values, and provides a means to evaluate proposed projects to ensure that visual resource management objectives are met. The BLM VRM system was used because of the existence of BLM lands surrounding the Study Area and because it is best suited for this type of characteristic landscape within the Study Area.

There are two phases of work involved in the VRM assessment process: (1) Visual Resource Inventory (VRI) and (2) analysis of the Visual Resource Contrast Rating.

For the VRI, three factors are considered: scenic quality rating, sensitivity level, and distance zones. From the inventory process, landscape units are assigned one of four visual resource inventory classes as described in the BLM Handbook H-8431-1 (BLM 1986). For the Visual Resource Contrast Rating analysis, potential visual impacts from the project RMP alternatives are analyzed to determine whether proposed activities would meet the management objectives established for the Study Area from the VRI. A visual contrast rating process is used in the analysis, which involves comparing the proposed project features with the major features in the existing landscape using the basic design elements of form, line, color, and texture. The analysis is then used as a guide for resolving visual impacts. Potential visual impacts, including the Visual Resource Contrast Rating analysis, are discussed in Chapter 4: Environmental Consequences.

The first step in the VRM inventory for the Study Area involved identifying the existing BLM visual classes on surrounding BLM lands. The BLM has classified lands under their jurisdiction immediately adjacent to and in the vicinity of Steinaker Reservoir in their RMP. The BLM's

Vernal Field Office RMP was completed in October 2008. All adjacent BLM sections that border the edges of the Study Area were designated as Class III (BLM 2008).

The VRI phase for the Study Area followed the VRM process, which has four steps. These steps are (1) establishing scenic quality rating, (2) performing sensitivity level analysis, (3) delineating distance zones, and (4) determining visual resource classes by overlay methods. Data collected included USGS quadrangle maps, GoogleEarth maps, aerial photographs, surface photographs, Study Area maps, and maps of existing BLM lands and visual resource classes. These data were used to analyze vegetation types, land uses, and landscape character. Fieldwork consisted of driving and walking designated travel routes and visiting recreation destinations within the Study Area.

The following Steinaker Reservoir VRI analysis provides a description and classification of the Study Area's visual landscape character associated with the natural and cultural lines, forms, colors, and textures that are reflected in land, rock, vegetation, and water forms.

Regional Setting and Landscape Character

The Study Area is located in the Uinta Basin physiographic section of the larger Colorado Plateaus province. Uinta Basin is rimmed by the Wasatch Range on the west, the Uinta Mountains on the north, Roan Plateau on the south, and runs east into western Colorado. The region is characterized by high mountain terrain, fertile valleys, and rugged and stark uninhabited canyon lands.

The landscape character surrounding the Study Area exhibits a range of natural and developed landscapes. U.S. Highway 191 winds through the Steinaker Draw area to the north.
The Buckskin Hills to the east are dry and dusty and top out close to 7,000 feet elevation.
Ashley Valley to the south includes the city of Vernal, the surrounding small towns, and agricultural land.

Vegetation types outside of developed areas are typically upland vegetation communities where the exposed rock dominates the landscape with scattered trees, shrubs, and sparse grasses. There are riparian-wetland vegetation communities with larger trees that are found on the reservoir's fringe and along tributary streams.

Scenic Quality Rating

Scenic quality is the overall impression retained by the observer after driving through, walking through, or flying over an area of land (BLM 1986). It is a measure of the visual appeal of a tract of land where those with the most variety and the most harmonious composition have the greatest scenic value. Rating scenic quality requires an understanding of the landscape characteristics and a description of the existing scenic values. A landscape is first divided into subunits called scenic quality rating units (SQRU) that appear homogeneous in terms of landscape characteristics, similar visual patterns, and similar man-made modifications. The size of the SQRUs may vary from several thousand acres to 100 acres or less, depending on the homogeneity of the landscape features and the detail desired in the inventory. For this inventory, the Study Area was assumed to be a single SQRU, as it appears to be a similar homogeneous landscape type from key observation points and along the dominant paths of travel.

The SQRUs are rated by seven key factors: landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification. Using a standardized point system, values for each category are calculated and, according to total points, three Scenic Quality Classes are determined. Class A areas combine the most outstanding characteristics, Class B areas combine both outstanding features and fairly common features, and Class C areas have features fairly common to the physiographic region (BLM 1986).

The Study Area SQRU landscape character features are dominated by panoramic views of water framed by surrounding hills. The landscape forms include the wide, flat, horizontal plane of the water surface with rounded and amorphous hills and ridges rising above. The characteristic lines include the horizontal lines of the water's edge meeting the angular land forms and continuing to the rounded outlines of silhouetted hills. The shoreline is undulating with convex slopes contrasting with the small vertical wave-cut cliffs. Landscape colors include blues and grays of the water as well as grays, reds, and browns of the exposed rock and earth, and the vegetation colors of light and dark greens. The landscape texture is dominated by the contrast of the smooth water surface and the medium-course texture of the patchy vegetation growing on the surrounding hillsides. Exposed rock dominates the ridgelines and slopes along the northwest portion of the Study Area with scattered trees, shrubs, and a sparse herbaceous layer. The riparian and wetland vegetation colors and textures provide a contrast with the surrounding shrublands and mixed salt desert scrub. Based on these characteristics, the Study Area was judged to be rated with a scenic quality score of 21, which makes it a Class A classification.

Sensitivity Level

Sensitivity levels are a measure of public concern for scenic quality, where lands are assigned high, medium, or low sensitivity levels by analyzing various indicators of public concern (BLM 1986). These include interest in and public concern for a particular area's visual resources, an area's degree of public visibility, the level of use of an area by the public, and the type of visitor use that an area receives (BLM 1984). The sensitivity of viewers in the Study Area's viewshed is determined based on viewing duration, use volumes, and aesthetic concerns. Sensitive viewing areas typically include residences, common travel routes, recreational areas, and special areas.

The sensitivity level for users visiting Steinaker State Park was determined to be medium based on the following findings: (1) the reservoir is a regional recreational destination, (2) there are expectations that the Study Area will retain the characteristics of the surrounding viewshed, (3) the geology and biology of the Study Area are of local interest (not of national significance), (4) access to the Study Area via US-191 is a primary travel route and national scenic byway, and (5) the man-made reservoir was constructed to supply downstream water to farmers for crop irrigation purposes.

Distance Zones

The visual quality of a landscape may be magnified or diminished by the visibility of the landscape from sensitive viewpoints. As such, distance plays a key part in VRM where visible details in the landscape or the scale of objects being observed depend on the proximity of the viewer. Because areas that are closer have a greater effect on the observer, they require more attention than do areas that are farther away. Distance zones allow this consideration of the proximity of the observer to the landscape (BLM 1980).

There are three distance zones described in the VRM process: foreground-middleground, background, and seldom seen. These distance zones are based on the relative visibility from key observation points and primary travel routes. The foreground-middleground zone includes areas seen from highways, water routes, or other view locations less than 3 to 5 miles away. Areas seen beyond the foreground-middleground zone but are less than 15 miles away are considered background. Areas that are not seen as either foreground-middleground or background are in the seldom-seen zone. For the Study Area, the foreground-middleground distance zone encompasses all Reclamation lands from key observation points and primary travel routes.

Visual Resource Class

By combining the results of the scenic quality rating, sensitivity level, and distance zones, the Study Area was determined to be Class II. The objective of Class II, as described in the BLM Visual Resource Inventory Handbook (BLM 1986), is as follows:

> The objective of [Class II] is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Natural and Cultural Resources

This section provides detailed descriptions of existing conditions for Study Area resources including geology, soils, vegetation, wildlife, fisheries, special-status species, cultural, paleontological, and extractive resources. The Study Area was also inventoried for possible Indian Trust Assets (ITAs), to determine consistency with DOI and Reclamation policies for fulfilling ITA obligations, and for any environmental hazard conditions.

Geology

Sources of information used to develop this assessment of geologic conditions included published literature, USGS reports, and field observations made in October 2011. The Study Area is located on the margin of the southern slope of the western Uinta Mountains and Ashley Valley. The Uinta Mountains are an east-west trending, 150-mile-long mountain range consisting of Quaternary- to Precambrian-aged rocks formed during a period of Cretaceous uplift (USGS 1975). Vernal is located in Ashley Valley, which is approximately 6 miles wide and 9 miles long.

Figure 3-12 depicts the Study Area geology, and Table 3-7 lists the geologic units found within the Study Area, along with their associated age, map symbol, and a summarized description of the unit modified from Haddox et al. (2010).

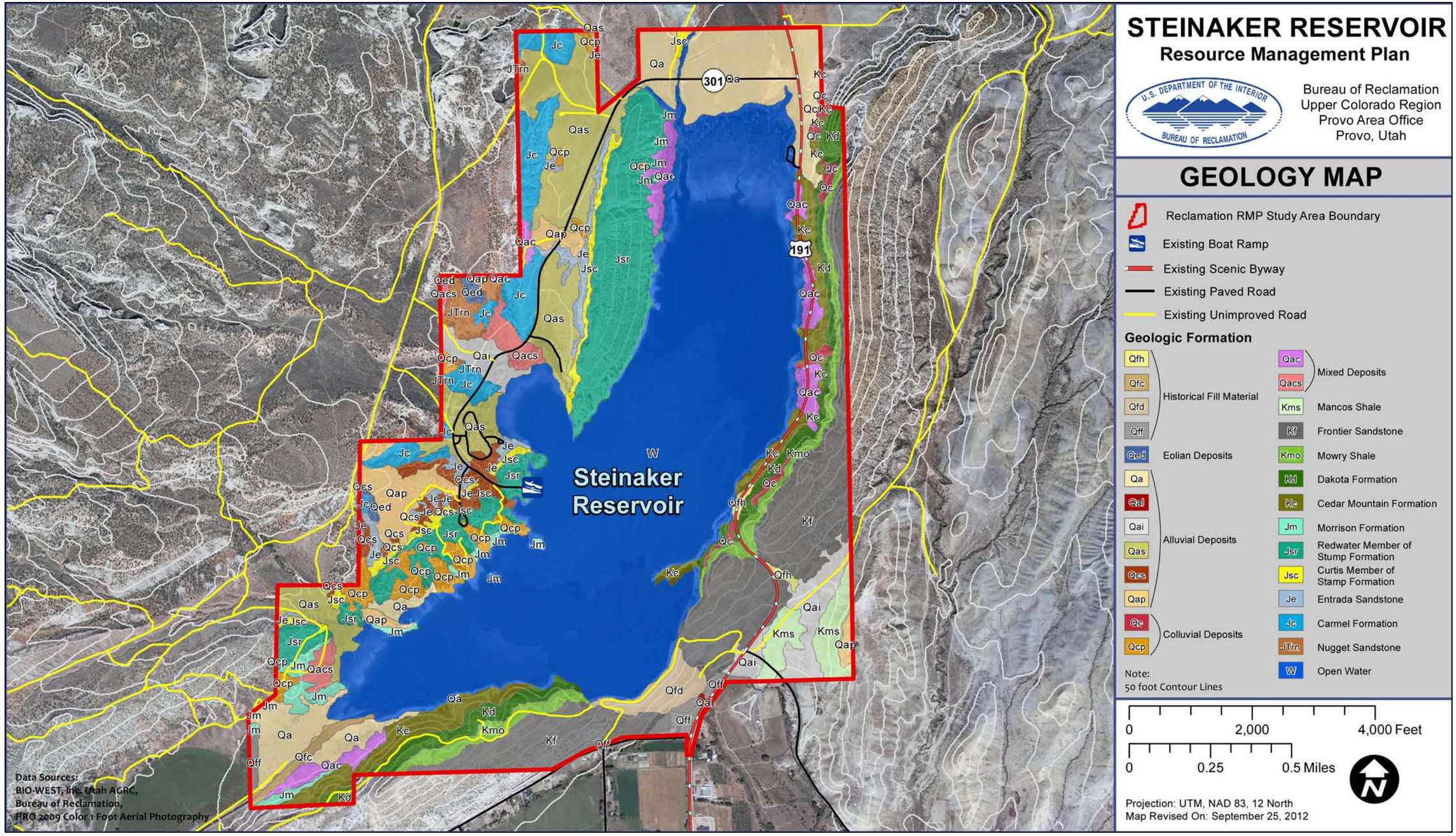

Figure 3-12. Steinaker Reservoir Resource Management Plan (RMP) Study Area Geology Map.

Table 3-7. Geologic Units Located within the Study Area.

GEOLOGIC AGE/TYPE	MAP SYMBOL	DEPOSIT DESCRIPTION
Quaternary Deposits	Qfh, Qfc, Qfd, Qff	Historical fill material, including highway fill, canal levee fill, dam-related fill, and farm-related fill.
	Qa, Qal, Qai, Qas, Qat, Qap	Alluvial Deposits (Holocene to Upper Pleistocene) - Alluvial deposits composed of various grain sizes. Thickness ranges from less than 10 to 30 feet.
	Qc, Qcp	Colluvial Deposits (Holocene to Upper Pleistocene) - Poorly-sorted colluvial deposits composed of various grain sizes. Thickness is less than 10 feet.
	Qed	Eolian Deposits (Holocene) - Eolian dune deposits composed of well-sorted, fine-grained sand. Thickness is less than 10 feet.
	Qac, Qacs	Mixed Deposits (Holocene to Pleistocene) - Composed of mixed alluvium and colluvium of various grain sizes. Thickness ranges from less than 10 to 30 feet.
Cretaceous Sedimentary Rocks	Kms	Mancos Shale (Upper Cretaceous) - Shale, dark to medium gray; minor color change and lithology change, from varying degrees of siltstone and mudstone throughout the formation; marine origin; forms badlands topography. As much as 4,700 feet thick.
	Kf	Frontier Sandstone (Upper Cretaceous) - Interbedded sandstone and shale with localized coal; sandstone is medium- to coarse-grained and ledge-forming; shale is calcareous and slope-forming; formation contains large carbonate concretions. 140–270 feet thick.
	Kmo	Mowry Shale (Upper Cretaceous) - Shale, bluish gray, interbedded with thin bentonitic ash beds; contains abundant fish scales; marine origin. 90–120 feet thick.
	Kd	Dakota Formation (Lower Cretaceous) - Sandstone and conglomerate interbedded with shale; sandstone is coarse-grained with conglomeratic lenses and cliff-forming; shale is carbonaceous, contains petrified wood at the base, and is slope-forming; fluvial to marine origin. 115–140 feet thick.
	Kc	Cedar Mountain Formation (Lower Cretaceous) - Mudstone interbedded with limestone, conglomerate, and minor sandstone lenses and beds; mudstone contains calcic paleosols that weather to form limestone nodules; the formation also contains chert pebbles and gastroliths that commonly weather out; slope-forming; fluvial-lacustrine origin. 210 feet thick.
Jurassic Sedimentary Rocks	Jm	Morrison Formation (Upper Jurassic) - Mudstone interbedded with conglomerate and sandstone; mudstone is variegated, ashy, and commonly slope-forming; pebbly conglomerate and sandstone lenses are channel forming and ledge-forming; fluvial-lacustrine origin. 520–650 feet thick.
	Jsr	Redwater Member of Stump Formation (Upper Jurassic) - Sandstone and limestone interbedded with shale; sandstone is glauconitic; limestone is sandy, oolitic, and ledge-forming; shale contains gypsum and belemnites and is slope-forming; marine origin. 180 feet thick.
	Jsc	Curtis Member of Stump Formation (Upper Jurassic) - Sandstone; coarse-grained, cross-stratified, glauconitic; marine origin. 40–90 feet thick.
	Je	Entrada Sandstone (Middle Jurassic) - Two sandstone beds bounded by siltstone and mudstone beds; sandstone is medium-grained, friable, and commonly slope-forming; siltstone and mudstone are slope-forming; sandstone has eolian origin and siltstone/mudstone has fluvial origin. 160–215 feet thick.
	Jc	Carmel Formation (Middle Jurassic) - Upper formation is siltstone and lower formation is limestone with interbedded gypsum; siltstone is slope-forming; limestone is sandy, fossiliferous, contains jasperized fossils, and is ledge-forming; gypsum is thick and massive; marine to marginal marine origin. 150–220 feet thick.
Lower Jurassic/Upper Triassic Sedimentary Rocks	JTn	Nugget Sandstone (Lower Jurassic to Upper Triassic) - Sandstone; medium- to fine-grained; massive weathering with large-scale cross-beds; cliff-forming; Early Jurassic dinosaur tracks observed near the top and Late Triassic vertebrate tracks observed near the bottom of the formation. 720–1,030 feet thick.

The surficial geology of the Study Area is dominated by Quaternary sediment deposits and upper Cretaceous- to upper Triassic-aged sedimentary rock formations (Haddox et al. 2010). The Quaternary deposits within the Study Area consist of Holocene to Pleistocene deposits derived from adjacent uplands. The types of deposits include alluvial, colluvial, eolian, and mixed-deposit material. The mode of sediment transport and sediment size of these deposits is variable and depends primarily on the grain size and lithology of the deposit's parent rock.

Upper Cretaceous to lower Jurassic/upper Triassic sedimentary rock formations underlie the Quaternary deposits at the Study Area, and provide much of the material for the deposits (Haddox et al. 2010). The sedimentary rock formations consist of mudstone, shale, siltstone, sandstone, coal, conglomerate, and limestone. Haddox et al. (2010) mapped two folds within the Study Area. The axes of both folds trend in a northwest-southeast direction. The southern fold is an anticline that runs through the center of the Study Area, and the northern fold is a syncline that runs through the northern portion of the Study Area.

Seismic Activity

There is one mapped fault in the Study Area (Haddox et al. 2010). The fault is located along the western margin of the Study Area, is a dip-slip fault, and has approximately 0.1 mile of surface exposure. Additionally, Haddox et al. (2010) has mapped several dip-slip and strike-slip faults within 3 miles of the Study Area. Most of these faults trend in northwest-southeast directions. All of the mapped faults are discontinuous and have surface exposure of less than 1 mile. Seismic hazard mapping by the USGS (2011) has placed the Study Area within a zone that has a 2 percent probability of exceedance in 50 years of a 0.15 Peak Acceleration (%g) earthquake. A 0.15%g earthquake generally produces strong perceived shaking and light potential for damage (USGS 2006). Therefore, although the potential for seismic activity exists at the Study Area, there is a very low probability that seismic activity would produce significant damage.

Liquefaction

It is possible that seismic events could trigger liquefaction in the Study Area because of the presence of sandy alluvial deposits and a presumed high-water table in portions of the Study Area. Sediments most susceptible to liquefaction include Holocene delta, river channel, flood plain, and eolian deposits that lack clay where the water table is less than 30 feet from the ground surface (EERI 1994). These depositional criteria are met immediately north and south of Steinaker Reservoir, within the valley bottom. The sediment at these locations is primarily Holocene, poorly consolidated alluvium with a shallow water table. As such, these areas have the highest potential for liquefaction within the Study Area.

Shoreline Erosion

Wave action from wind-generated and boat-generated waves, along with annual fluctuations in reservoir water levels, contribute to shoreline erosion at Steinaker Reservoir. The geomorphic areas most susceptible to erosion are points that protrude into the reservoir, convex shorelines, and steep shorelines covered by or composed of unconsolidated material. 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 Steinaker 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 sediment to the reservoir. The recent increase in water levels related to the alteration of the dam reset this process. Shorelines that may have been mostly stable are still adjusting to Steinaker Reservoir's new full-pool elevation. 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 several decades. Areas of erosion were noted in sandy materials near the inflow in the southwest portion of the reservoir. Wave-cut cliffs were present along the east and southern shore of the reservoir. Minor erosion also occurs at lower reservoir levels when waves contact the shoreline below the high-water level.

Soils

According to the U.S. Department of Agriculture (USDA) web soil survey (USDA 2011), the Study Area consists of loam, clay loam, silt loam, sandy loam, silty clay loam, sandy loam, very cobbly and very gravelly loam, clay, silty clay, fine sand, and weathered bedrock (USDA 2011). The names and characteristics of the various soils found within the Study Area are summarized in Table 3-8 and shown in Figure 3-13. Silty clay loam and clay loam are the most prevalent soils in the Study Area, and are found along most of the reservoir shoreline and the northern, eastern, and southern portions of the Study Area. There is sand and sandy loam in the western portions of the Study Area. Only the Ohtog-Parohtog Complex, which comprises less than 2 percent of the Study Area, is rated as "prime farmland if irrigated" by the USDA (2011). The remainder of the Study Area is rated as "not prime farmland".

Sand has been hauled into the beach day-use areas along the west shore of Steinaker Reservoir to the south of the boat ramp. At lower water levels the shoreline in this area is naturally composed of mud. In addition to making the shoreline more attractive for day use recreation, the layer of sand creates "armor" over the underlying mud, reducing erosion and suspension of fine sediments in the water column in this area.

Soil Erosion

Soils in the Study Area are moderately susceptible to wind erosion. The USDA classifies soils based upon their Wind Erodibility Group, which classifies soils that have similar susceptibility to wind erosion in cultivated areas (USDA 2011). The soil groups range from 1 to 8, with group 1 representing soils that are most susceptible to wind erosion and group 8 representing soils that are least susceptible to wind erosion. Mespun Fine Sand and Reepo-Rock Outcrop Complex are classified as group 1, Greybull-Utaline-Badland Complex is classified as group 6, and the remainder of the soils are classified as either group 3 or 4 (USDA 2011).

Table 3-8. Soil Types Located within the Study Area.

SOIL NAME	PERCENT OF STUDY AREA SOILS	SLOPE (PERCENT)	DEPTH TO BEDROCK IN CENTIMETERS	SHRINK-SWELL POTENTIAL (0.00–1.00) [a]	LIMITATIONS	
					BUILDING SITE DEVELOPMENT [b]	SEPTIC [c]
Abracon Loam	7.99	3 to 8	>200	0.00	Not Limited to Somewhat Limited	Somewhat Limited
Badland-Montwell Complex	19.10	50 to 90	>200	0.50–1.00	Very Limited	Very Limited
Begay Sandy Loam	0.03	2 to 15	>200	0.00	Somewhat to Very Limited	Somewhat Limited
Gerst Loam	17.36	4 to 40	>200	0.00	Very Limited	Very Limited
Gerst Rock Outcrop Complex	21.45	4 to 40	>200	0.00	Very Limited	Very Limited
Greybull-Utaline-Badland Complex	1.53	8 to 50	>200	0.50–1.00	Very Limited	Very Limited
Hanksville Silty Clay Loam	6.58	2 to 25	>200	1.00	Somewhat to Very Limited	Very Limited
Mespun Fine Sand	3.29	4 to 25	>200	0.00	Very Limited	Very Limited
Mikim Loam	0.43	3 to 15	>200	0.50	Somewhat to Very Limited	Somewhat Limited
Mikim Silt Loam, Sodic	6.50	1 to 4	>200	0.50	Somewhat Limited	Somewhat Limited
Ohtog-Parohtog Complex	1.48	0 to 2	>200	0.50	Not Limited to Somewhat Limited	Somewhat to Very Limited
Paradox Loam	0.79	3 to 8	>200	0.00	Not Limited to Somewhat Limited	Somewhat Limited
Reepo-Rock Outcrop Complex	6.72	4 to 25	76	0.00	Very Limited	Very Limited
Shotnick Sandy Loam	1.56	4 to 8	>200	0.00	Not Limited to Somewhat Limited	Not Limited
Solirec Fine Sandy Loam	1.71	3 to 8	>200	0.00	Not Limited to Somewhat Limited	Somewhat Limited
Wyasket Loam	1.67	0 to 2	>200	0.50	Very Limited	Very Limited
Yarts-Paradox Complex	1.80	2 to 5	>200	0.00	Not Limited to Somewhat Limited	Not Limited to Somewhat Limited

Source: NRCS Web Soil Survey (USDA 2011).
[a] 0.00–1.00 is a scale of the severity of shrink-swell limitations. 0.00 represents no limitation and 1.00 represents a severe limitation.
[b] Building Site Development = shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets.
[c] Septic = septic tank absorption fields.

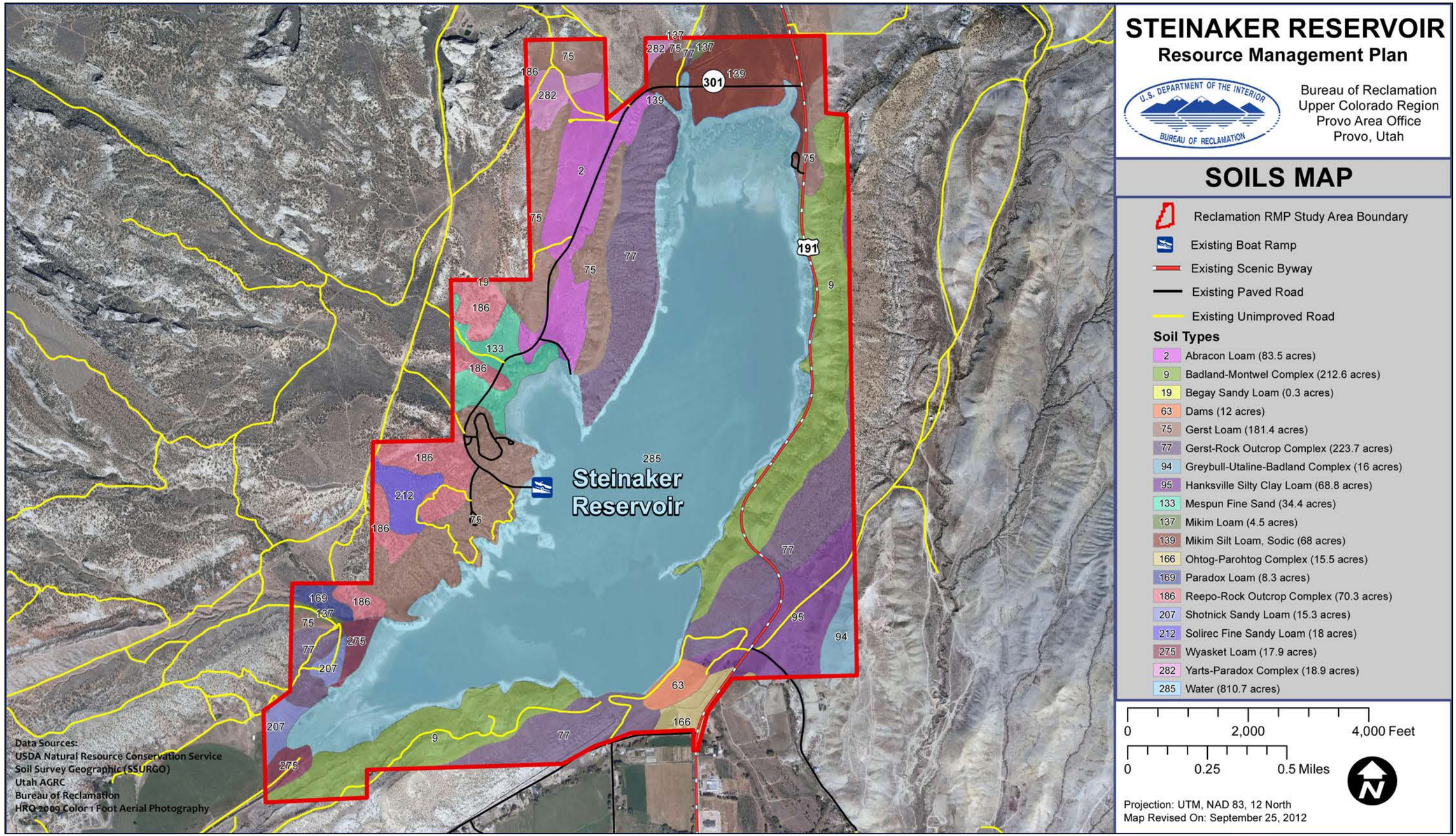

Figure 3-13. Steinaker Reservoir Resource Management Plan (RMP) Study Area Soils Map.

Soils in the Study Area are moderately susceptible to water erosion. The USDA rates soils based upon their susceptibility to sheet and rill erosion by water by assigning soils erosion factors. The erosion factor is based upon the percentages of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity. Erosion factor values range between 0.02 and 0.69. With all other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill water erosion (USDA 2011). Soils within the Study Area are rated between 0.10 and 0.49. The erosion factors of the Badland-Montwell Complex, Begay Sandy Loam, Greybull-Utaline-Badland Complex, and Wyasket Loam range between 0.10 and 0.20. The erosion factor of the Mikim Silt Loam Sodic is 0.49, and the erosion factors of the remainder of the soils range between 0.24 and 0.43.

Wave-cut erosion is active in the Gerst Loam in the southwest portion of Steinaker Reservoir. Wave-cut cliffs along the shoreline in this area extended in height up to 6.5 feet. The Badland-Montwell Complex soils are the other soils along the south and west shores are where wave erosion is most active.

Soil Limitations

Characteristics of soils, such as slope, depth to bedrock, and shrink-swell potential, are shown in Table 3-8. 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 2011). 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 3-8 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 "not limited," "somewhat limited," or "very limited." "Not limited" indicates that the soil has features that are very favorable for building or septic development, and that good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for building or septic development, and that the limitations can be overcome or minimized by special planning, design, or installation. "Very limited" indicates that the soil has one or more features that are unfavorable for building or septic development, and that the limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures (USDA 2011). Generally, the soils within the Study Area are rated as either "somewhat limited" or "very limited."

Utilization of Soil Resources

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

Vegetation

This section describes the vegetation communities found in the Study Area. Upland vegetation communities are discussed first, followed by riparian-wetland communities. Figure 3-14 illustrates the distribution and acreages of these various classes within the Study Area. Sources of information consulted to develop this assessment of existing conditions included published literature, the Southwest Regional Gap Analysis (Lowry et al. 2007), State of Utah- and Uintah County-listed noxious weeds obtained from the Utah Department of Agriculture and Food (UDAF) (UDAF 2012), consultations with agency personnel, and field observations made in fall 2011.

Upland Vegetation Communities

Steinaker Reservoir is located on the Colorado Plateau within the Uinta Basin Floor ecoregion. It is near the boundary of both the Uinta Basin Slopes, and Semi-Arid Benchlands and Canyonlands ecoregions (Bailey et al. 1994). Ecoregion determination is based on geology, vegetation, climate, hydrology, land use, and other ecological and cultural factors (CECWG 1997). The Uinta Basin Floor is a large basin surrounded by the Uinta Mountains and the Tavaputs Plateau. It includes the Uinta Basin valley floor as well as the associated gentle sloping terraces. Due to its topographic location, winters are cold, foggy, and prone to temperature inversion. Precipitation in this ecoregion is low and soils are arid. The Uinta Basin is supplied with abundant stream runoff from the surrounding mountains, though much of the runoff is captured for irrigation. Land that is not irrigated is often used for livestock grazing, which also alters plant communities from native conditions (Woods et al. 2001). For the Study Area, vegetation was characterized using the Southwest Regional Gap Analysis vegetation classifications (Lowry et al. 2007) as a starting point.

Bedrock Canyon and Tableland Approximately 50 acres of ridgelines and slopes along the northwest portion of the Study Area are classified as bedrock canyon and tableland. This classification corresponds to the Colorado Plateau Mixed Bedrock Canyon and Tableland class in the Gap Analysis (Lowry et al. 2007). Exposed rock dominates the landscape in this class, with scattered trees, shrubs and a sparse herbaceous layer accounting for less than 10 percent cover. Plant species may include pinyon pine (*Pinus edulis*), ponderosa pine (*Pinus ponderosa*), juniper (*Juniperus* spp.), mountain mahogany (*Cercocarpus intricatus*), white fire (*Abies concolor*), fourwing saltbush (*Atriplex canescens*), and Mormon tea (*Ephedra viridis*).

Pinyon-Juniper Shrubland Pinyon-Juniper Shrubland is the largest and most dispersed vegetation class in the Study Area, accounting for approximately 590 acres. This community corresponds to Colorado Plateau Pinyon-Juniper Shrubland ecological system (Lowry et al. 2007), which occupies mesatops, foothills, and slopes at elevations ranging from about 4,000 to 6,500 feet. Soils are generally rocky and shallow or shaly. Species which may be found here could include pinyon pine, Utah juniper (*Juniperus osteosperma*), black sagebrush (*Artemisia nova*), Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), and blackbrush (*Coleogyne ramosissima*).

Sagebrush Shrubland Sagebrush Shrublands occupy about 147 acres along the western Study Area boundary. This class corresponds to the Inter-Mountain Basins Big Sagebrush Shrubland ecoregion, which is widespread across the western United States and occupies lowland elevations (4,900–7,500 feet) in broad basins, valleys, and foothills between mountain ranges

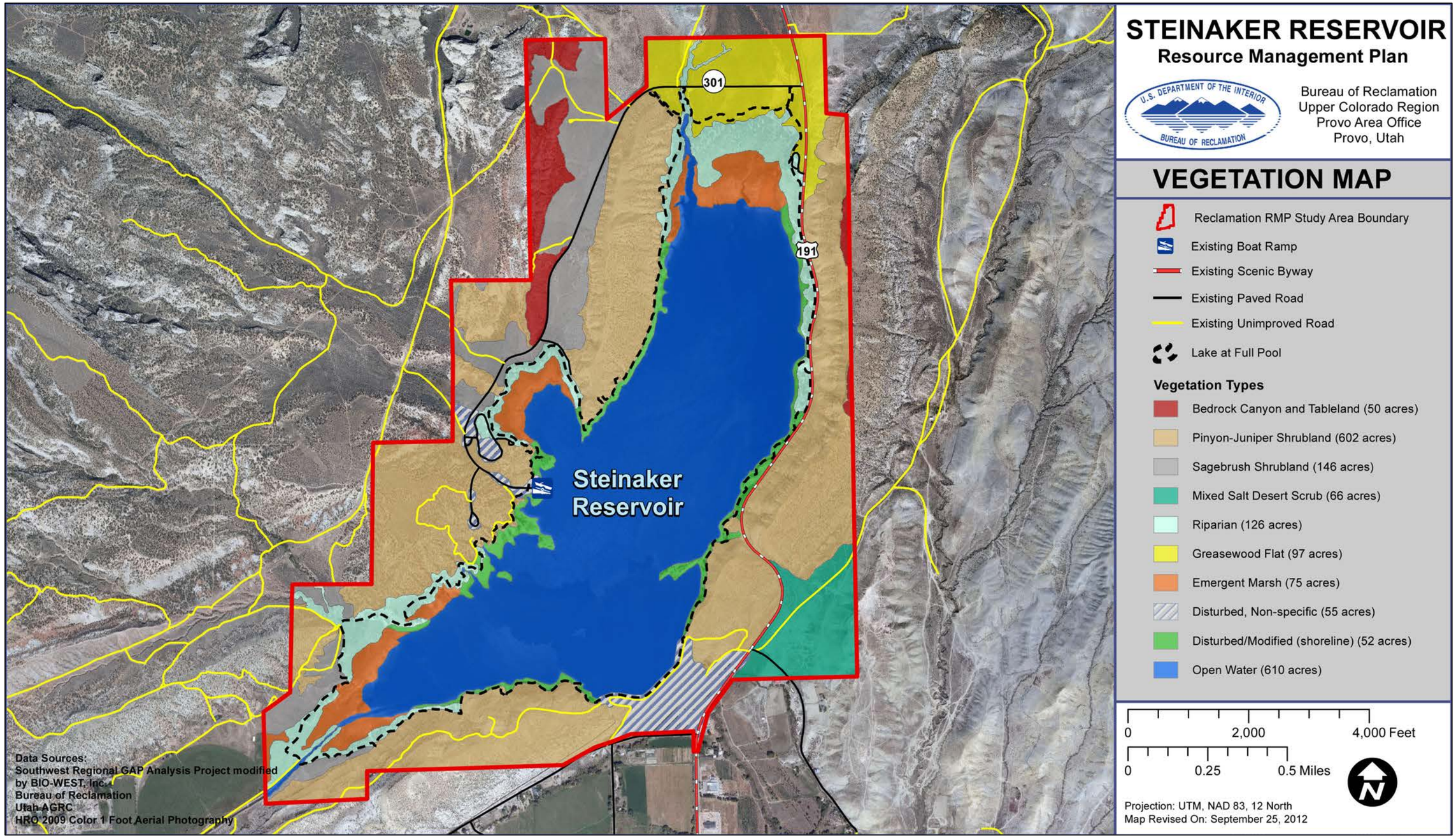

Figure 3-14. Steinaker Reservoir Resource Management Plan (RMP) Study Area Vegetation Map.

(Lowry et al. 2007). Dominant species may include Wyoming big sagebrush or basin big sagebrush (*Artemisia tridentata* spp. *tridentata*) with scattered juniper species or pinyon pine. The most common associated shrub species that may be found are greasewood (*Sarcobatus vermiculatus*), saltbush (*Atriplex* spp.), rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush, and bitterbrush (*Purshia tridentata*). In previously burned areas, mountain snowberry (*Symphoricarpos oreophilus*) may be co-dominant. The herbaceous layer has less than 25 percent coverage and common species are Indian ricegrass (*Achnatherum hymenoides*), blue grama (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus*), Idaho fescue (*Festuca idahoensis*), needle and thread (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*), and Sandberg bluegrass (*Poa secunda*). Invasive cheatgrass (*Bromus tectorum*) or other nonnative species could also be present and may dominate the herbaceous layer.

Mixed Salt Desert Scrub The southeast corner of the Study Area includes about 66 acres of Mixed Salt Desert Scrub. This class corresponds to the Inter-Mountain Basins Mixed Salt Desert Scrub, an ecological system that extends across the U.S. intermountain west (Lowry et al. 2007). This system is typically dominated by one or more *Atriplex* species such as shadscale (*Atriplex confertifolia*), fourwing saltbush, allscale (*A. polycarpa*), and spiny saltbush (*A. spinifera*). Other species may be yellow rabbitbrush, rubber rabbitbrush, Nevada jointfir (*Ephedra nevadensis*), boxthorn (*Lycium* spp.,) and horsebrush (*Tetradymia* spp.). The herbaceous layer might include: Indian ricegrass, blue grama, thickspike wheatgrass, western wheatgrass, James' galleta (*Pleuraphis jamesii*), Sandberg bluegrass, and alkali sacaton (*Sporobolus airoides*).

Riparian-Wetland Vegetation Communities

Riparian-wetland communities provide important ecological and resource management functions, including conveyance and storage of floodwaters, erosion prevention, wildlife habitat, recreation, water supply and quality maintenance, archeological value, educational value, and aesthetic value (Dennison and Schmid 1997). Riparian zones can be defined as strips of vegetation adjacent to streams, rivers, lakes, reservoirs, and other inland aquatic systems that affect or are affected by the presence of water (Fischer et al. 2000). Wetlands can be defined as lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the soil surface or the land is covered by shallow water (Cowardin et al. 1979). Depending on the level of flooding and soil saturation, riparian-wetland communities within the Study Area may be legally protected under the Clean Water Act of 1972 and the Utah Stream Alteration Rule of 1973 (CWA 1972/UT 1973). Thus, the identification and classification of these communities is important both for resource management reasons and legal reasons; consequently, riparian-wetland communities were identified in the recreation development suitability analysis, summarized in Chapter 2.

The riparian-wetlands classification within the Study Area includes several types of ecosystems that are associated with flooding and/or soil saturation of varying durations. Riparian-wetlands within the Study Area were classified into groups according to the International Terrestrial Ecological Systems Classification, and mapping data was downloaded from the Southwest Regional Gap Analysis Project. The riparian-wetland classes identified include three types of communities, which are mapped in Figure 3-14.

Riparian Approximately 126 acres of riparian communities are found surrounding the margins of the emergent marsh communities. Riparian communities are dependent on annual flooding of riverine and lacustrine systems. They can be found occupying floodplains, sand and cobble bars, islands, and irrigation ditches. Study Area riparian communities correspond to the Rocky Mountain Lower Montane Riparian Woodland and Shrubland ecological system, which is found throughout the Colorado Plateau and Rocky Mountain regions at elevations of about 3,000–9,200 feet (Lowry et al. 2007). This system represents an assemblage of tree communities with varying dominant tree species and a highly diverse shrub component. Common tree species include box elder (*Acer negundo*), eastern cottonwood (*Populus deltoides*), narrowleaf cottonwood (*Populus angustifolia*), Fremont cottonwood (*Populus fremontii*), Douglas fir (*Pseudotsuga menziesii*), and blue spruce (*Picea pungens*). Shrub species include redosier dogwood (*Cornus sericea*), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), willow (*Salix* spp.), silver buffaloberry (*Shepherdia argentea*), snowberry (*Symphoricarpos* spp.), and river hawthorn (*Crataegus rivularis*). Russian olive (*Elaeagnus angustifolia*) and saltcedar (*Tamarix* spp.) are also common invasive species found in riparian communities and have been observed in the Study Area.

Greasewood Flat A subclass of the riparian community is the greasewood flat community found on the north end of the Study Area, near the State Park entrance. Approximately 97 acres of the Study Area are characterized as greasewood flat. Such communities are often found in areas that transition from wetland to upland and contain a mixture of plants found within both wetland and upland communities. The Study Area community corresponds to the Inter-Mountain Basins Greasewood Flat ecological system, which is found in the Inter-Mountain basin region of the western United States and is associated with drainages and stream terraces (Lowry et al. 2007). Species co-dominant with greasewood could include fourwing saltbush, shadscale, Gardner's saltbush (*Atriplex gardneri*), Wyoming big sagebrush, basin big sagebrush, silver sagebrush (*Artemisia cana*), and winterfat (*Krascheninnikovia lanata*). An herbaceous layer could include alkali sakaton, western wheatgrass, saltgrass, Sandberg bluegrass, and Nuttall's alkaligrass (*Puccinellia nuttalliana*).

Emergent Marsh Emergent marsh communities are found on the northern and southern tips of Steinaker Reservoir and surrounding the bay where State Park facilities are located. Approximately 75 acres of the Study Area are characterized as emergent marsh. Dominant vegetation is herbaceous and adapted to frequent or continual inundation. North American Arid West Emergent Marshes are found in association with landscape depressions, lake edges, and stream and river banks (Lowry et al. 2007). Specific species vary greatly throughout the arid west, but common genera include bulrush (*Schoenoplectus*), cattail (*Typha*), rush (*Juncus*), pondweed (*Potamogeton*), smartweed (*Polygonum*), and canary grass (*Phalaris*). Rooted vegetation can exist in up to 6.5 feet of open water. Vegetation may also include floating or partially to fully submerged species.

Disturbed Non-specific and Disturbed/Modified Vegetation Communities

Two classifications were used for Study Area lands that have been disturbed to the point that they are barren or exhibit relatively little vegetative cover. In other areas of the region, the Disturbed Non-specific class is often associated with heavy grazing activity (Lowry et al. 2007). For the Study Area, the Disturbed Non-specific class was used for Steinaker Dam and portions of the State Park facilities area (55 acres total). A Disturbed/Modified classification was used for

Steinaker Reservoir shorelines affected by fluctuating water levels and for the beach areas, where native cover has been replaced with sand that has been imported from outside the Study Area (52 acres total).

Noxious Weeds

Table 3-9 shows plant species listed by the State of Utah and Uintah County as noxious weeds, as reported by UDAF (UDAF 2012). Portions of the Study Area that are most vulnerable to infestation by noxious weeds include roadsides, camping areas, fishing access areas, and the reservoir shoreline. Noxious weeds frequently infest roadsides because vehicles help disperse seeds over large geographical areas. All-terrain vehicle travel, fishing and hunting access, and other recreational activities may also promote the spread of noxious species by disturbing existing vegetation and by helping to disperse seeds. Persons walking through riparian areas can spread species including (but not limited to) poison hemlock (*Conium* spp.), teasle (*Dipsacus* spp.), Canada thistle (*Cirsium arvense*), hoary cress, and perennial pepperweed. Dogs may spread species such as houndstongue, teasle, and thistle by carrying seeds in their fur. Fluctuating water levels along shorelines are vulnerable to saltcedar and Russian olive infestation.

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, and waterfowl. Reclamation lands provide opportunities for wildlife viewing and waterfowl hunting.

Habitat Characteristics

Figure 3-15 illustrates habitat areas that have been defined by UDWR for particular species. Lands immediately surrounding Steinaker Reservoir are designated as mule deer (*Odocoileus hemionus*) winter habitat, while portions of the Study Area are continuous with both mule deer and elk (*Cervus canadensis*) winter habitat. Outside the Study Area, lands south of Steinaker Reservoir are designated as mule deer year-long habitat. To the east of the Study Area there are also lands designated as greater sage-grouse (*Centrocercus urophasianus*) brood and occupied habitat. In 2013, the State of Utah completed a conservation plan for greater sage-grouse (UDWR 2013). The plan includes measurable objectives to maintain habitat acreage and spatial distribution of the species and to increase the population size. However, none of the lands within the Study Area have been identified as greater sage-grouse habitat.

A component of the Utah Comprehensive Wildlife Conservation Strategy (CWCS) is to prioritize habitat types within the state for species of greatest conservation need (Sutter et al. 2005). Five criteria are used to score habitats: abundance, threats, trends, sensitive species occurrence, and vertebrate biodiversity. Habitat types are evaluated and assigned a value from 1 to 5 in all of the five categories, with potential total scores ranging from 5 to 25, 5 being the lowest possible priority and 25 being the highest possible priority. Habitat types with high scores are considered to be high priority and most in need of conservation. The CWCS scoring system was used as a guideline for assessing habitat preservation priorities for Study Area vegetation communities. Table 3-10 summarizes Study Area vegetation communities and CWCS scoring of habitats.

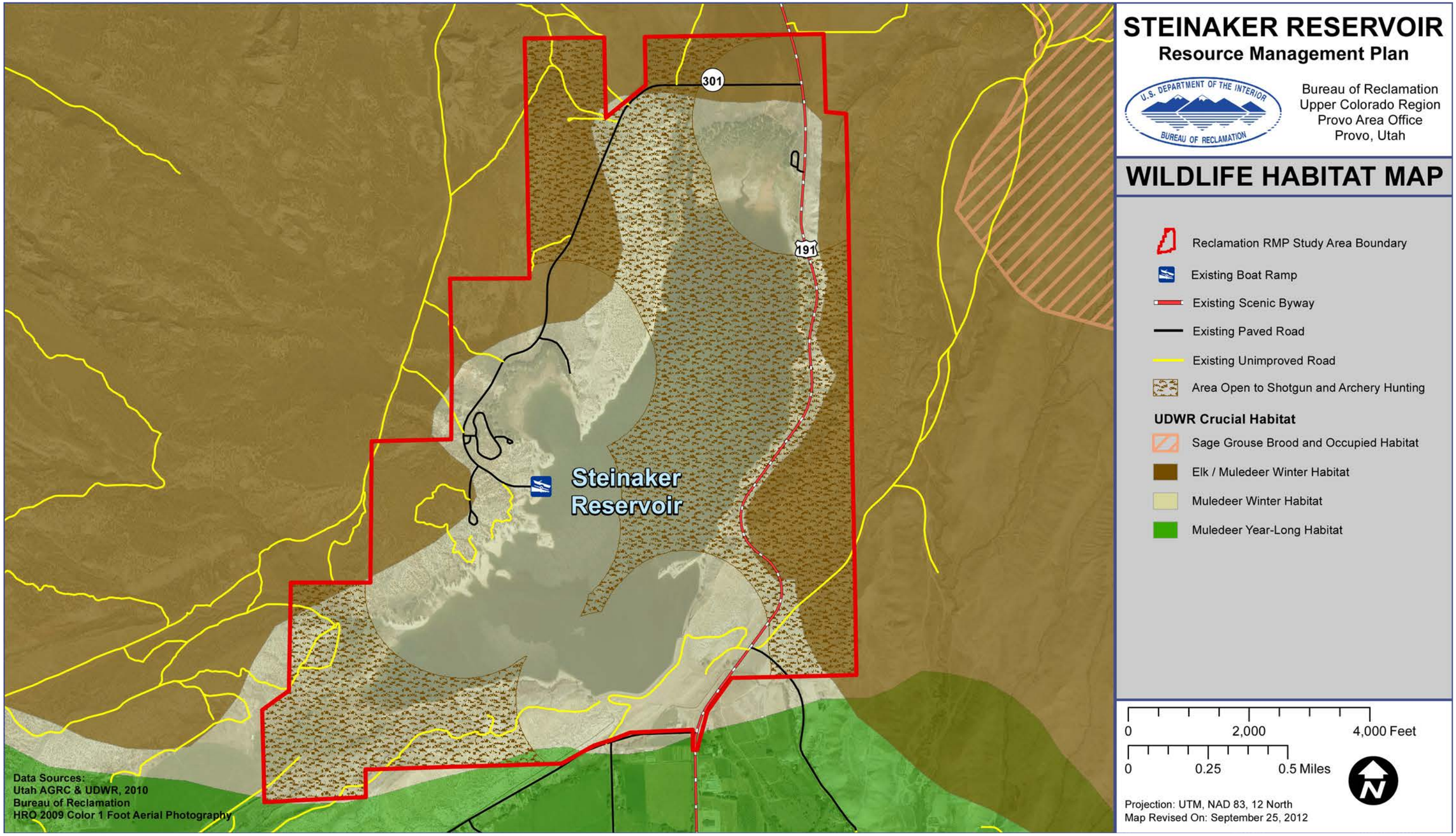

Figure 3-15. Steinaker Reservoir Resource Management Plan (RMP) Study Area Wildlife Habitat Map.

Table 3-9. State of Utah and Uintah County Noxious Weed List.

COMMON NAME	SCIENTIFIC NAME
black henbane	*Hyoscyamus niger*
diffuse knapweed	*Centaurea diffusa*
Johnsongrass	*Sorghum halepense*
leafy spurge	*Euphorbia esula*
Medusahead	*Taeniatherum caput-medusae*
oxeye daisy	*Leucanthemum vulgare*
purple loosestrife	*Lythrum salicaria*
St. Johnswort	*Hypericum perforatum*
spotted knapweed	*Centaurea stoebe*
sulfur cinquefoil	*Potentilla recta*
yellow starthistle	*Centaurea solstitialis*
yellow toadflax	*Linaria vulgaris*
Bermudagrass	*Cynodon dactylon*
Dalmatian toadflax	*Linaria dalmatica*
dyer's woad	*Isatis tinctoria*
hoary cress	*Cardaria draba*
musk thistle	*Carduus nutans*
perennial pepperweed	*Lepidium latifolium*
poison hemlock	*Conium maculatum*
Russian knapweed	*Centaurea repens*
squarrose knapweed	*Centaurea virgata*
Scotch thistle	*Onopordum acanthium*
Canada thistle	*Cirsium arvense*
field bindweed	*Convolvulus arvensis*
houndstongue	*Cynoglossum officinale*
quackgrass	*Elymus repens*
saltcedar	*Tamarix* spp.
common teasel [a]	*Dipsacus fullonum*
puncturevine [a]	*Tribulus terrestris*
Russian olive [a]	*Elaeagnus angustifolia*

Source: UDAF (2012).
[a] Uintah County noxious weeds.

Table 3-10. Status Review of Study Area Habitat Types Using the Utah Comprehensive Wildlife Conservation Strategy (CWCS) Scoring System.

STUDY AREA VEGETATION COMMUNITY	COMPARABLE CWCS [a] HABITATS	OVERALL CWCS SCORE
Bedrock Canyon and Tableland	Rock	11.7
Pinyon-Juniper Woodland	Pinyon-Juniper	12.6
Sagebrush Shrubland	High Desert Scrub	14.8
Mixed Salt Desert Scrub	High Desert Scrub	14.8
Greasewood Flat	High Desert Scrub	14.8
Emergent Marsh	Wetland	20.7
Riparian	Lowland Riparian/Mountain Riparian	23.8/20.5
Bedrock Canyon and Tableland	Rock	11.7

[a] Utah Comprehensive Wildlife Conservation Strategy (Sutter et al. 2005).

The majority of the wildlife habitat in the Study Area consists of upland plant communities (e.g., woodlands shrublands, grass, and other shrub-scrub communities). Statewide, these communities rank in the middle of the CWCS prioritization scale. Within the Study Area, these upland vegetation types are 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.

The highest priority CWCS habitats found in the Study Area are the emergent marsh and riparian habitats. Riparian-wetland vegetation types are located along the shorelines and within tributary inflow areas of Steinaker Reservoir. Despite a limited amount of riparian-wetland vegetation types and their fragmented nature, these habitats add substantially 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 are valuable to species of waterfowl, shorebirds, passerines, and amphibians. In general, factors that negatively influence wildlife habitat condition in the Study Area are disturbance from recreation use, introduction of invasive plants and animals, and reservoir water management. Recreational use may cause disturbance to and displacement of wildlife, and can degrade habitat conditions. Disturbance associated with campers, boats, and vehicular traffic often 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 to adjacent habitats. Recreational use of undeveloped areas can also cause trampling and subsequent fragmentation of habitat, depending on the level and frequency of disturbance. An example at Steinaker Reservoir is OHV riding in undesignated areas near Steinaker Feeder Canal inflow. This undesired recreational use has recently been managed by State Parks with installation of a pipe fence along the Reclamation property boundary in this vicinity.

Fluctuating reservoir water levels alter wildlife use 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. Conversely, low water levels can create exaggerated separations of riparian-wetland habitats from open water, negatively affecting habitat quality for other species. When water levels are raised during the breeding season, nesting and roosting sites may become flooded. Fish spawning areas, which are where many birds feed, also vary with the changing water levels. Shore scouring prevents vegetation from becoming established and can

facilitate establishment of invasive plants such as saltcedar. These factors can reduce the overall amount of available habitat for some species.

Birds

Migratory birds found within the Study Area are protected under the Migratory Bird Treaty Act of 1918 (MBTA) and Executive Order 131866 (January 17, 2001), "Responsibilities of Federal agencies to Protect Migratory Birds." This order directs federal agencies to take certain actions to further implement the MBTA and the Bald and Golden Eagle Protection Act (1940) as well as other pertinent statutes. The entire Study Area can be considered migratory bird habitat. Waterfowl hunting is allowed within the Study Area according to current UDWR waterfowl hunting guidebook regulations (see Figure 3-15).

Steinaker 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, and 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 1.0 acre in size and are generally located in inflow areas in the northern and southern ends of Steinaker Reservoir and in the middle of the western shoreline. 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.

Water birds potentially found within the Study Area include common loon (*Gavia immer*), pied-billed grebe (*Podilymbus podiceps*), eared grebe (*Podiceps caspicus*), western grebe (*Aechmophorus occidentalis*), Clark's grebe (*Aechmophorus clarkii*), American white pelican (*Pelecanus erythrorhynchos*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), gadwall (*Anas strepera*), American wigeon (*Anas americana*), mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*), cinnamon teal (*Anas cyanoptera*), green-winged teal (*Anas carolinensis*), redhead (*Aythya americana*), ring-necked duck (*Aythya collaris*), lesser scaup (*Aythya affinis*), northern shoveler (*Spatula clypeata*), common merganser (*Mergus merganser*), ruddy duck (*Oxyura jamaicensis*), American coot (*Fulica americana*), killdeer (*Charadrius vociferous*), spotted sandpiper (*Actitis macularius*), greater yellowlegs (*Tringa melanoleuca*), willet (*Tringa semipalmata*), Franklin's gull (*Larus pipixcan*), ring-billed gull (*Larus delawarensis*), California gull (*Larus californicus*), and Forster's tern (*Sterna forsteri*).

Raptors, such as red-tailed hawk (*Buteo jamaicensis*), great-horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), and American kestrel (*Falco sparverius*), likely occur throughout the Study Area, particularly in the cottonwood (*Populus* sp.) along Ashley Creek and around the edges of Steinaker Reservoir. The upland areas provide an abundance of small mammal prey, such as deer mouse (*Peromyscus maniculatus*) and gopher (*Thomomys* spp.). Osprey (*Pandion haliaetus*) nest near Steinaker Dam. Bald eagle (*Haliaeetus leucocephalus*) commonly winter on the reservoir. Golden eagle (*Aquila chrysaetos*) have been documented nesting within the Study Area along the cliffs east of the Steinaker Reservoir (Maxfield 2012). Both eagle species are given special protection under the Bald and Golden Eagle Protection Act, which prohibits the take of birds, their parts, nests, or eggs without a permit.

Habitat for most songbirds, such as yellow warbler (*Dendroica petechia*), yellow-rumped warbler (*Dendroica coronata*), black-capped chickadee (*Poecile atricapillus*), orange-crowned warbler (*Vermivora celata*), ruby-crowned kinglet (*Regulus calendula*), mountain bluebird (*Sialia currucoides*), white-crowned sparrow (*Zonotrichia leucophrys*), chipping sparrow (*Spizella passerina*), and song sparrow (*Melospiza melodia*), is associated with riparian-wetland areas with their dense growth and complex vertical structure. The large cottonwoods in these areas are particularly important features. These areas support nesting, migrating, and wintering populations of songbirds and provide nesting sites, protective cover from weather and predators, and forage items (e.g., seeds, plant material, and insects). Other birds associated with this habitat include western kingbird (*Tyrannus verticalus*), red-winged blackbird (*Agelaius phoeniceus*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*).

Other species of birds using the Study Area include mourning dove (*Zenaida macroura*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), black-billed magpie (*Pica hudsonia*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), tree swallow (*Tachycineta bicolor*), violet-green swallow (*Tachycineta thalassina*), northern rough-winged swallow (*Stelgidopteryx serripennis*), cliff swallow (*Hirundo pyrrhonota*), wild turkey (*Meleagris gallopavo*), and common nighthawk (*Chordeiles minor*).

The Study Area also includes UDWR-delineated habitat for the California quail (*Callipepla californica*). This species is not hunted within the Study Area, so areas around Steinaker Reservoir may provide important refuge for California quail, if it is present.

Mammals

The Study Area provides habitat for a number of mammal species, including big game, small mammals, bats and others. The Pinyon-Juniper Shrubland and the Sagebrush Shrubland habitats serve as both summer and wintering areas for mule deer and winter habitat for elk. Moose (*Alces alces*) may use stream drainages associated with the Steinaker Reservoir, and predators such as black bear (*Ursus americanus*), mountain lion (*Felis concolor*), and coyote (*Canis latrans*) are also found in the area. Big game hunting is not allowed within the Study Area, which may provide important refuge for these species during the hunting season.

Other mammals potentially found within the Study Area include: dwarf shrew (*Sorex nanus*), Merriam's shrew (*Sorex merriami*), mountain cottontail (*Sylvilagus nuttalli*), white-tailed jackrabbit (*Lepus townsendii*), beaver (*Castor canadensis*), porcupine (*Erethizon dorsatum*), northern pocket gopher (*Thomomys talpoides*), Ord's kangaroo rat (*Dipodomys ordii*), brush mouse (*Peromyscus boylii*), canyon mouse (*Peromyscus crinitus*), deer mouse, pinyon mouse (*Peromyscus truei*), long-tailed vole (*Microtus longicaudus*), muskrat (*Ondatra zibethicus*), cliff chipmunk (*Neotamias dorsalis*), Hopi chipmunk (*Neotamias rufus*), least chipmunk (*Neotamias minimus*), Uinta chipmunk (*Neotamias umbrinus*), yellow-bellied marmot (*Marmota flaviventris*), red fox (*Vulpes vulpes*), ringtail (*Bassariscus astutus*), raccoon (*Procyon lotor*), American mink (*Mustela vison*), badger (*Taxidea taxus*), long-tailed weasel (*Mustela frenata*), northern river otter (*Lontra canadensis*), and bobcat (*Lynx rufus*).

The Study Area may support a number of bat species, such as big brown bat (*Eptesicus fuscus*), little brown myotis (*Myotis lucifugus*), and long-eared myotis (*Myotis evotis*), because of the

availability of a stable insect prey source associated with the reservoir and the riparian-wetland habitats.

Herpetofauna

Suitable habitat for amphibians at Steinaker Reservoir includes the riparian-wetland habitats and the reservoir. Species potentially occurring in the area include boreal chorus frog (*Pseudacris maculata*), tiger salamander (*Ambystoma tigrinum*), and northern leopard frog (*Lithobates pipiens*). In addition, it is likely that some species that are tolerant of arid conditions, such as the Great Basin spadefoot (*Spea intermontana*) also thrive within the Study Area. Reptile species that potentially occur throughout the Study Area in the upland and riparian-wetland habitats include common sagebrush lizard (*Sceloporus graciosus*), eastern fence lizard (*Sceloporus undulates*), greater short-horned lizard (*Phrynosoma hernandesi*), Great Basin gophersnake (*Pituophis catenifer deserticola*), eastern racer (*Coluber constrictor*), midget faded rattlesnake (*Crotalus concolor*), milksnake (*Lampropeltis triangulum*), striped whipsnake (*Masticophis taeniatus*), and prairie rattlesnake (*Crotalus viridis*), Several species of garter snakes (*Thamnophis* spp.) are also likely present.

Fisheries

In terms of fish habitat, the shoreline habitat of Steinaker Reservoir has intermixed vegetated and nonvegetated slopes, in addition to a few areas that have been stabilized with riprap (e.g., the dam). Much of the topography presents steep sloping shorelines and cliffs. Much of the habitat, in the form of fish cover, is represented by boulders or large cobble submerged along the shoreline. Inundated and emergent vegetation is present in the shallow coves and inflow areas. The largest area of submerged vegetation occurs in a large, shallow cove along the western shore. Shallow, marsh-like habitat is also present near the inflow canal from Ashley Creek at the southwest end of Steinaker Reservoir and the wash at the north end. Low-water years could produce limited cover for all life stages of fish because there is little shoreline vegetation present.

Although standard water quality parameters don't seem to indicate any impairment to the aquatic biota (UDWR 2011a) the UDEQ has issued a mercury fish consumption advisory on Steinaker Reservoir as of August 2011 (UDEQ 2011). This finding advises that pregnant women and children do not eat largemouth bass (*Micropterus salmoides*), and that adults limit their consumption to two 8-ounce servings per month (UDEQ 2011). Although mercury is a naturally occurring element, it can transform into toxic methyl mercury. Chronic exposure in low concentrations can lead to neurological effects in developing fetuses and children. Although mercury may be found in low concentrations in Steinaker Reservoir, it bioaccumulates and biomagnifies through the food web. Therefore, secondary consumers contain higher concentrations, and sometimes toxic concentrations, than that found in the water column (Morel et al. 1998). There are no health risks associated with other uses of Steinaker Reservoir including swimming (UDEQ 2011).

With the presence of selenium throughout the Ashley Creek drainage there is also potential for elevated selenium levels to occur in Steinaker Reservoir. Selenium accumulated in fish tissue could result in consumption advisories for harvested fish. Selenium has also shown to cause malformations in fish that may hinder their reproductive capacity (Lemly 1998).

Fish Species

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 from 1 to 6. Ashley Creek off-channel of Steinaker Reservoir above the diversion canal has been classified as a Class 3 body of water (Crosby and Bartlett 2005). A brief description of each class is as follows.

- **Class 1** waters are top-quality fishing that should be preserved and improved for angling and recreational use. These areas are accessible by vehicle, with blue ribbon trout fishing and excellent productivity that supports large fish populations of one or more species of sportfish.

- **Class 2** waters also provide excellent fishing but are lacking in one category. Many of these waters are comparable to Class 1 waters, except 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 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 are required to maintain the fishery.

- **Class 5** waters are of little value to the sport fishery due to 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 those 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 classifications 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. The stream section of Ashley Creek above the Steinaker Feeder Canal to Steinaker Reservoir is managed as a wild-fish water, in which fish species and habitat dictate what can naturally be produced and sustained. Fish within these waters reproduce naturally, and fishing opportunities are sustained rather than managed. Steinaker Reservoir is managed with a Basic Yield classification for rainbow trout (*Oncorhynchus mykiss*) and largemouth bass. Basic Yield Waters are those that provide fishing opportunities in areas where angling pressure is extensive or where habitat is marginal for fishery success (Crosby and Bartlett 2005).

Steinaker Reservoir is managed primarily as a blue ribbon largemouth bass and rainbow trout fishery. The rainbow trout fishery is put-and-take. Brown trout (*Salmo trutta*) are present and thought to either come downstream via the Steinaker Feeder Canal from Ashley Creek and/or naturally recruit in the lake (T. Hedrick 2011, pers. comm.). Smallmouth bass (*Micropterus dolomieu*) and sunfish (*Lepomis* spp.) have been illegally stocked. Steinaker Reservoir is managed as a two-story fishery, with both coldwater and warmwater fish species. Non-sportfish

species include common carp (*Cyprinus carpio*), Utah chub (*Gila atraria*), and redside shiner (*Richardsonius balteatus*) that reproduce in Steinaker Reservoir (Reclamation 2007).

Fish assemblages for Steinaker Reservoir have varied historically but currently include ten species of fish representing three families (Table 3-11). Coldwater sportfish species that inhabit Steinaker Reservoir consist of rainbow trout, brown trout, and albino rainbow trout while warmwater sportfish species of largemouth bass, smallmouth bass, green sunfish (*Lepomis cyanellus*), and bluegill (*Lepomis macrochirus*). Specific bag and possession limits do exist for sport fish at Steinaker Reservoir; however, length limits are not imposed (Table 3-12).

Table 3-11. Fish Species Occurring in Steinaker Reservoir.

COMMON NAME (*SCIENTIFIC NAME*)	STATUS
Family Salmonidae—Trout	
brown trout (*Salmo trutta*)	Introduced
rainbow trout (*Oncorhynchus mykiss*)	Introduced
albino rainbow trout (*Oncorhynchus mykiss*)	Introduced
Family Cyprinidae—Minnows	
common carp (*Cyprinus carpio*)	Introduced
Utah chub (*Gila atraria*)	Native
Redside shiner (*Richardsonius balteatus*)	Native
Family Centrarchidae—Sunfishes	
bluegill (*Lepomis macrochirus*)	Introduced
largemouth bass (*Micropterus salmoides*)	Introduced
green sunfish (*Lepomis cyanellus*)	Introduced
smallmouth bass (*Micropterus dolomieu*)	Introduced

Source: T. Hedrick 2011, pers. comm.

Table 3-12. Daily Bag and Size Limits for Sportfish in Steinaker Reservoir.

SPECIES	LIMIT
bluegill and green sunfish	50 in aggregate
largemouth bass and smallmouth bass	6 in aggregate
trout in aggregate	4

Source: UDWR (2011b).

Table 3-13 summarizes UDWR stocking records from 2002 to 2011. Steinaker Reservoir is stocked annually with rainbow trout and managed as a put-and-take trout fishery. Stockings occur in spring or fall and have varied from approximately 8,000 to more than 39,000 fish per year since 2002. Not shown in the table, Steinaker Reservoir was also stocked with 50,000 largemouth bass fry in 1990 (UDWR 2011a).

Experimental gill netting in 2010 and 2011 showed highest catch rates for trout and largemouth bass, although relatively few individuals were captured either year. Green sunfish and bluegill were also captured during sampling events for both years (Johnson 2010a, 2010b).

Table 3-13. Rainbow and Albino Rainbow Trout Stocking Records for 2002–2011 in Steinaker Reservoir.

YEAR	NUMBER STOCKED	SIZE (inches)
2002	no stocking record	-
2003	27,396	8–9
2004	31,147	8–9
2005	39,841	8
2006	8,000	8
2007	29,999	8-9
2008	35,069	8–10
2009	26,386	7–13
2010	30,637	8 and 14
2011	37,742	8–10

Source: UDWR (2011a).

Aquatic Nuisance and Invasive Species

Aquatic nuisance and invasive species (AIS) are defined as water-associated, nonnative plant and animal species that threaten diversity or abundance of native species due to a variety of ecological factors. There are numerous AIS already occurring in Utah waters with others threatening immediate arrival. Steinaker Reservoir is among the Utah water bodies that are susceptible to AIS introductions (UDWR 2009).

Quagga Mussel No quagga mussel (*Dreissena bugensis*) or quagga mussel veligers have been detected in Steinaker Reservoir (T. Hedrick 2011, pers. comm.). Prevention of infestation is important for protecting water quality and maintaining a quality fishery. Invasive mussels are a threat throughout Utah and in other states because they can be transported in boats and equipment, reproduce rapidly, deplete nutrients in the water, and are costly to control (UDWR 2012a).

Pathogens Whirling disease is a condition caused by the parasite *Myxobolus cerebralis*. This pathogen has been detected in other Utah waters (UDWR 2009), but has not been detected in Steinaker Reservoir or Ashley Creek to date. While rainbow trout are very susceptible to this pathogen, the disease is mostly detrimental to smaller fish. It is unlikely that catchable-sized fish stocked in Steinaker Reservoir would show deformities should the pathogen occur.

Nonnative Fish Species The fishery at Steinaker Reservoir has been changing as a result of illegal introductions of smallmouth bass and sunfish (T. Hedrick 2011, pers. comm.). This has the potential to result in decreased catch rates, particularly for rainbow trout which were originally stocked for a put-and-take trout fishery. Although smallmouth bass and sunfish are considered sportfish throughout the state, they are nuisance species and invasive in nature.

American Bullfrog Presence of the American Bullfrog (*Rana catesbeiana*, also classified as *Lithobates catesbeianus*) at Steinaker Reservoir was confirmed in 2012 (T. Hedrick 2013, pers. comm.). Native to the eastern United States and Great Plains, the bullfrog is considered an aquatic invasive species in Utah because it competes with and preys on native species (UDWR 2009).

Threatened, Endangered, and Other Special-Status Species

This section provides an assessment of special status-species known to occur in Uintah County and the likelihood of occurrence in the Study Area. This includes consideration of state-listed, special status species as well as any federally listed endangered, threatened, or candidate species.

Plants

Study Area vegetation communities have the potential to support listed plant species of concern (state and federal) with known distributions in Uintah County. There are 19 rare plant species that potentially occur in the Study Area, including 1 endangered species, 3 threatened species, 1 candidate species, 1 species of concern, 1 proposed threatened species, and 13 state-listed rare plant species (Table 3-14). Potential occurrence of these species is based on the existence of appropriate, or seemly appropriate, habitat within the Study Area. Not all potential habitats will be appropriate for species presence. Due to specific habitat needs of each species, it is likely that only micro-habitats within the vegetation classifications will be appropriate for rare occurrence. Field surveys, prior to implementation of any new facilities, would be needed to determine presence or absence of these species; site-specific impacts are not addressed in this EA.

Table 3-14. Rare Plant Species with Potential to Occur at Steinaker Reservoir.

COMMON NAME	SCIENTIFIC NAME	GLOBAL RANK [a]	STATE RANK [b]	FEDERAL STATUS
park rockcress	*Arabis vivariensis*	G2[c]	S1	
horseshoe milkvetch	*Astragalus equisolensis*	G5	S1	
Hamilton's milkvetch	*Astragalus hamiltonii*	G1	S1	
Ownbey thistle	*Cirsium ownbeyi*	G3	S1	
Graham's cryptantha	*Cryptantha grahamii*	G3	S3	
giant helleborine	*Epipactis gigantea*	G3	S2S3	
Garrett bladderpod	*Lesquerella garrettii*	G2	S2	
white river penstemon	*Penstemon scariosus* var. *albifluvis*	G4	S1	Candidate
alcove bog-orchid	*Platanthera zothecina*	G2	S2	
shrubby reed-mustard	*Schoenocrambe suffrutescens*	G1	S1	Endangered
pariette cactus	*Sclerocactus brevispinus*	G1	S1	Threatened
Ute ladies tresses	*Spiranthes diluvialis*	G2	S1	Threatened
Uinta wirelettuce	*Stephanomeria tenuifolia* var. *uintaensis*	G5	S1	
sterile yucca	*Yucca sterilis*	G4G5	unknown	

Sources: UDWR (2012b).

[a] Global Ranking: G1-Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors. G2-Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors. G3- Vulnerable—At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors. G4-Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors. G5-Secure—Common; widespread and abundant. GQ-Questionable taxonomy that may reduce conservation priority— Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The "Q" modifier is only used at a global level and not at a national or subnational level.

[b] State Ranking: S1-Critically Imperiled—Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction. S2-Imperiled—Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction. S3-Vulnerable—Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

[c] G3 ranking for *Arabis vivariensis* is under consideration.

Many of the rare plant species have the potential to occur in more than one vegetation community type. Pinyon-Juniper Shrubland has the potential to support park rockcress (*Arabis vivariensis*), Hamilton's milkvetch (*Astragalus hamiltonii*), Ownbey thistle (*Cirsium ownbeyi*), Graham's cryptantha (*Cryptantha grahamii*), white river penstemon (*Penstemon scariosus* var. *albifluvis*), pariette cactus (*Sclerocactus brevispinus*), Uinta wirelettuce (*Stephanomeria tenuifolia* var. *uintaensis*), and sterile yucca (*Yucca sterilis*). Sagebrush Shrubland has the potential to support horseshoe milkvetch (*Astragalus equisolensis*), Ownbey thistle, Graham's cryptantha, Garrett bladderpod (*Lesquerella garrettii*), white river penstemon, shrubby reed-mustard (*Schoenocrambe suffrutescens*), and sterile yucca. Riparian areas have the potential to support giant helleborine (*Epipactis gigantea*), and Ute lady's tresses (*Spiranthes diluvialis*). There is a Ute lady's tresses occurrence reported by the Utah Natural Heritage Program along Ashley Creek outside of the Study Area (UDWR 2012b).

Wildlife and Fish

Species listed in Table 3-15 that are known or suspected to occur within or near the Study Area are discussed below. Although Canada lynx (*Lynx canadensis*) potentially occurs in the Study Area, suitable habitat (i.e., mature coniferous forests, cliff areas) is not present within the Study Area. The species may be present in the mountains to the west of the Study Area and could conceivably occur transiently at Steinaker Reservoir. Similarly, black-footed ferret (*Mustela nigripes*) is listed as an endangered species in Uintah County and is listed because its historical range include portions of Uinta County, and because there is a reintroduced colony in Coyote Basin on the east side of the Uinta County (UDWR 2012b). However, there is no suitable habitat or prey base for black-footed ferret within the Study Area.

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 elevations of 2,500–6,000 feet and typically require large, 100–200-acre tracts of contiguous riparian habitat for nesting (Hughes 1999). It is unlikely that the western yellow-billed cuckoo would nest within the Study Area. Occurrences would be temporary and infrequent because of a lack of suitable habitat and recreational use of the area by humans.

The UDWR does not have delineated habitat at Steinaker Reservoir for greater sage-grouse. However, it is possible the species could be found within the Study Area. These large game birds inhabit dry, upland areas such as foothills and mountain valleys. They are a sagebrush-obligate species and require sagebrush during most of their life cycle. Optimal habitat also includes an understory of grasses and forbs, and is usually associated with some wet meadow habitat (Schroeder et al. 1999). Although hunting greater sage-grouse is allowed in Utah, it is listed as sensitive by the State of Utah and as a candidate species by the federal government. The Study Area could potentially provide refuge for the species during hunting season, as well as habitat during the remainder of the year.

The federally listed fish species occurring in area of influence of the Steinaker Reservoir RMP project are bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus* [Abbott]) (Reclamation 2007). These species are managed under the Upper Colorado River Endangered Fish Recovery Program (USFWS 1987). None of these endangered fish species are known to occur in Steinaker Reservoir (M. Breen 2011, pers. comm.; E. Johnson 2011, pers. comm.).

Table 3-15. State and Federally Listed Threatened, Endangered, or Sensitive Wildlife and Fish Species Occurring in Uintah County.

COMMON NAME	SCIENTIFIC NAME	STATUS a	POTENTIAL TO OCCUR IN THE STUDY AREA
	Birds		
American white pelican	*Pelecanus erythrorhynchos*	SPC	YES
bald eagle	*Haliaeetus leucocephalus*	SPC	YES
bobolink	*Dolichonyx oryzivorus*	SPC	NO
burrowing owl	*Athene cunicularia*	SPC	YES
ferruginous hawk	*Buteo regalis*	SPC	YES
greater sage-grouse	*Centrocercus urophasianus*	S-ESA	YES
Lewis's woodpecker	*Melanerpes lewis*	SPC	NO
long-billed curlew	*Numenius americanus*	SPC	NO
mountain plover	*Charadrius montanus*	SPC	NO
northern goshawk	*Accipiter gentilis*	CS	NO
Mexican spotted owl	*Strix occidentalis lucida*	S-ESA	NO
short-eared owl	*Asio flammeus*	SPC	NO
three-toed woodpecker	*Picoides tridactylus*	SPC	NO
yellow-billed cuckoo	*Coccyzus americanus*	S-ESA	NO
	Mammals		
big free-tailed bat	*Nyctinomops macrotis*	SPC	YES
black-footed ferret	*Mustela nigripes*	S-ESA	NO
brown (grizzly) bear	*Ursus arctos*	S-ESA	NO
Canada lynx	*Lynx canadensis*	S-ESA	NO
fringed myotis	*Myotis thysanodes*	SPC	NO
kit fox	*Vulpes macrotis*	SPC	NO
spotted bat	*Euderma maculatum*	SPC	YES
Townsend's big-eared bat	*Corynorhinus townsendii*	SPC	POSSIBLE
white-tailed prairie-dog	*Cynomys leucurus*	SPC	YES
	Reptiles		
cornsnake	*Elaphe guttata*	SPC	NO
smooth greensnake	*Opheodrys vernalis*	SPC	NO
	Fish		
bluehead sucker	*Catostomus discobolus*	CS	NO
bonytail	*Gila elegans*	S-ESA	NO
Colorado pikeminnow	*Ptychocheilus lucius*	S-ESA	NO
Colorado River cutthroat trout	*Oncorhynchus clarkii pleuriticus*	CS	NO
flannelmouth sucker	*Catostomus latipinnis*	CS	YES
humpback chub	*Gila cypha*	S-ESA	NO
razorback sucker	*Xyrauchen texanus [Abbott]*	S-ESA	NO
roundtail chub	*Gila robusta*	CS	NO

Source: UDWR (2012b).
[a] S-ESA: federally-listed or candidate species under the Endangered Species Act; SPC: wildlife species of concern to the State of Utah; CS: species receiving special management under a conservation agreement in order to preclude the needs for federal listing.

The state-listed sensitive fish species likely to have historically occurred in the Ashley Creek drainage basin are flannelmouth sucker (*Catostomus latipinnis*), bluehead sucker (*Catostomus discobolus*), and roundtail chub (*Gila robusta*). Currently, bluehead and flannelmouth sucker can be found downstream of Steinaker Reservoir near the confluence of the Ashley Creek and Green River. Roundtail chub, which currently occur in the Green River, were likely found in the lower portion of Ashley Creek historically (Bosworth 2003, UDWR 2006). Currently, none of these sensitive fish species are found in Steinaker Reservoir (Crosby and Bartlett 2005, E. Johnson 2011, pers. comm.).

Cultural Resources

Cultural resources are defined as physical or other expressions of human activity or occupation. Such resources include culturally significant landscapes, prehistoric and historic archaeological sites as well as isolated artifacts or features, traditional cultural properties, Native American and other sacred places, and artifacts and documents of cultural and historic significance. Section 106 of the National Historic Preservation Act of 1966 (NHPA) mandates that Reclamation take into account the potential effects of a proposed federal undertaking on historic properties, such as a "Federal Action" in accordance with the National Environmental Policy Act (NEPA). Historic properties are defined as any prehistoric or historic district, site, building, structure or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

The affected environment for cultural resources is identified as the area of potential effects (APE), in compliance with the regulations to Section 106 of the NHPA (36 CFR 800). The APE is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE for the undertaking (proposed action) includes the entire Study Area.

Culture History Overview

The Study Area lies on the border between the Uinta Mountains, an east-west trending, 150-mile-long mountain range in northeastern Utah and the distinctly bowl-shaped region known as the Uinta Basin. Both the Uinta Mountains and Uinta Basin are sections of what geologist William Lee Stokes refers to as the Colorado Plateau physiographic province (1986). The general culture history of the Study Area described below is based on the broader cultural chronological sequence of the Uinta Basin.

Archaeological evidence of human occupation in the Uinta Basin extends as far back as about 11,000 years ago, the beginning of what is generally referred to as the PaleoIndian Period (ca 13,000 BP–6,000 BC). The PaleoIndian Period is characterized by human adaptation to terminal Pleistocene environments and the exploitation of various extinct and modern megafauna (Lower-Eskelson 2007). A deficiency in evidence of plant procurement as well as repeated or longer-term occupation suggests that PaleoIndian populations in the Uinta Basin were highly mobile. Although distinctive artifacts typically associated with the hunting of Pleistocene megafauna have been discovered in the Uinta Basin, there remains a lack of stratified sites exhibiting evidence of human occupation prior to about 6,000 BC. PaleoIndian projectile points from the Uinta Basin (i.e., Clovis, Folsom, Goshen, Agate Basin, Hell Gap, Eden-Scottsbluff, and Alberta-Cody), however, are identical to those from the northwestern plains region of the North

America, which have been recovered in chronometrically dated contexts from this period (Spangler 1995). As a result, even though a detailed account of the nature and extent of human occupation in the Uinta Basin during the PaleoIndian Period remains difficult without sufficient site data, the existence of these projectile points implies that the area was inhabited during the PaleoIndian Period.

The next period in the cultural chronological sequence of the Uinta Basin is known as the Early Archaic Period (ca 6,000 BC–3,000 BC). According to Jennings (1978), a shift to a "mobile hunting-collecting way of life" marks the transition from the PaleoIndian to the Early Archaic Period. In addition, new projectile point types also appear during the Early Archaic Period (i.e., Pinto Series, Humboldt, Elko Series, Northern Side-Notched, Hawken Side-Notched, Sudden Side-Notched, and Rocker Base Side-Notched). This change in projectile point production is seen by some as a reflection of the development of the atlatl for the pursuit of smaller, faster game (Holmer 1986). The discovery of projectile points characteristic of the Early Archaic Period in association with temporary camps and lithic scatters suggests human occupations in the region were sporadic. The Early Archaic inhabitants of the Uinta Basin likely practiced nomadic exploitation of local resources in small groups based on seasonal and locational availability (Spangler 1995). Although cultural remains from the PaleoIndian and Early Archaic Periods remain sparse in the Uinta Basin, dozens of archaeological sites representing the next cultural chronological sequence period, the Middle Archaic, exist in the region.

The shift from the Early Archaic to the Middle Archaic Period in the Uinta Basin is demonstrated by an increase in human populations and the appearance of the distinctive McKean Complex projectile points (Spangler 1995). The Middle Archaic Period (ca 3,000 BC–500 BC) sites illustrate cultural influences from the plains region of North America. The continued production and use of Elko Series projectile points, however, indicates cultural influences from the Great Basin and/or northern Colorado Plateau as well (Spangler 1995). Most researchers agree that Middle Archaic populations in the Uinta Basin were mobile foragers whose subsistence patterns included predominantly hunting, supplemented with gathering. This theory is supported by the fact that no permanent settlements have been discovered in the region, although a few semi-permanent base camps have been noted. Middle Archaic Period subsistence activities were likely conducted within the context of small bands. These small bands hunted game and procured locally available floral resources from one of these semi-permanent base camps (Spangler 1995). As the Middle Archaic Period transitioned into the Late Archaic Period, the subsistence strategies and settlement patterns that are generally associated with the Early and Middle Archaic Periods began to change.

As the Late Archaic Period (ca 500 BC–AD 550) began, McKean Complex projectile points vanish. Semi-subterranean residential structures began to appear regularly at base camps beginning around AD 1. At the same time, the introduction of maize horticulture, the bow and arrow, and Rose Spring arrow points suggest that, in addition to the traditional Archaic mobile hunter-gatherer subsistence strategies prevalent during the Early and Middle Archaic Periods, a new strategy incorporating horticulture and a more sedentary lifestyle emerged (Spangler 1995). The Archaic Periods were followed by a series of Formative Stage cultures, groups that were even more dependent on foods produced through horticulture (Jennings 1978).

The Formative Stage (ca AD 550–AD 1300) and the "Fremont culture," a term generally associated with the people of the Formative Stage, remains the most thoroughly investigated period of the cultural chronological sequence of the Uinta Basin. Even with the breadth of research associated with the Formative Stage, important questions regarding temporal ranges, geographic distribution, settlement patterns, and subsistence strategies, to name a few, remain unanswered. Some broad distinctions, however, can be made between the Late Archaic Period and the Formative Stage. In addition to a greater, perhaps dominant, importance placed on horticulture as a subsistence strategy, one such distinction involves an increase in the complexity of residential architecture. Architectural advancements include prepared clay floors, adobe-rimmed firepits, and coursed-masonry architecture (Spangler 1995). An increase in the size of food-storage structures, typically associated with food surplus, also demarcates the Formative Stage. The manifestation of small villages and farmsteads, elaborate rock art and figurines, and ceramics suggest an "enhanced social complexity" during this period (Spangler 1995).

In the Uinta Basin, specifically, the Fremont culture is characterized by "shallow, saucer-shaped pithouses or surface structures with randomly placed potholes and off-center firepits, some of which were adobe-rimmed" (Spangler 1995). Surface storage structures were nearly absent and Uinta Gray ceramics dominated all other types. Uinta Gray ceramics were constructed using a coil-and-scrape method are almost exclusively tempered with crushed calcite (Madsen 1977). Unlike the Fremont cultures in other portions of Utah, the Uinta Basin Fremont did not use the Utah-type metate nor did they produce unfired clay figurines. Gilsonite, a natural asphalt found only in the Uinta Basin, was used to repair broken ceramics (Marwitt 1970). The use of gilsonite marks another distinguishing feature of the Uinta Fremont. Projectile points used in the Uinta Basin during the Formative Stage include Rose Springs, Cottonwood triangular, Eastgate expanding-stem, and Elko corner-notched varieties. By AD 1300, evidence of the Fremont culture in the Uinta Basin disappears, giving way to what is commonly termed the Protohistoric Period (AD 1300–1650).

The reasons for the disappearance of Fremont culture sites in the Uinta Basin remain unclear. Some researchers postulate that climatic changes or the pressures of other cultural groups entering the region caused the Fremont culture abandonment (Jennings 1978). Others believe that the Fremont culture didn't actually abandon the Uinta Basin, but rather, that Fremont culture peoples coexisted with the new groups, such as the ancestral Ute (Uinta-ats) and Shoshone. A sheer lack of archaeological data associated with the Protohistoric Period in the Uinta Basin leaves many questions about the cultural continuity, or lack thereof, unanswered. Whatever the reasons, evidence points to a disappearance of horticulture and subsequent dominance of a more hunter-gatherer-oriented subsistence strategy, traditionally referred to as Shoshonean or Numic. Although earlier Formative Stage Fremont culture remains turn up at some archaeological sites dating to the Protohistoric Period, the Protohistoric Period material culture in the Uinta Basin, unlike earlier Fremont sites, includes Desert side-notched projectile points, Shoshonean ceramics, and occasionally, basketry and Shoshonean knives. Decidedly different rock art styles from those of the Formative Period also appear (Spangler 1995). One distinct aspect of Protohistoric Period rock art in the Uinta Basin is the representation of the horse. The introduction of the horse into the Uinta Basin cultures occurred sometime during the late stages of the Protohistoric Period. Contact between Euro-American peoples and Native American groups to the south eventually led to the animals' dissemination into the basin. The introduction,

and subsequent dependency, of the horse in Protohistoric Period cultures marks the shift to the next period in the cultural chronological sequence of the Uinta Basin.

The Historic Ute Period (ca AD 1650–present) follows the Protohistoric Period. According to Spangler (1995), the Historic Ute Period actually consists of three distinct phases, the Antero Phase (ca AD 1650–1861), the Early Reservation Phase (ca AD 1861–1881), and the Late Reservation Phase (ca AD 1881–present). The Antero Phase is generally classified as the time period when those Protohistoric Period groups living in the Uinta Basin first adopted a lifestyle highly dependent on the horse but prior to their confinement to reservations. Subsistence strategies during this time continued to include both hunting and gathering, although the introduction of the horse dramatically changed the dynamics of these strategies. Groups in the Uinta Basin became exceptionally mobile, exploiting floral and faunal resources all over Utah. In addition to buffalo, historical accounts reference seasonal hunting forays into the Uinta Basin for fish, fowl, and lacustrine plant resources (Spangler 1995). Small bands of 10 to 40 individuals, and occasionally larger groups numbering in the hundreds, travelled throughout the region hunting and gathering.

Ute peoples during this period experienced rapid social, political, and economic change (Spangler 1995). The aforementioned use of horses contributed greatly to the changes, as did the arrival of Euro-American explorers into the Uinta Basin. According to historical descriptions, the first Euro-American explorers to enter the Uinta Basin were members of the small Spanish expedition from Santa Fe, New Mexico, headed by Fray Silvestre Velez de Escalante and Fray Francisco Atanasio Dominguez. The Dominguez-Escalante expedition traveled through the Uinta Basin in 1776 searching for a land route to Monterey, California. These explorers opened the Uinta Basin to Spanish, and later Mexican, American, and British fur-trappers and traders.

With the arrival of Euro-American explorers came trade with the Ute groups in the Uinta Basin. Euro-American items such as weaponry, blankets, metal utensils, and glass ornaments were often traded for animal furs during the early nineteenth century. This eventually led the Ute peoples to become increasingly dependent upon these trade goods. Euro-American trade with these Native American groups, along with intermarriage between Euro-Americans and the Native American groups in the Uinta Basin, “irreversibly altered traditional lifeways” (Spangler 1995). The practice of slave trading and exacting tribute from traders also became prevalent by the 1830s. Increased territoriality and warfare were among the results of such practices.

Several important U.S. government expeditions (official and unofficial) also visited the Uinta Basin during the Antero Phase, including the Captain John C. Fremont expedition in the 1840s. The government declared that the intent of these expeditions involved surveying and mapping undiscovered western territories (Spangler 1995). The Uinta Basin drew little interest during this initial exploration. Many saw the climate and environment as unsuitable for settlement. In 1852 Mormon leader Brigham Young ordered small survey parties to explore the Uinta Basin to determine the suitability for locating settlements there. Upon their return the survey parties reported that the Uinta Basin was one vast contiguity of waste and measurably valueless (Fuller 1994). As a result Young decided not to send Mormon settlers to the region. Mormon leaders did, however, decide that the Uinta Basin was a suitable region for the relocation of Ute peoples. Near the end of the Antero Phase, the social and political attitudes of the Mormon leaders toward

the Native American groups led to their dispossession from their traditional territories around Utah Lake.

Violence resulting from the dispossession and relocation of the Ute peoples resulted in the creation of the first reservation in the Uinta Basin in 1861. The creation of the Uintah Reservation marks the beginning of the Early Reservation Phase of the Historic Ute Period. According to Spangler (1995), this phase is defined as the period when Ute peoples throughout Utah were systematically removed from their traditional territories and forced to live in the Uintah Reservation. The reservation originally included western Uintah County, most of modern-day Duchesne County, and the Strawberry Valley (Spangler 1995). Ute peoples participated in government-sponsored agricultural projects, and relations on the reservation were relatively peaceful. The arrival of government surveying parties in 1876 and the subsequent arrival of homesteaders to the reservation in the late 1870s, however, led the Ute peoples to suspect a government plan to open the reservation to white settlers. As the Early Reservation Phase came to an end, the Ute culture was experiencing "tremendous social upheaval precipitated by at least three decades of intensive association with Euro-Americans" (Spangler 1995). The Ute peoples of western Colorado were facing similar issues.

By 1881 violence over the dispossession of traditional territories in the region culminated in the forcible relocation of Ute peoples from western Colorado to a new temporary reservation, the Ouray Reservation, in the Uinta Basin. According to Spangler (1995), this marks the beginning of the Late Reservation Phase of the Historic Ute Period. The forced settlement of so many different Ute bands in the Uinta Basin led to serious friction. Increased Mormon settlement in the Uinta Basin continued to promote Ute fears of white settler infiltration of reservation lands. Ute lifeways now included cattle ranching, cultivation of crops, and dairy farming. The Late Reservation Phase was also marked by a decisive plan of enculturation by the U.S. government. Through the use of government-assigned reservation superintendents, Ute peoples were to be made into "carbon-copy white men" (Spangler 1995). The discovery of gilsonite and valuable hydrocarbon resources in the Uinta Basin in the late 1880s led to the withdrawal of 7,000 acres from the Uinta Reservation (Fuller 1994). The subsequent establishment of U.S. military forts and the official opening of the Uintah and Ouray Reservations to white settlement in 1887, with the Dawes Severalty Act, marked the final dispossession of the Ute peoples (Spangler 1995).

With an influx of white settlers (mostly farmers and ranchers) entering the Uinta Basin, complex irrigation systems and additional rangelands were needed. This led to the dispossession of Ute peoples from the reservation lands originally set aside for their exclusive use following their previous dispossession from traditional territories. Initially, livestock represented the main industry of white settlers in the Uinta Basin, likely due to the availability of grass and water in the region. Eventually, the sheep industry boomed, contributing to a decline in the cattle industry (Lower-Eskelson 2007). Commercial oil production began in 1948 but was not fully exploited until the 1970s with increases in the price of crude oil. Consequently, private and public ventures began work to develop an inexpensive process for separating oil from oil shale and tar sands, both prevalent in the Uinta Basin.

Around 1980, international oil prices began to fall and the economic health of the Uinta Basin, based heavily on the oil industry, fell sharply. The development of water resources for other

parts of Utah, especially the Wasatch Front, led to another temporary economic stimulus. Today, little evidence of the aforementioned economic flourishes remains (Fuller 1994). What does remain is a fairly small population base of both white farmers and ranchers as wells as Ute peoples on the Uintah and Ouray Reservation, who are supported by a fragile economy based on petroleum and mining. According to Burton (1996), an estimated 30 percent of jobs in the Uinta Basin were related to mining and petroleum.

Existing Cultural Resource Information

A Class I cultural resource literature search was conducted by Reclamation at the Division of State History, Utah State Historic Preservation Office on October 19, 2011, to identify any previously conducted cultural resource inventories and recorded cultural resource sites within the Study Area. Files from Reclamation and General Land Office maps were also examined. As a result of the literature search, 21 previously conducted cultural resource inventories and 54 previously recorded cultural resource sites were identified within the Study Area.

Of the previously recorded sites, 10 are historic in nature. Of these sites, eight have been previously determined ineligible for the NRHP, while the other two have been previously determined eligible. Forty-three of the previously recorded sites are prehistoric in nature. Twenty-two of the prehistoric sites have been previously determined eligible for the NRHP, while 18 of the sites have been determined ineligible. The eligibility of the other three prehistoric sites remains undetermined. One site has both prehistoric and historic components. The site has been previously determined ineligible for the NRHP.

The Steinaker Reservoir RMP establishes only a conceptual framework for managing cultural resources at Steinaker Reservoir and does not implement any specific projects. As such, the scope of this RMP focuses on a broad scale of cultural resource impacts associated with the array of alternatives and their broad levels of proposed development within the Study Area. Site-specific cultural resource impacts will be addressed as part of separate NEPA and Section 106 compliance processes prior to the implementation of individual projects proposed as part of the selected RMP; those site-specific impacts are not addressed in this RMP.

Paleontological Resources

Paleontological resources are defined as any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth. Any materials associated with an archaeological resource (as defined in section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb(1) and any cultural item (as defined in Section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001) are not considered paleontological resources. Section 6302 of the Paleontological Resources Preservation Act (PRPA) of 2009 (Sections 6301-6312 of the Omnibus Land Management Act of 2009 [Public Law 111-11 123 Stat. 991-1456]) requires the U.S. Secretary of the Interior to manage and protect paleontological resources on federal land using scientific principles and expertise. The affected environment for paleontological resources is represented by the same proposed action Study Area APE that corresponds to cultural resources.

Paleontological History

The following is a very brief overview of the paleontological history of the Study Area. Due to the extensive nature of the geologic record in the Study Area, a more detailed history of paleontological history has been omitted. A comprehensive paleontological history is available in various paleontological publications associated both with the paleontology specifically at Steinaker Reservoir (Santucci and Zack 2001) as well as nearby (Sloan et al. 1980).

The rock formations exposed within the Study Area are of sedimentary origin. These sediments were originally deposited under a variety of environmental conditions, mainly marine in nature. At the end of the Cretaceous period, approximately 65 million years ago, geologic processes created an uplift, resulting in the formation of the Uinta Mountains. This process led to a transition from marine sediments to what we see in the Study Area today, mainly a sequence of sandstones and shales with minor limestones (Sloan et al. 1980). Sedimentary exposures in the Study Area span the Middle Jurassic Period through the Late Cretaceous Period of the Mesozoic era (dating from about 176 million to 65 million years ago). In addition, Quaternary alluvium from the Cenozoic era (dating from about 65 million years ago to present) also appear. Various paleontological resource types are known to exist within the same formations found in the Study Area. These include, but are not limited to, petrified or carbonized wood, marine vertebrates and invertebrates, and ichnofossils (Santucci and Zack 2001).

Existing Paleontological Resource Information

A paleontological resource file search was conducted by the Utah Geological Survey, at the request of Reclamation, on January 23, 2012, to identify any previously conducted paleontological resource surveys and recorded paleontological resource localities within the Study Area. Files at Reclamation were also examined. One previously conducted paleontological resource survey and 13 previously recorded paleontological resource localities were identified within the Study Area during the file search.

Paleontological resources localities within the Study Area include fossil plant remains as well as invertebrates such as brachiopods, bivalves, and belemnites. Several vertebrate fossils have also been recovered from the Study Area. These include not only fish scales and a partial fish skeleton, but also pliosaur and plesiosaur remains. Ichnofossils, such as a possible tracksite, also appear in the Study Area (Santucci and Zack 2001).

The Steinaker Reservoir RMP will establish only a conceptual framework for managing paleontological resources at Steinaker Reservoir and does not implement any specific projects. As such, the scope of this RMP focuses on a broad scale of paleontological resource impacts associated with the array of alternatives and their broad levels of proposed development within the Study Area. Site-specific paleontological resource impacts will be addressed as part of separate NEPA and PRPA compliance processes prior to the implementation of individual projects proposed as part of the selected RMP; those site-specific impacts are not addressed in this RMP.

Indian Trust Assets (ITAs)

Indian Trust Assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Indian Trust Assets may include lands, minerals, hunting and fishing rights, traditional gathering grounds, and water rights. Impacts to ITAs are evaluated by assessing how

the action affects the use and quality of ITAs. Any action that adversely affects the use, value, quality or enjoyment of an ITA is considered to have an adverse impact to the resources.

The DOI's policy is to recognize and fulfill its legal obligations to identify, protect and conserve the trust resources of federally recognized Indian tribes and tribal members, and to consult with tribes on a government-to-government basis whenever plans or actions affect tribal trust resources, trust assets, or tribal safety (please refer to Departmental manual, 512 DM 2). Under this policy, as well as Reclamation's ITA policy, Reclamation is committed to carrying out its activities in a manner that avoids adverse impacts to ITAs when possible and mitigate or compensate for such impacts when avoidance is not possible. All impacts to ITAs, even those considered non-significant, must be discussed in the trust analyses in NEPA compliance documents and appropriate compensation or mitigation must be implemented.

Reclamation contacted the Bureau of Indian Affairs (BIA) Uintah and Ouray Agency in Fort Duchesne, Utah to identify any potential impacts to ITAs within the Study Area. According to the BIA, the only known ITA involves a water right in the Green River held in trust for the Ute Indian Tribe of the Uintah and Ouray Reservation.

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 an October 2011 site visit by the Steinaker Reservoir RMP/EA Interdisciplinary Project Team (Project Team). No past locatable mineral development has occurred within the Study Area. Most of the Study Area consists of steep slopes, open water, and recreational or administrative areas. Therefore, locatable mineral resource exploration or development in the Study Area is unlikely. However, the potential for

hydrocarbon resources does exist within the Study Area. Several gas fields are located in the vicinity of Steinaker Reservoir. As with locatable mineral resources, the exploration or development of leasable minerals is unlikely because of the limited surface area available. There are also saleable mineral resources (e.g., sand, gravel, and cobbles) in the Study Area, some of which have previously been extracted, in the southeast corner of the Study Area. This area is also frequently used by off-highway vehicles.

Waste Water, Solid Waste, and Hazardous Materials

Wastewater generated by State Park restrooms and office facilities is treated using septic tanks and absorption fields within the Study Area. There are a total of five septic tanks and drain fields. There are separate septic tanks for each of the following: the campground, main office, shop, day-use area and fish-cleaning station, camp trailer area in the maintenance yard, and dump station (M. Murray 2012b). The Eagle Ridge group area is served by a vault toilet. The UWCD office and shops in the Reclamation administration area are served by a septic system.

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

Hazardous materials are not used in the Study Area. No evidence of spills, contamination problems, or hazardous materials were identified within the Study Area. There are two aboveground fuel tanks near the State Parks maintenance shop, but these are no longer used and are expected to be sold as surplus equipment. The UWCD shop has a 1,000-gallon aboveground gasoline storage tank and a 500-gallon aboveground diesel fuel storage tank. Both tanks have secondary containment (J. Hunting 2012, pers. comm.).

Land Management

This section describes current land management conditions that affect Study Area resource management, including ownership and transportation characteristics as well as existing legal, institutional, and land-use constraints (e.g., existing contracts between Reclamation and other entities). Legal constraints include legislative acts, compacts, and agreements that govern the diversion and use of water from Ashley Creek and, specifically, water stored in Steinaker Reservoir. Institutional constraints include water delivery contracts or water rights and Reclamation's administrative procedures that govern the management and use of Study Area facilities. Land-use constraints include existing Memorandums of Understanding, contracts, lease agreements, permits, easements, and rights-of-way (ROWs) that govern the management and use of Study Area resources.

Land Ownership and Management

Figures 1-1 and 1-2 illustrate land ownership characteristics surrounding the Study Area. Lands surrounding Steinaker Reservoir are either private lands or BLM-administered federal lands, as illustrated on Figure 1-2.

Transportation and Access

Roads entering the Study Area are illustrated on the Study Area map (Figure 1-2). Steinaker Reservoir is accessed by US-191. The highway enters Reclamation lands approximately 2 miles north of the Vernal city limits (Figure 1-2). There are several informal turn-outs along the west

side of the highway, where there are reservoir overlooks. These turn-outs are also used by the public to park and access the reservoir for fishing. On busy days, additional parking in non-designated areas occurs along both sides of US-191.

State Route 301 provides access to the west side of the reservoir, where the existing developed State Park facilities are located. State Route 301 is accessed from US-191 near the northern boundary of Reclamation lands, approximately 5.6 miles from downtown Vernal. State Route 301 terminates at the boat ramp in the State Park, approximately 1.7 miles from the highway turnoff. There is also private road access off SR-301 approximately 0.6 miles from the intersection. State Route 301 is under the jurisdiction of UDOT (Utah Code 72-3-206).

A city road, 500 East Street, connects with US-191 within Reclamation lands in the southeast corner of Reclamation property (i.e., the Honda Hills Area). Little Valley Road is a Uintah County unimproved (Class D) road that also enters Reclamation land in this vicinity from the north. Reclamation lands at this location are informally used as a parking and staging area for OHV riding. Little Valley Road provides access to popular OHV riding trails on BLM lands and also crosses through a portion of Reclamation lands at Red Fleet Reservoir (Figure 1-1).

Legal Constraints

Legal constraints include legislative acts, compacts, and agreements that govern the diversion and use of water from Ashley Creek and, specifically, water stored in Steinaker Reservoir.

Reclamation Act of 1902

In the Reclamation Act of June 17, 1902, the U.S. Congress authorized construction of irrigation projects in arid and semiarid lands that now comprise the western United States (43 U.S.C. § 301). General authority over these projects was assigned to the U.S. Secretary of the Interior; project administration and oversight responsibilities were assigned to 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)

The Colorado River Storage Project Act of 1956 as amended (1962, 1964, 1968, and 1980) provides for the following: (1) the comprehensive development of the water resources of the Upper Colorado River Basin to regulate the flow of the Colorado River; (2) 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 (3) the reclamation of arid and semiarid land, control of floods, and 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, power plants, transmission facilities, and appurtenant works. The Central Utah Project (CUP) is a participating project of the Colorado River Storage Project and Steinaker Dam is a component of the Vernal Unit of the CUP. Steinaker Reservoir is an off-channel reservoir. Other components of the

Vernal Unit are the Fort Thornburgh Diversion Dam and Steinaker Feeder Canal, which supply water to Steinaker Reservoir from the Ashley Creek drainage.

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

Institutional constraints for resource planning include existing water delivery contracts, water rights, and the Reclamation administrative procedures that govern the management and use of Study Area facilities.

Reclamation's Emergency Management Policies and Directives

Reclamation's Emergency Management Policies and Directives provide for safety and protection of 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 written for each dam to include emergency management initiating conditions, response levels, and expected actions. The Emergency Action Plan for Steinaker Reservoir was completed and signed April 12, 2012.

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 Steinaker Reservoir and Dam was signed into effect on March 25, 2004.

Water Operations

Steinaker Reservoir has a total capacity of 38,173 acre-feet, and a surface area of 820 acres. Steinaker Dam and Reservoir were turned over to the UWCD for operation and maintenance on January 1, 1967. Management of all water operations associated with Steinaker Reservoir are the responsibility of the UWCD.

Land Use Constraints

Land use constraints for resource planning include 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. These include existing Memorandums of

Understanding, contracts, lease agreements, permits, easements, and ROWs that govern the management and use of Study Area resources. The following is a list of contracts and agreements on file with Reclamation.

Reclamation Contracts

- Memorandum of Agreement 01-LM-40-02110 between Reclamation and State Parks and Recreation for Management of Recreation Facilities at Steinaker Reservoir.

- Repayment Contract 14-06-400-778 between the United States and UWCD, July 14, 1958.

    - Amendment to Contract 14-06-400-778, November 26, 1975.

Concession Agreements

- None.

Licenses, Leases, and Permits

- None.

Chapter 4: Environmental Consequences

This chapter describes the anticipated impacts of the Steinaker Reservoir Resource Management Plan (RMP) alternatives on resource areas described in Chapter 3: partnerships, water resources, recreation and visual resources, natural and cultural resources, and land management. Current conditions for these resources on U.S. Bureau of Reclamation (Reclamation) administered federal lands at the Steinaker Reservoir RMP Study Area (Study Area) were described in Chapter 3 and establish the baseline for the impact analysis. To the extent possible, the analysis provides quantitative impact estimates from the various alternatives in order to facilitate comparisons among alternatives during the decision-making process.

Issues Considered but Eliminated from Detailed Analysis

Some resource issues were beyond the scope of the analysis or were determined to not be relevant issues, and were therefore not evaluated in detail. Specifically:

- water operations are governed by existing legal commitments and water rights constraints and are not within the scope of decision to be made based on this Environmental Assessment; and

- the assessment of existing conditions (Chapter 3) determined that there were no Environmental Justice communities in the Study Area and therefore no disproportionate effects to minority or low-income populations would result from implementation of any of the RMP alternatives.

Partnerships

This section provides an assessment of how each alternative would impact resource partnerships between Reclamation and other stakeholder entities. Sources consulted in developing this information were personal correspondence with Reclamation team members, Utah Division of State Parks and Recreation (State Parks) officials, and partner agency representatives listed in Chapter 5.

Issue

How would implementation of the RMP affect resource management partnerships for the Study Area?

Impact Indicators

The following impact indicator was used to determine if implementation of the RMP would affect resource management partnerships within the Study Area:

- a change in the number and type of resource management partnerships.

Analysis Methods

Partnerships needed to accomplish RMP goals related to each alternative were assessed based on agency experience associated with similar past activities at the Study Area and at other comparable Reclamation facilities.

Summary of Impacts

Under Alternative A, current resource management partnerships would continue in much the same way as they currently exist. Under Alternative B or C, resource management presence would increase within the Study Area with the likely opportunity for additional partnerships (Table 4-1).

Table 4-1. Summary of Partnership Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the number and type of resource management partnerships	No change to the number and type of partnerships. Existing partnerships include: • U.S. Bureau of Land Management • U.S. Fish and Wildlife Service • Utah Division of State Parks and Recreation • Uintah Water Conservancy District • Utah Division of Wildlife Resources • Utah Department of Environmental Quality • Utah Department of Transportation • Uintah County	Current partners listed for Alternative A would remain with increased responsibilities related to a conservation emphasis. Potentially new resource management partners include local conservation organizations and adjacent landowners.	Same as Alternative B, plus additional responsibilities and/or partnerships related to a recreation development emphasis. Potentially new resource management partners include those listed for Alternative B and also local recreation interest groups.

Alternative A: No Action

Because management goals would not change substantially from existing conditions, it is likely that the same partnerships currently in place with federal, state, and local governments would continue in the same manner as described in Chapter 3. Therefore, Alternative A partnerships would have little or no impact on resource management within the Study Area. While some erosion control measures would be implemented at existing recreational sites, impacts to vegetation, wildlife, and water quality at the Study Area would likely continue. No new interpretation or public education facilities for cultural or natural resources within the Study Area would be constructed.

As the sole recreation manager for Steinaker Reservoir, State Parks would continue to manage recreational activities within the Study Area. Management of fish and wildlife resources within the Study Area by the Utah Division of Wildlife Resources (UDWR) and the U.S. Fish and Wildlife Service (USFWS) would continue with little or no changes under Alternative A. All law enforcement and fire suppression activities would continue to be provided primarily by State Parks, UDWR, Uintah County, and the Uintah Basin Interagency Fire Center under Alternative A. State and county road maintenance activities would not change under Alternative A and would continue under the direction of the Utah Department of Transportation (UDOT) and Uintah County. Water quality oversight would still be provided by the Utah Department of Environmental Quality. Alternative A would not impact existing agreements between Reclamation and the Bureau of Land Management (BLM) regarding minerals leasing and development within the Study Area.

Alternative B: Resource Conservation Emphasis

Because of its emphasis on conservation and enhancement of Study Area natural resources, Alternative B would provide opportunities for additional resource management partnerships. Additional cooperation would be needed with adjacent landowners (government and private) to achieve optimal protection of resources. Alternative B would increase some management roles for current partnerships as described below for cumulative impacts.

Recreation management within the Study Area would continue to be provided by State Parks under Alternative B. The level of management is expected to increase for some management areas and decrease for others. New and improved types of visitor experiences would be created by designating Natural Areas around the reservoir, restricting access to sensitive areas, and providing increased trail connectivity between developed facilities. Enhanced public information and interpretation pertaining to Study Area natural, recreational, and cultural resources would also enhance visitor experiences. Such facilities would likely help reduce impacts to resources by increasing visitor education and ultimately lessening the management burden on partnering agencies.

Management of fish and wildlife resources would continue under the jurisdiction of the UDWR and USFWS. However, under Alternative B more proactive management of these resources would likely occur. Items include providing additional angling opportunities, improving wildlife habitat with the implementation of erosion control and revegetation measures using native plant species, and managing Natural Areas for conserving important wildlife habitat. Additional partnerships would be possible with local conservation organizations dedicated to improving these resources and associated opportunities.

Water rights and water operations are outside of the scope of the Steinaker Reservoir RMP; therefore, partnering relationships related to these resources would not be impacted by this alternative. A partnership agreement for minerals leasing and development currently exists with the BLM and would not change under Alternative B. Law enforcement and fire suppression activities and partnerships are not likely to be impacted under Alternative B. Road maintenance activities on Study Area and surrounding roads are currently under the direction of UDOT and Uintah County. This would not change under Alternative B.

Alternative C: Recreation Development Emphasis

Recreation management is expected to increase under Alternative C because of an increase in developed recreation facilities. In addition to enhanced trail connectivity, fishing opportunities, and interpretive programs described for Alternative B, Alternative C would expand existing Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. In site design, rental cabins and/or yurts may be added. Parking for day use would be expanded and motorized boating would likely reach the maximum capacity of 70 boats during the busiest days of the year. Off-highway vehicle (OHV) trailheads would be added in the Entrance and Honda Hills areas. Collectively, these additions would likely increase annual State Park visitation, particularly during the shoulder seasons of the spring and fall. Reclamation and State Parks would likely pursue expanded partnerships with Uintah County, BLM, and private recreation user groups to help manage use and facility maintenance. Private concessions may also be pursued as an option.

Partnerships for water rights and water operations, minerals development, fish and wildlife management, law enforcement and fire suppression, highway maintenance, and water quality would be the same under Alternative C as described for Alternative B. As with Alternative B, additional partnerships would be facilitated with adjacent landowners, USFWS, and UDWR related to protection of Study Area natural resources.

Cumulative Impacts

Past partnerships have helped shape the existing resource conditions and recreational opportunities at the Study Area. An example is development of the Scenic Byway Area trailhead and interpretive boardwalk. Because much of the annual visitation at the Study Area is attributable to local visitors, future visitation rates would most likely be influenced by growth or decline of the Vernal City area population and economy. Recreation user preferences for land- and water-based recreation activities are another outside influence on the Study Area that resource managers would have to address as the need arises.

Regardless of the RMP alternative selected, State Parks would continue to have responsibility to identify and enforce recreation capacities, identify appropriate recreational use areas for various activities, and manage user conflicts. Selecting one of the two action alternatives (i.e., Alternatives B and C) would provide greater specificity and management area direction that would be utilized by Reclamation, State Parks, and other partners in making these management decisions.

Mitigation Measures

No mitigation measures related to partnerships would be required.

Residual Impacts

No residual impacts related to partnerships would occur as a result of selecting any alternative.

Water Resources

Issue

How would implementation of the RMP affect water resources within the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect water quality within the Study Area:

- change in the amount of unimproved roads,
- change in the amount of nonmotorized trails,
- change in the amount of developed recreation areas,
- change in the amount of Natural Areas, and
- change in the number and types of toilet facilities.

Impact indicators were assessed on two scales, for the overall Study Area and for areas within 50 feet of a water body. For the overall Study Area, changes in land use affect stormwater runoff and potential for erosion to occur in a particular area. Areas with more development, particularly areas with impervious surfaces, would generate more stormwater runoff, potentially increasing erosion. Sediment yields increase with greater stormwater and erosion. Changes in land use within 50 feet of a water body are more likely to affect water quality since pollutants are more readily transported or directly discharged into the water body. This buffer represents the area 50 feet from the reservoir full pool elevation or from a tributary channel. It does not include information about riparian vegetation or other characteristics of the area within the 50-foot buffer. Toilet facilities, both septic systems and vault toilets, are indicators of the potential for water quality impacts, specifically in terms of bacteria, pathogens, and other human-health-related water quality concerns, in addition to nutrient loading.

The proposed RMP alternatives would have essentially no impact on reservoir temperature, the parameter for which the reservoir is currently listed as impaired. Temperature is predominantly controlled by the temperature of the water entering the reservoir, the amount of solar radiation, and reservoir depth, none of which are within the scope of the RMP decision.

Analysis Methods

Background information on existing water resource conditions was compiled from a variety of sources, as described in Chapter 3. This information was used in conjunction with the impact indicators to evaluate the impacts of the various alternatives on Study Area water quality. A Geographic Information Systems (GIS) analysis was completed to determine the acreage of land use, length of new trail, and recreational facility development within each management area, as well as within 50 feet of a water body, for the water-resource assessment.

Summary of Impacts

Overall, the three RMP alternatives would be expected to have slightly different impacts on Study Area water-resource conditions. Alternative A would not change water-resource conditions directly; however, lack of an RMP combined with the trend of increasing visitation and water demands would leave Steinaker Reservoir open to increases in erosion and sediment generation near the reservoir, and therefore the potential for decreases in water quality within the reservoir. Improved resource management, reduced disturbances, and implementation of stormwater management facilities associated with the action alternatives would have a beneficial impact on water quality.

Comparisons of the alternatives indicate that Alternative B would benefit the Study Area water quality to the greatest extent because of the reduction in pollutant sources as well as improved resource management. Alternative C would lead to slight improvements in water quality over existing conditions because of improved resource management, but to a lesser extent than Alternative B because of the increased development and ground disturbance associated with Alternative C. Assessments of the impact indicators for water resources are summarized for each alternative in Table 4-2.

Table 4-2. Summary of Water Resource Impacts to Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the amount of unimproved roads due to decommissioning	No change from existing conditions (5 total miles of unimproved roads, including 0.7 mile within 50 feet of the reservoir or a tributary stream).	Decrease of 1.1 miles of unimproved roads, with less than 0.1 mile decrease within 50 feet of a stream or the reservoir.	Decrease of 1.0 mile of unimproved roads, with less than 0.1 mile decrease within 50 feet of the reservoir or tributary stream.
Change in the amount of nonmotorized trails	No change from existing conditions (1.7 miles of nonmotorized trails within the Study Area, including 0.4 mile within 50 feet of the reservoir or tributary stream).	Increase of 2.8 miles of nonmotorized trails within the Study Area, including 1.4 miles within 50 feet of the reservoir or tributary stream.	Same as Alternative B.
Change in the amount of developed recreation areas	No change from existing conditions (26.7 acres of existing developed recreation areas; see Table 2-1).	No change from existing conditions (26.7 acres of existing developed recreation areas; see Table 2-1).	Increase to a total of 53.3 acres of developed recreation areas, including 1.1 new acres within 50 feet of the reservoir or tributary stream.
Change in the amount of Natural Areas	No change from existing conditions (see Table 2-1).	Increase of 776 acres of Natural Area, including 50.6 acres within 50 feet of the reservoir or tributary stream.	Increase of 325 acres of Natural Area, including 23.4 acres within 50 feet of the reservoir or tributary stream.
Change in the number and types of toilet facilities	No change from existing conditions.	Additional use of existing septic systems within the State Park Area with the addition of 6–10 long-term camping sites.	Additional number of vault toilets and additional septic system use within the expanded State Park Area where developed recreation areas would be expanded and 6–10 long-term camping sites would be added. Vault toilets would be added at OHV trailheads in the Entrance and Honda Hills areas.

Alternative A: No Action

Current trends in water-resource conditions would continue under Alternative A. No changes would occur in water management and operation of Steinaker Reservoir, Steinaker Feeder Canal, or Steinaker Service Canal, and the existing impacts of these structures on Ashley Creek would continue. The existing rills and gully erosion observed around portions of the developed recreation areas in the State Park Area would continue to contribute nonpoint source sediment pollution to the reservoir. However, improved stormwater control design elements would be

incorporated into any redesign or rehabilitation projects completed at existing recreational sites as part of ongoing management and maintenance efforts.

Under Alternative A, no specific plans would be in place to further study, manage, or address any of the existing potential pollution sources. Water quality would potentially decline, assuming the trend of increasing visitation continues (i.e., the number of people camping, boating, and swimming increases). The types of potential pollutant sources that currently exist would not change, but the amount of pollutants would increase with increased human activity. Pollutants include oil and gas and metals from vehicles such as cars, trucks, all-terrain vehicles, and boats. Garbage and human waste also contribute to water quality issues, in particular bacteria, pathogens, and nutrients. Increases in nutrients would encourage more algal blooms and subsequently reduce dissolved oxygen concentrations. Decomposing organic material such as food waste also contributes to lower dissolved oxygen since it increases biological oxygen demand (BOD). Bacteria and pathogen pollution are a particular concern along the Scenic Byway Area that already receives heavy use but lacks sanitary facilities. No new toilet facilities would be added in the Study Area under Alternative A; however, existing facilities could be redesigned or rehabilitated as needed. The existing septic systems in the State Park Area would continue to function in the same manner as they do currently.

Increased visitation would likely increase the amount of user-created trails and foot traffic near the reservoir shoreline, increasing soil disturbance and stormwater runoff potential to some extent. Sediment generated from stormwater would increase phosphorus loads in the reservoir because phosphorus binds to sediment.

Alternative B: Resource Conservation Emphasis

Change in the Amount of Unimproved Roads

Alternative B includes decommissioning of 1.1 miles of unimproved roads. All of the existing unimproved roads in the Inflow Area would be decommissioned. A boundary fence has already been installed to prevent vehicle entry directly into this area. While only a small portion of the decommissioning would occur within 50 feet of a stream or the reservoir, this action would help to reduce erosion and it would help prevent proliferation of user-created unimproved roads in this resource-sensitive portion of the Study Area. Several redundant roads within the Entrance Area would also be decommissioned under Alternative B. This decommissioning would not occur close to streams or reservoirs, but nevertheless would improve watershed vegetation cover and reduce soil disturbance.

Change in the Amount of Nonmotorized Trails

Alternative B would involve the creation of an additional 2.8 miles of new nonmotorized trails in various areas around the reservoir. About 1.4 miles would be within 50 feet of the reservoir or a tributary stream, mostly within the Scenic Byway Area. Where new trails are installed in currently undisturbed, well-vegetated areas, they can reduce infiltration and increase surface runoff during rain and snowmelt events. These changes in runoff conditions would lead to increased erosion and sediment loads, particularly when trails are located close to the reservoir or tributary streams. Other impacts from trails close to water bodies include human-related pollution such as human waste and garbage. These pollutants would potentially increase nutrient

loads in the streams or reservoir, create additional BOD from decomposition, and create dissolved oxygen issues.

In the State Park Area, about half of the proposed new trail (about 0.15 mile) would be within 50 feet of the reservoir. The trail would also cross two small tributary channels. Where practical in site-specific design, care would be taken to locate the trail outside of the riparian and marsh vegetation present between the full pool and low reservoir elevations; this existing vegetation would provide a buffer to help mitigate any runoff impacts from the proposed trail. The trails in the State Park Area would likely have heavy use during times of the year when the most visitors are present and at those times would be a potential source of trash and sediment pollution to the nearby reservoir.

About 0.15 mile of the proposed new trail in the Entrance Area would lie within 50 feet of the reservoir full pool level. However, the trail would be located in a sparsely vegetated greasewood (*Sarcobatus vermiculatus*) flat vegetation community, where a buffer of riparian and emergent marsh vegetation would be present between the trail and reservoir. The flat slopes in this area would further minimize the potential for erosion and associated sediment impacts. Water quality would likely be unimpaired, with only trash being the potential issue of concern.

Within the Scenic Byway Area, more than 1 mile of proposed trail would be within 50 feet of the reservoir. Much of the area along the proposed trail alignment has steep slopes (>20%), further increasing the likelihood of erosion during and after trail construction. The potential for impacts is greater along the northern portion of the trail, where the alignment would be located in an area of riparian vegetation, and the southern portion, where steeper slopes are present. In general, the Scenic Byway Area already receives heavy recreational use for fishing, soils are disturbed from angler access, and invasive species vegetation is extensive. If well designed and managed, the proposed new trail would help alleviate these problems by creating a stabilized trail, installing erosion control features, reducing use of informal trails, and dispersing fishing access over a broader area. Invasive species would remain a challenge to manage (see Vegetation section of this chapter).

This increase in trail length near the reservoir has the potential to decrease water quality because of increased human access to the water, increases in littering, and increases in stormwater runoff and sediment from the trail. In areas with steep slopes, stormwater is likely to discharge directly into the reservoir and carry more sediment (particularly if the soils are easily eroded). Given the length of the trail adjacent to the reservoir, there is potential for the trail to be a source of sediment and associated nutrient inputs to the reservoir if soil erosion and stormwater runoff are not properly managed.

Increases in nutrients would increase the likelihood of algal blooms and associated dissolved oxygen problems, particularly in shallower areas along the reservoir edge and in the northern areas of the reservoir with poor mixing.

Change in the Amount of Developed Recreation Areas

There would be no change in the amount of developed recreation areas from existing conditions in the Study Area under Alternative B.

Change in the Amount of Natural Area

Under Alternative B, approximately 776 acres would be designated as Natural Area. With this designation, off-trail recreational access, including the Honda Hills Area, would be discouraged and measures such as fencing, signage, regular monitoring, and increased ranger patrols would be implemented as necessary to prevent impacts to natural and cultural resource features and to protect wildlife habitat. More stringent erosion control measures would also be implemented. These changes would result in a slight reduction in the amount of disturbed ground within the Study Area. However, no major erosion problems associated with off-trail dispersed recreation were observed in the Study Area, so any improvements to runoff and erosion conditions would be expected to be minor.

Approximately 50 acres of Study Area lands within 50 feet of a stream or the reservoir would be designated as Natural Area. This change, along with appropriate management and enforcement of these areas, would reduce human use, resulting in a potential reduction in trash, food waste, human waste, and erosion and sedimentation. Such reductions would reduce the nutrient load to the reservoir, effectively reducing potential for algal blooms, eutrophication, and subsequent dissolved oxygen issues. In addition, the vegetation and soils in these areas along the water body would not be trampled, allowing the area to act as a filter for stormwater generated upslope of Natural Areas. In general, areas so managed are highly effective in filtering and retaining pollutants such as sediments, nutrients, and metals often associated with stormwater. These benefits would primarily occur in the Entrance and Inflow areas, since the portions of the Scenic Byway and State Park areas near the shoreline would be expected to continue to receive heavy use.

Change in the Number and Types of Toilet Facilities

Under Alternative B, no additional toilet facilities would be added in the Study Area. As is the case with Alternative A, existing facilities could be redesigned or rehabilitated as needed. The existing septic systems would continue to function in the same manner as they do currently. As with Alternative A, bacteria and pathogen pollution would remain a concern along the Scenic Byway area that currently receives heavy use but lacks sanitary facilities. Development of 6–10 long-term camping sites would add incrementally to use of existing septic systems in the State Park Management Area.

Alternative C: Recreation Development Emphasis

Change in the Amount of Unimproved Roads

Alternative C would include the same road decommissioning as described for Alternative B, except that the 0.1 mile-long spur road to the proposed OHV trailhead in the Entrance Area would remain. Therefore, road decommissioning under Alternative C would also improve water resource and water quality conditions, but to a slightly lesser extent than Alternative B.

Change in the Amount of Nonmotorized Trails

As with Alternative B, Alternative C would involve the creation of an additional 2.8 miles of new nonmotorized trails in various areas around the reservoir. Anticipated water quality impacts would be the same as described above for Alternative B.

Change in the Amount of Developed Recreation Areas

Under Alternative C, developed recreation areas, which include expansions of Developed Overnight and Day Use Group recreation areas, would increase by a total of 26.5 acres. The majority of this new development would occur within the State Park Area, where the existing developed recreation areas would be expanded. Where these expansions include new paved roads and parking areas, they would result in increased amounts of impervious pavement, leading to higher runoff and potential increases in erosion and sediment inputs. Erosion problems associated with runoff from paved surfaces already exist in the campground and day-use parking areas, where soil conditions are very sandy and susceptible to erosion. Therefore, there is a greater potential for water quality impacts under Alternative C. In addition to the expansion of developed recreation facilities within the State Park Area, Alternative C would also allow for development of OHV trailheads and Developed Day Use Recreation Areas at the Honda Hills and Entrance areas. These developments would involve creating designated parking areas, installing trailhead signage, and installing vault toilets. Both of these areas currently receive informal use, and the proposed Alternative C improvements would be expected to help stabilize these areas and protect existing vegetation over existing conditions. Therefore, an overall reduction in the potential for erosion would be expected as compared to Alternative A.

Under Alternative C, developed recreation areas within 50 feet of the reservoir or other water body would increase by approximately 1.1 acres. This increase would occur entirely in the State Park Area. Increases in developed recreational areas have the potential to create an increase in pollutants, particularly if impervious surface area and human use increases. Without proper construction practices and facility design, erosion would also increase, resulting in increased sediment loads to nearby drainages and the reservoir. In addition, recreation users would have access to more areas along the reservoir, making the reservoir more susceptible to impacts from human use such as increased garbage, food waste, and stormwater runoff impacts. These impacts would be mitigated through site designs that include adequate sanitation facilities and animal-proof trash receptacles.

Change in the Amount of Natural Area

Under Alternative C, the Inflow and Scenic Byway areas would be designated as Natural Areas. In these areas, off-trail recreational access would be discouraged and measures such as fencing, signage, and regular monitoring would be implemented to prevent impacts to natural and cultural resource features and to protect wildlife habitat. Efforts to monitor and preclude OHV use would be implemented in Natural Areas along with more stringent erosion control measures. These changes would result in a slight reduction in the amount of disturbed ground within the Study Area. However, existing recreational use levels in the Inflow Area and in the portion of the Scenic Byway Area east of U.S. Highway 191 (US-191) are generally quite low, and no major erosion problems associated with off-trail dispersed recreation were observed in the Study Area. Therefore, any improvements to runoff and erosion conditions would be expected to be minor. Under Alternative C, approximately 22.3 acres of Natural Area would be designated within 50 feet of a tributary stream or the reservoir at the Inflow and Scenic Byway areas. Such designation in the Inflow Area would improve water quality by potentially reducing human access, and therefore reducing the amount of human waste and trash left by users. In addition, the vegetation and soils along the water body would not be trampled, allowing the area to act as a filter for stormwater runoff generated upslope of the reservoir. In general, areas so managed are highly effective in filtering and retaining pollutants such as sediments, nutrients, and metals often

associated with stormwater runoff. These benefits would primarily occur in the Inflow Area, since the portion of the Scenic Byway Area near the shoreline would be expected to continue to receive heavy use.

Change in the Number and Types of Toilet Facilities

Under Alternative C, additional vault toilets would be installed at the expanded, developed recreation areas and new vault toilets would be installed at the proposed OHV trailheads. Since these facilities are some distance from the reservoir, they would have less impact on water quality but are important for human health reasons. Increased human presence at the trailhead locations would likely increase the potential for sediment and trash, but the vault toilets would reduce potential pollution from human waste including bacteria, pathogens, viruses, and nutrients. Additional facility development in the State Park Management Area would increase use of existing septic systems in the State Park Management Area. Any upgrade or expansion of existing septic systems would have minimal impact on reservoir water quality over current conditions since upgrades or expansions would have to meet current health department and state regulations for septic systems. As with Alternatives A and B, no new toilet facilities are proposed for the Scenic Byway Area, and bacteria and pathogen pollution would remain a concern due to high recreation use in this area.

Cumulative Impacts

Other activities in the watershed and Study Area contribute to or compound impacts to water quality at Steinaker Reservoir. Logging and grazing on federal lands administered by the U.S. Forest Service and BLM contribute incrementally to erosion and a sediment load to tributary streams, particularly where these activities expose highly erodible soils adjacent to streams. The Ashley Creek watershed also has some extensive dead forest stands from pine beetle infestation that are a known watershed condition. There are also state lands within the watershed with proposed phosphorous mining that is likely to occur in the future.

Recreation such as dispersed camping within the watershed would also contribute some pollutants to the streams and subsequently the reservoir. Pollutants would include sediment, nutrients, and trash. However, the magnitude of this impact depends largely on the quantity of dispersed camping, with heavy use near contributing water bodies having a greater impact compared to minimal use away from water bodies. Recreation development such as trails for off-highway vehicles, mountain bikes, and hiking also increase land disturbance, stormwater runoff, and potential pollutant loads. An extensive trail system totaling 55 miles of new, nonmotorized trail is currently proposed on the BLM-owned land just to the north and west of Steinaker reservoir, and would cumulatively contribute to the water resource effects of the new trails proposed under RMP Alternatives B and C.

Any increased sediment and phosphorus loads to Ashley Creek would be transported to Steinaker Reservoir via the Steinaker Feeder Canal, particularly during spring runoff when inflows contain high amounts of suspended sediment. Any increase in phosphorus load would be important because it would contribute to eutrophication, associated algal blooms, and potential for dissolved oxygen issues including anoxic conditions in the reservoir. The State of Utah already considers Steinaker Reservoir impaired for temperature, which affects dissolved oxygen concentration in the water column. Dam operations also have some impact on water temperature and dissolved oxygen concentrations in the reservoir.

All of these factors are important ongoing concerns for the management of the Study Area as well as the surrounding BLM-designated Red Mountain-Dry Fork Area of Critical Environmental Concern and the larger Ashley Creek watershed. Interagency coordination and partnerships are important for addressing cumulative impact issues and maintaining water quality at Steinaker Reservoir.

Mitigation Measures

Potential impacts to water quality associated with RMP action alternatives would be mitigated through proper design, installation, and maintenance of stormwater best management practices (BMPs), placement of vault toilet facilities in high-use recreation areas, and use of animal-proof garbage receptacles. Stormwater BMPs would reduce or eliminate stormwater-generated sediment and potentially eliminate untreated stormwater discharge into the reservoir. Vault toilets address impacts from untreated human waste entering the reservoir, and animal-proof garbage receptacles also reduce the amount of trash potentially entering the water body.

Riparian vegetation restoration and bank stabilization, as well as maintaining existing riparian buffers, would provide protection from soil erosion, reduce sediment loads to the reservoir or tributary streams, and filter pollutants transported by stormwater runoff. Locating trails outside of the riparian and marsh vegetation present between the full pool and low reservoir elevations would provide a buffer to help mitigate any runoff impacts from the proposed trail.

Under any alternative, Reclamation will continue existing interagency partnerships that maintain Steinaker Reservoir water quality and will participate in any future interagency coordination and partnership efforts associated with the Ashley Creek watershed.

Residual Impacts

With the previously stated mitigation measures, there would be no residual impacts to water resources resulting from any RMP alternatives.

Recreational and Visual Resources

Issues

How would implementation of the RMP affect recreation activities and visual resource conditions within the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect recreation activities and visual resource conditions within the Study Area:

- change in recreational opportunities,
- change in visitation and facilities,
- change in Water and Land Recreation Opportunity Spectrum (WALROS) Classification, and
- change in visual resource conditions.

Analysis Methods

Change in Recreational Opportunities

Recreational opportunities were described using the recreation-based land use categories defined during the development of alternatives (see Chapter 2). Land use categories were applied to each kind of recreational opportunity and the area where it occurs. For purposes of evaluating alternatives, any change in an existing land use category was considered a change in recreational opportunity. The total area involved in the change of land use categories was compared between alternatives.

Change in Visitation and Facilities

Visitation is a function of how many people use the Study Area. Visitation numbers for this analysis are expressed as persons at one time (PAOT) and were estimated for developed camping and day-use areas based on facility capacities and an assumed party size.

When the existing Developed Overnight Recreation Area is expanded, as in Alternative C, it is assumed to include 20 new campsites. When the existing Developed Day Use Recreation Area is expanded, as in Alternative C, it is assumed to include 20 new picnic sites. The assumed party size was five persons per campsite, day-use picnic site, and boat parking stall and 3.5 persons per parking lot stall at trailheads. The resulting calculation (number of campsites, picnic sites, and boat parking stalls multiplied by five persons) is equivalent to PAOT, which represents usage typical of a peak weekend or holiday. During a typical summer weekday, PAOT would likely be less. While PAOT is useful as a relative comparison between alternatives, it is not intended to represent a definitive number of people.

As the number and types of facilities change with the alternatives, it is possible to estimate relative changes in the actual number of people who would use the areas. Again, the total acreage of various kinds of land uses was compared between alternatives, along with the number of developed facilities. This analysis documents how many people would be accommodated at the developed recreation areas in the Study Area under each alternative.

Change in Water and Land Recreation Opportunity Spectrum (WALROS) Classification

Using the Water and Land Recreation Opportunity Spectrum Analysis method (Reclamation 2011b), recreational opportunities have been classified at the Study Area (see Chapter 3). Changes in existing land use categories were evaluated, by alternative, to determine the effect on physical, social, and managerial setting components for each use area. Changes in setting components were evaluated to determine a change in WALROS Classification.

Change in Visual Resource Conditions

As described in Chapter 3 Visual Resources, the BLM uses the Visual Resource Management (VRM) system and the four VRM classes to analyze and determine the visual impacts of proposed activities on the land and gauge the level of disturbance an area can tolerate before it exceeds the visual objectives of each VRM class. The method that the BLM uses to determine whether proposed projects conform to an area's VRM class objectives is a contrast rating system that evaluates the effects of proposed projects on visual resources. Contrast rating is accomplished from critical viewpoints or along a transportation corridor using BLM Contrast Rating Worksheets to determine whether the level of disturbance associated with the any of the

alternatives would exceed the VRM objectives for that area. The evaluator rates the degree of visual contrasts based on form, line, color, and texture of the existing landform, vegetation, and structures, and determines how these features would look after project implementation. Under this system, it is assumed that the greater the degree of contrast between the existing landscape and the project-altered landscape, the greater the change in the existing character of the landscape.

During a site visit conducted in August 2012, a visual contrast rating worksheet (Form 8400-4) was completed for Alternatives B and C. A knoll overlooking the State Park Area was selected as the key observation point for evaluating proposed projects. Contrast ratings were assigned to the proposed project or activity in comparison to the existing landscape character. Contrast ratings were noted as being strong, moderate, weak, or none, depending on degree of change. For a contrast to be rated as strong, the proposed project would be evaluated as dominant and demanding attention and would not be overlooked by the casual observer. For contrast to be rated as moderate, the proposed project would be evaluated as beginning to attract attention and beginning to dominate the characteristic landscape. For a contrast to be rated as weak, the proposed project would be evaluated as being seen but not attracting attention to the casual observer. For the contrast to be rated as none, the proposed project would be evaluated as not attracting attention or not being visible. The four levels of contrast correspond to the Visual Resource Classes IV, III, II, and I, referred to in Chapter 3.

Summary of Impacts

Impacts to recreational resources at the Study Area are summarized in Table 4-3. The change in the amount of land use category areas according to alternative was considered a change in recreational opportunities. A description of the existing recreational opportunities available in each land use category is included in Chapter 2. Tables 2-1 and 2-2 (see Chapter 2) list the change in acreage for each land use category under each alternative and the number and kind of recreation facilities. The Primary Jurisdiction Area and Reservoir Inundation Area land use categories remain unaffected at the Study Area under any of the alternatives. For all other land use categories, there would be changes in recreational opportunities as shown by the change in acreage and PAOT under each alternative.

Alternative A: No Action

Change in Recreational Opportunities

There would be no change to existing recreational opportunities under Alternative A for the Study Area. No new recreational opportunities would be added to the current available spectrum.

At the present time, State of Utah administrative rules (R651-411-2(2)) specify that OHVs may be used to access ice fishing areas at Steinaker Reservoir from the State Park boat ramp. Under Alternative A, Reclamation would officially designate that use under federal regulation 43 CFR § 420.2, but would not designate any other areas, roads, or trails open to public OHV use at Steinaker Reservoir.

Table 4-3. Summary of Recreational and Visual Resource Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in recreational opportunities	No change from existing conditions.	Developed Recreation Areas would remain the same. Undeveloped Day Use Recreation Areas would decrease by 776.2 acres as Natural Areas would be designated. Administrative, Primary Jurisdiction, and Reservoir Inundation Areas would remain the same.	Developed Day Use Recreation Areas would increase by 16.7 acres. Developed Overnight Recreation Areas would increase by 4.8 acres. Developed Overnight and Day Use Group Recreation Areas would increase by 5.1 acres. Undeveloped Day Use Recreation Areas would decrease by 352.1 acres as 325.0 acres of Natural Areas would be designated and 26.6 acres of Developed Recreation Areas would be designated.
Change in visitation and recreational facilities	No change from existing conditions. Total developed campsites at 31. Total day-use picnic sites at 38. Group camping at 50 persons at one time (PAOT). Total boat parking at 36. Total Trailhead parking at 63. Total PAOT: 795. Total boat ramps at 1.	Increase in boat parking stalls to 60. Total PAOT increases to 915. Total boat ramps remain at 1.	Expanding the footprint of the existing State Park Area facilities to Developed Overnight and Developed Day Use Recreation Areas would increase campsites from 31 to 39 and the picnic sites from 41 to 49. Total PAOT increases to 790. Total boat ramps remain at 1.
Change in Water and Land Recreation Opportunity Spectrum (WALROS) Classification	No change from existing conditions.	The Inflow Area WALROS Classification would change from RN7 to SP8. The Scenic Byway Area WALROS Classification would change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.	The Inflow Area WALROS Classification would change from RN7 to SP8. The Scenic Byway Area WALROS Classification would change from RD5 to RD4. The Honda Hills Area WALROS Classification would change from RN7 to RN6. The Entrance Area WALROS Classification would change from RN6 to RD6. The State Park Area WALROS Classification would change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.
Change in visual resource conditions	No change from existing conditions.	No change in visual resource conditions.	No change in visual resource conditions.

Change in Visitation and Facilities

There would be no change to existing recreational facilities under Alternative A for the Study Area. The current trend in visitation would be expected to continue. The total PAOT would remain at 795, assuming a party size of 5 persons for 31 campsites, 38 day-use picnic tables, 34 boat parking spaces, a maximum of 50 people at the group site, and trailhead parking for 63 vehicles. The number of boat ramps would remain at one.

Change in WALROS Classification

There would be no change to existing recreational facilities or opportunities under Alternative A for the Study Area. Therefore, there would be no change in WALROS Classification.

Change in Visual Resource Conditions

There would be no changes in resource management at the Study Area under Alternative A; therefore, this alternative meets the visual objectives of VRM Class II and results in no impacts on visual resources within the Study Area.

Alternative B: Resource Conservation Emphasis

Change in Recreational Opportunities

Under Alternative B, recreational opportunities in developed campsites would be the same as those under existing conditions. A substantial portion of the Study Area (775.6 acres) would be designated as Natural Area with a focus on conservation of natural and cultural resources. Because of the Natural Area designation, there would be some reduced recreational OHV access in areas where it currently exists (e.g., Honda Hills, Inflow Area) thereby improving the nonmotorized recreational user experience. In other areas there would be increased trail connectivity between developed facilities with the addition of proposed trails. Enhanced public information and interpretation projects would also improve visitor experiences.

Under Alternative B, Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). State Parks would be responsible to manage this use. Reclamation would also coordinate with the appropriate management entities regarding potential OHV use on designated state and county roads, or portions thereof, within the Study Area. However, Reclamation would not propose any new developed OHV trailhead facilities under Alternative B. Additionally, an existing informal OHV riding area (Honda Hills Area) would be closed to that use, consistent with the conservation emphasis of Alternative B.

Change in Visitation and Facilities

Some improvements to existing recreational facilities, such as sanitary facilities and utility upgrades, are included, and boat parking will be expanded from 36 to 60 spaces. The total PAOT would increase from 795 to 915 under Alternative B.

A portion of the existing Administrative Area would be designated as a Special Use Area for long-term camping. The location for the Special Use Area is separated from recreational camping areas and would not be expected to create any conflicts with recreational uses. Fencing would be installed to prevent trespass into the Administrative Area where administrative equipment, vehicles, and materials may be stored.

Change in WALROS Classification

Decommissioning existing roads and trails and revegetating disturbed areas with native plant species in the Inflow Area would result in a WALROS Classification change from RN7 to SP8. Adding two nonmotorized trailheads and improving fishing access in the Scenic Byway Area would result in a WALROS Classification change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.

Change in Visual Resource Conditions

Using the visual contrast rating process by comparing the proposed project features with the major features of the existing landscape's form, line, color, and texture, there would be minimal changes (weak contrast) in visual resource conditions at the Study Area under Alternative B. Therefore, this alternative meets the visual objectives of VRM Class II. Site redesign or rehabilitation of existing recreation facilities would be implemented on lands already disturbed. Expanding the existing boat parking area, expanding existing hiking trails, and providing a trail along US-191 for fishing access would be consistent with Alternative B land use designations. Alternative B does not include any additional buildings, picnic areas, OHV trails, or trailheads. A long-term camping area is proposed for a previously developed location that is visually separated from recreational camping areas. The proposed location is currently used for outdoor storage. Because the area is already visually disturbed, redevelopment of this area for long-term camping would not significantly alter visual resource conditions.

Alternative C: Recreation Development Emphasis

Change in Recreational Opportunities

Recreational opportunities in the Study Area would increase under Alternative C. In addition to the enhanced trail connectivity, interpretive programs, and increased boat parking space described for Alternative B, Alternative C would expand existing Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. Rental cabins and/or yurts may also be added. New OHV trailheads would be developed in the Entrance and Honda Hills areas. State Parks and/or Uintah County would maintain these trailheads and collect day-use fees as warranted. Reclamation would allow public OHV access to the Reservoir Inundation Area for ice fishing from the State Park Area boat ramp, as conditions permit and in accordance with existing Utah administrative rule R651-411-2(2). State Parks would be responsible for managing this use. Reclamation would also coordinate with the appropriate management entities regarding potential OHV use on designated state and county roads, or portions thereof, within the Study Area. Additional vault toilets would be installed in the expanded, developed recreation areas and at the proposed OHV trailheads. With these additions, overall recreation use would likely increase and would occur at more locations around the reservoir under Alternative C.

Change in Visitation and Facilities

In addition to the enhanced trail connectivity and increased boat parking space described for Alternative B, new facilities under Alternative C would include parking areas and sanitation facilities at the two proposed OHV trailheads. The expansion of the existing State Park Area facilities, including Developed Overnight and Developed Day Use Recreation Areas, would increase the number of campsites from 31 to 51 and the number of picnic sites from 38 to 58. This would increase total PAOT capacities to 1,115 under Alternative C. An upward trend in visitation would be expected under alternative C as a result of constructing additional recreation facilities.

A portion of the existing Administrative Area would be designated as a Special Use Area for long-term camping. The location for the Special Use Area is separated from recreational camping areas and would not be expected to create any conflicts with recreational uses. Fencing

would be installed to prevent trespass into the Administrative Area where administrative equipment, vehicles, and materials may be stored.

Change in WALROS Classification

Decommissioning existing roads and trails and revegetating disturbed areas with native plant species in the Inflow Area would result in a WALROS Classification change from RN7 to SP8. Adding two nonmotorized trailheads and improving fishing access in the Scenic Byway Area would result in a WALROS Classification change from RD5 to RD4. Adding a OHV trailhead in the Honda Hills Area would result in a WALROS Classification change from RN7 to RN6. Adding hiking trails and a OHV trailhead at the Entrance Area would result in a WALROS Classification change from RN6 to RD6. Expanding the footprint of the existing State Park Area facilities in the Developed Overnight and Developed Day Use Recreation Areas would result in a WALROS Classification change from RD5 to RD4. All other areas would exhibit no change in WALROS Classification from existing conditions.

Change in Visual Resource Conditions

There would be some localized changes in visual resource conditions at the Study Area under Alternative C. New facilities would be constructed on suitable lands, including new trailhead, camping, and picnicking facilities with accompanying parking and access roads. The contrast to the basic visual elements caused by the proposed facilities, while seen, would remain subordinate to the existing landscape and not attract attention. Therefore, this alternative would meet the visual objectives of VRM Class II by retaining the existing character of the landscape within the Study Area.

A long-term camping area is proposed for a previously developed location that is visually separated from recreational camping areas. The proposed location is currently used for outdoor storage. Because the area is already visually disturbed, redevelopment of this area for long-term camping would not significantly alter visual resource conditions.

Cumulative Impacts

The Study Area is frequently visited by recreational users and tourists. Implementation of any proposed projects or actions would have both temporary and permanent effects on the recreational opportunities and the visual resources. However, these effects are not considered to be cumulatively significant. Evaluating cumulative impacts to these resources includes review of proposed onsite projects or actions and offsite projects proposed in the reasonably foreseeable future, any of which may not be significant on its own but when combined could be significant. This assessment was based on information that is reasonably available during the RMP process.

The Study Area's recreational opportunities are mostly water based (e.g., boating and fishing, with associated camping and picnicking) and do not depend on a pristine viewshed. Any proposed facilities are similar to existing facilities and therefore will not change the overall visitor experience. The Alternative with the greatest impact on recreation facilities would be Alternative C, which proposes an estimated increase of 320 PAOT. However this is not enough to create a significant cumulative impact change from the historical baseline visitation conditions.

Visual conditions of adjacent lands have been or are being altered by past and present actions as development continues in the Ashley Valley and more people visit popular nearby recreation areas. However, there have been no large projects or actions that have significantly impacted the visual character of lands adjacent to the Study Area.

Projects on adjacent lands proposed for the foreseeable future include the development of private property and the development of new trails surrounding the Study Area. The BLM's 2004 environmental assessment for the Red Mountain/Steinaker/Red Fleet Trail System identifies a number of projects under the Proposed Action, including development of 55 miles of hiking or horseback trails and 12 miles of mountain bike trails within the Red Mountain-Dry Fork ACEC Complex. This includes hiking trails connecting into the Study Area. In addition, the Uintah County Land Use Plan designates the area directly to the south of the Study Area as low-density residential, agriculture, medium-density residential, and commercial development planned along North Vernal Avenue. The commercial and residential growth will mean more visitation pressure put on the Study Area, but any changes to the surrounding land uses that are reasonably foreseeable would not change the overall recreational opportunities, the WALROS designations, or the overall viewshed character.

Mitigation Measures

Because the cumulative impact effects of the proposed projects and actions in all three alternatives are not significant, no major mitigation measures are needed. However, in site-specific design, visual-resource impacts can be reduced or eliminated by using facility design and land-planning techniques that borrow from naturally established line, form, color, and texture. Design considerations include building materials, size and scale, color, location, screening, and distance from critical viewpoints or transportation corridors. Visual-resource values must be considered throughout the RMP process as the assignment of visual-management classes is based on the management decisions made in the RMP. All proposed actions that would result in surface disturbances must consider the importance of the visual resource and the impacts the project may have on the characteristic landscape. Management decisions must reflect the importance of visual resources within the Study Area while also giving consideration to other resource values and uses.

Residual Impacts

Residual impacts to recreation resources from implementation of any alternative could include restricting certain recreational activities, limiting user numbers, or eliminating recreational opportunities in some areas. However, these impacts are not considered significant. There are no foreseeable, residual impacts under any of the proposed alternatives with regard to visual resources.

Natural and Cultural Resources

Geology

This section evaluates the proposed RMP alternatives for potential impacts on the geologic processes within the Study Area.

Issue
How would implementation of an RMP affect geologic processes within the Study Area?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect geologic processes within the Study Area:

- change in the amount of shoreline erosion.

Analysis Methods
The evaluation of impacts to geologic processes was based on a review of ongoing shoreline erosion within the Study Area.

Summary of Impacts
Shoreline erosion is expected to continue with implementation of any of the RMP alternatives. As long as Steinaker Reservoir is utilized for water storage and water-based recreation purposes, wave action and fluctuating water levels would continue to cause reservoir shoreline erosion. Under Alternative B or C, a Habitat Management Plan would be developed with provisions to protect and maintain Natural Areas for wildlife habitat values. From a geologic standpoint, this may slightly reduce the amount of shoreline erosion in these areas. Table 4-4 provides a summary of impacts to geologic processes at the Study Area.

Table 4-4. Summary of Impacts to Geologic Processes at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the amount of shoreline erosion	Shoreline erosion would be expected to continue. No change from existing conditions and trends.	Slightly reduced shoreline erosion with designation of Natural Area.	Same as Alternative B, with fewer acres designated as Natural Area.

Alternative A: No Action
Alternative A would not change the amount of shoreline erosion within the Study Area.

Alternative B: Resource Conservation Emphasis
Under Alternative B, more portions of the reservoir shorelines would be designated as Natural Area. These designations would slightly decrease the amount of shoreline erosion in these areas when the reservoir is full pool. This would be contingent on development of a Habitat Management Plan and assessment of practicability in consultation with State Parks.

Alternative C: Recreation Development Emphasis
Same as Alternative B, with fewer Study Area acres designated as Natural Area.

Cumulative Impacts
The greatest factor influencing past, present, and future shoreline erosion is reservoir water level management. The RMP action alternatives (Alternative B or C) would to a small degree incrementally reduce shoreline erosion, contingent on development and implementation of a Habitat Management Plan.

Mitigation Measures
Shoreline erosion is currently occurring along the reservoir full pool elevation throughout much of the Study Area, except in those areas where shoreline stabilization has been provided (e.g., along the dam and US-191). Appropriate erosion control and shoreline stabilization measures should be installed where appropriate to prevent further erosion in high-use areas.

Residual Impacts
Implementation of an RMP alternative would not result in any residual impacts to geologic processes.

Soils
This section evaluates RMP alternatives for their potential impacts on the soils within the Study Area.

Issue
How would implementation of an RMP affect soils within the Study Area?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect soils within the Study Area:

- change in the amount of soil disturbance.

Analysis Methods
For the soil impact analysis, the amount of soil that would be disturbed or removed from vegetation production because of construction or paving activities was calculated using a GIS database for each RMP alternative. The land areas proposed for campgrounds, access roads, and other improvements were calculated and totaled.

The amount of existing soil disturbance varies with each land use category. Table 4-5 shows the percentage of these disturbances for each land use category under current conditions. Under the proposed RMP alternatives, the amount of soil that would be disturbed or removed from vegetation production as a result of construction or recreation activities was calculated by applying these same disturbance percentages to the action alternatives and their proposed changes in land uses.

Table 4-5. Percentage of Existing Soil Disturbance for Each Land Use Category at Steinaker Reservoir.

LAND USE CATEGORY	PERCENT DISTURBED
Administrative Area	60
Developed Day Use Recreation Area	50
Developed Overnight Recreation Area	30
Developed Overnight and Day Use Group Recreation Area	50
Undeveloped Day Use Recreation Area	5
Natural Area	3
Primary Jurisdiction Area	25

Summary of Impacts

Under Alternative A, soil conditions within the Study Area would not be expected to change from the existing conditions. Currently, a total of approximately 92 acres, or 5 percent, of the entire Study Area is disturbed. Under Alternative B, no soil would be disturbed or lost as a result of constructing new campgrounds, restrooms, roads, or other developed recreational facilities, and overall soil disturbance would decrease compared with Alternative A as a result of Natural Area designation and associated land management and from decommissioning of some unimproved roads. Under Alternative C, overall soil disturbance would also decrease compared with Alternative A, though to a lesser degree than with Alternative B. The amount of soil disturbance by alternative is presented in Table 4-6.

Table 4-6. Acres of Soil Disturbance by Alternative for Steinaker Reservoir.

LAND USE AREAS	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Administrative Area	2.9	2.9	2.9
Developed Day Use Recreation Area	5.2	5.2	13.6
Developed Overnight Recreation Area	4.2	4.2	5.6
Developed Overnight and Day Use Group Recreation Area	1.2	1.2	3.8
Undeveloped Day Use Recreation Area	44.5	5.7	26.9
Natural Area	N/A [a]	23.3	9.8
Primary Jurisdiction Area	33.9	33.9	33.9
Total Soil Disturbance [b]	91.9	76.4	96.5

[a] N/A (Not Applicable) means that this land use category does not exist or would not be designated under the given Alternative.
[b] Due to rounding, columns may not sum exactly to the total soil disturbance.

Alternative A: No Action

Under Alternative A, no soil would be lost as a result of construction or paving activities related to building new camping and recreational facilities. The existing amount of soil disturbance related to existing roads, campgrounds, campsites, administrative areas, and so forth was calculated to be 91.9 acres (see Table 4-6). However, the amount of total soil disturbance would likely increase as visitation and use of the Study Area increases over time under Alternative A.

Alternative B: Resource Conservation Emphasis

Under Alternative B, a minor amount of soil disturbance would occur in the Study Area from the construction of additional nonmotorized trails. An estimated 23.3 acres of soil disturbance would occur within the Natural Area land use designation. This represents a reduction over existing soil disturbance for these areas, which is primarily Undeveloped Day Use Recreation Area. Total soil disturbance with Alternative B is estimated at 76.4 acres (see Table 4-6).

Alternative C: Recreation Development Emphasis

Under Alternative C, the existing Developed Day Use, Developed Overnight, and Developed Overnight and Day Use Group Recreation Areas would be expanded from existing conditions (Table 4-6). Additionally, a minor amount of soil disturbance would occur in the Study Area from the addition of nonmotorized trails along Eagle Ridge and near the shores of the reservoir, as described in Alternative B. Overall, soil disturbance is estimated as 96.5 acres with Alternative C.

Cumulative Impacts

In addition to RMP actions, soil erosion would continue to occur within the Study Area as a result of reservoir water operations. As a result of campground and associated recreation facility upgrades or construction, soils would be removed from vegetative production. Cumulative impacts would include this loss of productive soil, combined with the loss of soils from similar activities in the past. Designating portions of the Study Area as a Natural Area would restrict vehicle access and create a beneficial cumulative impact by reducing soil disturbances and erosion in these areas.

Additionally, federal, state, local, and private entities are expected to conduct a number of projects in the watershed of the Study Area that have the potential to cause soil erosion. These projects include the following: (1) the U.S. BLM plans to develop 55 miles of hiking or horseback trails and 12 miles of mountain biking trails near the Study Area. They also plan to develop recreation facilities, including parking, restrooms, and campsites, outside of the relict vegetation area on Red Mountain; (2) Uintah County Transportation District plans new construction or reconstruction on several roads in the vicinity of the Study Area; (3) phosphate mining in the vicinity of the Study Area is expected to expand and to continue over the long term; (4) The Uintah County Land Use Plan indicates that the area directly on the south side of the Study Area is either low-density residential/agriculture, medium-density residential, or commercial. It is anticipated that these disturbances would use appropriate mitigation measures to minimize soil erosion impacts.

Mitigation Measures

To mitigate soil erosion impacts, Reclamation would implement erosion control measures for individual projects under Alternatives B and C. Implementation of proper erosion controls would mitigate impacts caused by construction activities and stormwater runoff. Mitigation measures would include requiring a Storm Water Pollution Prevention Plan for all construction operations that disturb 1.0 or more acres; this would require use of published BMPs for controlling erosion and sedimentation from stormwater runoff and would address runoff from all roads (paved and unpaved), trails, campgrounds, parking lots, and administrative buildings. Other elements of Alternatives B or, to a somewhat lesser extent, Alternative C, would help mitigate soil erosion, including restricting vehicle access to sensitive areas in the Study Area and restoring areas that have been damaged by unmanaged recreation use.

Residual Impacts

Soil erosion is a natural process that occurs as a result of climate conditions and the nature of the soils in the Study Area. Human activity (e.g., construction, recreation, reservoir operations) has the potential to increase soil erosion rates. Under all alternatives, a minor amount of soil would be eroded and deposited in Steinaker Reservoir as the result of natural and human-induced erosion, both within and outside of the Study Area. Mitigation measures described above would avoid or mitigate most of the soil erosion impacts resulting from implementation of the RMP alternatives.

Vegetation

Issue

How would implementation of the RMP affect upland and riparian-wetland vegetation communities within the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect upland and riparian-wetland vegetation communities within the Study Area:

- change in the quantity, condition, and levels of disturbance of the upland vegetation communities; and

- change in the quantity, condition, and levels of disturbance of riparian-wetland vegetation communities.

Analysis Methods

The land use categories defined and described in Chapter 2 provide the basis for the vegetation impact analysis. As the boundaries of the land use categories change with each alternative, so do the condition and amount of disturbance to plant communities within each land use category. Each land use category and its associated quantity of land disturbances for each alternative are listed in Table 4-6 in the Soils section. Specifically, decommissioning of some unimproved roads, new facility construction, and changes in land use designation were used to describe potential impacts. Typical disturbances related to the RMP alternative actions being considered include elimination of vegetation within developed use areas such as campsites, roads, trails or

parking areas; indirect affects to vegetation conditions resulting from increased use in an area; and increased potential for facilitating the spread of noxious or undesirable species into areas where vegetation was removed.

The placement of dredge or fill material within riparian-wetland communities is regulated under Section 404 of the Clean Water Act. The action alternatives do not identify specific project-related fill activities. These fill activities within riparian-wetlands would need to be identified on a project-by-project basis and all efforts to avoid and minimize impacts to riparian-wetlands would be required as a part of the Section 404 permitting process. Therefore, for this analysis it is assumed that direct ground disturbance would occur primarily in upland vegetation communities and not in riparian-wetland vegetation communities because of jurisdictional wetlands regulations.

Summary of Impacts

Impacts to vegetation communities are described in Table 4-7. The analysis for vegetation involved comparing changes in the quantity and condition of upland and riparian-wetland vegetation communities as a result of changes in the designated land use classification. Alternative A involves no changes from existing conditions and trends. Alternative B includes decommissioning of some unimproved roads, construction of new nonmotorized trails, and changes in the designated land use classification affecting upland and riparian-wetland vegetation communities within Natural Areas. Alternative B has the potential to improve the overall condition and decrease the level of disturbance of vegetation within the Study Area. Alternative C includes the decommissioning of some unimproved roads, the construction of new nonmotorized trails, and the expansion of Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas within the Study Area. Therefore, Alternative C has the potential to slightly increase the level of disturbance to upland and riparian-wetland vegetation communities within the Study Area.

Potential impacts on riparian-wetlands are primarily related to the decommissioning of unimproved roads, the construction of new nonmotorized trails, or changes to the designated land use categories. Either Alternative B or C would cause potential impacts to riparian-wetland vegetation communities due to new trail construction and the related increase in disturbance from use. Alternative B would provide an increase in the overall function of the riparian-wetland community due to Natural Area land use designation, as would Alternative C but to a lesser extent.

Noxious weeds are present in the Study Area as discussed in the Vegetation section of Chapter 3. They tend to occur in scattered patches throughout the Study Area, with more dense growth in high-use recreation areas and along the shoreline of the reservoir. The primary concerns are the propagation of noxious weeds and the introduction of additional populations within the Study Area. The amount of disturbance for each alternative is useful in comparing the potential of noxious weed invasion under each alternative.

Table 4-7. Summary of Upland and Riparian-Wetland Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the quantity, condition, and level of disturbance of upland vegetation communities	Existing level of disturbance is 91.9 acres. No change in current upland vegetation conditions and trends.	Level of disturbance reduced to 76.4 acres through designation of 776 acres of Natural Area. Construction of 2.8 miles of new trails. Overall potential for improved condition of upland vegetation.	Level of disturbance increases to 96.5 acres through development of new facilities. Construction of 2.8 miles of new trails. Conversion of 26 acres to developed recreational uses. Overall slight potential for decreasing condition of upland vegetation.
Change in the quantity, condition, and level of disturbance of riparian-wetland vegetation communities	No change from existing riparian-wetland conditions and trends.	Potential for some impacts due to new trails proposed within riparian-wetland areas. Potential for improvement due to designation of Natural Areas within riparian-wetland areas.	Potential for some impacts due to new trails proposed within riparian-wetland areas and recreation facility expansion adjacent to riparian-wetlands. Potential for improvement due designation of Natural Areas within riparian-wetlands.

Alternative A: No Action

Change in the Quantity, Condition, and Level of Disturbance of Upland Vegetation Communities

Under Alternative A the quantity, condition, and level of disturbance of upland vegetation communities would remain unchanged from existing conditions and trends described in Chapter 3. Currently there are 864 acres of upland vegetation communities and approximately 91.9 acres of disturbance within the Study Area. Reclamation, State Parks, and other partners would continue existing levels of effort in managing access and controlling invasive species. However, no formal Habitat Management or Integrated Pest Management Plans would be developed.

Change in the Quantity, Condition, and Level of Disturbance of Riparian-Wetland Vegetation Communities

The quantity, condition, and level of disturbance of riparian-wetland vegetation communities would not change under Alternative A.

Alternative B: Resource Conservation Emphasis

Change in the Quantity, Condition, and Level of Disturbance of Upland Vegetation Communities

Alternative B includes construction of approximately 2.8 miles of new trails. Approximately 776 acres of the Study Area would be designated as Natural Area. The net impact of these changes would be an overall potential for improved condition of upland vegetation communities through reduction of disturbance levels to 76.4 acres. The proposed long-term camping area would be developed within an already disturbed portion of the State Park Management Area; therefore this facility would not create new disturbance of upland vegetation communities.

Change in the Quantity, Condition, and Level of Disturbance of Riparian-Wetland Vegetation Communities

New recreational facilities that are included with Alternative B involve 0.9 miles of new trails within riparian vegetation communities. Trails and increased day-use activity associated with them would lead to potential degradation in the condition of the riparian-wetland community through increased noxious weed introduction and dispersal, disturbance of wetland vegetation due to foot traffic, increased erosion and sedimentation, and disturbance of wildlife within riparian-wetland communities. Negative impacts would be concentrated around developed facilities, but they would be balanced by the beneficial impacts of designating 776 acres of Natural Areas and development of Habitat Management and Integrated Pest Management Plans.

Alternative C: Recreation Development Emphasis

Change in the Quantity, Condition, and Level of Disturbance of Upland Vegetation Communities

Alternative C includes the construction of approximately 2.8 miles of new trails. Approximately 325 acres of the Study Area would be designated as Natural Areas and 53 acres would be designated as Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. Combined, these actions would result in a slight increase in overall disturbances within the Study Area to 96.5 acres. A proposed long-term camping area would be developed within an already disturbed portion of the State Park Management Area; therefore this facility would not create new disturbance of upland vegetation communities.

Change in the Quantity, Condition, and Level of Disturbance of Riparian-Wetland Vegetation Communities

Riparian-wetland communities have been largely avoided as part of the suitability analysis (Chapter 2). However, it is probable that site-specific facility design would involve some impacts to riparian-wetland communities, such as trail crossings of washes or streams, elevated boardwalk trails constructed through wetland communities, or other features. Site-specific design would require further environmental analysis and any impacts to jurisdictional wetlands would need to comply with Section 404 of the Clean Water Act.

New recreational facilities that are included with Alternative C involve 0.9 mile of new trails within riparian vegetation communities. Trails and increased day-use activity associated with them would lead to potential degradation in the condition of the riparian-wetland community through increased noxious weed introduction and dispersal, disturbance of wetland vegetation

due to foot traffic, increased erosion and sedimentation, and disturbance of wildlife within riparian-wetland communities. Negative impacts would be concentrated around developed facilities, but they would be balanced by the beneficial impacts of designating 325 acres of Natural Areas and development of Habitat Management and Integrated Pest Management Plans. However, fewer acres of riparian-wetlands would be designated as Natural Area with Alternative C compared to Alternative B.

Cumulative Impacts

Public use and the continued threat of noxious weed invasion are the most likely cumulative impacts expected as a result of past, present, and reasonably foreseeable future impacts on both upland and riparian-wetland plant communities within the Study Area and on surrounding lands. An RMP action alternative would incrementally improve Study Area riparian-wetland conditions, with Alternative B providing greater improvements throughout and Alternative C providing less overall and more localized improvements.

Past, present, and future fluctuations in the water level of Steinaker Reservoir have the greatest overall impact on both the quantity and condition of riparian-wetland plant communities in the Study Area. The impacts of water fluctuation are both detrimental and beneficial depending on seasonal timing, duration of flooding or low-water period, and depth. However, water level rises are based on a combination of water right delivery requirements and climate conditions, both of which are beyond the scope of the RMP decision.

Mitigation Measures

Mitigation measures for either action alternative will include the development of noxious and invasive weed control strategies as a part of an Integrated Pest Management Plan. Fence lines can facilitate weed invasion as winds blow invasive vegetation against fences, where it becomes trapped and releases seed. Therefore, including a provision for removal of redundant/unnecessary fence lines as part of the Integrated Pest Management Plan would provide some weed management benefit. Additionally, the plan should address weed control strategies to be implemented along all existing and future boundary and access control fences in the Study Area.

After site-specific environmental assessment and design, appropriate sediment and erosion control strategies would be implemented during construction activities to limit impacts to the upland and riparian-wetland vegetation communities. In site-specific designs, disturbed areas would be replanted with appropriate native species. Should it be found that any site-specific projects would involve filling riparian-wetland communities, Reclamation would comply with Section 404 of the Clean Water Act. Section 404 requires wetland impacts be mitigated and that no net loss of wetland occurs. The Section 404 permitting and mitigation process is under the jurisdiction of the U.S. Army Corps of Engineers.

Residual Impacts

With the previously stated mitigation measures, impacts to upland vegetation communities from either action alternative would be avoided or fully mitigated. Pending site-specific design and environmental assessment, the two action alternatives would likely have some minor to moderate

(i.e., less than significant) disturbance impacts to riparian-wetland communities as a result of new recreation facility development.

Wildlife

Wildlife of interest to state and federal agencies and the general public in the Study Area include special status species (federally and state-threatened and endangered species and other species of concern), big game, raptors, waterfowl, and general wildlife populations. Wildlife viewing opportunities, big game and vehicle conflicts, presence of nuisance wildlife species, and the impact of reservoir uses on wildlife habitats are also concerns in the Study Area. Sources of information used in developing this assessment of impacts to wildlife and habitat included UDWR reports, websites, data, and maps; published literature; consultations with agency personnel; and field observations made in October 2011.

Issue

How would implementation of an RMP affect wildlife and their habitat in the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect wildlife and their habitat within the Study Area:

- changes in the quality and amount of wildlife habitat, and
- changes in the amount of human-related disturbance.

Analysis Methods

Changes in the amount and quality of available habitat were determined by the habitat type and amount of area that would be impacted as a result of constructing recreation facilities (e.g., campgrounds, picnic areas, parking areas, boat facilities), trails and roadway systems, the designation of Natural Areas, and developing a Habitat Management Plan for the Study Area.

Increased human activity and loss of habitat can have a direct impact on wildlife and would increase stress, reduce reproductive success, and cause displacement. Disturbance is detrimental during critical seasonal periods, especially during spring and winter. Changes in disturbance were determined based on the estimated increase or decrease in public use and the location of the use in relation to important wildlife habitat. The amount and location of public use were based on the review of each alternative in terms of the types of recreation facilities, trail systems, and roadways; the decommissioning of roads; and the designation of Natural Areas.

Summary of Impacts

Impacts to wildlife are summarized in Table 4-8. Under Alternative A, wildlife conditions within the Study Area would not be expected to change from existing conditions and trends. Alternative B would improve wildlife conditions through improved management of resources and increased protection of sensitive wildlife habitat and important wildlife areas. Alternative C would potentially negatively impact wildlife, based on the increased recreational activities and facility development impacts to wildlife and wildlife habitat. Mitigation measures are included with

Table 4-8. Summary of Impacts to Wildlife at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the overall quality and amount of wildlife habitat	No change from existing conditions and trends.	Little or no impacts related to the loss of wildlife habitat. Enhancement and protection of important habitats as a result of designating Natural Areas.	Minimal impacts related to habitat loss as a result of facility development and uses.
Change in the amount of human-related disturbance	No change from existing conditions and trends.	Decrease in disturbance related to restrictions of vehicle access and designated parking areas. Short-term increase in disturbances during construction of facilities in localized areas where human activity would increase in association with the development of new facilities. Impacts would be minimal because of the limited amount of proposed development, current condition of areas proposed for development, and availability of similar habitat in the surrounding area.	New facilities would be constructed under Alternative C, resulting in more short- and long-term wildlife disturbances. Impacts would be minimal because of the current condition of areas proposed for development and the availability of similar habitat in the surrounding area.

action alternatives to eliminate or reduce potential impacts, as described in the subsections below for each alternative.

Alternative A: No Action

Additional recreational facility site development would not be pursued under Alternative A. In addition, land use category changes, erosion control measures, and protective wildlife habitat measures would not be pursued. Therefore, these actions would not change wildlife habitat or disturbance levels from existing conditions and trends.

Alternative B: Resource Conservation Emphasis

Under Alternative B, wildlife in the Study Area would generally benefit from reduced disturbance, especially in key wildlife habitat and proposed Natural Area designations.

Change in the Quality and Amount of Wildlife Habitat

Under Alternative B, approximately 776 acres would be designated as Natural Area, which under present management receives no protection from day-use recreation impacts. Classification of this land use category would enhance wildlife habitat by reducing the amount and intensity of recreational use and providing long-term protection of areas that support a relatively higher diversity and number of wildlife species than other portions of the Study Area.

While the amount of wildlife habitat would not increase, the quality of habitat would improve with development and implementation of a Habitat Management Plan. Specific management efforts that would be included in the Habitat Management Plan under Alternative B would be to

limit the carrying capacity of boats on the reservoir to the current maximum capacity of 60 boats, decommission unimproved roads that are not county roads and that are not needed for administrative access purposes, and manage habitat needs for special status species.

Change in the Amount of Human-Related Disturbance

Under Alternative B, wildlife in the Study Area would generally benefit from reduced disturbance, especially in key wildlife habitat within the proposed Natural Area designations. Protecting quality wildlife areas, restricting vehicle access to sensitive areas, and managing for a reduced number of users would decrease the amount of stress to and displacement of wildlife over the long term, especially during critical periods such as the nesting season.

Short-term disturbance to wildlife would likely occur during the improvement of existing recreational facilities (e.g., picnic and camping areas, sanitary facilities, utility upgrades), development of a long-term camping area, and future implementation of erosion control measures and habitat enhancements. No long-term impacts are anticipated. Short-term impacts would include greater stress to the inhabitants and possible temporary displacement of wildlife to adjacent habitats. However, impacts would be minimal because of the limited amount of proposed development and the availability of similar habitat in the surrounding area.

Designation of the riparian area in the northern end of the Study Area as Natural Area would be beneficial to the local wildlife community, particularly the birds using the cottonwoods (*Populus* spp.) and willows (*Salix* spp.) in this area. Protection from human disturbance during spring and summer in particular would improve reproduction and survival of songbirds, and potentially improve habitat conditions for the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), a sensitive species with potential to occur in Uintah County.

Of the other sensitive species identified as potentially occurring in the Study Area, greater sage-grouse (*Centrocercus urophasianus*) would benefit from the decrease in human disturbance under Alternative B. The designation of portions of the Study Area as Natural Area would provide this species protection from disturbance during critical periods, such as when birds gather on leks for breeding and during nesting and brood rearing. Protecting sensitive areas from recreation has been identified as an important management action for protecting and enhancing greater sage-grouse populations (Stiver et al. 2006). Surveys specifically targeting the greater sage-grouse are recommended to document the species' presence and use within the Study Area, in order to properly estimate the number of birds impacted by management actions.

Suitable habitat for other special status species—the black-footed ferret (*Mustela nigripes*), Mexican spotted owl (*Strix occidentalis lucida*), and Canada lynx (*Lynx canadensis*)—does not currently exist within the Study Area and is not likely to be created by current or proposed management actions under Alternative B. Therefore, Alternative B would not impact these species.

Alternative C: Recreation Development Emphasis

Under Alternative C, wildlife in the Study Area would generally benefit from improved management and the designation of parking areas as described under Alternative B.

Change in the Quality and Amount of Wildlife Habitat

Under Alternative C, more recreational opportunities would be pursued, including developing new camping, picnicking, and recreational facilities; improving developed camping facilities; and developing new hiking trails. This would occur throughout the Study Area but primarily in areas where some level of recreational use already exists. While the development of facilities would result in some loss of habitat, impacts would be restricted to currently disturbed areas or upland plant communities that are common in the surrounding area. Construction of the hiking trail in the northeastern section of the Study Area and along the northern and eastern shoreline would remove a minor amount of habitat in currently undisturbed areas. Overall impacts of habitat loss would be minimal under Alternative C, although greater than those described under Alternative B.

Change in the Amount of Human-Related Disturbance

Under Alternative C, wildlife in the Study Area would generally benefit from reduced disturbance in important wildlife areas. Vehicle access would be restricted to the proposed parking areas and designated roads and trails, thereby protecting sensitive wildlife habitat and important wildlife areas. This would decrease the amount of stress to and displacement of wildlife over the long term, especially during critical periods such as the nesting season.

Short- and long-term disturbance impacts for any special status species under Alternative C would be similar to the impacts previously described for general wildlife. Short-term disturbance to wildlife would occur during the development of new recreation facilities and a long-term camping area. Impacts would be minimal because of the limited duration of the disturbance activities and availability of similar habitat in the surrounding area. Longer-term wildlife disturbance would occur in areas where human activity would increase in association with the new facilities. Impacts would include stress, reduced reproductive success, and displacement.

Cumulative Impacts

Past actions that have contributed to current conditions for wildlife in the Study Area include grazing and agricultural development, reservoir construction, reservoir water level fluctuations, and human disturbance from recreational activity. Alternative C would incrementally add to wildlife habitat disturbances by developing new facilities. Either of the action alternatives (Alternative B or C) would result in some general improvements to wildlife habitat over existing conditions as a result of developing and implementing a Habitat Management Plan for the Study Area and by designating portions of the Study Area as Natural Areas.

Mitigation Measures

Mitigation measures that would minimize or avoid impacts to wildlife are recommended below. These measures would be integrated into development of a Habitat Management Plan if either action alternative is selected for the RMP:

- Signs would be posted to encourage recreationists to stay on the trail and within developed recreation facility boundaries to minimize the amount of vegetation trampling and disturbance to wildlife.

- Wetland and riparian habitats would be protected in accordance with existing federal regulations. During the development and expansion of recreation facilities, construction would avoid disturbance (both directly and indirectly) of wetland and riparian areas.

- Wildlife management would be coordinated between Reclamation and appropriate partner agencies to specify suitable recreation within the Natural Areas and identify measures to target areas that were previously impacted by recreationists and are in need of restoration.

Residual Impacts

Under either action alternative, beneficial impacts to wildlife would occur. Potential negative impacts under each alternative would be minimized or avoided by implementing mitigation measures. However, regardless of the mitigation measures, some wildlife habitat would be impacted by the development of recreation facilities and recreational use, especially under Alternative C. Disturbance levels would also increase in localized areas. Overall net impacts of either action alternative would be beneficial because of improved management of Study Area resources.

Fisheries

This section evaluates RMP alternatives for potential impacts on Study Area fishery resources, including habitat quantity and quality, angling pressure, and potential threat of aquatic invasive species (AIS) infestation.

Issue

How would implementation of the RMP affect the fishery within the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect the fishery within the Study Area:

- change in the quality or quantity of fish spawning and recruitment habitat,
- change the amount of angling pressure, and
- change in the threat of AIS infestation.

Analysis Methods

Impacts to spawning and recruitment habitat were assessed qualitatively by assuming that various resource management actions would have negative, beneficial, or no impacts on littoral and inflow habitats important to egg, larval, and juvenile stages of fishes. Beneficial resource management actions would include revegetating disturbed areas, implementing erosion control measures, and providing access controls to riparian, shoreline, and inflow areas. Proposed resource management actions where changes to shoreline areas would increase siltation or disturbance to littoral areas, such as the creation of new campground facilities, were considered negative. Areas where the existing management situation, if left unchanged, would result in a negative impact to the fishery were also included in the analysis.

Change in the amount of angling pressure was assessed by reviewing proposed resource management actions that would impact angling pressure on the reservoir. Factors such as boating restrictions and the amount of development or enhancement of recreational facilities were analyzed to determine whether these actions would be beneficial, negative, or have no influence on fishing pressure. Those improvements that had the potential to considerably increase angling pressure were identified as negative impacts, while those that limited fishing pressure, such as boating limits, were identified as positive impacts.

Infestation of AIS was assessed by reviewing the proposed resource management actions that would impact numbers of boaters utilizing the reservoir. Factors such as boat launching, trailer parking capacity, and development or enhancement of recreational facilities were analyzed to determine whether these actions would be beneficial, negative, or have no influence on the potential for AIS infestation. Improvements that had the potential to increase the number of boats traveling to and launching in the reservoir were identified as negative impacts, while those which limited boat traffic were identified as positive impacts.

Summary of Impacts

Alternative A would have a slight negative impact on the existing fishery at the Study Area because ongoing resource management conditions are allowing for bank erosion and siltation in some areas. Alternative B should have no negative impacts to the fishery. Alternative C would have a slight negative impact from developing camping and picnicking facilities and associated access roads, trails, and boat ramps. Impacts to fisheries are summarized in Table 4-9.

Alternative A: No Action

Change in the Quality or Quantity of Fish Spawning and Recruitment Habitat

The minimal negative impacts resulting from Alternative A would be related to continued bank erosion and trampling of littoral habitat by vehicle and foot traffic. An anticipated increase in future visitation would also result in the disturbance of surface soils through the creation of informal use areas. Reducing the amount of sediment entering the reservoir and reducing the access to shoreline areas by motor vehicles would help maintain a littoral area that contains substrates and plants important to macroinvertebrates, young sport fish, and prey species.

Change in the Amount of Angling Pressure

If Study Area visitation and angling pressure increased under Alternative A, it is likely that the quality of the fishing experience would diminish. If angling pressure were to increase without actions to improve the fishery, it is likely that fish recruitment and survival would decrease for some species.

Change in the Threat of Aquatic Invasive Species Infestation

Alternative A would result in continued existing conditions with regard to AIS. If visitation increased in the future, the added boat traffic would increase the likelihood for AIS infestation. Continuing to limit boat capacity and parking would diminish the opportunity for AIS infestation.

Table 4-9. Summary of Fishery Resources Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the quality and quantity of fish spawning and recruitment habitat	Ongoing negative impacts associated with unfettered shoreline access around Steinaker Reservoir.	Minimal impact associated with designating Natural Areas and creating hiking trails.	Negative impact associated with continued unfettered shoreline access, as well as developing new recreational facilities.
Change in the amount of angling pressure	No change from existing conditions. However, a future increase in visitation would continue to increase fishing pressure.	Slight negative impact with increased walking/hiking access and shoreline access, which would increase fishing pressure.	Negative impact associated with developing new recreational facilities with more boat launching and recreational capacity, as well as increased shoreline fishing access through walking/hiking trails.
Change in the threat of AIS infestation	No change from existing conditions. However, a risk is always present.	Little to no impact without increases or improvements to facilities and boat ramps.	Negative impact associated with developing new recreational facilities and increasing boat launching traffic allowing for greater potential for infestation.

Alternative B: Resource Conservation Emphasis

Change in the Quality or Quantity of Fish Spawning and Recruitment Habitat

As under Alternative A, minimal impacts to spawning and recruitment habitat in the Study Area would result from Alternative B. There would also be a slight increase in impacts to riparian vegetation and shoreline substrate from increased shoreline erosion due to increased foot traffic.

Change in the Amount of Angling Pressure

An anticipated increase in future visitation would negatively impact the fishery by increasing angling pressure. Higher angler pressure could reduce sport fish catch rates. If angling pressure were to increase, it is possible that fish recruitment and survival would decrease for some species. Changes in the amount of accessible shoreline through trail development would increase angling pressure for the Study Area.

Change in the Threat of Aquatic Invasive Species Infestation

As with Alternative A, Alternative B would result in continued existing conditions with regard to AIS. If visitation increases in the future, the added boat traffic would increase the likelihood for AIS infestation. Continuing to limit boat capacity and parking would diminish the opportunity for increased traffic.

Alternative C: Recreation Development Emphasis

Change in the Quality or Quantity of Fish Spawning and Recruitment Habitat

Minimal beneficial impacts to spawning and recruitment habitat would result from implementing Alternative C. There would be a slight reduction in impacts to riparian vegetation and shoreline substrate from reduced shoreline erosion. These benefits would result from implementing erosion control measures and designating Natural Areas.

Negative impacts to the fishery would be associated with expanding recreation facilities in the developed recreation areas. These activities would contribute to erosion and siltation of the reservoir's littoral area. Adding an access trail along the Scenic Byway Area would impact the fishery if vegetation clearing and erosion occurred in those areas.

Alternative C would have a slight negative impact from developing new camping and picnicking facilities and associated access roads and trails.

Change in the Amount of Angling Pressure

Alternative C would result in a slight negative impact associated with increased angling pressure from the development of new recreation facilities. Angling pressure would increase as more access becomes available. This is especially true in the Scenic Byway Area.

Change in the Threat of Aquatic Invasive Species Infestation

Alternative C would result in increased likelihood of an AIS infestation. With increased angling pressure and increased boat traffic, the threat of an AIS being brought into Steinaker Reservoir becomes higher.

Cumulative Impacts

Other factors impacting the Study Area fishery include reservoir water level fluctuations and water quality conditions. Under past, present, and reasonably foreseeable conditions, late spring and summer irrigation draw-downs typically occur during the spawning and young-of-the-year rearing periods. At times, such dewatering likely affects the reproductive success of littoral spawning fishes and reduces the aquatic invertebrate food base available to these fishes. Additionally, summer low-water levels are usually associated with depressed dissolved oxygen levels, which at times would result in fish kills. Low dissolved oxygen levels would also lead to anoxic conditions during winter when ice and snow covering the reservoir limit oxygen-producing photosynthetic activity. Water quality is also influenced by upstream land use practices such as grazing, timber management, agriculture, mining, and other factors. Sediment inputs from upstream and nearshore activities can impair littoral habitat and also contribute to reduced water quality.

Assuming fishery management practices continue as they have in the past or improve as a result of developing a Fishery Management Plan (Alternative B or C), and because the reservoir is managed as a put-and-take fishery, there is little threat of losing quality angling opportunities at the Study Area.

With any alternative, the threat of introducing an AIS to the reservoir is possible. Under Alternative C, as facilities are improved or added, visitation is more likely to increase along with the distance traveled to visit. With visitors traveling from other regions, the risk of new AIS invasions would potentially increase.

Mitigation Measures

Under Alternative B or C, Reclamation will engage partners, particularly State Parks and UDWR, in developing a Fishery Management Plan. Among other elements, the Fishery Management Plan would include goals to emphasize AIS awareness and preventive measures for

the Study Area. Other mitigation measures to improve water quality and upland habitats that would be implemented with Alternative B or C would also benefit fishery resources.

Residual Impacts

With the previously stated mitigation measures, neither of the RMP action alternatives would have residual impacts to the Study Area fishery.

Threatened, Endangered, and other Special Status Species

Issues

How would the implementation of an RMP affect threatened, endangered, and other special status species and their habitats in the Study Area?

Impact Indicators

The following impact indicators were used to determine if implementation of the RMP would affect threatened, endangered, and other special status species and their habitats within the Study Area:

- change in the quantity and quality of habitat for a given species, and
- change in the level of human-related disturbance.

Analysis Methods

Methods used to assess impact indicators for special status wildlife species are similar to those described in the wildlife section of this chapter. Species potentially occurring in the Study Area are the American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), burrowing owl (*Athene cunicularia*), greater sage-grouse, Townsend's big-eared bat (*Corynorhinus townsendii*), and white-tailed prairie dog (*Cynomys leucurus*).

None of the special status fish species discussed in Chapter 3 are known to occur in Steinaker Reservoir. None of the RMP alternatives would be expected to impact special status fish species outside of the reservoir because none of the alternatives would change water rights or facilities operations.

For special status plants (rare plants), RMP alternatives were compared with existing rare plant habitat to provide an estimate of how each alternative would impact appropriate habitat within vegetation communities. Each community within the Study Area with potential to support rare plant habitat was analyzed. Specifically, new trail and trailhead construction and changes in the land use designation were used to describe potential for impacts. Typical disturbances related to the RMP alternative actions would include elimination of vegetation within developed use areas, construction of new trails and trailheads, increased foot traffic and motorized disturbance, and increased potential for noxious weed invasion.

Summary of Impacts

Impacts of RMP alternatives to special status wildlife species are summarized in Table 4-10. Under Alternative A, conditions for special status species would not be expected to change.

Table 4-10. Summary of Impact Assessments for Special Status Wildlife Species at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the quantity and quality of habitat for special status species	No change from existing conditions and trends.	Minimal impacts to the quantity and quality of habitat related to facility upgrades and improvements. Enhancement of habitat through designation of Natural Areas and development of a Habitat Management Plan.	Minimal impacts of habitat loss due to facility improvements and new facility developments; site-specific environmental analysis required. Enhancement of habitat through designation of Natural Areas and development of a Habitat Management Plan.
Change in the level of human-related disturbance for special status species	No change from existing conditions and trends.	Short-term increase in disturbance during improvements to facilities in localized areas. Long-term decrease in disturbance due to decommissioning of unimproved roads and Natural Area designations.	Some localized increase in disturbance with facility improvement and new facility development; site-specific environmental analysis required. Long-term decrease in disturbance due to decommissioning of unimproved roads and Natural Area designations.

Alternatives B and C would generally provide benefits to special status species by improving resource management and increasing habitat protection within the Study Area. Alternative C would have less benefit because of its emphasis on recreational development and resulting increases in area disturbed by human activity and fewer acres of Natural Area land use designation. Site-specific assessments would be required for any new recreation facility developments under Alternative C in order to determine actual presence and potential for impacts to special status species.

Five bird species—American white pelican, bald eagle, ferruginous hawk, greater sage-grouse, and burrowing owl—either nest, forage, or are expected to occur within Uintah County, Utah, and potentially the Study Area. Three of the species—bald eagle, ferruginous hawk, and greater sage-grouse—occur throughout the year. The remaining two species, burrowing owl and American white pelican, do not occur during winter.

Two mammal species, Townsend's big-eared bat and white-tailed prairie dog, either are known to occur or potentially occur in the Study Area.

Impacts to the vegetation communities that have potential to support rare plants are summarized in Table 4-11. The analysis involved comparing changes in the quantity and condition of rare plant habitat, as well as changes in the designated use classification. Alternative A involves no actions that would alter existing conditions and trends for rare plants. Alternative B includes the construction of new trails. Alternative B has potential for improving the overall condition of rare plant habitat but also increasing disturbance through the expansion of trails. Alternative C includes the construction of new trails and changes in the designated use classification of upland

Table 4-11. Summary of Potential Rare Plant Habitat Impacts at Steinaker Reservoir.

VEGETATION COMMUNITIES WITH POTENTIAL TO SUPPORT RARE PLANTS	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Pinyon-Juniper Woodland	No change from existing conditions and trends.	416 acres of Natural Area. 0.9 mile of new trails.	410 acres of Natural Area. 0.9 mile of new trials.
Sagebrush Shrubland	No change from existing conditions and trends.	127 acres of Natural Area. 0.2 mile of new trails.	112 acres of Natural Area. 0.2 mile of new trails.
Riparian	No change from existing conditions and trends.	19.5 acres of Natural Area. 0.9 mile of new trails.	8.8 acres of Natural Area. 0.9 mile of new trails.

vegetation communities. Alternative C has the potential to slightly increase the level of disturbance to overall rare plant habitat.

Alternative A: No Action

Additional recreational development would not occur under Alternative A. In addition, land use category changes, erosion control measures, and habitat management planning would not be pursued under Alternative A. Because these actions would not occur under Alternative A, there would be no change in habitat quantity and quality, or disturbance levels for special status species, compared with existing conditions and trends.

Alternative B: Resource Conservation Emphasis

Change in the Quantity and Quality of Habitat for a Given Species

Under Alternative B, special status species would generally benefit from reduced disturbance in areas designated as Natural Areas (775.6 acres, or 41.3% of the total Study Area acreage). Special status species also would likely benefit from the following management actions: maintaining the current carrying capacity of no more than 60 boats on the reservoir at any given time, revegetation of disturbed areas, and restricting motorized access in Natural Areas.

Change in the Level of Human-Related Disturbance

Under Alternative B, special status species in the Study Area would generally benefit from reduced amounts of human-related disturbance in areas that provide suitable habitat. Short-term disturbance to special status species would likely occur during the improvement of existing recreational facilities (e.g., sanitary facilities, utility upgrades) and implementation of erosion control measures and habitat improvements. Short-term impacts would include greater stress to the inhabitants and temporary displacement of wildlife to adjacent habitats. However, impacts would be minimal because of the limited amount of proposed development and availability of similar habitat in the surrounding area. No long-term impacts are anticipated on any of the listed species.

The American white pelican would benefit from Alternative B. Although the designation of Natural Areas is most likely to benefit terrestrial species, Alternative B also would provide the opportunity to develop a Fisheries Management Plan that would include addressing habitat needs for aquatic species.

For the bald eagle, specific benefits or impacts under Alternative B are likely directly related to Study Area visitation levels and, just as importantly, the presence of super-canopy roost trees, such as eastern cottonwood (*Populus deltoides*), narrowleaf cottonwood (*Populus angustifolia*), and Fremont cottonwood (*Populus fremontii*). During winter, the bald eagle has less specific foraging habitat requirements than it does during the breeding season (Buehler 2000). Under Alternative B, creation of Natural Areas would reduce the likelihood of harassment or disturbance by visitors, but the benefits would be minimal, at least during winter, when there are fewer visitors and associated disturbances.

The ferruginous hawk, should it occur on the Study Area, is likely to benefit from management actions under Alternative B, primarily from designation of Natural Areas. Study Area habitat types known to be used by the ferruginous hawk and designated as Natural Areas would provide benefits to this species. In particular, the Bedrock Canyon and Tableland habitat type potentially provides nest sites for this species, which are typically located on slightly elevated terrain, such as rocky outcroppings (Bechard and Schmutz 1995).

Currently the UDWR has not delineated habitat for the greater sage-grouse within the Study Area, suggesting that suitable habitat does not exist there. If it does occur, the greater sage-grouse would likely benefit from habitat improvements and potential decreases in human disturbance expected to occur under Alternative B. Protecting sensitive areas from recreation has been identified as an important management action for protecting and enhancing greater sage-grouse populations (Stiver et al. 2006).

If it does occur within the Study Area, the white-tailed prairie dog would benefit from the designation of Natural Areas under Alternative B. The degree to which it would benefit depends on where it occurs in the Study Area; this species is known to use montane meadows and semidesert grasslands (Kays and Wilson 2009). In the Study Area, it would occur in one of four habitat types: Pinyon-Juniper Shrubland, Sagebrush Shrubland, Mixed Salt Desert Scrub, or Greasewood Flat.

Potential benefits of Alternative B for the white-tailed prairie dog would similarly benefit the burrowing owl, because throughout much of its range the burrowing owl uses prairie dog burrows as both nest and roost sites (Poulin et al. 2011).

If it occurs within the Study Area, the Townsend's big-eared bat is likely to benefit from management actions under Alternative B, primarily from the designation of Natural Areas. In Utah, this species is known to occur in Pinyon-Juniper Shrublands (Adams 2003; Kays and Wilson 2009), which composes 602 of the 1,880 total acres (32.0%) in the Study Area. Because of this, the Townsend's big-eared bat would potentially benefit from the creation of Natural Area.

Alternative B includes the construction of approximately 2.8 miles of new nonmotorized trails. Pinyon-Juniper, Sagebrush Shrubland, and Riparian communities would have a slight increase in overall disturbance. However, 776 acres would be designated as Natural Area and would be managed under a Habitat Management Plan to be developed as an RMP objective of Alternative B. This designation and associated planning would generally benefit rare plant species.

Alternative C: Recreation Development Emphasis

Change in the Quantity and Quality of Habitat for a Given Species

Under Alternative C, special status species would generally benefit from designation of Natural Areas and maintaining the current carrying capacity of 70 boats on the reservoir at any given time. However, because Alternative C increases the amount of land devoted to developed recreation uses, there would be potential for localized short-term and long-term impacts to those same species, as detailed below.

Change in the Level of Human-Related Disturbance

Four of the five special status bird species—bald eagle, American white pelican, ferruginous hawk, and burrowing owl—have potential to be affected by actions proposed under Alternative C. Short- and long-term disturbance impacts for any of these special status species under Alternative C would be similar to the impacts previously described for general wildlife. Short-term disturbance would occur during the development of new recreation facilities. These impacts would be minimal because of the limited duration of the activities and availability of similar habitat in the surrounding area. Longer-term disturbance would occur in areas where recreational use would increase in association with the new facilities. Impacts would include stress, reduced reproductive success, and displacement.

There are no expected detrimental impacts on the greater sage-grouse because the UDWR has not delineated habitat for this species within the Study Area, suggesting that suitable habitat does not currently exist there.

If it occurs within the Study Area, the Townsend's big-eared bat is likely to benefit from designation of Natural Area under Alternative C. In Utah, the Townsend's big-eared bat is known to occur in Pinyon-Juniper Shrublands (Adams 2003; Kays and Wilson 2009), which composes 602 of the 1,880 total acres (32.0%) in the Study Area, some of which would be reclassified as Natural Area under Alternative C.

Because actual occurrence of any of the special status species is not known, surveys for species and assessment of potential impacts should be completed prior to implementation of site-specific designs.

Alternative C includes the reclassification of 325 acres of Undeveloped Day Use Recreation Area to Natural Area and reclassification of 26 acres of Undeveloped Day Use Recreation Area to Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. Alternative C also includes the construction of approximately 2.8 miles of new nonmotorized trails and two OHV trailheads. Pinyon-Juniper, Sagebrush Shrubland, and Riparian communities would have an overall increase in disturbance. Due to the potential for more intense disturbances within the developed use areas, Alternative C has the potential for

slightly decreasing the overall level of disturbance to the upland vegetation community that has potential to support rare plants.

Cumulative Impacts
Cumulative impacts to special status wildlife species would be the same as those described in the Wildlife section of this chapter. For rare plants, public use and the continued threat of noxious weed invasion are the most likely cumulative impacts expected as a result of past, present and reasonably foreseeable future impacts. Riparian areas are especially vulnerable to weed invasion. Alternative C would slightly increase the level of cumulative impacts on rare plant habitat.

Mitigation Measures
Mitigation measures for special status species are inclusive of those previously described for vegetation, wildlife, and fisheries. Surveys for special status species (wildlife and rare plants) would be completed as a component of site-specific environmental analysis prior to implementing any recreation facility developments.

Residual Impacts
With the previously stated mitigation measures and pending site-specific environmental assessments, the RMP action alternatives would not have significant residual impacts on any special status species occurring in the Study Area.

Cultural Resources

Issue
How would implementation of an RMP affect the physical integrity of cultural resources within the Study Area?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect the cultural resources within the Study Area:

- change in the integrity of cultural resource sites.

Analysis Methods
A Class I cultural resource literature search was conducted by Reclamation's archeologist to identify any previously conducted cultural resource inventories and recorded cultural resource sites within the Study Area. Files at Reclamation and General Land Office maps were also examined. Previously determined site integrity information ascertained from the literature search was used as a basis to address the impact indicator for each RMP alternative.

Summary of Impacts
Each alternative has the potential to impact to a varying degree the integrity of cultural resource sites within the Study Area. As proposed development increases within an alternative, so does the potential for impacts to the integrity of cultural resources. A summary of the projected impacts to cultural resources as a result of each alternative are shown in Table 4-12.

Table 4-12. Summary of Cultural Resources Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the integrity of cultural resource sites	Potential impacts to integrity of surficial and subsurface cultural resources unchanged.	Potential slight increased impact to the integrity of surficial and subsurface cultural resources.	Increased potential to impact the integrity of surficial and subsurface cultural resources caused by increased development.

Alternative A: No Action

Under Alternative A, there is a potential for impacts to the integrity of cultural resources. This alternative maintains existing recreation development areas but allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. This alternative also involves managing a large portion of the Study Area as an Undeveloped Day Use Recreation Area. This potentially increases public access into these areas. Increased public access has the potential to increase the unauthorized collection or excavation of cultural resources, thus impacting site integrity. Alternative A potentially involves the replacement or repair of existing facilities, which in some cases represent cultural resources themselves. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of implementing management practices under Alternative A. This type of activity has the potential to impact the integrity of both surficial and subsurface cultural resources.

Alternative B: Resource Conservation Emphasis

Under Alternative B, a large portion of the Study Area would be designated as Natural Areas; however, there is still a potential for impacts to the integrity of cultural resources. The land use proposed under this alternative is similar to that of Alternative A, with lands devoted to developed recreation remaining unchanged. Alternative B still allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. This alternative would also continue the management of a portion of the Study Area as an Undeveloped Day Use Recreation Area. This designation potentially increases public access into these areas. Increased public access has the potential to increase the unauthorized collection or excavation of cultural resources, thus impacting site integrity. As with Alternative A, Alternative B potentially involves the replacement or repair of existing facilities, which in some cases represent cultural resources themselves. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of implementing management practices under Alternative B. This type of activity has the potential to impact the integrity of both surficial and subsurface cultural resources.

Alternative C: Recreation Development Emphasis

Under Alternative C, there is an increased potential for impacts to the integrity of cultural resources. Alternative C still allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. Additionally, Alternative C includes the development of additional boating, camping, picnicking, and parking facilities as well as associated access roads. This alternative also includes potential development of group recreation sites, rental cabins/yurts, hiking trails, shoreline access, and an accessible

fishing dock. Development increases the potential to impact the integrity of both surficial and subsurface cultural resources.

Alternative C also involves expanding developed portions of the Study Area, including Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. These designations potentially increase public access into these areas. Increased public access has the potential to increase the unauthorized collection or excavation of cultural resources, thus impacting site integrity. As with Alternatives A and B, Alternative C potentially involves the replacement or repair of existing facilities, which in some cases represent cultural resources themselves. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of implementing management practices under Alternative C. This type of activity has the potential to impact the integrity of both surficial and subsurface cultural resources.

Cumulative Impacts

Past, present, and reasonably foreseeable cumulative impacts to cultural resources would be likely to occur under any of the three RMP alternatives. Fluctuations in reservoir levels (wave action) as well as sedimentation would continue to impact cultural resources located at Steinaker Reservoir. Upgrades to existing facilities, which in some cases represent cultural resources themselves, are another form of potential cumulative impact. Other potential cumulative impacts, such as unauthorized collection or excavation of cultural resources and erosion, would potentially result from development and increased public use within the Study Area.

Mitigation Measures

Reclamation will ensure the completion of cultural resource compliance for all site-specific undertakings as a means to fulfill Section 106 of the National Historic Preservation Act, as well as to avoid, reduce, or mitigate impacts to the integrity of cultural resources. Avoidance is the preferred method of cultural resource mitigation. If historic properties are located within the area of potential effects associated with a specific undertaking, and if they would be impacted by activities associated with the undertaking, a Memorandum of Agreement (MOA) would be developed. The MOA would be among Reclamation, the Utah State Historic Preservation Office, the Advisory Council on Historic Preservation (if it chooses to participate), and any other party that assumes responsibility under the agreement. The MOA would include the terms and conditions agreed upon to resolve (mitigate) the impacts of the undertaking upon historic properties.

Residual Impacts

Cultural resources are, by definition, nonrenewable resources. If alternative impacts to cultural resources remain unmitigated, the integrity of the resource is likely to be lost. In turn, information and data associated with the resource also becomes unavailable. With implementation of the above-stated mitigation measures, selection of an action alternative would not cause significant impacts to cultural resources.

Paleontological Resources

Issue

How would implementation of an RMP affect paleontological resources within the Study Area?

Impact Indicators

The following impact indicator was used to determine if implementation of the RMP would affect the paleontological resources within the Study Area:

- change in the condition of paleontological resource localities.

Analysis Methods

A paleontological resource file search was conducted by the Utah Geological Survey, at the request of Reclamation, to identify any previously conducted paleontological resource surveys and recorded paleontological resource localities within the Study Area. Files at Reclamation were also examined. Previously determined locality condition information ascertained from the file search was used as a basis to address the impact indicator for each RMP alternative.

Summary of Impacts

Each alternative has the potential to impact to a varying degree the condition of paleontological resource localities within the Study Area. As proposed development increases within an alternative, so does the potential for impacts to the condition of paleontological resource localities. A summary of the projected impacts to paleontological resources as a result of each alternative are shown in Table 4-13.

Table 4-13. Summary of Paleontological Resources Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the condition of paleontological resource localities	Potential impacts to condition of surficial and subsurface paleontological resources.	Potential impacts to condition of surficial and subsurface paleontological resources.	Increased potential to impact the condition of surficial and subsurface paleontological resources caused by increased development.

Alternative A: No Action

Under the Alternative A, there is a potential for impacts to the condition of paleontological resources. This alternative maintains existing recreation development areas but allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. This alternative also continues management of a large portion of the Study Area as Undeveloped Day Use Recreation Area. This designation potentially increases public access into these areas, which has the potential to increase the unauthorized collection or excavation of paleontological resources, thus impacting locality condition. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of implementing management practices under Alternative A. This type

of activity has the potential to impact the condition of both surficial and subsurface paleontological resources.

Alternative B: Resource Conservation Emphasis

Under Alternative B, a large portion of the Study Area would be designated as Natural Area, which would limit public access to these areas. However, there is still a potential for impacts to the condition of paleontological resources. Other land uses proposed under this alternative are similar to Alternative A, with lands devoted to developed recreation remaining unchanged. Alternative B still allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. This alternative also involves continuing management of a portion of the Study Area as an Undeveloped Day Use Recreation Area. This designation potentially increases public access into these areas. Increased public access has the potential to increase the unauthorized collection or excavation of paleontological resources, thus impacting locality condition. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of implementing management practices under Alternative B. This type of activity has the potential to impact the condition of both surficial and subsurface paleontological resources.

Alternative C: Recreation Development Emphasis

Under Alternative C, there is an increased potential for impacts to the condition of paleontological resources. Alternative C still allows for facility upgrades, site redesign, and the installation, maintenance, or upgrading of boundary fencing, gates, and cattle guards. Additionally, Alternative C includes the development of additional boating, camping, picnicking, and parking facilities, as well as associated access roads. This alternative also includes expanding group recreation sites, rental cabins/yurts, hiking trails, shoreline access, and an accessible fishing dock. Development increases the potential to impact the condition of both surficial and subsurface paleontological resources.

Alternative C also involves expanding developed portions of the Study Area including Developed Day Use, Developed Overnight, and Developed Day Use and Overnight Group Recreation Areas. Many of these designations potentially increase public access into these areas. Increased public access has the potential to increase the unauthorized collection or excavation of paleontological resources, thus impacting locality condition. In addition, there would likely be other ground-disturbing activities, such as erosion control, revegetation, and road maintenance, as a result of practices under Alternative C. This type of activity has the potential to impact the condition of both surficial and subsurface paleontological resources.

Cumulative Impacts

Past, present, and reasonably foreseeable cumulative impacts to paleontological resources would likely occur under any of the three RMP alternatives. Fluctuations in reservoir levels (wave action) as well as sedimentation would continue to impact paleontological resources located at Steinaker Reservoir. Other potential cumulative impacts, such as unauthorized collection or excavation of paleontological resources and degradation, would potentially result from development and increased public use within the Study Area.

Mitigation Measures
Reclamation will ensure the completion of paleontological resource compliance for all site-specific projects as a means to fulfill Section 6302 of the Paleontological Resources Preservation Act, as well as to avoid, reduce, or mitigate impacts to the condition of paleontological resources. Avoidance is the preferred method of paleontological resource mitigation. If avoidance of paleontological resources is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to paleontological resources.

Residual Impacts
Paleontological resources are, by definition, nonrenewable resources. If alternative impacts to paleontological resources remain unmitigated, the resource is likely to be destroyed. In turn, information and data associated with the resource also becomes unavailable. With implementation of the above-stated mitigation measures, selection of an action alternative would not cause significant impacts to paleontological resources.

Indian Trust Assets

Issue
How would implementation of an RMP affect Indian Trust Assets (ITAs) within the Study Area?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect the ITAs within the Study Area:

- change in the use and quality of ITAs.

Analysis Methods
Reclamation contacted the Bureau of Indian Affairs (BIA) Uintah and Ouray Agency in Fort Duchesne, Utah, to identify any potential impacts to ITAs within the Study Area. According to the BIA, the only known ITA involves a water right in the Green River held in trust for the Ute Indian Tribe of the Uintah and Ouray Reservation. This ITA information was used as a basis to address the impact indicator for each RMP alternative.

Summary of Impacts
The water right in the Green River held in trust for the Ute Indian Tribe of the Uintah and Ouray Reservation would not be impacted by any RMP alternative. A summary of the projected impacts to ITAs as a result of each alternative are shown in Table 4-14.

Alternative A: No Action
Under Alternative A, there is no projected impact to ITAs.

Alternative B: Resource Conservation Emphasis
Under Alternative B, there is no projected impact to ITAs.

Table 4-14. Summary of Indian Trust Assets (ITAs) Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the use and quality of Indian Trust Assets (ITAs)	No projected impact to ITAs.	No projected impact to ITAs.	No projected impact to ITAs.

Alternative C: Recreation Development Emphasis
Under Alternative C, there is no projected impact to ITAs.

Cumulative Impacts
There are no projected cumulative impacts to ITAs following implementation of any of the RMP alternatives.

Mitigation Measures
Reclamation will ensure the completion of ITA compliance for all site-specific projects as a means to fulfill both U.S. Department of the Interior (512 DM 2) and Reclamation policies regarding ITAs, as well as to avoid, reduce, or mitigate impacts to ITAs. Avoidance is the preferred method of ITA mitigation. If avoidance of ITAs is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to ITAs.

Residual Impacts
There are no projected residual impacts to ITAs following implementation of any of the RMP alternatives.

Land Management

Energy, Minerals, and other Extractive Resources

This section evaluates RMP alternatives for potential impacts on the energy, minerals, and other extractive resources within the Study Area.

Issue
How would implementation of an RMP affect the exploration and development of energy, minerals, and other extractive resources within the Study Area?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect energy, minerals, and other extractive resources within the Study Area:

- change in the development of locatable, saleable, or leasable mineral resources.

Analysis Methods

The impact indicator noted above was used to determine impacts to locatable, saleable, and leasable mineral resources. Impacts to these mineral resources are discussed qualitatively below.

Summary of Impacts

Impacts to locatable mineral resources (e.g., gold and silver) would not occur because these types of mineral resources do not occur within the Study Area. Limited quantities of saleable mineral resources (e.g., sand, gravel, and cobbles) do exist in the Honda Hills Area. The potential for leasable mineral resources does exist within the Study Area. Leasable mineral resources are located in the vicinity of the Study Area, but they have not been documented within the Study Area. Under Alternative C, the exploration and development of these resources would be impacted by the development of proposed Developed Day Use Recreation Area. Table 4-15 summarizes the impacts to the development of mineral resources.

Table 4-15. Summary of Energy, Minerals, and Other Extractive Resources Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the development of locatable, saleable, or leasable mineral resources	No projected impacts to energy, minerals, and other extractive resources.	No projected impacts to energy, minerals, and other extractive resources.	Possible impacts to the development of saleable mineral resources in the Honda Hills portion of the Study Area.

Alternative A: No Action

Under Alternative A, there would be no change in the management of the exploration and development of locatable mineral resources because these resources do not occur in the Study Area. Saleable minerals have been documented in the Honda Hills Area. Leasable minerals have been documented in the vicinity of the Study Area, but they have not been documented within the Study Area. Impacts to the exploration or development of saleable or leasable mineral resources within the Study Area would not occur because there would be no change in management of these resources under Alternative A.

Alternative B: Resource Conservation Emphasis

Impacts to mineral resources under Alternative B would be the same as those described for Alternative A.

Alternative C: Recreation Development Emphasis

Under Alternative C, impacts to locatable or leasable mineral resources would be the same as those described for Alternative A. Development of saleable mineral resources in the Honda Hills Area would be impacted through the development of a proposed Developed Day Use Recreation Area in this portion of the Study Area. However, there are no known plans for development of saleable mineral resources within the Study Area.

Cumulative Impacts
Implementation of an RMP would not result in any cumulative impacts to the exploration and development of locatable or leasable mineral resources in the Study Area. Cumulative impacts to the development of saleable mineral resources in the Honda Hills Area include limiting access to the resource due to the development of a proposed Developed Day Use Recreation Area.

Mitigation Measures
No mitigation measures for locatable or leasable mineral resources are necessary as there are no impacts to the exploration and development of the resources in the Study Area. Potential mitigation measures for saleable mineral resources would include designing and developing the proposed Developed Day Use Recreation Area near Honda Hills such that the saleable mineral resources continue to be accessible.

Residual Impacts
Implementation of any RMP alternative would result in no residual impacts to the exploration and development of mineral resources in the Study Area.

Wastewater, Solid Waste, and Hazardous Materials

This section evaluates RMP alternatives for the potential of wastewater, solid waste, and hazardous materials to contaminate soil, groundwater, and surface water in the Study Area.

Issue
How would implementation of an RMP affect the likelihood of contamination of soil, groundwater, and surface water by wastewater, solid waste, and hazardous materials?

Impact Indicators
The following impact indicator was used to determine if implementation of the RMP would affect the likelihood of contamination of soil, groundwater, and surface water by wastewater, solid waste, and hazardous materials within the Study Area:

- change in the amount of sanitation facilities.

Analysis Methods
Existing and proposed recreational facility plans were used to determine the variation in the amount of restroom facilities and refuse control proposed for each RMP alternative. Potential impacts to soil, groundwater, and surface water are discussed qualitatively.

Summary of Impacts
Under Alternative A sanitation facilities would potentially be redesigned or rehabilitated, but otherwise would not change. Alternative B would be the same as Alternative A. Under Alternative C, the existing Developed Day Use, Developed Overnight, and Developed Overnight and Day Use Group Recreation Areas would be expanded. This would likely include the expansion of the existing septic systems and the addition of a small number of vault toilets. Additionally, the same vault toilet addition, as described for Alternative B, would be added to the existing northern trailhead. The additional vault toilets would not pose a risk for groundwater,

soil, or surface water contamination because the restrooms would be self-contained and pumped regularly. The possible expansion of septic systems under Alternative C has the potential to slightly increase nitrogen loads to Steinaker Reservoir via groundwater transport (Table 4-16).

Table 4-16. Summary of Wastewater, Solid Waste, and Hazardous Materials Impacts at Steinaker Reservoir.

IMPACT INDICATOR	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: RESOURCE CONSERVATION EMPHASIS	ALTERNATIVE C: RECREATION DEVELOPMENT EMPHASIS
Change in the amount of sanitation facilities	No change from existing conditions.	Additional use of existing septic systems with the addition of a long-term camping area.	Increase in the number of vault toilets and possible expansion of existing septic systems.

Alternative A: No Action

Under Alternative A, restroom facilities and refuse controls would not change. Currently, the Study Area has flush toilets at the Developed Overnight Recreation Area and vault toilets at the Developed Day Use and Developed Overnight and Day Use Group Recreation Areas. The waste from these restrooms is either discharged to septic tanks and absorption fields or pumped regularly. Therefore, these restrooms do not pose a risk to groundwater, soil, or surface water quality. All solid waste is currently transported out of the Study Area for disposal in a local landfill.

Alternative B: Resource Conservation Emphasis

Under Alternative B, restroom facilities and refuse controls would be the same as under Alternative A. Development of 6–10 long-term camping sites would add incrementally to the use of existing septic systems in the State Park Management Area.

Alternative C: Recreation Development Emphasis

Under Alternative C, the existing Developed Day Use, Developed Overnight, and Developed Overnight and Day Use Group Recreation Areas would be expanded and a long-term camping area would be added. These developments would likely include the expansion of the existing septic systems and the addition of a small number of vault toilets. The possible expansion of septic systems under this alternative has the potential to slightly increase nitrogen loads to Steinaker Reservoir via groundwater transport. An increase in the number of vault restrooms does not pose a risk for groundwater, soil, or surface water contamination because the restrooms would be self-contained and pumped regularly. An increase in the number of visitors would necessitate additional refuse collection in the Study Area. The vault toilet that would be provided at the existing northern trailhead would reduce the risk of groundwater, soil, or surface water contamination by human waste in this area.

Cumulative Impacts

Implementing an RMP and ongoing use of flush restroom facilities would continue to result in the cumulative change to the groundwater, soil, or surface water quality in the Study Area. As a result of campground and associated recreation facility construction, the risk of groundwater,

soil, or surface water quality degradation would increase. Cumulative impacts would include this potential impact, combined with the change to the groundwater, soil, or surface water quality in the past.

Mitigation Measures

Under Alternative A or B, no mitigation measures are necessary for wastewater, solid waste, or hazardous materials, as there are no anticipated impacts. Under Alternative C and pending site specific environmental analysis and design, local and state regulations concerning septic tank renovations would be followed during the possible expansion of the existing septic systems in the Developed Overnight Recreation Area. Additionally, providing adequate refuse collection frequency at all refuse collection locations in the Study Area will help reduce the potential for accumulated trash to create groundwater, soil, or surface water contamination.

Residual Impacts

With implementation of the above-stated mitigation measures, none of the RMP alternatives would result in significant impacts to Study Area resources related to waste water, solid waste, and hazardous materials.

Chapter 5: Consultation and Coordination

The Steinaker Reservoir Resource Management Plan (RMP) Environmental Assessment (EA) was completed concurrently and in conjunction with the same process for Red Fleet Reservoir. The RMP/EA process required an extensive consultation and coordination effort. This chapter describes the coordination with agencies that either have jurisdiction by law or interest in the development of RMP document for the Steinaker Reservoir RMP Study Area (Study Area). The chapter also describes the public involvement process that was undertaken, lists persons who were involved in preparation of the document, and provides a distribution list of specific agencies and organizations receiving a copy of this EA.

Consultation

The Steinaker Reservoir RMP/EA Interdisciplinary Project Team (Project Team) consulted with numerous federal and state government agencies, special-interest groups, and local governments to discuss the issues and land-use problems that must be addressed in the RMP. Government agencies included the U.S. Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), the Utah Division of Wildlife Resources (UDWR), the Utah Division of Water Rights, the Utah Division of State Parks and Recreation (State Parks), the Utah Division of Water Quality, the Utah State Historic Preservation Officer (SHPO), the Uintah Water Conservancy District (UWCD), Uintah County, and Vernal City, Utah. Special interest groups included recreation interests and environmental interests.

Consultation with some of these agencies was conducted to ensure compliance with relevant laws and regulations. These included consultation with SHPO in compliance with the National Historic Preservation Act of 1966 (as amended in 1992) and consultation with the USFWS in compliance with the Endangered Species Act of 1973.

Public Involvement

The preparation of an RMP document for Steinaker Reservoir has required extensive public involvement activities throughout the planning process. Because the preparation of an RMP is a federal action requiring compliance with the National Environmental Policy Act (NEPA), the public involvement process serves both the RMP and NEPA documents. This section describes the general methods used to contact and solicit comment from interested parties.

The process of informing the public and soliciting response is known as “scoping.” The scoping process for the Steinaker Reservoir EA document was initiated in October 2011. 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 below.

Newsletters

Three newsletters designed to inform the public about progress during the planning process were sent to individuals, interested organizations, and agency personnel involved with the RMP. The

distribution list was updated throughout the planning process as contact information was provided. Editions of newsletters and a brief description of content are as follows:

- ***Newsletter 1 (November 2011).*** This newsletter provided an overview of the Study Area, a summary of the RMP/EA planning process, a description of public involvement activities, the project schedule, the proposed Planning Work Group, a list of key contacts, identified preliminary issues, and requested that individuals fill out a voluntary comment form.

- ***Newsletter 2 (May 2012).*** This newsletter provided an update on the planning process, described the draft land use categories, presented the preliminary alternatives that will be evaluated in detail in the EA, and requested that individuals fill out a voluntary comment form.

- ***Newsletter 3 (March 2013).*** This newsletter provided an update on the planning process, discussed the release of the Draft EA document, and presented information on how individuals could provide comments.

Public Workshops

Public workshops were held at each stage of the RMP planning process to inform interested parties of progress on the RMP and to solicit comments from the general public and agency stakeholders. These public workshops were "open house" informational meetings, during which individuals were able to freely participate. Several Project Team members were available to answer questions. Each workshop was held at the Uintah County Western Park center in Vernal from 6:00 to 8:00 p.m. Resource and management issues, future resource management goals and objectives, and potential management approaches for the Study Area were discussed at these workshops. The following is a summary of the workshops with descriptions of their proceedings:

- ***Workshop 1 (November 17, 2011).*** The first workshop allowed attendees to identify the issues, concerns, and opportunities inherent at the Study Area. Maps and photographs of the Study Area were available for review. A preliminary list of issues was provided to inform the public of potential planning constraints, and members of the public were asked to comment on these issues and provide additional issues or concerns to be included in the RMP/EA planning process.

- ***Workshop 2 (May 9, 2012).*** The second public workshop gave the public and agency stakeholders opportunities to view maps, information boards, and proposed RMP alternatives. Detailed descriptions of the alternatives were provided and members of the public were asked to volunteer written feedback on comment forms.

- ***Workshop 3 (March 28, 2013).*** The third public workshop provided the public opportunities to view updated maps and proposed RMP alternatives. The Project Team members solicited suggestions for a "preferred RMP alternative" and answered questions regarding the Draft EA. Information was provided on how members of the public and agency stakeholders could provide comments on the Draft EA. Comment letters received and Reclamation responses are provided in Appendix D.

Resource Management Planning Work Group (PWG)

The PWG was formed to broadly represent agencies and stakeholders with significant interests in the future management and use of Study Area resources. Representatives in the PWG were selected primarily from those organizations and agencies directly involved with management of resources within the Study Area and included representatives of the UWCD, State Parks, UDWR, USFWS, BLM, Uintah County, and Vernal City. The purpose of the PWG was to facilitate information exchange and to provide an open forum for discussing all aspects of the RMP and the planning process. In addition, the PWG provided input into the identification of issues, development of goals and objectives, and formulation of a full range of RMP alternatives. A brief description of each of the four PWG meetings is as follows:

- ***Meeting 1 (October 18, 2011).*** At this meeting, PWG members were introduced, and an overview of the RMP/EA process was provided. The existing management situation was discussed, and Preliminary Issue Statements, Goals, and Objectives for the RMP process were developed.

- ***Meeting 2 (February 22, 2012).*** At this meeting, PWG members reviewed and finalized the Issue Statements, Goals, and Objectives; discussed the preliminary land-use categories; reviewed the recreational development suitability criteria; and obtained comments and ideas for preliminary RMP alternatives.

- ***Meeting 3 (May 9, 2012).*** At this meeting, PWG members reviewed and discussed their comments regarding RMP alternatives to be presented to the public and analyzed in detail in the EA.

- ***Meeting 4 (March 28, 2013).*** The purpose of this meeting was to provide an overview of the Draft EA document, discuss a preferred alternative, and describe how to provide comments to the U.S. Bureau of Reclamation (Reclamation) within the comment period.

Additionally, Reclamation scheduled a meeting with the Uintah County Commission on January 8, 2013. The purpose of the meeting was to discuss how comments received from the County Commissioners (in a letter dated May 30, 2012) had been incorporated into the RMP alternatives. Attendees at the meeting included representatives of the County Commission, Reclamation, UWCD, and State Parks.

Media

Media exposure for the Steinaker Reservoir RMP project included local newspapers (print and on-line) and radio. Print publicity in the form of legal notices and paid advertisements guaranteed adequate exposure and were placed in the Vernal Express newspaper. Radio notices were in the form of public service announcements and were delivered to local radio stations.

Distribution List

Copies of the Draft and Final EA documents were distributed by Reclamation's Provo Area Office to the government agencies, organizations, individuals, and libraries listed below.

Government Agencies

Uintah Water Conservancy District
78 West 3325 North
Vernal, Utah 84078

Uintah County Commission
152 East 100 North
Vernal, Utah 84078

Uintah Recreation District
610 S. Vernal Avenue
Vernal, Utah 84078

U.S. Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal, Utah 84078

U.S. Fish and Wildlife Service
Utah Field Office
2369 Orton Circle, Suite 50
West Valley City, Utah 84119

Utah Division of Wildlife Resources
Northeast Region
318 N. Vernal Ave.
Vernal, Utah 84078

Utah Division of State Parks and Recreation
PO Box 146001
Salt Lake City, Utah 84114-6001

Utah Division of State Parks and Recreation
Steinaker and Red Fleet State Parks
4335 N. Hwy 191
Vernal, Utah 84078-7800

Utah Public Lands Policy Coordination Office
5110 State Office Building
Salt Lake City, Utah 84114

Utah State Historic Preservation Office
300 S. Rio Grande Street
Salt Lake City, Utah 84101

Vernal City Mayor's Office
374 East Main Street
Vernal, Utah 84078

Interested Individuals and Organizations

Orlan and Donna Anderson
1966 West 1500 South
Vernal, Utah 84078

Trever Anderson
965 West 1100 South
Vernal, Utah 84078

Tammy Ferguson
1877 East 3500 South
Vernal, Utah 84078

Orlando Heaton
965 North 2175 West
Vernal, Utah 84078

Bret and Laurie Reynolds
917 North 2000 West
Vernal, Utah 84078

Marilyn Sweetser
780 West 350 North
Vernal, Utah 84078

Libraries

Uintah County Library
155 East Main
Vernal, Utah 84078

List of Preparers

The following is a list of preparers who participated in the development of the Draft and Final EA. They include Project Team members, Reclamation Team members, and other contributors.

Project Team Members

Table 5-1 provides a list of preparers from the BIO-WEST, Inc., Project Team, their qualifications, and their roles in developing the Draft and Final EA documents.

Reclamation Team Members

- Peter Crookston, Environmental Protection Specialist
- Jeffrey D'Agostino, Environmental Group Chief
- Troy Ethington, Geography/GIS
- Jonathan Jones, Water Resources Group Chief
- Brian Joseph, Archaeologist
- Kerry Schwartz, Water and Environmental Resources Division Manager/COR
- Johnn Sterzer, Landscape Architect

Table 5-1. List of Preparers for the Project Team.

NAME	RESPONSIBILITIES	QUALIFICATIONS
Christopher Sands	Project Team Leader, EA development, public involvement, and project management.	B.L.A. landscape architecture, M.L.A. landscape architecture, 24 years professional experience.
Sandra Turner	Public involvement and editorial oversight	A.A.S. science and journalism, B.S. English (professional writing emphasis), 20 years professional experience.
Chadd VanZanten	Document preparation	B.S. communications (journalism), 13 years professional experience.
Sean Keenan	EA development, public involvement, socioeconomic conditions	Ph.D. sociology, M.S. sociology, B.A. social and behavioral sciences, 6 years professional experience.
Sandra Davenport	Recreation and visual resources existing conditions and impact evaluation	M.L.A. landscape architecture, B.L.A landscape architecture, 20 years professional experience.
Michael Sipos	Wildlife oversight and impact evaluation	M.S. wildlife science, B.S. wildlife science, 18 years professional experience.
Mary Cheney	Wildlife existing conditions and impact evaluation	B.S. environmental studies, M.S. wildlife biology (candidate), 8 years professional experience.
Brandon Albrecht	Fisheries oversight and impact evaluation	M.S. aquatic ecology, B.S. fisheries and wildlife, 13 years professional experience.
Ron Kegerries	Fisheries existing conditions and impact evaluation	M.S. biology, B.S. biology, 10 years professional experience.
Melissa Stamp	Water resources existing conditions and impact evaluation	M.S. watershed science, B.A. geography, 17 years professional experience.
Shannon Herstein	Water quality existing conditions and impact evaluation	M.S. watershed science, B.S. watershed science, 12 years professional experience.
Alyson Eddie	Vegetation community oversight and impact evaluation	B.S. environmental biology and ecology, 10 years professional experience.
Kari Coy	Vegetation community existing conditions and impact evaluation	B.S. botany, A.A.S. general studies, 7 years professional experience.
Travis Taylor	Vegetation community existing conditions and impact evaluation	B.S. restoration and conservation ecology, 8 years professional experience.
Wes Thompson	Geology, soils, waste water, and hazardous materials oversight, existing conditions, and impact evaluation	B.S. composite sciences with an emphasis in geology, A.A.S. geology, Utah Professional Geologist Certificate (5540557-2250), 23 years professional experience.
Glen Busch	Geographic Information System (GIS) oversight, analysis, mapping, and presentation	M.S. bioregional planning, B.S. forest management, 10 years professional experience.
Adam Perschon	GIS analysis and mapping	A.S. communications, B.A. communications, M.S. bioregional planning (candidate), 7 years professional experience.
Aaron Crookston	GIS analysis and mapping	B.L.A. landscape architecture, ArcGIS Technician Certification, 5 years professional experience.
Jennifer Dunn	Public involvement, media coordination, document preparation, and administrative	18 years professional experience.

Other Contributors to the Planning Process

The following individuals participated in the Planning Work Group and/or otherwise assisted with information and analysis in the Draft and Final EA documents:

- Gawain Snow, General Manager, Uintah Water Conservancy District
- John Hunting, Assistant Manager for Operations, Uintah Water Conservancy District
- Mike Murray, Park Manager, Red Fleet and Steinaker State Parks
- Fred Hayes, Director, Utah Division of State Parks and Recreation
- Tim Smith, Regional Manager, Utah Division of State Parks and Recreation
- Leon Tate, Senior Business Analyst, Utah Division of State Parks and Recreation
- Jason West, Outdoor Recreation Planner, U.S. Bureau of Land Management, Vernal Field Office
- Amy Defreese, Ecologist, U.S. Fish and Wildlife Service, Utah Field Office
- Trina Hedrick, Northeast Region Aquatics Manager, Utah Division of Wildlife Resources
- Natalie Boren, Northeast Region Aquatic Invasive Species Coordinator, Utah Division of Wildlife Resources
- Darlene Burns, Uintah County Commissioner
- Diane Coltharp, Public Lands Specialist, Uintah County
- Lesha Coltharp, Travel and Tourism Specialist, Uintah County
- E. Allen Parker, Assistant City Manager and City Planner, Vernal City
- Mark Raymond, Uintah County Commissioner

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APPENDIX A: ISSUE STATEMENTS AND GOALS AND OBJECTIVES

APPENDIX A: ISSUE STATEMENTS AND GOALS AND OBJECTIVES

The Steinaker Reservoir Resource Management Plan (RMP) Project Issue Statements and Project Goals and Objectives represent the guidelines that were used in developing the resource management alternatives found in Chapter 2 of this Environmental Assessment (EA). The Issue Statements clarify the issues and opportunities (identified through public and agency scoping) that will be addressed and solved in the course of the RMP implementation process. The Goals and Objectives respond to the issues and opportunities identified in the Issue Statements. The Goals give descriptions of the desired future resource conditions at Steinaker Reservoir, while the Objectives define the activities required to achieve each Goal.

The Issue Statements and the Goals and Objectives were developed through an iterative process and are based on comments received through public and agency consultation and coordination as described in Chapter 5 of this EA. Specifically, their content was based on comments received from (1) the general public at the Public Workshops held in November 2011 and May 2012; (2) the general public through the Voluntary Mail-In Response Form contained in the first two editions of the project newsletter; (3) management agency personnel interviewed during the planning process including U.S. Bureau of Reclamation (Reclamation), Utah Division of State Parks and Recreation (State Parks), and Uintah Water Conservancy District (UWCD); (4) members of the Planning Work Group formed for the project; and (5) the Steinaker Reservoir RMP/EA Interdisciplinary Project Team members in a series of coordination meetings. The RMP Issue Statements and the Goals and Objectives are presented in their entirety in the following sections.

ISSUE STATEMENTS

These Issue Statements resulted from the exploration of identified issues and opportunities that should be addressed by the Steinaker Reservoir RMP Project. The Issue Statements provide detailed discussions of the primary issues or opportunities that have been identified by the public and involved agencies described above. Although the Issue Statements provide a necessary foundation for the RMP process by representing both public and agency 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 Issue Statements were organized 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 agency partnerships for Steinaker Reservoir are working well. Reclamation has long-standing partnerships with State Parks, UWCD, U.S. Bureau of Land Management (BLM), and Utah Division of Wildlife Resources (UDWR). State Parks manages all public recreation

facilities, UWCD performs all reservoir operation and maintenance functions, and UDWR manages the fishery and wildlife on Reclamation lands.

The possibility of additional partnerships that could mutually improve land and resource management at Steinaker Reservoir should be evaluated in the RMP. In addition to agency partnerships, there may be potential for partnerships with private concessioners and/or private recreation user groups. Future partnerships should be formalized to ensure proposed activities are consistent with existing contractual and legal obligations. For example, a formal agreement with National Scenic Byways Program partner(s) is needed for maintenance of the existing nature trail at the scenic byway parking lot.

Issue Category B: Water Resources

Issue B1: Water Quality

Maintaining water quality is important for meeting designated beneficial uses of water at Steinaker Reservoir. State of Utah ratings indicate that Steinaker Reservoir currently does not meet numeric criteria for temperature for the coldwater aquatic life designated beneficial use (Class 3A). Low dissolved oxygen levels for supporting aquatic life have been a concern. Another concern is algae and algal blooms that occur near the boat dock each year, which might indicate high nutrient availability periodically during the year. Algal blooms can become a health hazard because cyanobacteria in high concentrations can create toxic conditions. Algal blooms can make swimming and boating less appealing, which affects recreational opportunities. Algal blooms affect the dissolved oxygen levels, and under certain circumstance can result in fish kills.

Runoff from areas with impervious surfaces poses a potential threat to water quality. Impervious surfaces allow deposition from vehicles and the atmosphere to accumulate. Rainfall and snowmelt then transport the deposition (possibly consisting of metals, nutrients, and other pollutants) to Steinaker Reservoir. Stormwater runoff may create erosion issues and may transport sediment to the reservoir. Therefore, development and maintenance of adequate stormwater controls around developed areas are important design elements for existing and future recreation sites.

Other potential water-quality concerns that require monitoring include concentrations of metals (e.g., selenium and mercury) and potential introductions of bacteria and viruses. Selenium accumulations can create conditions potentially harmful to aquatic organisms, and mercury is a concern for human health associated with fish consumption. Bacteria and viruses may also become an issue at Steinaker Reservoir as recreational use increases. The State of Utah has not identified *E. coli* as an impairment to water quality in Steinaker Reservoir, but monitoring is important.

Issue Category C: Recreation and Visual Resources

Issue C1: Recreation Development

Added capacity and accommodation of diverse recreation activities at Steinaker Reservoir could increase visitation and revenue throughout the year. Capacity of existing recreation facilities is generally lacking to accommodate users during peak visitation. Additional boat parking and

electric service was added in 2010–2011. Steinaker State Park (the State Park) still needs additional parking for day use visitors, including groups. The park could accommodate additional campers with the development of more camping sites and upgrades to facilities (e.g. water systems, utilities, restrooms). Beach areas could also be expanded and connected.

Fishing is very popular and additional parking is needed for day-use anglers. An accessible fishing dock would be a great addition if a feasible location can be identified. State Parks' policy allows visitors a maximum 2-week stay at campgrounds. However, there is interest from the public for longer-term camping spots if this could be accommodated. Development of rental cabins could likely attract year-round use. Accommodation of motorized and nonmotorized trailheads and connectivity to trails beyond the park boundaries would bring additional visitors. Ideally, trails would provide connectivity to Red Fleet Reservoir and to Vernal City. Accommodation of nonmotorized watersports (e.g., canoeing, kayaking, paddle boarding, kite boarding) could also bring additional visitors to Steinaker Reservoir. It is acknowledged that all suggestions above are feasible if appropriate developable areas are available or become available.

Issue C2: Visual Quality

Steinaker Reservoir and the surrounding Reclamation lands offer exceptional natural scenery. The Flaming Gorge-Uintas Scenic Byway on U.S. Route 191 (US-191) from Vernal to the Wyoming border attracts day visitors and campers to the State Park and has provided funding for a nature trail and parking area along US-191. Design and development of recreation structures and facilities should blend with and complement the surrounding landscape to protect existing visual quality.

Issue Category D: Natural and Cultural Resources

Issue D1: Reservoir Fishery

Maintaining high-quality fishing experiences is a high priority at Steinaker Reservoir. Steinaker Reservoir offers anglers the opportunity to catch both coldwater and warmwater fish species. Species include rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), and green sunfish (*Lepomis cyanellu*s). Smallmouth bass (*Micropterus dolomieu*) were illegally stocked in the reservoir, and that species has become established. Rainbow trout are stocked each year to maintain the trout fishery. Brown trout are present as a result of downstream migration from Ashley Creek or from natural reproduction in the reservoir. Special events (e.g., Fox Family Fun Fishing Contest, ice fishing derby) help to maintain interest in fishing at Steinaker Reservoir. Shoreline fishing on the east shoreline is popular, creating parking and erosion problems along US-191.

With the presence of selenium throughout the Ashley Creek drainage, there is potential for elevated selenium levels to occur in Steinaker Reservoir. Accumulated selenium in fish tissue could result in consumption advisories for harvested fish. Selenium has also shown to cause malformations in fish that can hinder their reproductive capacity. The presence of mercury in fish tissue has been detected and resulted in a fish consumption advisory for largemouth bass and bluegill. Monitoring for both mercury and selenium must be considered and/or continued to ensure the health of the fishery and the public.

Issue D2: Aquatic Invasive Species and Pathogens

The spread of aquatic invasive species (AIS), such as the quagga mussel (*Dreissena bugensis*), is a statewide issue in Utah. Although AIS have not been found at Steinaker Reservoir, quagga mussel veligers were detected in nearby Red Fleet Reservoir in 2008. The UDWR has established prevention and monitoring efforts to protect the resource at Steinaker Reservoir. Prevention of all AIS must be addressed in ways that do not discourage visitation, but that also ensure the longevity of dam operations and healthy fish populations.

Whirling disease is a condition caused by the parasite *Myxobolus cerebralis.* This pathogen has been detected in Utah waters throughout the years. Although it has not been detected in Steinaker Reservoir or Ashley Creek, efforts should continue to monitor and prevent the spread of whirling disease because rainbow trout are very susceptible to infestation.

Issue D3: Vegetation Communities

Reclamation lands surrounding Steinaker Reservoir include a variety of vegetation communities that are important to wildlife and fish. Steinaker Reservoir contains three significant areas of vegetated shallows and emergent wetlands. These areas are located in the bay just north of the boat launch, at the main inflow, and at the extreme northern end of the reservoir. Dominant rooted aquatic plant species include water smartweed (*Polygonum amphibium*) and Canadian waterweed (*Elodea Canadensis*). Many native, emergent wetland plants were noted further upslope from the aquatic species. These vegetated shallows and emergent wetlands are important to waterfowl, fish, and amphibians.

Other communities include riparian shrub and forested areas located along inflows to Steinaker Reservoir and above the emergent fringe wetlands. A particular concern is a lack of cottonwood saplings in the forest understory. Mature cottonwoods die out eventually, and if they are not replaced through recruitment, the forested cottonwood areas will transition to shrub areas or be invaded by nonnative species. This would lead to a loss of valuable habitat in these areas of the reservoir.

Invasive plants found in various areas around Steinaker Reservoir include saltcedear (*Tamarix* spp.), cocklebur (*Xanthium* spp.), horseweed (*Conyza* spp.), Russian olive (*Elaeagnus angustifolia*), cheatgrass (*Bromus tectorum*), reed canarygrass (*Phalaris arundinacea*), and curly dock (*Rumex crispus*). Potential management strategies to control and reduce the spread of these invasive plant species should be included in the RMP.

Issue D4: Wildlife and Special Status Species

Reclamation lands provide habitat for numerous wildlife species including birds, mammals, reptiles, and amphibians. Important wildlife habitats within Reclamation boundaries, such as riparian and wetland areas, should be maintained and improved to benefit wildlife. The broader surrounding area includes BLM and private lands that provide crucial habitat for several game species, including California quail (*Callipepla californica*), chukar (*Alectoris chukar*), cougar (*Puma concolor*) and winter range for elk (*Cervus canadensis*) and mule deer (*Odocoileus hemionus*). Interpretation and education programs may be helpful for informing the public regarding the value of Reclamation lands and surrounding area for general wildlife and sensitive species habitat.

Several state-listed sensitive species have been documented using the reservoir or have the potential to be found there, such as the American white pelican (*Pelecanus erythrorhynchos*), bald eagle (*Haliaeetus leucocephalus*), and golden eagle (*Aquila chrysaetos*). Golden eagle nests have been documented at Steinaker Reservoir. Other raptors documented at or near Steinaker Reservoir include osprey (*Pandion haliaetus*) and red-tailed hawk (*Buteo jamaicensis*). The potential occurrence of other State or Federally-listed species should be evaluated including greater sage-grouse (*Centrocercus urophasianus*), the yellow-billed cuckoo (*Coccyzus americanus*), the Canada lynx (*Lynx canadensis*), and the Mexican spotted owl (*Strix occidentalis lucidae*).

Issue D5: Soil Erosion and Deposition

Soils in many areas around Steinaker Reservoir are sandy and susceptible to erosion. Unmanaged all-terrain vehicle trails have been a problem in some areas in previous years. Access points have been closed, but some areas are difficult to patrol regularly. Providing additional access areas and maintained trails could help meet public demand for additional use areas while reducing impacts that facilitate erosion. The areas around the State Park facilities are also very sandy. Rills and gully erosion occur in association with drainage from some paved parking areas and concrete pathways. Drainage improvements and stormwater best management practices (BMPs), such as gravel shoulders along pavement, could be implemented to reduce the sediment impacts from existing and future development.

Adjustments to existing recreation facilities have been necessary with increased reservoir water storage levels in recent years. Cut banks are present along sandy parts of the shoreline (such as the constructed beach areas) and appear to be associated with wave action when the reservoir level is high. In some areas this erosion has undermined the root systems of mature cottonwood trees. Therefore, shoreline erosion is another important consideration for decisions related to recreation facility design and vegetation community health.

Issue D6: Paleontological Resources

Identification, management, and interpretation of paleontological resources within and surrounding Steinaker Reservoir should be considered in the RMP. Any areas in which geologic deposits have the potential to yield significant fossil localities would need to be surveyed for paleontological resources prior to implementation of any ground-disturbing activities. Primary concerns associated with protecting the physical condition or integrity of paleontological sites include (but are not limited to) potential effects from recreational development, erosion, and vandalism.

Issue D7: Cultural Resources

Identification, management, and interpretation of cultural resources within and surrounding Steinaker Reservoir should be considered in the RMP. Any areas in which ground-disturbing activities could occur would need to be surveyed prior to implementation in order to determine the presence, nature, and extent of cultural resources. Primary concerns associated with protecting the physical condition or integrity of cultural resource sites include (but are not limited to) potential effects from recreational development, erosion, and vandalism.

Issue Category E: Land Management

Issue E1: Access Control

Access control is important for preventing the spread of invasive species, minimizing erosion, and managing public safety. Public parking along US-191 can be hazardous when parking areas are full. All-terrain vehicle users have crossed into Reclamation lands from various locations and utilize the borrow pit area to the east of US-191 as an open riding area. Providing additional public access is desirable, particularly by creating motorized and nonmotorized trails within the park and connecting these to trails beyond the Steinaker Reservoir RMP Study Area (Study Area) boundary. In providing improved public access, security of the dam and water facilities must be maintained.

Issue E2: Private Land Access

Some private lands adjacent to Steinaker Reservoir require access through Reclamation lands. There are residences to the north of the reservoir and undeveloped private lands to the west. Lands in both of these locations are currently used for cattle grazing. Private lands to the west are zoned for agricultural use in Uintah County, but there has been some interest from landowners in getting the area rezoned for residential development. Ongoing coordination and formal agreements are necessary to provide any future private land access while maintaining the quality of the State Park for visitors.

Issue E3: Minerals

There are borrow pit areas, which were used for the construction of Steinaker Dam, located on Reclamation lands. The future use of these areas for material extraction should be addressed in the RMP. There is oil and gas development in the surrounding area, but in different geologic strata than found on Reclamation lands. Mineral rights for the Study Area should be identified. The RMP should address future mineral development on its lands and develop appropriate lease stipulations if mineral extraction is anticipated in the future.

GOALS AND OBJECTIVES

The Goals and Objectives developed for the Steinaker 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 proactive Goals and Objectives for the RMP.

The Goals and Objectives served as the primary foundation on which resource management alternatives for the RMP were developed. Each Goal provides a description of a desired future resource condition within the Study Area. Objectives listed under each Goal describe 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 Issue Statement(s) that each Goal addresses is noted in parentheses. The Goals and Objectives were organized into the same five categories as the Issue Statements: (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. Therefore, all Goals, Objectives, and management alternatives developed as part of the RMP will be in agreement with existing laws, treaties, formal agreements, water rights, and operating constraints of Steinaker Reservoir.

Goal Category A: Partnerships

Goal A1: Support Existing Agreements and Contracts and Encourage New Partnerships that Improve Management Practices for Steinaker Reservoir's Associated Lands and Resources (Issue A1)

Objectives:

A.1.1 Evaluate proposed use activities against existing project purposes, contracts, and agreements.

A.1.2 Formalize any existing partnerships that have not been formalized to establish roles and commitments of resources from respective entities.

A.1.3 Pursue additional partnerships with Uintah County, Vernal City, UDWR, BLM, the National Scenic Byways Program, and other entities to facilitate best management of Study Area resources.

A.1.4 Consider contracts with qualified, private concessioners for provision of specific public recreation facilities and/or activities.

A.1.5 Consider formal partnerships with private, nonprofit recreation user groups for provision and maintenance of specific public recreation facilities and/or activities.

Goal Category B: Water Resources

Goal B1: Protect and Improve Water Quality in Steinaker Reservoir (Issue B1)

Objectives:

B.1.1 Identify water-quality impacts originating in Steinaker Reservoir and suggest ways to meet beneficial use designations.

B.1.2 Include BMPs and design elements for stormwater controls in developing upgraded facility designs and new public use areas.

B.1.3 Identify areas where sanitation facilities (e.g., restrooms, refuse containers) are needed at public use areas.

B.1.4 Coordinate with Utah Division of Water Quality and other entities in monitoring potential contaminants, bacteria, and viruses that can pose threats to aquatic life and human health.

Goal Category C: Recreation and Visual Resources

Goal C1: Increase Visitation and Revenue by Improving Existing Recreational Facilities, Expanding and Enhancing Recreation Opportunities, and Providing Access to Regional Recreation Resources (Issue C1)

Objectives:

C.1.1 Recommend improvements to existing facilities to meet visitor needs.

C.1.2 Recommend appropriate new recreational facilities at appropriate locations to meet demands for existing and potential recreation activity interests.

C.1.3 Work with other entities, particularly BLM, Uintah County, and the National Scenic Byway Program, to determine opportunities for connectivity of motorized and nonmotorized trails.

C.1.4 Consider other public and private partnerships that can enhance recreation opportunity, visitation, and revenue.

Goal C2: Provide for Safe, Quality Recreation Opportunities that Minimize Conflicts (Issue C1)

Objectives:

C.2.1 Identify appropriate recreational use areas for various activities.

C.2.2 Identify recreation capacities for both land-based and water-based recreation.

C.2.3 Explore ways to increase safety and security and to prevent user conflicts from becoming an issue.

Goal C3: Protect and Manage Visual Resources (Issue C2)

Objectives:

C.3.1 Establish Visual Integrity Objectives for the Study Area that are compatible with the National Scenic Byway designation of US-191.

C.3.2 Complement or enhance the natural surroundings when maintaining and/or designing new facilities.

Goal Category D: Natural and Cultural Resources

Goal D1: Protect and Enhance the Quality of the Fishery and Fishing Opportunities (Issues D1 and D2)

Objectives:

D.1.1 Work with UDWR to identify a desired fish species composition for Steinaker Reservoir and to develop a Fisheries Management Plan to proactively manage the fishery for the desired species composition.

D.1.2 Include objectives in the Fisheries Management Plan to monitor accumulations of selenium and mercury and provide adequate public information and education.

D.1.3 Include objectives in the Fisheries Management Plan to monitor and prevent introduction of AIS and pathogens that can negatively affect the health of fish populations, visitation, and dam operations.

D.1.4 Coordinate with UDWR in all of the above-listed efforts and work collaboratively to identify possible fishery enhancement opportunities.

Goal D2: Protect and Enhance Native Vegetation and Wildlife Habitat (Issues D3 and D4)

Objectives:

D.2.1 Identify Study Area vegetation and habitat communities and develop a Habitat Management Plan for wildlife species conservation.

D.2.2 Evaluate effects of shoreline erosion on native vegetation.

D.2.3 Consider plantings of native shrubs and trees along shorelines and riparian areas where appropriate.

D.2.4 Provide and maintain fencing and signage to keep off-road vehicles out of riparian wetlands and other sensitive areas.

D.2.5 Develop an appropriate plant list for future landscaping, erosion control, and water conservation for recreation facility and public access areas.

D.2.6 Identify the location and extent of noxious and invading weeds, pests, and any other nuisance species.

D.2.7 Control/manage noxious and invading plant species through development of an Integrated Pest Management Plan.

Goal D3: Identify, Protect, and Enhance Special Status and Other Wildlife Species of Interest and Their Habitats (Issue D4)

Objectives:

D.3.1 Determine the location and extent of suitable habitat for, and known occurrences of, threatened, endangered, and other special status species as a component of the Habitat Management Plan.

D.3.2 Identify undeveloped areas at suitable locations to conserve long-term, viable habitat for all wildlife with attention to deer and elk winter range and habitat for any special status species.

D.3.3 Cooperate with appropriate entities in managing wildlife values and providing public education and interpretation.

D.3.4 Identify areas where Reclamation and partner agencies can restore, enhance, or conserve habitat for special status species in the Habitat Management Plan.

D.3.5 Coordinate with UDWR in prioritizing areas for habitat restoration, enhancement, and conservation of areas that may be at risk according to the 2005 Utah Wildlife Action Plan.

Goal D4: Control Erosion (Issue D5)

Objectives:

D.4.1 Inventory erosion problem locations and causes.

D.4.2 Address erosion problem locations through BMPs for site-specific design and construction.

D.4.3 Work with partner agencies and other entities as appropriate to implement erosion-control strategies.

Goal D5: Protect and Manage Paleontological Resources (Issue D6)

Objectives:

D.5.1 Determine the nature and extent of paleontological resources where development is proposed.

D.5.2 Recommend mechanisms to identify, manage, protect, and interpret paleontological resources.

Goal D6: Protect and Manage Cultural Resources (Issue D7)

Objectives:

D.6.1 Determine the nature and extent of cultural resources where development is proposed.

D.6.2 Recommend mechanisms to identify, manage, protect, and interpret cultural resource sites.

Goal Category E: Land Management

Goal E1: Provide Appropriate and Safe Access to Public Use Areas (Issue E1)

Objectives:

E.1.1 Evaluate current access and access controls to public use areas and recommend improvements.

E.1.2 Determine future access needs and develop plans for implementation.

E.1.3 Restrict access to sensitive areas where public safety and natural resources protection are concerns (e.g., important wildlife habitat, hazardous areas, Primary Jurisdiction Areas).

Goal E2: Evaluate Access Needs for Adjacent Private Land Owners (Issue E2)

Objectives:

E.2.1 Coordinate with Uintah County, State Parks, and private landowners regarding potential access needs.

E.2.2 In evaluating potential access, maintaining the quality of the State Park for visitors is paramount.

E.2.3 Establish formal access agreements where appropriate.

Goal E3: Manage Mineral Development (Issue E3)

Objectives:

E.3.1 Determine appropriate land uses for borrow pit area(s).

E.3.2 Identify mineral rights for Reclamation lands and address future mineral development, if any, through appropriate lease stipulations.

E.3.3 Coordinate with appropriate entities managing surrounding lands regarding any potential indirect effects of mineral development on Reclamation lands and the reservoir.

APPENDIX B: RESOURCE MANAGEMENT PLAN SUMMARY TABLE

APPENDIX B: RESOURCE MANAGEMENT PLAN SUMMARY TABLE

AREA-WIDE MANAGEMENT DIRECTION			
GENERAL MANAGEMENT AND PARTNERSHIPS			
MANAGEMENT DIRECTION	**STANDARD OR GUIDE**	**MONITORING**	**CONTACTS AND REFERENCE**
Applicable Goals: ▸ **Support Existing Agreements and Contracts and Encourage New Partnerships that Improve Management Practices for Steinaker Reservoir's Associated Lands and Resources**			
Contracts and Operations			
Project Purposes Fully protect the purposes for which the Steinaker Dam and Reservoir lands were acquired or withdrawn. Formalize any existing partnerships that have not been formalized to establish roles and commitments of resources from respective entities.	Memorandum of Agreement 0-LM-40-02110 between the Bureau of Reclamation and the Utah Division of State Parks and Recreation for Management of Recreation Facilities at Steinaker Reservoir. Repayment Contract 14-06-400-778 between the United States and the Uintah Water Conservancy District, July 14, 1958. Amendment to Contract 14-06-400-778, November 26, 1975.	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: UWCD, State Parks, Uintah County, Vernal City, Utah Department of Natural Resources, Division of Wildlife Resources (UDWR), U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), and other entities.

AREA-WIDE MANAGEMENT DIRECTION

GENERAL MANAGEMENT AND PARTNERSHIPS

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Fish and Wildlife			
Fish and Wildlife Management 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.
Fish and Wildlife Use Manage for fish and wildlife uses as appropriate.	Same as above.	Track in Reservoir Management Reviews.	Reclamation, UWCD, UDWR, and USFWS.
Road Maintenance Partnerships			
Maintenance Encourage appropriate maintenance of access roads to Steinaker Reservoir.	Reclamation and the Utah Department of Transportation (UDOT) are responsible for maintenance of existing access roads.	Field review.	Reclamation and UDOT.

AREA-WIDE MANAGEMENT DIRECTION

GENERAL MANAGEMENT AND PARTNERSHIPS

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Information and Interpretation			
Interpretive Partnerships Coordinate interpretive efforts with appropriate entities.			Reclamation, State Parks, UDWR, UWCD, Uintah County, Vernal City, Utah State Historic Preservation Office (SHPO), and other interested parties.
Interpretive Programs 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 resources.	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: 1. Facility use guidelines and regulations. 2. Water and land use etiquette and safety regulations. 3. Project purposes and public benefits. 4. Recreation opportunity guides and maps. 5. Reservoir watercraft conditions and hazards. 6. Developed and dispersed recreation regulations. 7. Environmental interpretation and education. 8. Wildlife species and habitat values of Reclamation lands at Steinaker Reservoir. 9. Off-highway vehicle (OHV) access status, guidelines, and maps. 10. Waste management, fire prevention, sanitation, and use of fuels and chemicals.	Determine visitor profile and interpretive themes/media in Reservoir Management Reviews.	Reclamation, UWCD, State Parks, UDWR, and other interested parties.

AREA-WIDE MANAGEMENT DIRECTION

GENERAL MANAGEMENT AND PARTNERSHIPS

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Signage 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 Reclamation Sign Standards, the State Parks Sign Handbook, and the UDOT sign standards.	Document compliance/needs in Reservoir Management Reviews.	Reclamation, UWCD, UDOT, State Parks, UDWR, Uintah County, and other interested parties.
Discharge of Firearms Prohibit discharge of firearms, bow and arrow, or air and gas weapons where appropriate in the Study Area.	The UDWR Big Game Proclamation.	Enforce.	State Parks, UDWR, and Uintah County Sheriff's Department.
Emergency Communications Provide emergency communication and coordinate with local law enforcement.	Reclamation Emergency Action Plan.	Maintain.	Documents on file with Reclamation, Provo Area Office.
Fire Regulations 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.	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, UWCD, BLM, Uintah Basin Interagency Fire Center, and adjacent land owners.

AREA-WIDE MANAGEMENT DIRECTION

GENERAL MANAGEMENT AND PARTNERSHIPS

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Local, State, Federal, and Private Entities, Etc.			
Community and County Governments Support and encourage partnerships with the community governments of Vernal City, Uintah 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, Vernal City, Uintah County, and other local communities.
Private, Conservation, Volunteer, and Other Groups 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. Consider formal partnerships for provision and maintenance of specific public recreation facilities and/or activities.		Document progress/need in Reservoir Management Reviews.	Reclamation, State Parks, UWCD, fishing organizations, adjacent land owners, local churches, schools, and others.
State and Federal Governments 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; BLM; USFWS; and others.

AREA-WIDE MANAGEMENT DIRECTION

GENERAL MANAGEMENT AND PARTNERSHIPS

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Recreation Management			
Recreation Management 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			
Water Quality Coordinated Management 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, Uintah County, BLM, USFWS, Reclamation, UWCD, and other interested parties.

WATER RESOURCES

Applicable Goals:
- **Protect and Improve Water Quality in Steinaker Reservoir.**

Water Operations			
Care, Operation, and Maintenance Continue administration for dam and appurtenant construction works and factors affecting water integrity.	Operate by the: - 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, and UWCD.
Reservoir Water Level Fluctuations Inform State Parks, Reclamation, and UDWR when sudden and major reservoir fluctuations are planned.			UWCD and Reclamation.

AREA-WIDE MANAGEMENT DIRECTION

WATER RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Watershed Protection			
Watershed Protection Management Encourage management practices in the Steinaker 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 Steinaker 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, BLM, USFS, UDEQ/DWQ, UWCD, State of Utah, State Parks, Uintah County, and surrounding property owners.
Water Quality			
Best Management Practices (BMPs) Implement Best Management Practices (BMPs) relative to water quality in all resource activities and site-specific design of stormwater controls. 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, UWCD, UDEQ/DWQ, State Parks, UDWR, Uintah County, local communities, and others.

AREA-WIDE MANAGEMENT DIRECTION

WATER RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Facilities Construct facilities to meet federal, state, and county standards. Protect reservoir water quality from the impact of development and visitor use.	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. Document in reservoir management reviews.	Environmental Protection Agency (EPA), Utah Division of Environmental Response and Remediation, Reclamation, State Parks, UWCD, UDEQ, and DWQ.
Water Development and Conservation Implement water conservation measures.	Develop and implement water conservation measures.		Reclamation, State Parks, UWCD, and others.
Water Quality Protection 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 meet beneficial use designations: 1C (drinking water), 2A (frequent primary contact recreation), 2B (infrequent primary contact recreation), 3A (coldwater fisheries), and 4 (irrigation) 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, UWCD, UDEQ, and DWQ.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Applicable Goals: ▸ **Increase Visitation and Revenue by Improving Existing Recreational Facilities, Expanding and Enhancing Recreation Opportunities, and Providing Access to Regional Recreation Resources.** ▸ **Provide for Safe, Quality Recreational Opportunities That Minimize Conflicts.** ▸ **Protect and Manage Visual Resources.**			
Concessions and Special Uses			
Applications Consider contracts with qualified private concessioners for provision of specific public recreation facilities and/or activities. 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 policies and regulations. 5. The applicant does not or cannot demonstrate technical or financial capability.	Comply with special use agreements and contracts. Document in Reservoir Management Reviews.	Reclamation, State Parks, and UWCD.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Recreation Development			
Facility Development and Renovation Recommend improvements to existing facilities to meet visitor needs. Recommend appropriate new recreational facilities at appropriate locations to meet demands for existing and potential recreation activity interests.	Refer to Specific Area Management Direction and WALROS classification. Generally place priority for construction and reconstruction or restoration of existing facilities that are presently below standards. 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 Water and Land Recreation Opportunity Spectrum (WALROS) classification.	Evaluate facility condition. Assess ranking order. Comply in design and construction. Document in Reservoir Management Reviews or more often if needed.	State Parks, UWCD, and Reclamation.
Development Requirements Comply with applicable federal, state, and local laws, rules, and regulations in the development of facilities, including sanitation facilities.	Federal, state, and local laws, rules and regulations.	Document compliance in reservoir management reviews.	Reclamation, State Parks, UWCD, UDWR, and Uintah County.
Develop facilities based on compatibility with authorized reservoir project purposes, long-term management and funding capability, management goals and objectives, and environmental protection factors. *See Specific Area Management Direction.*	Guidelines and principles contained in PL 89-72 as amended by Title 28 102-575 and other laws and agreements as applicable.	Document compliance in reservoir management reviews.	Reclamation, State Parks, UWCD, UDWR, and Uintah County.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Private Exclusive Facilities 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. Document in reservoir management reviews.	Reclamation, State Parks, and UWCD.
Water and Land Water and Land Recreation Opportunity Spectrum (WALROS) Classification Provide recreation facilities appropriate for the established WALROS classification. Facilities may include water, power, sanitation, electricity, roads, camp sites, pavilions, etc. *See Specific Area Management Direction.*		Comply with contracts, agreements, and planning documents. Document in Reservoir Management Reviews.	Reclamation and State Parks.
Fishing Opportunities Work with UDWR to maintain and enhance fishing opportunities, particularly by improving shoreline fishing access.	Refer to Specific Area Management Direction and WALROS classification.	Document in reservoir management reviews.	Reclamation, State Parks, UWCD, and UDWR.
Trails Work with other entities to determine opportunities for connectivity of motorized and non-motorized trails. Construct appropriate pedestrian, bike, fishing, and access trails. Include sanitation and waste facilities as needed. *See Specific Area Management Direction.*		Comply with contracts, agreements, and planning documents. Document in Reservoir Management Reviews.	Reclamation, BLM, State Parks, Uintah County, Scenic Byway, and private land owners.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Recreation Management			
Activities Manage for a year-round spectrum of recreation experiences while meeting the adopted WALROS class. *See Specific Area Management Direction.*	Bureau of Reclamation WALROS users' handbook.	Determine user profile and preference at RMP planning intervals (by State Parks). Prepare an annual recreation use data report.	State Parks, BLM, Reclamation, Uintah County, and UDWR.
Health and Safety Ensure appropriate law enforcement, waste, and fire management regulations and facilities are in place and enforced in recreation areas.		Enforce.	State Parks, UDWR, Uintah County, and Reclamation.
Maintenance in General 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 levels, 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.
Management by Others Encourage other qualified entities to assume recreation management responsibility.	Existing agreements and contracts.	Comply.	Reclamation and State Parks.
Management Agreement Manage recreation consistent with this Steinaker 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 UWCD.
Overnight Camping Allow overnight camping in designated areas. *See Specific Area Management Direction.*		Document in Reservoir Management Reviews.	State Parks and Reclamation.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Parking Below the High Water Mark 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 UWCD.
Picnicking Allow picnicking in designated areas. *See Specific Area Management Direction.*		Document in Reservoir Management Reviews.	State Parks and Reclamation.
Reservoir Water Quality Maintenance Restrict or terminate recreation uses that threaten or exceed standards 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 Steinaker Reservoir and its tributaries and releases as appropriate.	UDEQ/DWQ, UWCD, Reclamation, State Parks, and UDWR.
Special Events Give precedence to normal park activities/operations when scheduling special events.	Review special event requests by the recreation manager.	Comply before scheduling.	State Parks.
Use Conflicts Minimize recreation and environmental resource conflicts and promote user safety. As necessary, identify appropriate recreational use areas for various activities.	Refer to Specific Area Management Direction and WALROS classification.	Interpret and enforce.	State Parks.
User Fees Charge appropriate user fees based on cost-effective, year-round service. Provide cost-effective service.	User fees will be determined according to existing management agreements.	Monitor compliance annually.	State Parks Board approved fee structure and State Parks.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Recreation Capacities Identify recreation capacities for both land-based and water-based recreation.	Provide multi-purpose opportunities with low to moderate potential for conflicts. Boating capacity will be based upon Strategic Boating Plan. Provide watercraft recreation administration by managing through the Utah State Boating Act. Utah Title 73, Chapter 18.	Enforce.	State Parks.
Watercraft Launching Restrict watercraft launching that requires motorized tow vehicles to designated boat ramps and permitted areas only. *See Specific Area Management Direction.*		Assess launching location. Document in Reservoir Management Reviews or more often if needed.	State Parks, UWCD, and Reclamation.
Wakeless/No Watercraft Zone Maintain and identify wakeless/no watercraft zones to protect reservoir resources and users.	Follow State Boating Guidelines.	Enforce.	State Parks.
Winter Recreational Opportunities As appropriate, provide fishing opportunities and reservoir access through the winter months.			State Parks, UDWR, UWCD, and Reclamation.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Recreation Planning			
Inventory System Distinguish between developed and undeveloped (dispersed) use areas and management. Utilize Reclamation approved WALROS 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 WALROS mapping scales that address: 1. Physical setting 2. Social setting 3. Managerial setting	Bureau of Reclamation's WALROS User's Handbook. *See Specific Area Management Direction.*	Prepare an annual use data report.	Reclamation, State Parks, and UDWR. Inventory map on file at Reclamation.
Motorized Vehicle Use Allow motorized vehicle use where appropriate. Manage off-highway vehicle (OHV) use in accordance with federal regulations.	43 CFR 420. Generally, Study Area lands are closed to motorized uses, unless specifically designated as open.	Review proposals.	Reclamation, State Parks, UWCD, UDOT, and Uintah County.
Visual Enhancement			
Development Achieve landscape enhancement through addition, deletion, or alteration of landscape elements. Examples of these include: ‣ 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.	BLM's Visual Resource Management System.	Field inspect.	Reclamation, State Parks, and other interested parties.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Visual Management and Development			
Development Implement management activities to blend with or complement the characteristic landscape at the adopted VRM Class II when maintaining and/or designing new facilities. *Exceptions* The dam, because of its strong contrasts with the natural appearing environment.	BLM's Visual Resource Management System.	Document in Reservoir Management Reviews.	Reclamation.
Visual Planning			
Inventory Inventory the visual resource and integrate it as part of the planning process at detail mapping scales that address: 1. Scenic Quality Rating: the landscape's visual attractiveness, 2. Sensitivity levels: the public's scenic quality expectation, 3.Distance Zones: the landscape visibility from sensitive viewpoints, and 4. Visual Resource Class: the visual prescription for definitive land areas. 5. National Scenic Byway: compatibility with the designation of US-191.	BLM's Visual Resource Management System.	Document in reservoir management reviews.	Reclamation.
Visual Rehabilitation			
Rehabilitation Rehabilitate facilities and areas that do not meet the adopted VRM Class. *See Specific Area Management Direction.*	BLM's Visual Resource Management System.	Comply with desired visual condition. Document at project completion and in Reservoir Management Reviews.	Reclamation.

AREA-WIDE MANAGEMENT DIRECTION

RECREATIONAL AND VISUAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Priorities Set rehabilitation priorities for existing conditions, as follows: 1. Relative importance of the site and amount of deviation from the adopted VRM Class. 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 VRM Class. 3. Benefits to other resource management objectives gained through rehabilitation.		Field inspection.	Reclamation and other interested parties.

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

Applicable Goals:
- **Protect and Enhance the Quality of the Fishery and Fishing Opportunities.**
- **Protect and Enhance Native Vegetation and Wildlife Habitat.**
- **Identify, Protect, and Enhance Special Status and Other Wildlife Species of Interest and Their Habitats**
- **Control Erosion.**
- **Protect and Manage Paleontological Resources.**
- **Protect and Manage Cultural Resources.**

Fisheries Management

Fisheries Management Work with UDWR to identify a desired fish species composition, fishery enhancement opportunities, and develop a Fisheries Management Plan.	Include objectives to monitor accumulations of selenium and mercury and provide adequate public information and education. Include objectives to monitor and prevent introduction of Aquatic Invasive Species and pathogens.	Document in Reservoir Management Reviews.	UDWR, State Parks, UWCD, and Reclamation.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Vegetation and Wildlife Habitat			
Habitat Management Plan Work with UDWR and other appropriate entities to identify and protect sensitive vegetation areas and conserve long-term wildlife habitat by developing a Habitat Management Plan.	In developing the plan: 1. Consider plantings of additional native beneficial aquatic plants in vegetated shallows and native shrubs and trees along shorelines and riparian areas. 2. Identify and prioritize areas for potentially restoring, enhancing, or conserving habitat for special status species (federal or state listed) and general wildlife of interest. 3. Develop habitat management objectives consistent with the Utah Wildlife Action Plan. 4. Identify appropriate locations for signage to minimize vegetation trampling and disturbance to wildlife. 5. Specify suitable recreation within designated Natural Areas and target areas previously impacted by dispersed recreation that are in need of restoration. 6. Include appropriate provisions to manage habitat according to the *Utah Conservation Plan for Greater Sage-grouse.* This plan has also been adopted by Uintah County.	Document in Reservoir Management Reviews.	Reclamation, State Parks, UDWR, and Uintah County.
Protection of Migratory Birds In completing site-specific environmental clearances, coordinate with USFWS regarding provisions to avoid and minimize impacts to migratory birds.	Migratory Bird Treaty Act and Executive Order 13186.	Comply in planning and management.	Reclamation and USFWS.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Threatened and Endangered Species Where activities or uses may affect threatened and endangered species or their habitats, initiate consultation procedures with USFWS and integrate the results to determine viability of activity or use.	Endangered Species Act	Comply in planning and management.	Reclamation and USFWS.
Livestock Grazing No lands within Reclamation boundaries are open to grazing at Steinaker Reservoir.	Install, maintain, and upgrade boundary fencing, gates, and cattle guards as needed to prevent trespass.	Document in Reservoir Management Reviews.	Reclamation and State Parks.
Revegetate Disturbed Areas Revegetate disturbed or damaged areas.	Rehabilitate decommissioned user-created motorized trails to approximate original contour, drain, seed, and sign.	Comply in project planning and during implementation. Document in Reservoir Management Reviews.	Reclamation, State Parks, and other interested parties.
Surface-Disturbing Activities 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.
Developed Area Landscaping Develop an appropriate plant list for future landscaping, erosion control, and water conservation for recreation facility and public access areas.		Implement in site specific design. Document in Reservoir Management Reviews.	Reclamation and State Parks.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Wetlands and Floodplains 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. Executive Orders 11988 and 11990.	Comply in planning and management. Document in Reservoir Management Reviews.	Reclamation and State Parks.
Nuisance and Invasive Species Identify the location and extent of noxious and invading weeds, pests, and any other nuisance species and implement appropriate control measures.	Coordinate with State of Utah and Uintah County Pest Control and other interested parties to regulate undesirable or invasive pests. Apply restricted-use pesticides under the direction of certified applicators. Follow label instructions.	Document in Reservoir Management Reviews.	Reclamation, State Parks, local pest control officials, adjacent landowners, concessionaires, and other interested parties.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Integrated Pest Management Plan Develop and implement an Integrated Pest Management Plan for long-term control of nuisance and invasive species control.	In developing the plan: 1. Require control of noxious/invasive species during periods of construction or other ground disturbing activity. 2. Consider removal of redundant/unnecessary fence lines as part of the Integrated Pest Management Plan which would provide some weed management benefit. The Plan should also address weed control strategies that would be implemented along existing and future boundary and access control fences.	Document in Reservoir Management Reviews.	Reclamation, State Parks, Uintah County, local pest control officials, adjacent landowners, concessionaires, and other interested parties.
Geology/Soils			
Geologic Hazards 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.
Soil Erosion Minimize adverse impacts to the soil resource, including accelerated erosion, compaction, contamination, and displacement.	Inventory erosion problem locations and causes. Address erosion problem locations through Best Management Practices for site-specific design and construction. Work with partner agencies, adjacent landowners, and other entities to implement erosion-control strategies.	Document compliance at project completion and during Reservoir Management Reviews.	Reclamation, State Parks, BLM, SITLA, UDWR, UWCD, and other interested parties.
Shoreline Protection As appropriate, implement Erosion Control measures that reduce shoreline erosion.		Monitor and document in Reservoir Management Reviews.	Reclamation, State Parks, and UWCD.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Cultural/Paleontological			
Inventories Perform appropriate Class 1, 2, or 3 surveys to determine areas of high and low potential for cultural and paleontological resources where development is proposed.	36 CFR 800. Perform site-specific Class III surveys in areas prior to development and consult with SHPO before project approval.	Enforce.	Reclamation and SHPO.
Listed Sites 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. Restrict use on areas where protected sites may occur. Develop and implement a cultural and paleontological resources interpretation and education program as funds become available.	36 CFR 800.	Determine damage/destruction from unauthorized activities and uncontrollable natural agents. Monitor and Document in Reservoir Management Reviews.	Reclamation and SHPO. U.S. National Parks Service, Reclamation, SHPO, and State Parks.
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. Determine damage/destruction from unauthorized and uncontrollable natural agents.	SHPO and/or NRHP guidelines.		SHPO, NRHP, and Advisory Council.

AREA-WIDE MANAGEMENT DIRECTION

NATURAL/CULTURAL/PALEONTOLOGICAL RESOURCES

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCE
Management Protect and foster public use and enjoyment of cultural and paleontological resources: 1. Conduct appropriate studies to provide information necessary for an adequate review of the effect a proposed undertaking may have on cultural values. 2. Collect and record information from sites where appropriate. 3. Issue antiquities permits to qualifying academic institutions or other approved organization for the study and research of sites. 4. Interpret sites as appropriate, and foster public appreciation of these resources. 5. Develop a plan for stabilization and protection of identified resource localities.	Executive Order 11593. 43 CFR 3, 7. 36 CFR 800.	Determine damage/ destruction from unauthorized activities and uncontrollable natural agents. Document in Reservoir Management Reviews.	Reclamation.
Nomination 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.

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 Access Needs for Adjacent Private Land Owners.** ▸ **Manage Mineral Development.**			
Fire Suppression			
Fire Suppression Employ best wildfire prevention techniques. Control wildfires at all intensity levels.		Control wildfires. Document in Reservoir Management Reviews or more often if needed.	Reclamation, State Parks, BLM, Uintah County, and other interested parties.
Lands			
Boundary Fences Construct fences where needed to conform with acceptable standards in order to control trespass and to restrict access to sensitive areas. Prioritize fencing maintenance efforts to keep livestock and off-road vehicles out of sensitive areas.	The BLM 1995 Fencing Manual Handbook H-1741-1. Provide for passage and migration of wildlife.	Inspect fence conditions annually; identify maintenance and/or repair needs. Contact livestock owners and take other appropriate action when animals are in trespass. Document in Reservoir Management Reviews.	Reclamation, State Parks, BLM, and UDWR.
Land Acquisition/Use 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, UWCD, BLM, and State Parks.
Land Disposal 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, UWCD, BLM, and State Parks.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Land/Easement Acquisition 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, UWCD, and other interested parties.
Land Withdrawals, Disposals, and Fee Title Lands Retain existing withdrawals and lands needed for project purposes. Relinquish existing withdrawals and lands no longer needed for project purposes.	Section 204 of the federal Land Policy and Management Act of 1976 (43 USC 1714). Disposal based on federal Property and Administration Services Act of 1959 and 41 CFR 101-47.	Conduct informal withdrawal reviews to evaluate the continuation of Reclamation withdrawals (20-year intervals, generally). Record relinquishments in the FIRMS or current land management system. Document in Reservoir Management Reviews.	Reclamation, UWCD, BLM, and State Parks.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Non-Recreation Special Use Management Act on special-use applications according to the following priorities: 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.	Section 10 of the Reclamation Project Act of 1939 and 43 CFR 429. Discretionary consideration to deny a permit could include the following: 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.	Review special-use permits, leases, license, easements, applications, amendments, transfers, and administration for compliance.	Reclamation, UWCD, State Parks, and other interested parties.
Off-site Influences to Recreation Sites 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, EPA, State Parks, and other interested parties.
Pollution Control and Abatement 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; Uintah County Sheriff's Department; and Reclamation, as directed by the Emergency Action Plan.	Comply with the Emergency Action Plan.	Reclamation, EPA, State of Utah, and Uintah County.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Resource Activities 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, UWCD, State Parks, UDWR, and other interested parties.
Utility Lines Encourage burying utility lines, except when: 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.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Minerals			
Appropriate Minerals Management Ensure that mineral development is permissible and compatible with project purposes. Ensure that mineral activities do not adversely affect planned or current uses. Determine appropriate land uses for existing borrow pit areas. Identify mineral rights for Reclamation lands and address future mineral development, if any, through appropriate lease stipulations. Coordinate with appropriate entities managing surrounding lands regarding any potential indirect effects of mineral development on Reclamation lands and the reservoir.	Leasable Minerals: 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). Coordinate with BLM through an interagency agreement between Reclamation and BLM, 3-25-83. Locatable Minerals: Subject to the 1872 Mining Law, amended by 30 USC Ch. 2. Salable Minerals: 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).	Ensure compliance where Reclamation has control. Document in Reservoir Management Reviews.	Reclamation, BLM, State Parks, Utah Division of Oil, Gas, and Mining, and other interested parties.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Roads/Trails			
Private Purpose Roads 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.
Roads Across Private Lands 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.
Road Maintenance and Use 1. Pursue agreements with private or public entities to provide ongoing maintenance of roads and parking areas. 2. Restrict vehicular traffic from using user-created unimproved roads ,. 3. Close roads when unacceptable environmental or road damage is occurring. 4. Maintain structures, bridges, cattle guards, etc., to be structurally sound and safe for use. 5. Coordinate with the State of Utah and Uintah County to assure safe ingress and egress from the state highway and county roads.		Document in Reservoir Management Reviews. Comply with agreements and permits. Document road condition. Conduct on-site inspections.	Reclamation, State Parks, and Uintah County.
Road Rehabilitation 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, UWCD, and State Parks.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Special Purpose Roads and Trails 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.
Specific Purpose Roads and Trails 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 Specific Area Management Direction.*		Comply with existing contracts and agreements.	Reclamation, UWCD, State Parks, and other entities.
Trail Maintenance and Use 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			
Automobile/Motorized Vehicle Travel Prohibit vehicles from traveling and parking outside designated roads and parking areas.	43 CFR 420.		Reclamation, UDOT, State Parks, and Uintah County Sheriff's Department.
Disability Access 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.
Land Trespass 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.

AREA-WIDE MANAGEMENT DIRECTION

LAND MANAGEMENT

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Off-highway Vehicles (OHV) Where possible and practicable, regulate OHV use on Reclamation lands consistent with adjoining public and private land use. Provide OHV enforcement through federal, state, county, or local law enforcement agencies.	43 CFR 420. 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. Complete interagency coordination to assure that OHV uses on Reclamation lands are consistent with applicable state laws and county ordinances. Document in Reservoir Management Reviews.	Reclamation, State Parks, Uintah County, BLM, and other interested parties.
Visitor Access Provide appropriate access. *See Specific Area Management Direction.*			State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

PRIMARY JURISDICTION AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
General Management and Partnerships			
Area Management 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.	UWCD and Reclamation.
Water Resources			
Water Operations Operate according to contracts between Reclamation and UWCD.	Agreements between Reclamation and UWCD.	Review plans and agreements as often as needed.	Reclamation and UWCD.
Water Quality 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, UWCD, and UDEQ/DWQ.
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Generally prohibit public activities in the Primary Jurisdiction Area.	(WALROS RD4) Rural Developed The area provides occasional opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), but development, human activity, and natural resource modifications are common and frequently encountered. The area is less developed and more tranquil than a suburban setting.	Enforce.	Reclamation, State Parks, and UWCD.

SPECIFIC AREA MANAGEMENT DIRECTION

PRIMARY JURISDICTION AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Resources Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.		Reclamation and UWCD.
Natural and Cultural Resources *See Area-Wide Management Direction.*			
Land Management			
Access Generally, do not develop or maintain public access points within the Primary Jurisdiction Area.	Maintain existing access restrictions.	Monitor and document in Reservoir Management Reviews.	Reclamation, UWCD, and State Parks.

STATE PARK AREA

General Management and Partnerships			
Area Management Manage as a Developed Overnight Recreation Area, Developed Day Use Recreation Area, Developed Overnight and Day Use Group Recreation Area, Administration Area, Undeveloped Day Use Recreation Area, and Long-Term Camping Special Use 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. Complete compliance reviews of private exclusive use (long-term camping area) at least every 5 years to ensure compliance with established criteria pursuant to 43 CFR 429.32.	Document in Reservoir Management Reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

STATE PARK AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Water Resources			
Facilities Control erosion and pollutant loading including fuel spills.	Comply with current water quality and sanitation standards and reporting requirements. Comply with all applicable regulations regarding fuel storage.	Inspect fuel storage facilities. Document in Reservoir Management Reviews.	State Parks, Reclamation, federal, state, and Uintah County water and sanitation entities.
Septic Systems In site-specific design, follow local and state regulations concerning septic tank renovations/expansion.	Comply with local and state regulations.	Include in site-specific design/environmental analysis. Document in Reservoir Management Reviews.	Reclamation and State Parks.
Water Conservation and Development 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, UWCD, Reclamation, Uintah County, and sanitation entities.
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for a Rural Developed recreation opportunity experience.	(WALROS RD4) Rural Developed The area provides occasional opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), but development, human activity, and natural resource modifications are common and frequently encountered. The area is less developed and more tranquil than a suburban setting. The opportunity to experience brief periods of solitude is important but the presence of other visitors is expected. The array of recreation activities may be diverse.	Evaluate WALROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

PRIMARY JURISDICTION AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Facility Development Improve existing facilities. Consider providing amenities such as new pavilions, landscaping, restrooms, trails, and parking. Provide environmental and cultural resource interpretation information as appropriate.	Encourage the use of formal walks and hard-surfaced use areas. Plant material may be foreign to the environment in developed areas, including turf.	Evaluate WALROS condition and development scale. Document in reservoir management reviews.	State Parks and Reclamation.
Recreational Opportunities Continued uses could include picnicking, camping, hiking, interpretation, and access to water-based recreation activities. Boating capacity would be determined by land-based facility constraints (e.g., parking facilities).		Document in reservoir management reviews.	State Parks and Reclamation.
Visual Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Evaluate site condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources *See Area-Wide Management Direction.*			
Land Management			
Site Protection Determine specific location of the Study Area boundary and provide fencing as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

ENTRANCE AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
General Management and Partnerships			
Area Management Manage as Undeveloped Day-Use Recreation Area and Developed Day-Use Recreation 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			
Water Quality Protection *See Area-Wide Management Direction.*			
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for a Rural Natural recreation opportunity experience.	(WALROS RD6) Rural Developed The area provides opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), but development, human activity, and natural resource modifications are common and frequently encountered. The area is less developed and more tranquil than a suburban setting.	Evaluate WALROS condition and development scale. Document in reservoir management reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

ENTRANCE AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
Cultural Site Protection *See Area-Wide Management Direction.*			
Erosion Control *See Area-Wide Management Direction.*			
Noxious Weeds and Pests *See Area-Wide Management Direction.*			
Vegetation and Wildlife Habitat 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			
Access Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Site Protection Determine specific boundary location and control trespass.		Monitor and document in Reservoir Management Reviews.	State Parks, Reclamation, BLM, SITLA, Uintah County, and adjacent private landowners.

SPECIFIC AREA MANAGEMENT DIRECTION

SCENIC BYWAY AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
General Management and Partnerships			
Area Management Manage as Natural Area. Allow uses that protect water quality, reduce trespass, and are compatible recreation activities.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
Water Quality Protection *See Area-Wide Management Direction.*			
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for Rural Natural recreation opportunity experience.	(WALROS RD4) Rural Developed The area provides occasional opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), but development, human activity, and natural resource modifications are common and frequently encountered. The area is less developed and more tranquil than a suburban setting. The opportunity to experience brief periods of solitude is important but the presence of other visitors is expected. The array of recreation activities may be diverse.	Evaluate WALROS condition and development scale. Document in reservoir management reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

SCENIC BYWAY AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
Cultural Site Protection *See Area-Wide Management Direction.*			
Erosion Control *See Area-Wide Management Direction.*			
Noxious Weeds and Pests *See Area-Wide Management Direction.*			
Vegetation and Wildlife Habitat 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			
Access Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Site Protection Determine specific boundary location and control trespass.		Monitor and document in Reservoir Management Reviews.	State Parks, Reclamation, and Uintah County.

SPECIFIC AREA MANAGEMENT DIRECTION

HONDA HILLS AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
General Management and Partnerships			
Area Management Manage as Undeveloped Day-Use Recreation Area AND Developed Day Use Recreation Area. Allow uses that protect water quality, reduce trespass, and are compatible recreation activities.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
Water Quality Protection *See Area-Wide Management Direction.*			
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for Rural Natural recreation opportunity experience.	(WALROS RN6) Rural Natural The area provides frequent opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), as development, human activity, and natural resource modifications are only occasional and infrequent. The area is noticeably more natural, less developed, and more tranquil than an urban setting. The opportunity to get away from an infrastructure environment is important. The recreation opportunity experiences tend to be more resource dependent.	Evaluate WALROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.

SPECIFIC AREA MANAGEMENT DIRECTION

HONDA HILLS AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Visual Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
Cultural Site Protection *See Area-Wide Management Direction.*			
Erosion Control *See Area-Wide Management Direction.*			
Noxious Weeds and Pests *See Area-Wide Management Direction.*			
Vegetation and Wildlife Habitat 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			
Access Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Site Protection Determine specific boundary location and control trespass.		Monitor and document in Reservoir Management Reviews.	State Parks, Reclamation, and Uintah County.

SPECIFIC AREA MANAGEMENT DIRECTION			
INFLOW AREA			
General Management and Partnerships			
Area Management Manage as Natural Area. Allow uses that protect water quality, reduce trespass, and are compatible recreation activities.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
Water Resources			
Water Quality Protection *See Area-Wide Management Direction.*			
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for Rural Natural recreation opportunity experience.	(WALROS SP8) Semi-Primitive The area provides widespread and prevalent opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), since development, human activity, and natural resource modifications are seldom encountered. The opportunity to experience a natural ecosystem with little human imprint is important. The recreation opportunity experiences tend to be more adventure based.	Evaluate WALROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Visual Management Retain the existing character of the landscape.	[Visual Resource Class II] The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.	Evaluate visual condition. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Natural and Cultural Resources			
Cultural Site Protection *See Area-Wide Management Direction.*			

SPECIFIC AREA MANAGEMENT DIRECTION			
INFLOW AREA			
Erosion Control *See Area-Wide Management Direction.*			
Noxious Weeds and Pests *See Area-Wide Management Direction.*			
Vegetation and Wildlife Habitat 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			
Access Maintain existing trails and access points as needed.		Monitor and document in Reservoir Management Reviews.	State Parks and Reclamation.
RESERVOIR INUNDATION AREA			
General Management and Partnerships			
Area Management Manage for project and recreation purposes.	Agreements between Reclamation, UWCD, State Parks, and UDWR.	Monitor and document in Reservoir Management Reviews.	Reclamation, UWCD, State Parks, and UDWR.
Water Resources			
Water Operations Operate according to contracts between Reclamation and UWCD.		Review plans and agreements as often as needed.	Reclamation and UWCD.
Water Quality *See Area-Wide Management Direction.* 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, UWCD, UDEQ/DWQ, and USFWS.

SPECIFIC AREA MANAGEMENT DIRECTION

RESERVOIR INUNDATION AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Recreational and Visual Resources			
Appropriate Water and Land Recreation Opportunity Spectrum (WALROS) Management Manage for Rural Natural recreation opportunity experience.	(WALROS RN6) Rural Natural The area provides frequent opportunities to see, hear, or smell the natural resources (e.g. vegetation, wildlife, aesthetics), as development, human activity, and natural resource modifications are only occasional and infrequent. The area is noticeably more natural, less developed, and more tranquil than an urban setting. The opportunity to get away from an infrastructure environment is important. The recreation opportunity experiences tend to be more resource dependent.	Evaluate WALROS condition and development scale. Document in Reservoir Management Reviews.	State Parks and Reclamation.
Facility Development *See adjacent land management areas.*		Document in Reservoir Management Reviews.	State Parks and Reclamation.
Recreational Opportunities Provide for water-based recreation activities such as swimming, boating, skiing, sailing, and fishing. Manage portions of Steinaker Reservoir near the North Beach Area, State Park Area, and South Beach Area as wakeless.	Follow State Boating Guidelines.	Enforce. Document in Reservoir Management Reviews.	State Parks.
Natural and Cultural Resources			
Erosion Control *See Area-Wide Management Direction.*			

SPECIFIC AREA MANAGEMENT DIRECTION

RESERVOIR INUNDATION AREA

MANAGEMENT DIRECTION	STANDARD OR GUIDE	MONITORING	CONTACTS AND REFERENCES
Fishery 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.
Shoreline Protection *See Area-Wide Management Direction.*			
Land Management			
Access As needed, maintain and improve the existing boat ramp access at the State Park Area and any new boating access locations that may be developed.		Monitor and document in the Reservoir Management Reviews.	Reclamation and State Parks.

APPENDIX C: ENVIRONMENTAL COMMITMENTS

APPENDIX C: ENVIRONMENTAL COMMITMENTS

The following environmental commitments (mitigation measures) will be implemented to avoid potential adverse effects to resources within the Steinaker Reservoir RMP Study Area as part of implementing the recommended alternative.

WATER RESOURCES

Potential impacts to water quality associated with RMP action alternatives would be mitigated through proper design, installation, and maintenance of stormwater best management practices (BMPs), placement of vault toilet facilities in high-use recreation areas, and use of animal-proof garbage receptacles. Stormwater BMPs would reduce or eliminate stormwater-generated sediment and potentially eliminate untreated stormwater discharge into the reservoir. Vault toilets address impacts from untreated human waste entering the reservoir, and animal-proof garbage receptacles also reduce the amount of trash potentially entering the water body.

Riparian vegetation restoration and bank stabilization, as well as maintaining existing riparian buffers, would provide protection from soil erosion, reduce sediment loads to the reservoir or tributary streams, and filter pollutants transported by stormwater runoff. Locating trails outside of the riparian and marsh vegetation present between the full pool and low reservoir elevations would provide a buffer to help mitigate any runoff impacts from the proposed trail.

Under any alternative, Reclamation will continue existing interagency partnerships that maintain Steinaker Reservoir water quality and will participate in any future interagency coordination and partnership efforts associated with the Ashley Creek watershed.

RECREATION AND VISUAL RESOURCES

In site specific design, visual resource impacts can be reduced or eliminated by using facility design and land planning techniques that borrow from naturally established line, form, color, and texture. Design considerations include building materials, size and scale, color, location, screening, and distance from critical viewpoints or transportation corridors. Visual resource values must be considered throughout the RMP process as the assignment of visual management classes is based on the management decisions made in the RMP. All proposed actions that would result in surface disturbances must consider the importance of the visual resource and the impacts the project may have on the characteristic landscape. Management decisions must reflect the importance of visual resources within the Study Area while also giving consideration to other resource values and uses.

GEOLOGY AND SOILS

Shoreline erosion is currently occurring along the reservoir full pool elevation throughout much of the Study Area, except in those areas where shoreline stabilization has been provided (e.g., along the dam and Highway 191). Appropriate erosion control and shoreline stabilization measures will be installed where appropriate to prevent further erosion in high-use areas.

To mitigate soil erosion impacts, Reclamation would implement erosion control measures for individual projects under Alternatives B and C. Implementation of proper erosion controls would mitigate impacts caused by construction activities and stormwater runoff. Mitigation measures would include requiring a Storm Water Pollution Prevention Plan for all construction operations that disturb 1.0 or more acres; this would require use of published BMPs for controlling erosion and sedimentation from stormwater runoff and would address runoff from all roads (paved and unpaved), trails, campgrounds, parking lots, and administrative buildings.

VEGETATION, INCLUDING WETLANDS

Mitigation measures for either action alternative will include the development of noxious and invasive weed control strategies as a part of an Integrated Pest Management Plan. Fence lines can facilitate weed invasion as winds blow invasive vegetation against fences, where it becomes trapped and releases seed. Therefore, including a provision for removal of redundant/unnecessary fence lines as part of the Integrated Pest Management Plan would provide some weed management benefit. Additionally, the plan should address weed control strategies to be implemented along all existing and future boundary and access control fences in the Study Area.

After site-specific environmental assessment and design, appropriate sediment and erosion control strategies would be implemented during construction activities to limit impacts to the upland and riparian-wetland vegetation communities. In site-specific designs, disturbed areas would be replanted with appropriate native species. Should it be found that any site specific projects would involve filling riparian-wetland communities, Reclamation would comply with Section 404 of the Clean Water Act. Section 404 requires wetland impacts be mitigated and that no net loss of wetland occurs. The Section 404 permitting and mitigation process is under the jurisdiction of the U.S. Army Corps of Engineers.

WILDLIFE AND FISHERIES

Mitigation measures that would minimize or avoid impacts to wildlife are recommended below. These measures would be integrated into development of a Habitat Management Plan if either action alternative is selected for the RMP:

- At appropriate locations, signs would be posted to encourage recreationists to stay on the trail and within developed recreation facility boundaries to minimize the amount of vegetation trampling and disturbance to wildlife.

- Wetland and riparian habitats would be protected in accordance with existing federal regulations. During the development and expansion of recreation facilities, construction would, to the extent possible, avoid disturbance (both directly and indirectly) of wetland and riparian areas.

- Wildlife management would be coordinated between Reclamation and appropriate partner agencies to specify suitable recreation within the Natural Areas and identify measures to target areas that were previously impacted by recreationists and are in need of restoration.

Under Alternative B or C, Reclamation will engage partners, particularly State Parks and UDWR, in developing a Fishery Management Plan. Among other elements, the Fishery Management Plan would include goals to emphasize aquatic invasive species awareness and preventive measures for the Study Area.

THREATENED, ENDANGERED, AND OTHER SPECIAL STATUS SPECIES

Mitigation measures for special status species are inclusive of those previously described for vegetation, wildlife, and fisheries. Surveys for special status species (wildlife and rare plants) would be completed as a component of site-specific environmental analysis prior to implementing any recreation facility developments.

CULTURAL RESOURCES

Reclamation will ensure the completion of cultural resource compliance for all site-specific undertakings as a means to fulfill Section 106 of the National Historic Preservation Act, as well as to avoid, reduce, or mitigate impacts to the integrity of cultural resources. Avoidance is the preferred method of cultural resource mitigation. If historic properties are located within the area of potential effects associated with a specific undertaking, and if they would be impacted by activities associated with the undertaking, a Memorandum of Agreement (MOA) would be developed. The MOA would be among Reclamation, the Utah State Historic Preservation Office, the Advisory Council on Historic Preservation (if it chooses to participate), and any other party that assumes responsibility under the agreement. The MOA would include the terms and conditions agreed upon to resolve (mitigate) the impacts of the undertaking upon historic properties.

PALEONTOLOGICAL RESOURCES

Reclamation will ensure the completion of paleontological resource compliance for all site-specific projects as a means to fulfill Section 6302 of the Paleontological Resources Preservation Act, as well as to avoid, reduce, or mitigate impacts to the condition of paleontological resources. Avoidance is the preferred method of paleontological resource mitigation. If avoidance of paleontological resources is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to paleontological resources.

INDIAN TRUST ASSETS

Reclamation will ensure the completion of Indian Trust Asset (ITA) compliance for all site-specific projects as a means to fulfill both U.S. Department of the Interior (512 DM 2) and Reclamation policies regarding ITAs, as well as to avoid, reduce, or mitigate impacts to ITAs. Avoidance is the preferred method of ITA mitigation. If avoidance of ITAs is not possible, a mitigation plan would be developed. The mitigation plan would include the terms and conditions agreed upon to resolve (mitigate) the impacts to ITAs.

ENERGY, MINERALS, AND OTHER EXTRACTIVE RESOURCES

Under Alternative C, potential mitigation measures for saleable mineral resources will include designing and developing the proposed Developed Day Use Recreation Area in the Honda Hills Management Area such that the saleable mineral resources continue to be accessible.

WASTEWATER, SOLID WASTE, AND HAZARDOUS MATERIALS

Under Alternative C and pending site specific environmental analysis and design, local and state regulations concerning septic tank renovations will be followed during the possible expansion of the existing septic systems in the Developed Overnight Recreation Area. Additionally, providing adequate refuse collection frequency at all refuse collection locations in the Study Area will help reduce the potential of groundwater, soil, or surface water contamination.

APPENDIX D: LETTERS OF COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND BUREAU OF RECLAMATION RESPONSES

APPENDIX D: LETTERS OF COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND BUREAU OF RECLAMATION RESPONSES

This appendix contains the comment letters received from Federal and State agencies and the general public for the Steinaker Reservoir Resource Management Plan Draft Environmental Assessment released in March 2013. Each comment letter is presented first, with graphical indications to show the location of the specific remarks. On the following pages, those remarks are quoted and the responses provided.

COMMENT LETTER 1

Note: pages 2–5 of this letter are not displayed because they contain detailed information about a sensitive paleontological site.

State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Office of the Governor
PUBLIC LANDS POLICY COORDINATION

KATHLEEN CLARKE
Director

April 26, 2013

Kerry Schwartz
Bureau of Reclamation
Upper Colorado Region
Provo Area Office
302 East 1860 South
Provo, UT 84606-7317

Subject: Draft EA for the Steinaker Reservoir RMP in Uintah County, UT
RDCC Project No. 38047

Dear Mr. Schwartz:

Comment 1A

The State of Utah, through the Public Lands Policy Coordination Office (PLPCO), has reviewed this project. Utah Code (Section 63J-4-601, et. seq.) designates PLPCO as the entity responsible to coordinate the review of technical and policy actions that may affect the physical resources of the state, and to facilitate the exchange of information on those actions among federal, state, and local government agencies. As part of this process, PLPCO makes use of the Resource Development Coordinating Committee (RDCC). The RDCC includes representatives from the state agencies that are generally involved or impacted by public lands management.

Utah Geological Survey

Comment 1B

Utah Geological Survey (UGS) is concerned as to the long term management of UGS Paleontological Locality Un2250 ("Steinaker Reservoir Dinosaur"). Management for this site needs to include ongoing salvage and the development of a research plan that includes at a minimum, excavation of the site to evaluate its significance and areal extent.

COMMENT LETTER 1

Note: pages 2–5 of this letter are not displayed because they contain detailed information about a sensitive paleontological site.

Following the line of reasoning outlined above and given our intimate knowledge of the significance of this fossil resource (Kirkland and Madsen, 2007; Sprinkle et al., 2012). It is our recommendation that ongoing salvage and the development of a research plan that includes at a minimum, excavation of the site to evaluate its significance and areal extent be included in this management plan. If you have questions, please contact Dr. James I. Kirkland, State Paleontologist, Utah Geological Survey, at (801) 537-3307.

The State of Utah appreciates the opportunity to review this proposal and we look forward to working with you on future projects. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call Sindy Smith at (801) 537-9193.

Sincerely,

Kathleen Clarke
Director

5110 State Office Building, PO Box 141107, Salt Lake City, Utah 84114-1107 · telephone 801-537-9801

RESPONSES TO COMMENT LETTER 1

Comment 1A: "The State of Utah, through the Public Lands Policy Coordination Office (PLPCO), has reviewed this project. Utah Code (Section 63J-4-601, et. seq.) designates PLPCO as the entity responsible to coordinate the review of technical and policy actions that may affect the physical resources of the state, and to facilitate the exchange of information on those actions among federal, state, and local government agencies. As part of this process, PLPCO makes use of the Resource Development Coordinating Committee (RDCC). The RDCC includes representatives from the state agencies that are generally involved or impacted by public lands management."

Response to Comment 1A: Thank you for your review and facilitation of information exchange between Reclamation and the State of Utah.

Comment 1B: "Utah Geological Survey (UGS) is concerned as to the long term management of UGS Paleontological Locality Un2250…. Management for this site needs to include ongoing salvage and the development of a research plan that includes at a minimum, excavation of the site to evaluate its significance and areal extent."

Response to Comment 1B: Thank you for your comment. The Resource Management Plan includes management direction for Reclamation to, "develop a plan for stabilization and protection of identified resource localities" (Draft Environmental Assessment, Appendix B, p. B-23). In implementing the Resource Management Plan, Reclamation will continue to coordinate with Utah Geological Survey regarding this and other paleontological resources located at Steinaker Reservoir.

COMMENT LETTER 2

UINTAH COUNTY

STATE OF UTAH

Our past is the nation's future

April 30, 2013

Bureau of Reclamation
Water & Environmental Resources Division
Attn: Kerry Schwartz
302 East 1860 South
Provo, UT 84606-7317
email: kschwartz@usbr.gov

RE: Red Fleet Reservoir & Steinaker Reservoir Draft Resource Management Plan Environmental Assessments (EA's)

Dear Mr. Schwartz,

Thank you for the opportunity to comment on the proposed Drafts for the Red Fleet Reservoir and Steinaker Reservoir Resource Management Plan Environmental Assessments (EA's).

Regarding the Draft Red Fleet Reservoir Management Plan EA.

Wildlife

The greater sage-grouse should be managed according to the *Conservation Plan for Greater Sage-grouse in Utah*, as implemented by the State of Utah. This plan has also been adopted by Uintah County.

Transportation and Access

The Draft EA appears to define unimproved roads as "roads that are not designated as county roads or that are not used for administrative access purposes." This term should be used consistently within the Draft EA. As you are aware, Uintah County is responsible to maintain public access on public rights-of-way. As such all roads designated on the Uintah County Transportation Map must remain open. Particularly, Uintah County continues to assert its claims on the following roads:

"Red Fleet Access Road" is a primary access road to the State Park and is a county paved Class "B" maintained road.

The Class D Road that provides access to the South Beach area should remain open having a parking area for fishing access only at the bottom. Before the reservoir was built this road connected to the North Beach road on the northern side of the reservoir.

COUNTY BUILDING • 152 EAST 100 NORTH • VERNAL, UTAH 84078

COMMENT LETTER 2

The county Class D road providing access to the Cottonwood Wash area should remain open allowing closer access to the lake.

Regarding the Draft Steinaker Reservoir Management Plan:

Wildlife

Comment 2A — The greater sage-grouse should be managed according to the *Conservation Plan for Greater Sage-grouse in Utah*, as implemented by the State of Utah. This plan has also been adopted by Uintah County.

Transportation and Access

Comment 2B — The Draft EA appears to define unimproved roads as "roads that are not designated as county roads or that are not used for administrative access purposes." This term should be used consistently within the Draft EA. As you are aware, Uintah County is responsible to maintain public access on public rights-of-way. As such all roads designated on the Uintah County Transportation Map must remain open. In addition to public rights-of-way, Uintah County is opposed to any limitation to the public's use of the Honda Hills area. This area has been used by the public for decades as a popular OHV area. Uintah County believes that this area should remain open for OHV use. Having a defined area for the public to be able to enjoy this type of recreation is wise land management.

Comment 2C

Uintah County supports the Recreational Development Emphasis Alternative C for the Red Fleet and Steinaker Resource Management Plans Environmental Assessments.

We have no further comments to make at this time but reserve the right to comment at a later date, if warranted.

Sincerely,

UINTAH COUNTY COMMISSION

Mark D. Raymond

Mark D. Raymond, Chairman

Michael J. McKee

Michael J. McKee

Darlene R. Burns

Darlene R. Burns

RESPONSES TO COMMENT LETTER 2

Comment 2A: "The greater sage-grouse should be managed according to the *Conservation Plan for Greater Sage-grouse in Utah*, as implemented by the State of Utah. This plan has also been adopted by Uintah County."

Response to Comment 2A: Thank you for your comment. The sage-grouse conservation plan has been referenced in the Final Environmental Assessment and the Resource Management Plan documents, and Uintah County has been included in the list of appropriate entities to involve in developing a Habitat Management Plan for Steinaker Reservoir.

Comment 2B: "The Draft EA appears to define unimproved roads as 'roads that are not designated as county roads or that are not used for administrative access purposes.' This term should be used consistently within the Draft EA. As you are aware, Uintah County is responsible to maintain public access on public rights-of-way. As such all roads designated on the Uintah County Transportation Map must remain open."

Response to Comment 2B: Thank you for your comment. For clarification, the Final Environmental Assessment defines an unimproved road as a road that does not have a paved or gravel surface and is irregularly maintained or not maintained. With Alternative B or C, Reclamation proposes to decommission unimproved roads only if they are not county roads and are not needed for administrative access purposes. The Resource Management Plan (Appendix B of the Draft Environmental Assessment) includes management direction for Reclamation to "coordinate with the State of Utah and Uintah County to assure safe ingress and egress from the state highway and county roads" (p. B-29) and to "encourage appropriate maintenance of access roads to Steinaker Reservoir" (p. B-2). Under this management direction, Reclamation will continue to coordinate with Uintah County regarding access and road maintenance responsibilities at Steinaker Reservoir.

Comment 2C: "…Uintah County is opposed to any limitation to the public's use of the Honda Hills area. This area has been used by the public for decades as a popular OHV area. Uintah County believes that this area should remain open for OHV use. Having a defined area for the public to be able to enjoy this type of recreation is wise land management."

Response to Comment 2C: Thank you for your comment. Reclamation's preferred alternative, Alternative C, includes plans to have a designated off-highway vehicle open riding area within the Honda Hills Management Area as well as a developed trailhead for off-highway vehicle users.

COMMENT LETTER 3

From: Tim Smith <timsmith@utah.gov>
Date: Tue, Mar 26, 2013 at 9:27 AM
Subject: Re: Long-term Camping
To: kschwartz@usbr.gov
Cc: Fred Hayes <fredhayes@utah.gov>, Jeff Rasmussen <jeffrasmussen@utah.gov>

Comment 3A

In a recent BOR - Utah State Parks meeting, we discussed the issue of long-term camping at Steinaker State Park. We indicated that we have a section of the park ideally suited for this use. It is the former employee housing area that is separated from the developed portion of the park by the road and maintenance yard and trees planted by the former residents. For a relatively low cost, our region crew can add some hookups and we could utilize the area for volunteer camp hosts and long-term campers. The return on investment projections are significant and have the possibility of placing Steinaker on a sustainable financial foundation of self-funding. We have discussed this issue with the Uintah County Commission and they are supportive of the project.

Please let me know what we can do to move this project forward. The construction season in the basin is nearly upon us and as you heard at the meeting, sustainable self-funded parks is a key goal of our agency. Thank you in advance for your assistance.

RESPONSES TO COMMENT LETTER 3

Comment 3A: "In a recent BOR - Utah State Parks meeting, we discussed the issue of long-term camping at Steinaker State Park. We indicated that we have a section of the park ideally suited for this use. It is the former employee housing area that is separated from the developed portion of the park by the road and maintenance yard and trees planted by the former residents. For a relatively low cost, our region crew can add some hookups and we could utilize the area for volunteer camp hosts and long-term campers. The return on investment projections are significant and have the possibility of placing Steinaker on a sustainable financial foundation of self-funding. We have discussed this issue with the Uintah County Commission and they are supportive of the project."

Response to Comment 3A: Thank you for your comment. Reclamation has included the long-term camping area with Alternatives B and C in the Final Environmental Assessment. Pursuant to 43 CFR 423 Subpart E, Reclamation would approve the long-term camping area as a "Special Use Area." This Environmental Assessment serves as the public process that is required by the federal regulation for such designation. The designation would be made upon selection of Alternative B or C in the Record of Decision.

COMMENT LETTER 4

From: Trina Hedrick <trinahedrick@utah.gov>
Date: Mon, May 6, 2013 at 3:09 PM
Subject: Re: Comments on Red Fleet/Steinaker draft EAs
To: "Schwartz, Kerry" <kschwartz@usbr.gov>

Thanks, Kerry. I had submitted these to our Habitat guys, but missed the RDCC deadline of April 23rd apparently. Anyway, only one major comment, the first one for Red Fleet. Let me know what you think.

Red Fleet
--DWR certainly supports additional recreational facilities and fishing access as proposed in Alternative C, the Preferred Alternative. However, the addition of a boat ramp that does not pass by the wash station is difficult for us to swallow in light of the previous quagga mussel detection there and the finding of multiple life stages of mussels at Lake Powell. In 2012, four of 304 boaters interviewed had previously been to Lake Powell. This may seem like a low number, but it just takes one introduction sometimes to get them established in a new water. We would like to see the road from the new boat ramp go by the wash station or else the addition of a second boat ramp removed from this alternative.

Comment 4A --Page 90 (RF) and page 85 (Steinaker), the text suggests that the rainbow trout fishery may be susceptible to whirling disease if ever found there. While rainbow trout are susceptible to WD, it is more detrimental to smaller fish and it is unlikely that the catchable fish stocked there would see any deformities. This should probably be reworded.

Steinaker
Comment 4B --We have confirmed American bullfrogs at Steinaker Reservoir in 2012. This could be added to the AIS list on page 85.

That's it. Thanks again,
Trina

RESPONSES TO COMMENT LETTER 4

Comment 4A: "[On page 85 of the Draft EA] the text suggests that the rainbow trout fishery may be susceptible to whirling disease if ever found there. While rainbow trout are susceptible to WD, it is more detrimental to smaller fish and it is unlikely that the catchable fish stocked there would see any deformities. This should probably be reworded."

Response to Comment 4A: Thank you for the clarification. The text in the Final Environmental Assessment has been reworded as suggested.

Comment 4B: "We have confirmed American bullfrogs at Steinaker Reservoir in 2012. This could be added to the AIS list on page 85."

Response to Comment 4B: Thank you for the information. This species has been added to the Final EA as suggested.

COMMENT LETTER 5

From: Amy Defreese <amy_defreese@fws.gov>
Date: Mon, May 13, 2013 at 10:31 AM
Subject: Reservoir RMPs
To: kschwartz@usbr.gov

Hi Kerry,
I wasn't able to submit written comments to the Red Fleet and Steinaker RMP Draft EA by the 30th as requested. I'm looking through the draft EAs now, and I am wondering if you would be interested in including some programmatic language to protect migratory birds during the nesting season. I'm thinking specifically of seasonal and spatial buffers during construction activity at the reservoirs. If so, I can work with [BIO-WEST] to provide some language.

Comment 5A

It was also a little unclear to me what the determination is/was for Spiranthes. There may be some activities that don't require a 404 permit that would provide a nexus for Section 7 consultation, correct? I'm thinking about introducing human presence to areas that may house the plant, or I imagine construction equipment could find its way into wetlands. Do you anticipate submitting a BA and effect determination for this species at any point?

Best regards,
Amy

Amy Defreese, Ecologist
Utah Field Office
U.S. Fish and Wildlife Service
2369 W. Orton Circle, Suite 50
West Valley City, Utah 84119

Email: amy_defreese@fws.gov
Phone: 801-975-3330 x 128

RESPONSES TO COMMENT LETTER 5

Comment 5A: "I am wondering if you would be interested in including some programmatic language to protect migratory birds during the nesting season. I'm thinking specifically of seasonal and spatial buffers during construction activity at the reservoirs."

Response to Comment 5A: Thank you for your comment. Reclamation has added general management direction to protect migratory birds. Specific actions for doing so would be determined in site-specific environmental clearances. Under the Migratory Bird Treaty Act and Executive Order 13186, Reclamation would coordinate with the U.S. Fish and Wildlife Service in identifying the appropriate actions.