9-2007

Reclamation: Managing Water in the West, Steinaker Reservoir Normal Water Surface Elevation Increase Final Environmental Assessment and Finding of No Significant Impact

U.S. Department of the Interior, Bureau of Reclamation

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RECLAMATION
Managing Water in the West

Steinaker Reservoir Normal Water Surface Elevation Increase Final Environmental Assessment and Finding of No Significant Impact PRO-EA-07-001

Central Utah Project – Vernal Unit
Uintah County, Utah
Upper Colorado Region
Provo Area Office

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

September 2007

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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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Chapter 1 - Need for Proposed Action and Background

1.1 Introduction

This document is an environmental assessment (EA) of the proposal to raise the normal water surface elevation from 5517.8 feet above mean sea level (msl) to 5520.5 msl for Steinaker Reservoir in Uintah County, Utah. The Uintah Water Conservancy District (UWCD) has requested Bureau of Reclamation (Reclamation) authorization for this action. The Steinaker State Park, managed by the Utah Division of Parks and Recreation, maintains several campgrounds, an entrance station and other associated buildings and associated infrastructure. Modifications or relocations of some of these facilities would be needed in conjunction with an increase in the reservoir's normal water surface elevation.

1.2 Background

Steinaker Reservoir is an off-channel storage facility located just over 3 miles north of Vernal, Utah (Map 1). Construction of this rolled earth-filled dam was started in 1959 and completed 1962. The reservoir is fed by the Steinaker Feeder Canal which receives water through the Fort Thornburgh Diversion Dam located on Ashley Creek approximately two miles southwest of the reservoir. The Dam and Reservoir are features of the Central Utah Project (CUP), Vernal Unit and provide water to lands south of the reservoir.

The project provides a supplemental water supply of 17,900 acre-feet to about 14,700 acres. Project water also replaces water in Ashley Creek which allows irrigation of lands above Steinaker Service Canal and diversion of water from Ashley Springs on Ashley Creek into the municipal pipelines which supply 1,600 acre-feet of water annually to the communities of Vernal, Naples and Maeser.

Steinaker Reservoir has a total capacity of 38,173 acre-feet and a surface area of 820 acres. Steinaker Dam is a zoned earthfill structure. The dam is 162 feet high, has a crest length of 1,997 feet, and contains 1,892,000 cubic yards of material.

The emergency spillway is a reinforced concrete structure located on the right abutment of the Dam (west side). The 378-foot-long spillway has an inlet channel with a 15-foot-wide uncontrolled overflow structure, a 6-foot-wide chute, and an 11-foot-wide stilling basin which serves both the spillway and outlet works flows. The spillway crest is at elevation 5,520.5 feet. The spillway has a design capacity of 690 cubic feet per second (cfs) at reservoir water surface elevation 5527 feet.

The outlet works are located within the right (west) side of the dam abutment. The outlet works have a design capacity of 550 cfs at maximum reservoir water surface elevation 5520.5 feet. Under normal conditions, outlet works discharges are limited to 300 cfs which is the design capacity of the Steinaker Service Canal which carries the combined discharge of the spillway and outlet works.

Since this is an off-channel reservoir, water is not released directly into any natural drainage. Water can be delivered to Ashley Creek via the service canal.

Map 1. Steinaker Reservoir and State Park

1.3 Purpose, Need and Scope of Analysis

The purpose of the Proposed Action is to increase Steinaker Reservoir's normal water surface elevation from 5,517.8 feet to 5,520.5 feet. This would be an increase of 2.7 feet and would allow the reservoir to be filled to the current spillway crest elevation. This increased elevation would allow for additional carryover water storage above current conditions. If this added carryover water is proposed for any use other than present uses, additional NEPA analysis and

documentation would be needed. The Proposed Action is needed to increase the reservoir's water storage capability with no structural or operational modification to the dam or reservoir. Due to safety concerns, some additional monitoring of the dam would be required when water surface elevation rises to 5520.5 msl.

The scope of analysis in this EA is limited to consideration of whether or not to authorize the proposed water surface elevation increase. This EA is being prepared because of UWCD's request for Reclamation's authorization to raise the normal water elevation. Construction activities (for recreation facilities) associated with the Proposed Action would be limited to previously disturbed lands within Steinaker State Park and are related to modification or relocation of recreation facilities.

1.4 Authorizing Actions, Permits and Licenses

Implementation of the Proposed Action could require a number of authorizations or permits from State and Federal agencies. These are summarized below.

- Reclamation authorization needed to modify normal water surface elevation on a permanent basis. The "Steinaker Dam Issue Evaluation Decision Document" (U.S. Department of the Interior, 2007) found that increasing the maximum normal reservoir water surface elevation as proposed would not increase risk estimates above Reclamation guidelines.

- Permit from the Army Corps of Engineers in compliance with Section 404 of the Clean Water Act, as amended, to modify or relocate recreational facilities.

1.5 Relationship to Other Projects

The Utah Division of Parks and Recreation proposed that the entry station for Steinaker Reservoir State Park be renovated and reconstructed. A Categorical Exclusion (CE) was completed for this proposal on February 5, 2007.

In 2005, 2006 and 2007 Reclamation authorized temporary increases in the normal water surface elevation at Steinaker Reservoir for the purposes of testing the potential effects to dam integrity and spillway operation.

Chapter 2 - Proposed Action and Alternatives

2.1 Introduction

The Proposed Action is authorization to increase Steinaker Reservoir's normal water surface elevation from 5,517.8 feet to 5,520.5 feet. This would be an increase of 2.7 feet and would allow the reservoir to be filled to the current spillway crest elevation. This EA will be used to analyze the potential effects to the human environment and will serve to guide Reclamation's decision, along with other pertinent information, whether to implement the Proposed Action.

If authorized to proceed, UWCD would be allowed to fill the reservoir to the proposed normal water surface elevation for a period of time not to exceed 60 days each water year (during the summer irrigation season). This 60-day limitation is imposed by Reclamation's Risk Analysis (U.S. Department of the Interior, 2005).

In conjunction with this authorization, UWCD (and Reclamation) would work with Steinaker State Park management to modify or relocate certain recreational facilities. The Proposed Action Alternative is analyzed in this EA, along with a No Action Alternative to facilitate comparison of potential effects between the two.

2.2 No Action Alternative

Under the No Action Alternative, Reclamation would not authorize UWCD to fill the reservoir to the proposed new normal water surface elevation, and State Park facilities and infrastructure would not need to be relocated and/or reconstructed. The No Action Alternative does not require any changes to project features.

2.3 Proposed Action Alternative

The Proposed Action Alternative is to increase Steinaker Reservoir's normal water surface elevation from 5,517.8 feet to 5,520.5 feet for a period of time not to exceed 60 days per water year. This would be an increase of 2.7 feet and would allow the reservoir to be filled to the current spillway crest elevation. The reservoir would be allowed to fill to this new, higher normal water surface elevation during the spring runoff season, for the 60 day period stated above. Total area of new inundation would be approximately 30 acres. Most of this area is vegetated by sagebrush.

If Reclamation decides to implement the Proposed Action and authorizes UWCD to operate the reservoir at the higher normal water surface elevation, portions of Steinaker State Park facilities and infrastructure would need to be relocated and/or reconstructed. The following actions would be undertaken by UWCD in conjunction with the Proposed Action (see Map 2 and 3 for locations of the following facilities and infrastructure):

1. Soils within the area are mostly sand and could be highly susceptible to erosion from wave action on the new higher shoreline. Erosion can affect both water quality and recreation. This erosion could affect approximately 30 acres. Most of this affected area is located adjacent to the West Campground and Boat Dock. If deemed necessary by Reclamation and/or the State Park, erosion would be repaired as necessary, including where recreational facilities or water quality are affected.

2. The current location of the Lower Pavilion Area would be partially inundated by the higher water level in the reservoir. The structure should be able to withstand the increased lake level; however, some erosion may occur to the sand material around the post bases. The supports are anchored by concrete at each post location and there is no slab under the pavilion. This pavilion may need to be disassembled and moved to higher ground. This can be accomplished by disassembling the cover and placing new footings at a location. This new location would be within 200 feet of the structures current location and be higher on the bank.

3. The proposed maximum water level would rise onto the asphalt roadway above the concrete section of the West Shore Boat Ramp. The granular base and subgrade materials under the roadway could be saturated with possible detrimental effects to the roadway. This ramp would need to be extended at the current location to withstand the proposed maximum water elevation. The concrete boat ramp would need to be extended approximately 35 feet and widened to match the lower concrete section width. Riprap would need to be extended along the new concrete section. The parking area associated with the boat dock would be reconstructed at its present location. The restroom leach field adjacent to the boat ramp was monitored during tests of the proposed maximum water elevation during the spring seasons of 2005 and 2006. These tests showed that the proposed elevation increase would not impact the leach field. All leach fields in the state park will maintain a 100-foot horizontal set back and a 2-foot vertical limit from any high water level. The boat dock dead-man anchor would not need to be relocated.

4. The light pole and power feed adjacent to the West Shore Boat Ramp would need to be relocated approximately 75 feet to the west and higher on the bank, or it must be disconnected or otherwise protected to prevent a possible electrical safety hazard for the public.

5. The West Campground pads for picnic tables and fire pits would be only slightly above the proposed elevated waterline. This could cause a safety hazard due to the existence of water, several feet in depth, within several feet of the pad sites. These pad sites would need to be protected from wave action by gently sloping the gradient to the water and placing riprap over this slope. Access to the shore would be provided by the construction of gravel walkways.

6. Within the North Group Use Area, a water supply line would be submerged by the raised water level. This supply line would to be moved to higher ground (Map 4). Water supply line valve risers must be raised above the anticipated lake level, with freeboard for wave action. There is a concrete pipe outlet that drains the parking lot that would be partially submerged during high water. It would need to be checked after high water periods to make sure debris has not accumulated. The higher water level will be close to the roadway surface for the access road of the group area. This roadway would need to be monitored to determine potential roadway damage. If damage does occur the road would be raised and/or protected. The bottom of the vault toilet is located above the anticipated raised water surface; however, the toilet would be within the established 50-foot horizontal setback from the reservoir's shore. Administrative controls such as pumping the sewage from the toilet early and often or construction of a containment berm around the toilet would be accomplished to mitigate potential problems.

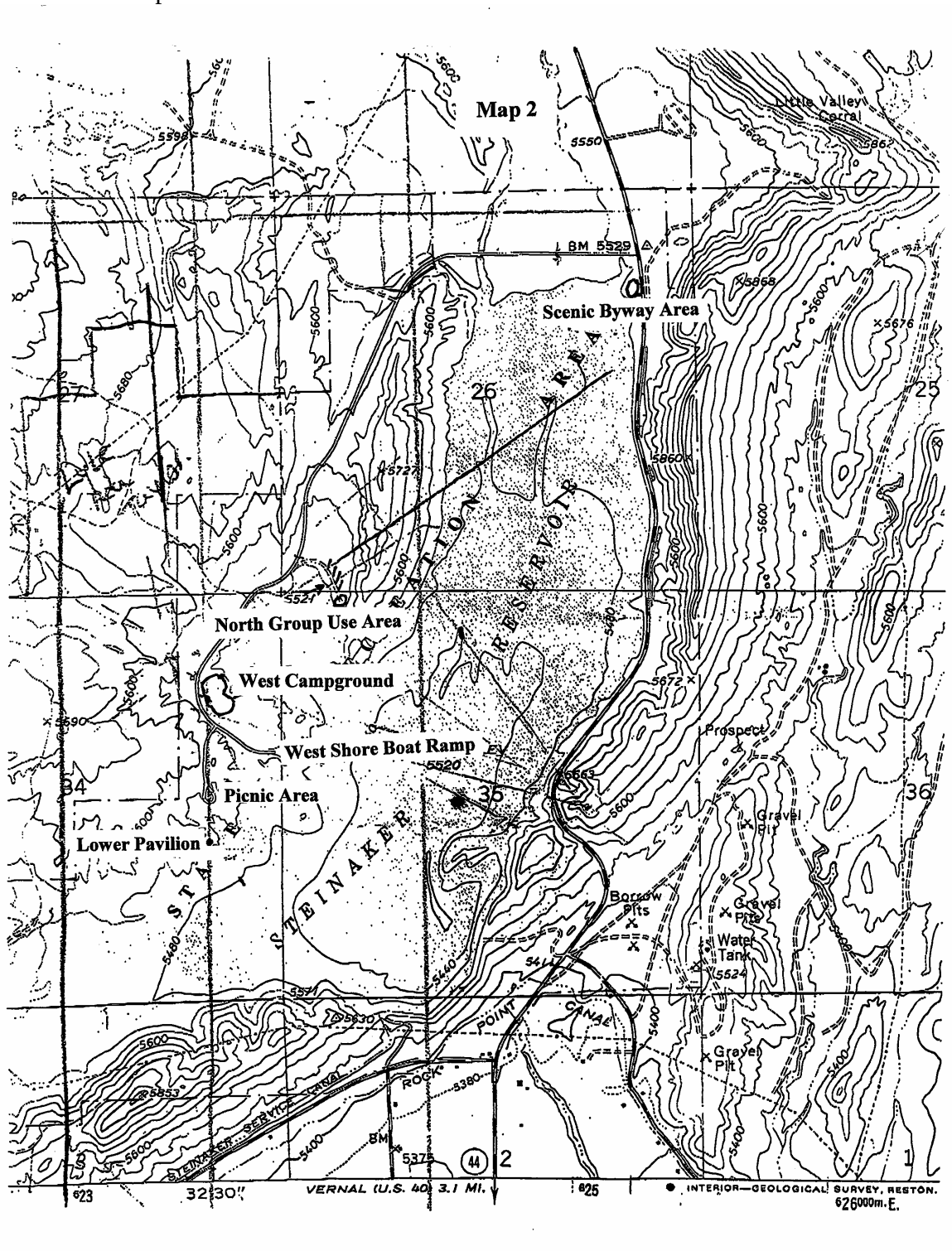
7. Within the Scenic Byway Area, some displays and kiosks would be affected by the raised water level. The interpretive trail (approximately ½ mile in length) would be submerged along the entire length, along with two foot bridges. These facilities would be raised by the construction of an elevated boardwalk or by a berm. The raised water level will be next to the roadway into the area and sections of the parking area would be under water. One vault toilet in the area would be above the raised water surface and outside the 50-foot setback area. Another toilet was removed because it would be within the established 50-foot horizontal setback from the shoreline.

8. Fire rings that are below the proposed new high water level must be moved to keep camp site open. Barriers (wheel stops or jersey barriers) have been installed in parking areas where it was deemed necessary to prevent vehicles from rolling into the reservoir.

9. DURING INUNDATION**:** All roadways and parking areas next to the water surface must be monitored to assess any potential road damage. The Lower Pavilion area must be monitored to determine if damage is occurring to the structure and if measures can be taken to reinforce the

post foundation. Wave erosion must be monitored along the entire elevated waterline of the reservoir. Wave heights in strong winds can be 1 to 2 feet and would travel into 2 to 3 camp sites. Camp sites may need to be closed during periods of high wind. The North Group Area would need to be monitored during high winds, due to the potential for water to overtop the roadway. All restroom leach fields and vault type toilets would need to be monitored and pumped as necessary to prevent contamination at the higher reservoir level.

Map 2. Steinaker Reservoir State Park Recreational Facilities



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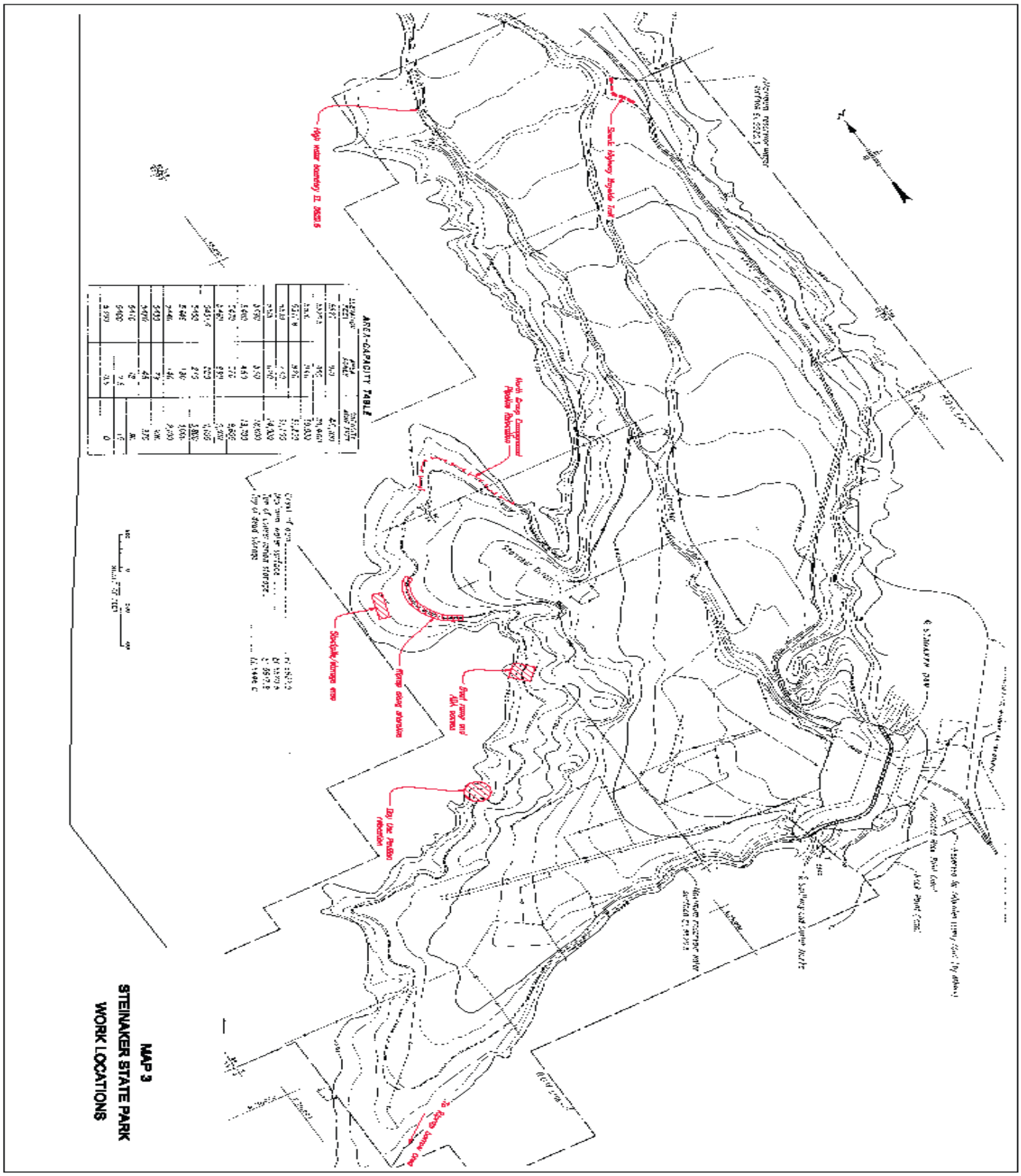
Map 3. Steinaker Reservoir State Park Work Locations



Chapter 3 - Affected Environment and Environmental Effects

3.1 Introduction

This chapter describes the environment potentially affected by the No Action Alternative and the Proposed Action Alternative and the predicted impacts of the alternatives. These impacts are discussed under the following resource issues: recreation; water rights; water resources; water quality; system operations; public safety, access, and transportation; visual resources; socioeconomics; cultural resources; paleontological resources; wetlands and vegetation; wildlife resources; and threatened, endangered, candidate, protected and sensitive species. The present condition or characteristics of each resource is discussed first, followed by a discussion of the predicted impacts under the No Action and Proposed Action Alternative. The environmental effects are summarized in Table 3.3 at the end of this chapter.

3.2 Affected Environment

3.2.1 Recreation

Recreational facilities at Steinaker Reservoir are administered by the Utah Division of Parks and Recreation. These facilities consist of boating, waterskiing, and fishing. The reservoir is situated at 5,520 feet in elevation in an open setting with shade trees on the shoreline. Most use occurs from April through October.

STEINAKER RECREATION FACILITIES WITH THEORETICAL CAPACITY

AREA	SITES	RESTROOMS	PARKING	PAOT*
Campground	32 total, 6/wshelters, 2 ADA	Flush w/electricity , 1 ADA vault	31 trailers, 1 small trailer or tent	256
Boat Ramp	20’ wide concrete	1 flush W/elec. Fish cleaning station, 1 vault	30 trailers	N/A
Boat Ramp Overflow parking	N/A	N/A	25 trailers	N/A
Beach Picnic Area	2 pavilions, 16 tables, 3 grills, 1 fire pit	3 old vault toilets	40 single cars	300
Trailer Dump Station	1	N/A	N/A	N/A

Office	1	N/A	6	6
Workshop 30'x40'	1	N/A	N/A	N/A
Truck Port	1	N/A	4	N/A
Storage Sheds 10'x12'1	2	N/A	N/A	N/A
Pump House 10'x12'	1	N/A	N/A	N/A

*PAOT = Persons at One Time – which is a measure of campground capacity

3.2.2 Water Rights

Two water rights are currently used to fill Steinaker Reservoir. The first right, Water Right No. 45-2049 is based on an Application to Appropriate No. A16387 filed by Reclamation on February 20, 1945. This right allows Reclamation to divert 31,458 acre-feet of Ashley Creek water at the Thornburg Diversion Dam, store it in Steinaker Reservoir and use it for irrigation, stockwatering, and municipal purposes within the Vernal Unit of the CUP. Proof of Beneficial Use for Water Right No. 45-2049 was submitted on June 26, 1970.

The second water right stored in Steinaker Reservoir, Water Right No. 45-2144 is based on the Application to Appropriate No. A31157 filed by the Reclamation on June 12, 1959. This right allows Reclamation to capture 2,715.0 acre-feet of water, tributary to Steinaker Reservoir's basin and use it for irrigation, stockwatering, and municipal purposes within the Vernal unit of the CUP. Proof of Beneficial Use for Water Right No. 45-2144 was submitted on March 7, 1979.

The State Engineer issued Certificated Nos. 10564 and 10565 for Water Right Nos. 45-2049 and 45-2144 respectively, on April 9, 1979. In the certificates, State Engineer limited Water Right No. 45-2049 to 31,458 acre-feet so the combined diversion capacity of the Steinaker Reservoir water rights would be 34,173 acre-feet. This limitation was based on the maximum annual usage of these rights between the years 1929 and 1956.

3.2.3 Water Resources

The Vernal Unit of the Central Utah Project is near the city of Vernal in the Ashley Valley of northeastern Utah, and lies within the Green River Basin of the Upper Colorado River Basin. Principal constructed features of the unit are Fort Thornburgh Diversion Dam and Steinaker Feeder Canal, through which surplus flows of Ashley Creek are conveyed to the off-stream Steinaker Reservoir. Of the six units which comprise the Central Utah Project, the Vernal Unit is the only unit that is complete; it was completed in 1963.

Water stored in the reservoir is released into Steinaker Service Canal and delivered to pre-project irrigation canals and ditches. Since this is an off-stream reservoir, water is not released directly into any natural drainage. However, during times when more than 200 cfs is released from the reservoir into the service canal, some water could be diverted into Ashley Creek and conveyed to the south end of the valley through this creek. If it becomes necessary to spill water from the reservoir, 300 cfs could be conveyed through the service canal and be released into Ashley Creek.

A supplemental water supply is provided to about 14,781 acres. This water partially replaces Ashley Creek water, including releases from privately constructed reservoirs. Some of the replaced water is used on lands above Steinaker Service Canal and some is diverted from Ashley Springs on Ashley Creek, into the municipal pipelines through which 1,600 acre-feet of water is delivered annually to the communities of Vernal, Naples, and Maeser.

3.2.4 Water Quality

Steinaker Reservoir is classified and protected by the State of Utah for the following beneficial uses:

Class 1C - Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.

Class 2A - Protected for primary contact recreation such as swimming.
Class 2B - Protected for secondary contact recreation such as boating, wading, or similar uses.

Class 3A - Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.

Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.

Ashley Creek and tributaries, from the confluence with Green River to Steinaker Diversion, is classified for the following beneficial uses: 2B, 3B, and 4. Ashley Creek and tributaries, from Steinaker Diversion to headwaters, is classified for the following beneficial uses: 1C, 2B, 3A, and 4. Since Steinaker Reservoir is an off-stream reservoir, it has little effect on Ashley Creek below its diversion structure.

The Utah Division of Water Quality's, "Utah's 2006 Integrated Report, Volume II – 303(d) List of Impaired Waters" dated April 1, 2006, indicates that Ashley Creek and tributaries from the confluence of Green River to Vernal Sewage Lagoons, does not support its Beneficial Use Class 3B due to elevated Selenium levels, therefore needing a Total Maximum Dailey Load (TMDL) analysis. This

same stream segment also does not support its Beneficial Use Class 4 due to elevated Total Dissolved Solids levels, therefore needing a TMDL analysis for this contaminant also. Consequently, this lower section of Ashley Creek is listed as a Category 5A stream segment.

Steinaker Reservoir is generally good quality water. The Utah Division of Water Quality's (DWQ), "Utah's 2004 303(d) list of Impaired Waters" dated April 1, 2004, indicates that Steinaker Reservoir was placed on the State's Category 5A list of Lakes and Reservoirs needing a TMDL analysis for only partially supporting the Beneficial Use Category 3A. The pollutants of concern were temperature and low dissolved oxygen (DO). Dissolved oxygen was added for the first time to the State's 2004 report. Low DO is often one of the first signs of eutrophication. The State DWQ noted that the heat budget analysis resulted in the conclusion that the temperature violations were caused by solar radiation. Because of this natural source of heat, the State is proceeding to develop specific temperature criteria for each reservoir. Because of this the State DWQ did not target Steinaker Reservoir for a TMDL analysis.

The "Utah 2006 Integrated Report Volume I – 305(b) Assessment" includes Steinaker Reservoir on the 303d list due to only partially supporting the Temperature standard, and not supporting the dissolved oxygen standard. It also indicates the presence of Cyanophyta in the reservoir. However, the companion report, "Utah 2006 Integrated Report Volume II – 303(d) List of Impaired Waters" lists Steinaker Reservoir on the Category 5B list – "Request for Removal From The 303(d) list of Impaired Waters." The reason is that new method of temperature assessment now includes calculation of heat budget, and the assessment resulted in full support of the temperature standard.

Ashley Valley contains about 22,000 acres of irrigated agricultural land, of which Reclamation has determined there are about 15,000 acres of productive, irrigable Project lands. The irrigated lands are allowed a water right of up to 3.7 acre-feet per acre per year but due to the shortage of water available, they normally only receive a supply of about 2.8 acre-feet per acre per year. The normal water supply for these lands totals about 61,000 acre-feet per year. The average yield of Steinaker Reservoir is 17,900 acre-feet of irrigation water and 1,600 acre-feet of M&I water, from the active capacity of 33,283 acre-feet, or an annual yield of about 60 percent. If the yield of the proposed additional 2,195 acre-feet of active storage was the same ratio, this could yield an additional water supply of about 1,300 acre-feet per year. It is estimated that approximately 50 percent of the irrigation water supplied ends up as return flow back to Ashley Creek.

3.2.5 System Operations

Steinaker Reservoir stores and distributes the excess spring flows of Ashley Creek. In years prior to construction of the reservoir, Ashley Creek flows dwindled to an inadequate water supply by late summer. Water stored in Steinaker Reservoir can now be released to provide supplemental water to about

14,781 acres of land. Municipal water is supplied to the communities of Vernal, Naples, and Maeser, Utah.

Water from Ashley Creek is diverted by Fort Thornburgh Diversion Dam on Ashley Creek, 4 miles northwest of Vernal. From the diversion dam, the water is conveyed eastward to the reservoir through the 2.8-mile-long Steinaker Feeder Canal. Reservoir water is released to Steinaker Service Canal and conveyed south 11.6 miles to existing canals and ditches.

Part of the water in Steinaker Service Canal is provided directly for unit lands below the canal as a supplemental supply, and part is used as a replacement supply to these lands in exchange for natural stream flow and storage releases from existing reservoirs that are diverted above. The exchange water is used for municipal purposes in Vernal, Maeser, and Naples, and for supplemental irrigation of unit lands above Steinaker Service Canal. The municipal water is diverted from Ashley Springs on Ashley Creek and is distributed through existing facilities.

Project facilities were turned over to the Uintah Water Conservancy District for operation and maintenance on January 1, 1967, under an agreement with Reclamation.

3.2.6 Public Safety, Access, and Transportation

Steinaker Reservoir lies within the boundaries of Steinaker State Park. On the eastern border of the reservoir, Hwy. 191 runs the length of the park from south to north (Map 1). At the upper, northern end of the reservoir, state road UT-301 circles the reservoir along the upper northern and eastern sides, allowing public access to recreational sites located on the upper eastern portion of the reservoir.

3.2.7 Visual Resources

Visual integrity objectives serve as the base to monitor future visual changes associated with land and resource use. However, visual resources have not been mapped for the project area.

3.2.8 Socioeconomics

As a water resource, Steinaker Reservoir provides a supplemental water supply of 17,900 acre-feet for agriculture and 1,600 acre-feet for municipal and industrial (M&I) uses in the cities of Vernal, Naples, and Maeser. It also serves as a major source of recreation to residents and visitors to the Uintah Basin. The benefits created by Steinaker Reservoir accrue primarily to the agricultural sector with a lesser affect on recreation and municipalities. Growth in the oil and gas sector has led to growth in population, residential development, and new business creation. This growth and development is increasing demand for water in the secondary and culinary systems of the cities, and as an input to oil production

(Personal Communication, March 31, 2007, Bill Johnson, Economic Development Director for Uintah County).

3.2.9 Cultural Resources

Cultural resources are defined as the expressions of human culture and history in the physical environment, including culturally significant landscapes, historic and archaeological sites, Native American and other sacred places, and artifacts and documents of cultural and historic significance.

The National Historic Preservation Act of 1966 (as amended)(NHPA) stipulates that Reclamation must take into consideration possible effects of a Proposed Action on historic properties. This stipulation falls within the broad definition of cultural resources reviewed for NEPA compliance and within the Archaeological and Historic Preservation Act of 1974 (AHPA), as these relate to Reclamation undertakings. Historic properties are defined as historic or prehistoric sites, structures, buildings, districts or objects that are listed in or are eligible for listing in the National Register of Historic Places (NRHP). Potential effects of the described alternatives on historic properties are the primary focus of this analysis.

3.2.9.1 Cultural History

According to Irvine et. al (1995), the earliest known human occupation of the northern Colorado Plateau is referred to as the Paleoindian, which includes all occupations dating between 11,500 and 8,000 B.P. There are no known Paleoindian sites in Uintah County, although two fluted points characteristic of that group have been found to the west in Duchesne County.

In Utah, Archaic hunter-gatherer groups appeared at approximately 8000 to 7500 B.P. and ended by about 2000 to 1500 B.P. Very important sites contributing to information on the lifeways of the Archaic groups have been found at Steinaker Reservoir (Talbot and Richens 1994).

The Formative period of prehistory continued from approximately 1500 B.P. to approximately 650 B.P. In northern Utah, including the Steinaker area, this group is known as the Fremont culture. The large majority of sites located at Steinaker Reservoir are Fremont.

Late Prehistoric groups were probably the ancestors of the modern Numic-speaking occupants of the Uintah Basin. These population migrated into the area as early as 650 B.P. At the time of Euro-American contact (1776) Utah was inhabited by Western Shoshone, Utes, Gosiutes and Southern Paiutes. The Uintah and Ouray Reservation of the Northern Utes is located southwest of the Steinaker Reservoir area at Fort Duchesne, Utah.

The first Euro-American group known to have passed through the Steinaker area was the Dominguez-Escalante expedition in 1776, searching for a route to

California. A fur trapper, General William N. Ashley, arrived with Jim Bridger and company, in 1825. Both Ashley Creek and Valley are named after him. The first mud and timber house was built by an Indian agent at White Rocks in 1873. Agriculture and irrigation, via canals and ditches dug by settlers from Salt Lake City, began in 1874 (Dexheimer and Larson 1957).

For a more comprehensive context of the prehistory and early historic settlement specific to the Steinaker area please refer to *Steinaker Gap: An Early Fremont Agriculture Farmstead – Technical Series No. 94-18* (Talbot and Richens 1994).

3.2.9.2 Cultural Resources Status

The affected environment for cultural resources is identified as the area of potential effect (APE), in compliance with the NHPA. The APE is the geographic area within which federal actions may directly or indirectly cause alterations in the character or use of historic properties. The APE for this project is the shore of the reservoir between low and high water elevations, and specific recreation sites that will be subject to modification or relocation as part of the Proposed Action.

Reclamation has reviewed existing information on historic properties and other resources within the APE in compliance with 36 CFR 800.4(a). Known prehistoric and historic properties are located around and within the basin of Steinaker Reservoir as summarized in the table below. Since the dam was completed in 1962, it does not meet the age qualification for eligibility to the National Register of Historic Places (NHRP).

In 1959, during the dam construction, human skeletal remains were discovered and recovered by Gunnerson near the northeast dam abutment. About the same time, Bill Lipe (Lipe 1959), conducted a larger inventory of the general area and recorded fourteen new sites. Additional surveys and inventories were conducted in 1982 (Norman and Merrill 1983), and in the 1990s (Phillips 1990, Talbot et al 1992, Baker 1994, Billet 1994, Irvine and Talbot 1994, Irvine, Talbot and Richens 1995 and Talbot, Richens and Eckerle 1997)

Some sites recorded during surveys conducted from 1959 to 1997 were lost due to dam construction and many are now inundated by the reservoir. A total of approximately 1500 acres was inventoried. Forty-three prehistoric archaeological sites, 23 of which were recommended as being eligible for the NRHP, were documented; two were not relocated; and eight historic properties, one of which was recommended as eligible for the NRHP, were located during these inventories. There are also two multi-component sites which are comprised of both prehistoric and historic materials. Neither is recommended as being eligible for the NRHP. The table below lists the 51 known cultural resource sites, eligibility determinations, site types, and damage potential analysis from 1995.

Cultural Resources Located in and Around Steinaker Reservoir by Site Type, Age, Damage Potential Analysis from 1995, NRHP Eligibility Determination Established During Original Documentation.

Site No.	Damage Potential (1995)	Age	Site Type	NRHP Eligibility Established at Documentation	Comments
42UN67	Moderate	Unknown aboriginal	Camp site	Not eligible	
42UN75	Low	Unknown aboriginal	Bedrock Pit/Rock Art	Not eligible	
42UN128	Destroyed	Unknown aboriginal	Human burials	Site no longer exists	Remains recovered
42UN153	Destroyed	Fremont	Rock art	Site no longer exists	Documented in 1959 (Lipe)
42UN154	High	Fremont	Campsite	Eligible	Previously inundated
42UN155	Low	Unknown aboriginal	Campsite	Not eligible	
42UN156	None	Unknown aboriginal	metate	Site no longer exists	Artifact collected
42UN157	High	Unknown aboriginal	Campsite	Eligible	
42UN158	Site location uncertain		Campsite		Possibly destroyed
42UN159	Site location uncertain		Campsite		Possibly destroyed
42UN161/1313	Moderate	Fremont	Campsite	Eligible	
42UN162/1877	High	Fremont	Campsite/Human Burial	Eligible	This site is no longer eligible for the NRHP
42UN164	Low	Unknown aboriginal	Campsite	Eligible	
42UN165/166	Moderate	Unknown aboriginal	Campsite	Eligible	
42UN1308	Moderate	Unknown aboriginal	Campsite	Eligible	
42UN1309	Moderate	Unknown aboriginal	Campsite	Eligible	Tested-subsurface cultural deposits present
42UN1310	Moderate	Unknown aboriginal	Campsite	Eligible	Monitor to see if data

					recovery will be necessary. Documentation for mapped location ambiguous
42UN1311	Low	Fremont	Campsite	Not eligible	
42UN1312	Low	Unknown aboriginal	Lithic scatter	Not eligible	
42UN1314	Moderate	Unknown aboriginal	Rockshelter/ campsite	Eligible	
42UN1315	Low	Unknown aboriginal/ Historic	Lithic scatter/ Historic crypt	Not eligible	Burials reinterred in Vernal
42UN1316	Low	Historic	Mine prospect	Not eligible	
42UN1317	Low	Unknown aboriginal	Lithic scatter	Not eligible	
42UN1318	Low	Fremont/ Historic	Rockshelter/ Rock art panel	Not eligible	
42UN1319		Unknown aboriginal	Campsite		This site has been destroyed
42UN1334	High	Historic	Irrigation canal	Eligible	Half of this site has been inundated
42UN1671	High	Fremont	Habitation site	Eligible	Work at this site is complete.
42UN2003		Historic	Homestead		This site has been destroyed
42UN2004	Low	Fremont	Habitation/burial	Eligible	This site is extremely important
42UN2093	High	Unknown aboriginal	Campsite	Eligible	This site is inundated
42UN2094	High	Fremont	Campsite/ burials	Eligible	This site is inundated and the burial recovered
42UN2174	Low	Historic	Roadbed and trash scatter	Not Eligible	
42UN2175	Low	Unknown aboriginal	Campsite	Eligible	
42UN2176	High	Fremont	Campsite	Eligible	This site is inundated
42UN2177*	High	Unknown	Campsite	Eligible	*Nature and

		aboriginal			extent testing of subsurface deposits is recommended.
42UN2178	High	Historic	Homestead remains	Not eligible	This site is inundated
42UN2179	High	Fremont	Campsite	Eligible	This site is inundated
42UN2180*	High	Fremont	Campsite	Eligible	The subsurface soils of this site were shovel tested and confirmed cultural deposits. *Nature and extent testing of subsurface deposits is recommended.
42UN2181	High	Unknown aboriginal	Campsite	Eligible	This site is inundated
42UN2182	High	Unknown aboriginal	Campsite	Eligible	This site is inundated
42UN2183	High	Historic	Structure remains	Not eligible	This site is inundated
42UN2184	High	Fremont	Campsite	Not eligible	This site is inundated
42UN2185	High	Unknown aboriginal	Campsite	Not eligible	This site is inundated
42UN2186	Low	Unknown aboriginal	Campsite	Not eligible	
42UN2187	Low	Fremont	Rock art panel	Not eligible	
42UN2188	High	Historic	Farming complex	Not eligible	This site is inundated
42UN2189	High	Unknown aboriginal	Campsite	Eligible	This site is inundated
42UN2190	High	Fremont	Campsite	Eligible	
42UN2191	Low	Unknown aboriginal	Campsite	Not eligible	
42UN2192	Low	Historic	Trash deposit	Not eligible	This site is inundated
42UN2220/68	High	Unknown aboriginal	Campsite	Not eligible	

3.2.10 Paleontological Resources

In 2000, a comprehensive paleontological resource inventory was completed at Steinaker State Park. Reclamation and Utah State Division of Parks and Recreation are responsible for the management of fossils and other natural resources at Steinaker Reservoir. The study was conducted and documented by the National Park Service, Geologic Resources Division (Zack and Santucci 2001).

The results of the study revealed only unidentified leaves for plant resources, bivalves, brachiopods, and belemnites for invertebrates and an indeterminate bone fragment, fish scales, a partial fish skeleton, and pliosaur material. According to this report, there are no significant or rare paleontological resources presently known at Steinaker State Park.

3.2.11 Wetlands and Vegetation

Lands within the area described by the proposed action include the reservoir's perimeter which consists of littoral, wetland, and upland habitats. Ashley Creek provides water to the reservoir and exists as riparian and riverine habitats.

Reservoir Habitat
Much of the reservoir's perimeter consists of upland vegetation, predominately sagebrush, as well as rocky or bare ground. Other sections of the reservoir's shoreline consist of littoral cottonwood and willow habitats. This habitat varies from approximately 50 to several hundred feet in width and length and consists mostly of young willow (*Salix spp),* some Nebraska sedge *(Carex nebrascensis*) and in places an overstory of narrow leaf cottonwood (*Populus angustifolia*). These habitats occur mainly along shallower areas where intermittent and perennial creek drainages convey fine textured sediment to the reservoir. These habitats require lake levels that closely approach or inundate (to a certain extent) these areas to ensure sufficient water.

Exposed reservoir bottom (existing during seasonally low reservoir levels) consists of muddy and rocky substrates depending on the topography of the exposed shoreline. Large expanses of muddy exposed reservoir bottom typically occur where drainages deposit fine textured sediment into the reservoir.

Many of the proposed construction areas around the reservoir have been previously disturbed by road, reservoir, and recreation (e.g. camp sites) construction and maintenance activities. Riprap has been placed in areas of erosion that threaten state park infrastructure or facilities.

Big sagebrush (*Artemisia tridentata*), Smooth brome (*Bromus inermus*), timothy (*Phleum pratense*) as well as several other introduced and native grass species

(mostly wheat grasses) exist above the reservoir's ordinary high water elevation. Canada thistle (*Cirsium arvense*) has invaded the area in small patches.

Riparian Habitat
Ashley Creek supplies water to the off-channel Steinaker Reservoir via the Steinaker Feeder Canal. Riparian habitat exists along this creek.

Upland Habitat
Both nonnative and native species of vegetation are found within the project area in habitats around and above the reservoir. Upland habitat consist mainly of big sagebrush (*Artemisia tridentata*), and rabbit brush (*Chrysothamnus* spp.). Other species present include yellow sweet clover (*Melilotus officinalis*), houndstongue (*Cynoglossum officinale*), broom snakeweed (*Gutierrezia sarothrae*), golden currant (*Ribes aureum*), wild rose (*Rosa woodsii*), basin wildrye (*Elymus cinereus*), Rocky Mountain aster (*Aster adscendens*), Indian paintbrush (*Castilleja angustifolia*), and curlycup gumweed (*Grindelia squarrosa*). Crested wheatgrass (*Agropyron cristatum*) has been seeded in previously disturbed areas.

3.2.12 Wildlife Resources

Wildlife resources within the general area of the project include fish, big game, smaller mammals, raptors, water birds, and upland game birds, with a variety of other birds, reptiles, and amphibians.

Fish
Steinaker Reservoir supports a significant fishery resource. It has traditionally provided game fish of desirable quantity and size for both boat and shore anglers. These fish species are able to survive within normal fluctuations of the reservoir's water surface elevation.

The reservoir is managed by the State of Utah as a put-grow-and-take fishery for rainbow trout (*Oncorhynchus mykiss*). Other fish species that occur in the reservoir include trophy brown trout (*Salmo Trutta*), largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), and green sunfish (*Lepomis cyanellus*).

Non-game fish, including carp (*Cyprinus carpio*), Utah chub (*Gila atraria*) and redside shiner (*Richardsonius balteatus*) reproduce in the reservoir and serve as forage fish for game species.

Big Game
The foothills and mountains surrounding the reservoir are covered mostly with sagebrush, grassland, and juniper communities. This area provides big game habitat for both summer and winter use for deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*). Herds of deer and elk are seen wintering in the general area. Moose (*Alces alces*) are occasionally observed along stream drainages near

the reservoir. Mountain lion (*Felis concolor*), black bear (*Ursus americanus*), and coyote (*Canis latrans*) are present in the area.

Other Mammals

Other mammals common within the area include: yellow-bellied marmot *(Marmota plaviventris*), badger (*Tasidea taxus*), least chipmunk (*Eutamias minimus*), meadow vole (*Microtus montanus*), northern pocket gopher (*Thomomys talpoides*), deer mouse (*Peromyscus maniculatus*), porcupine *(Erethizon dorsatum*), and striped skunk (*Mephitis mephitis*). Furbearers such as beaver (*Castor canadensis*), mink (*Mustela vison*), muskrat (*Ondatra zibethicus*), ringtail cat (*Bassariscus astutus*), and River otter (*Lutra canadensis*) use the wetland and riparian habitat around the reservoir and embankments of the river. Bobcat (*Lynx rufus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), Uinta ground squirrel (*Spermophilus armatus*), mountain cottontail (*Sylvilagus nuttallii*), and various species of shrews (*Sorex spp.*), voles (*Microtus spp.*), and bats (*e.g. Myotis spp.*) occupy the area.

Raptors

Birds of prey (raptors) have been observed within or adjacent to the project area. Cottonwood trees along nearby Ashley Creek and around the edge of the reservoir provide roosting habitat for golden eagles (*Aquila chrysaetos*) and bald eagles (*Haliaeetus leucocephalus*). Other raptors found in the area are red-tailed hawk (*Buteo jamaicensis*), osprey (*Pandion haliaetus*), and great horned owl (*Bubo virginianus*). Winter months are the best time to view bald eagles near the reservoir. The American kestrel (*Falco sparverius*), barn owl (*Tyto alba*) and turkey vulture (*Cathartes aura*) are also found in the area.

Water Birds

Numerous water birds occur in the project area such as waterfowl, shore birds, and other wading birds typically associated with wetlands and open water. The reservoir provides high quality habitat for water birds due to the prevalence of emergent vegetation near the mouth of small drainages around the reservoir. These areas provide important forage and cover sites for waterfowl and wading birds.

Steinaker Reservoir serves as an important migratory stopover for birds in the fall and spring. Emergent vegetation around the reservoir provides nesting habitat for a variety of waterfowl from mid-March to mid-July. Brood rearing begins mid-July to mid-August. Mud flats exposed in late summer and fall provide foraging areas for shore and wading birds.

Water birds commonly observed include the pied-billed (*Podilymbus podiceps*), eared (*Podiceps caspicus*), and western grebes (*Aechnophorus occidentalis*); gadwall (*Anas strepera*), mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), northern shoveler (*Spatula clypeata*), lesser scaup (*Aythay affinis*), green-winged teal (*Anas carolinensis*), northern pintail (*Anas acuta*), common

loon (*Gavia immer*), American white pelican (*Pelecanus erythrorhynchos*), double crested cormorant (*Phalacrocorax auritus)*, American coot (*Fulica Americana*), ring billed gull (*Larus delawarensis*), California gull (*Larus californicus*) great blue heron (*Ardea herodias*), killdeer (*Charadrius vociferous*), and Canada goose (*Branta canadensis*).

Upland Game Birds
Upland game birds occurring in the area include the ring-necked pheasant *(Phasianus colchicus*), mourning dove (*Zenaida macroura*), and California quail (*Lophortyx californicus*). The surrounding area may serve as breeding habitat for sage grouse (*Centrocercus urophasianus*) because of the prevalence of sagebrush habitat.

Other Birds
Probably the most common birds at Steinaker Reservoir are songbirds. Western kingbirds (*Tyrannus verticalis*), yellow warbler (*Dendroicapetechia*) and mountain bluebird (*Sialia currucoides*) are among the various species of songbirds that use the riparian and wetland habitat.

Corvids, including jays (*Cyanocitta spp.*), the black-billed magpie (*Pica pica*), and the common raven (*Corvus corax*), are common. Tree swallow (*Tachycineta bicolor*), violet-green swallow (*Tachycineta thalassia*), northern rough-winged swallow (*Stelgidopteryx serripennis*), and cliff swallows (*Hirundo pyrrhonota*) all occur within the area. In open, shrub-dominated habitats goldfinch (*Carduelis tristis*), western meadowlark (*Sturnella neglecta*), common nighthawk (*Chordeiles minor*) sage thrasher (*Oreoscoptes montanus*), green-tailed towhee (*Pipilo chlorurus*), and rufous-sided towhee (*P. erythrophthalmus*) occur.

Reptiles and Amphibians
Reptiles and amphibians with potential to occur in the project area include the tiger salamander (*Ambystoma tigrinum*), boreal chorus frog (*Pseudacris triseriata*), great plains toad (*Bufo cognatus*), northern leopard frog (*Rana pipiens*), Great Basin gopher snake (*Pituophis melanoleucus deserticola*), and the Great Basin rattlesnake (*Crotalus viridis*). Historically, boreal toad (*Bufo boreas*) and Columbia spotted frog (*Rana lutieventris*) may have occurred in the area but have not been documented within the project area.

3.2.13 Threatened, Endangered, Candidate, Protected and Sensitive Species

Federal agencies are required to ensure that any action federally authorized or funded would not adversely affect a federally listed threatened or endangered species. Several species listed as threatened or endangered occur within Uintah County. These species are discussed below.

The bald eagle (Haliaeetus *leucocephalus*) (Protected under the Bald and Golden Eagle Protection Act) is a winter resident of the area. This species roosts

primarily in forested canyons or tall cottonwoods along streams and reservoirs. Migration of bald eagles from breeding areas generally takes place between September and December. These eagles use cottonwood trees and snags near open water as winter roosting sites.

The whooping crane (*Grus americanus*) (endangered) migrates through Utah during the spring and fall. There are no resident populations in Utah. Canada Lynx (*Lynx canadensis*) (threatened), and Black-footed ferret (*Mustela nigripes*) (endangered) occurred historically in the area but do not occur within the project area presently. The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (candidate) may use the area during their breeding season. Mexican spotted owl (*Strix occidentalis lucida*) are not known to occur within the area affected by the proposed project.

Ashley Creek is a tributary of the Green River, which provides habitat to several protected fish species. These include: Bonytail (*Gila elegans*) (endangered), Colorado pikeminnow (*Ptychocheilus lucius*) (endangered), humpback chub (*Gila cypha*) (endangered), and razorback sucker (*Xyrauchen texanus*) (endangered).

Several species of protected plant species may occur within the project area. These include: Ute ladies'-tresses (*Spiranthes diluvialis*) (threatened), Uinta Basin hookless cactus (*Sclerocactus glaucuc*) (threatened), clay reed-mustard (*Schoenocrambe argillacea*) (threatened), Graham beardtongue (*Penstemon grahamii*) (proposed), horseshoe milk-vetch (*Astragalus equisolensis*) (candidate), shrubby reed-mustard (*Schoenocrambe suffrutescens*) (endangered), and White River beardtongue (*Penstemon scariosus*) (candidate).

The State of Utah maintains a list of sensitive species (species of special concern). These species that may occur within the project area and are managed under conservation agreements include: Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*), roundtail chub (*Gila robusta*), bluehead sucker (*Catostomus discobolus*), flannelmouth sucker (*Catostomus latipinnis*), Columbia spotted frog (*Rana luteiventris*), and northern goshawk (*Accipiter gentilis*).

3.3 Environmental Effects of Alternatives

Analysis of the effects of both the no action and the Proposed Action Alternative in this EA includes consideration of the relocation and/or reconstruction of certain facilities managed by Steinaker State Park. Most of the construction to accommodate a higher normal water surface elevation would occur on previously disturbed lands.

3.3.1 Recreation

3.3.1.1 No Action Alternative

The No Action Alternative would have no effect on recreation.

3.3.1.2 Proposed Action Alternative

During spring runoff for the past three years (2005, 2006, 2007) the reservoir's water elevation has been allowed to rise to 5520.5 msl to test the dam's ability to function safely at this level. These safety tests showed no adverse effects on recreation. In 2005, Steinaker State Park manager reported that the park's all time highest monthly use and/or revenue occurred in July of that year, during the high water test (Sinclear pc).

During the higher water elevation tests, the Lower Pavilion (see map 2) had water up to one support pole. The area is eroding quite severely. The pavilion lower section would be better off pulled from its present location and moved uphill to a drier surface. The water level also rose a couple of feet above the concrete ramp at the boat dock. The asphalt in that area should be removed and a proper base and concrete pad should be reconstructed. Riprap should be placed along the edges of the concrete to meet the existing riprap below, which is along the old ramp. The light pole and power feed near the boat ramp will need to be moved out of the high water. The west campground pads near the fee station would need to be re-graded to get everything out of the water. The scenic byway interpretive signs would need to elevated to get the tread above the high water line.

3.3.2 Water Rights

3.3.2.1 No Action Alternative

The No Action Alternative would have no impact on water rights.

3.3.2.2 Proposed Action Alternative

In 2006, Reclamation performed a survey of Steinaker Reservoir to estimate the current active capacity of the reservoir. Based on this survey, Steinaker Reservoir has estimated active storage capacities of 32,760 and 34,955 acre-feet at water elevations 5,517.8 and 5,520.5 ft respectively. Therefore the Proposed Action would result in an additional 2,195 acre-feet of storage in Steinaker Reservoir. The 2006 estimate of Steinaker's active capacity was approximately 500 acre-feet

lower than previous estimates. This difference may be due to either limited sedimentation within the reservoir or the greater accuracy of the 2006 survey.

Water is stored in Steinaker Reservoir under Utah Water Right Nos. 45-2049 and 45-2144. These water rights allow 34,173 acre-feet of water to be diverted into the reservoir each year. Even though the Proposed Action increases the active capacity of Steinaker reservoir, there would not be a need to divert more water than is allowed under the existing water rights.

One of the anticipated water rights impacts for the Proposed Action is that Steinaker Reservoir could contain more water at the end of each year. Steinaker Reservoir has held water at the end of the irrigation season for 24 of the last 30 years. Only once (winter of 1994 to spring of 1995) has Steinaker Reservoir gone from being empty to full in a single year. Except for a minute increase in evaporation off the reservoir the additional carryover storage will not result in increased diversions or depletions on the Ashley Creek or Green River systems.

Outside of the benefits of greater carryover storage, the Proposed Action does not allow additional water uses within the Vernal Unit of the CUP. Because no additional water uses are allowed, there would be limited increases to the annual Ashley Creek water diversions at the Thornburg Diversion Dam. Increased water diversions would likely only occur during wet years following an extended dry period where the additional carryover storage would be needed to meet the project water uses.

3.3.3 Water Resources

3.3.3.1 No Action Alternative

The No Action Alternative would have no impact on the water resources including water rights.

3.3.3.2 Proposed Action Alternative

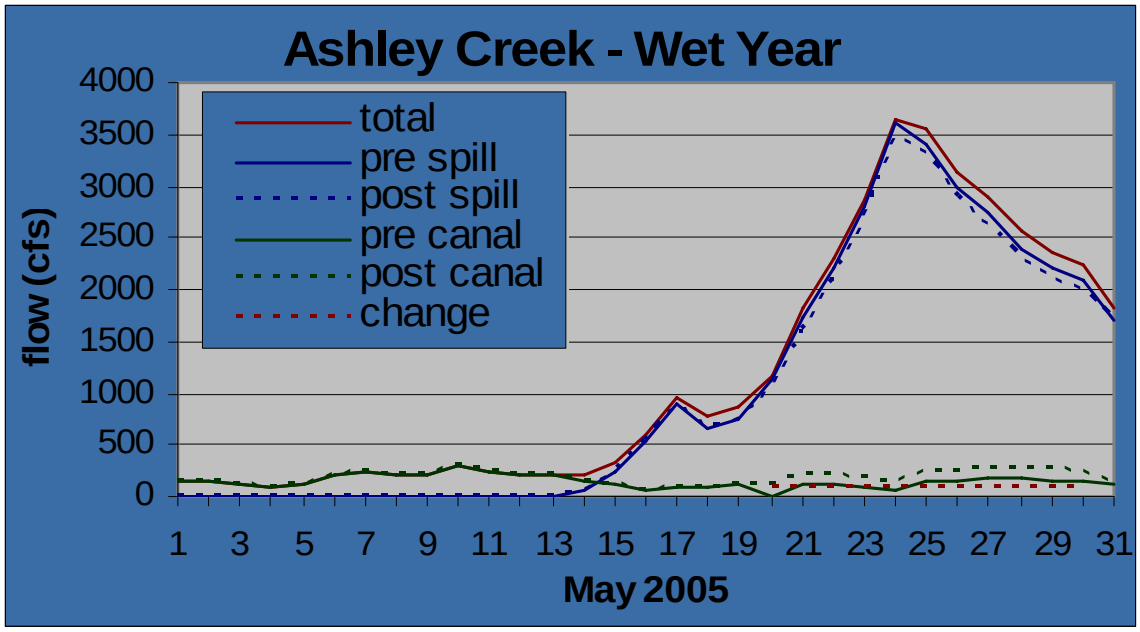
Dry Year (such as 2004)
Typically there would be no impact.

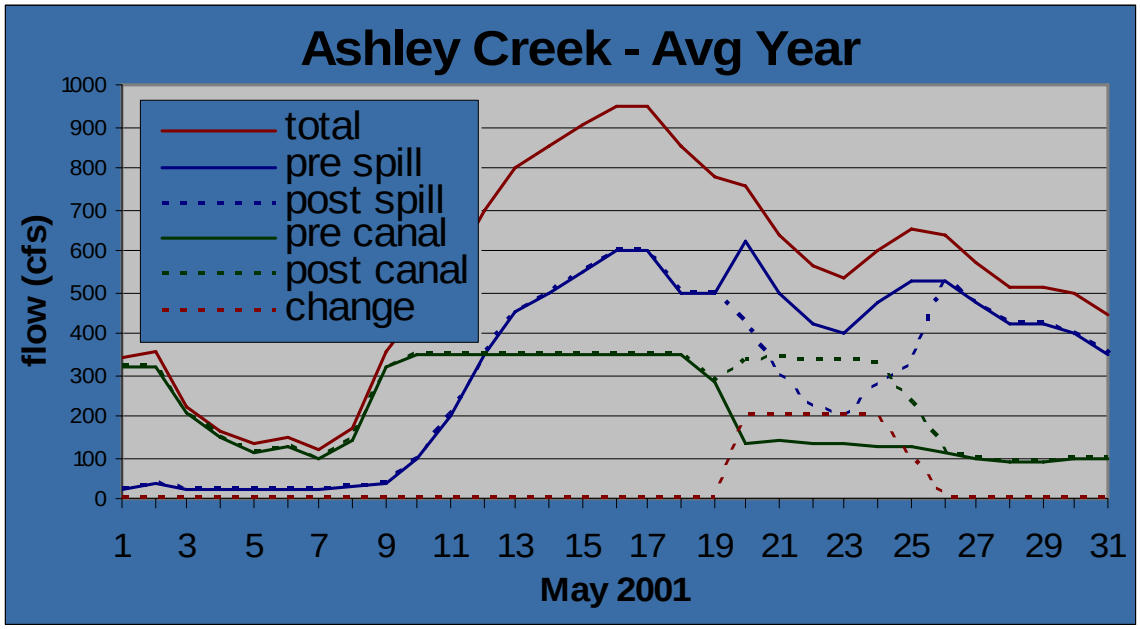
Average Year (such as 2001)
Typically during the latter part of May, an additional 2200 acre-feet of water would be diverted out of Ashley Creek at the Fort Thornburgh Diversion and conveyed through the Steinaker Feeder Canal to Steinaker Reservoir. Typically the increased diversion would occur over 6 days (200 cfs for days 1 through 5, and 100 cfs for day 6).

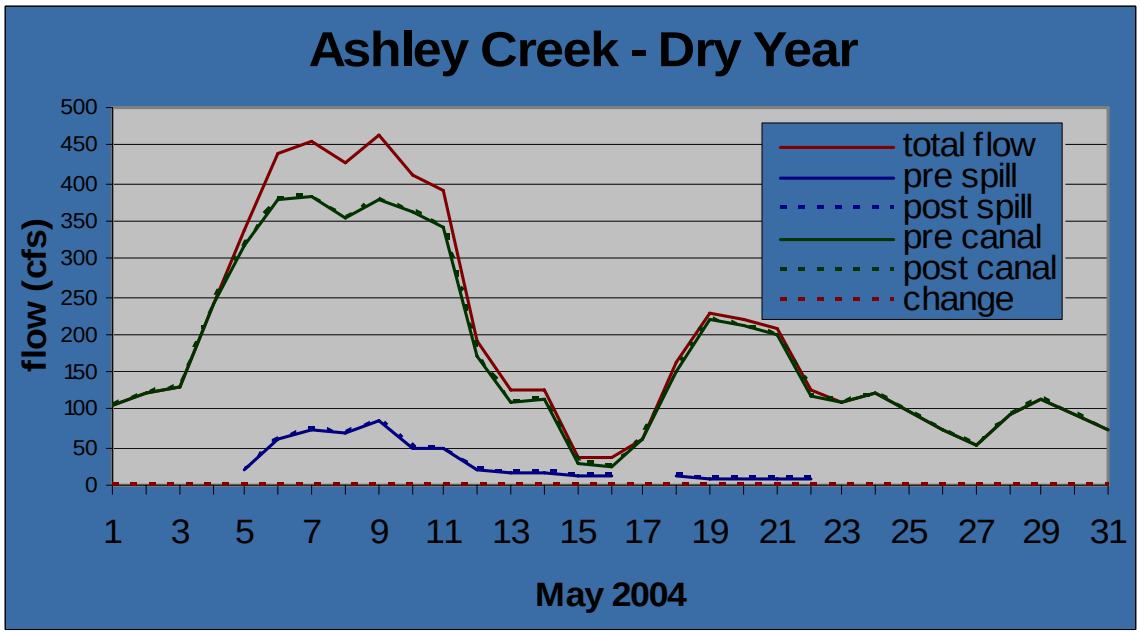
Wet Year (such as 2005)
Typically during the latter part of May, an additional 2200 acre-feet of water would be diverted out of Ashley Creek at the Fort Thornburgh Diversion and conveyed through the Steinaker Feeder Canal to Steinaker Reservoir. Typically the increased diversion would occur over 11 days at 100 cfs per day.

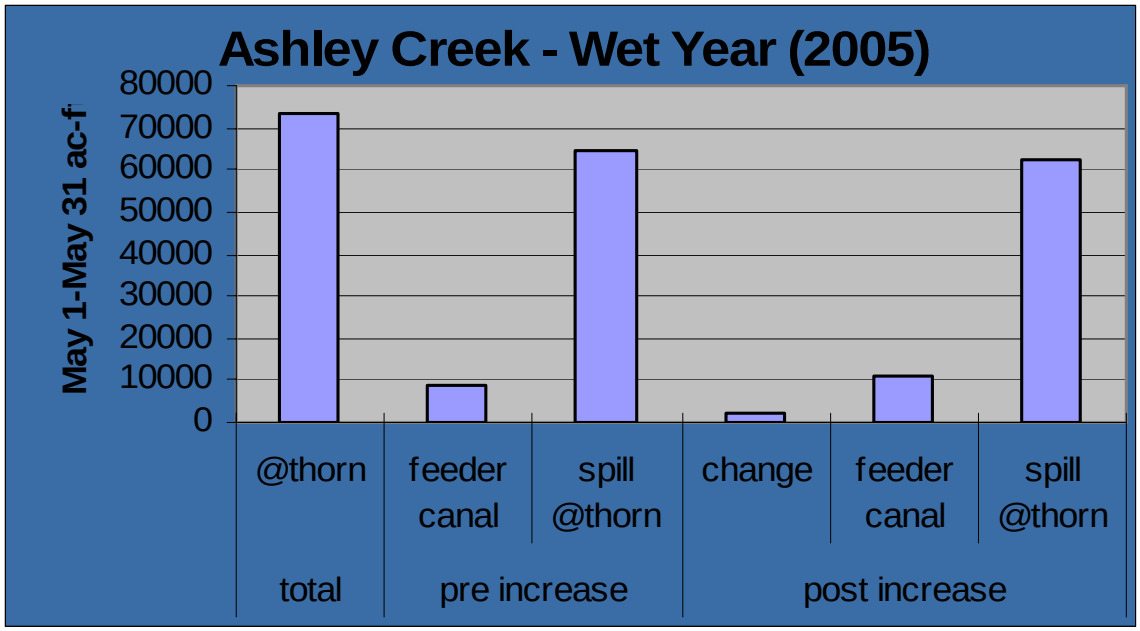
If the additional 2200 acre-feet of water diverted during an average and wet year is used for additional storage water, then this amount of water would only be diverted into the reservoir the first year sufficient water is available. This quantity of water would only be diverted again following an abnormally dry year when the additional storage had been utilized.

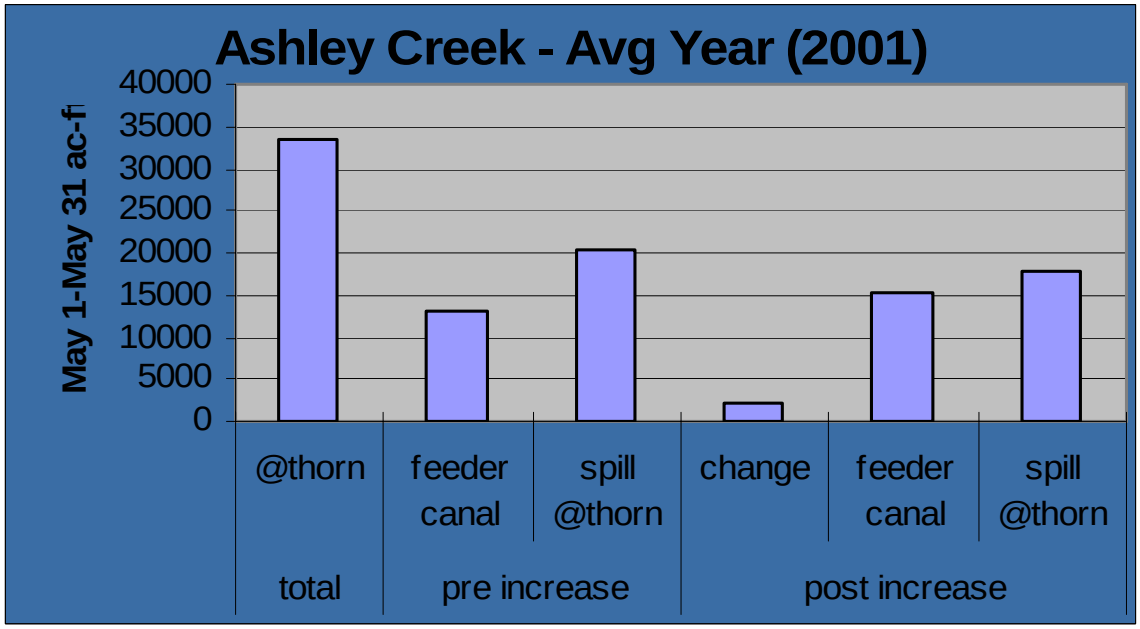
The pre-reservoir raise and post reservoir raise operations for dry, wet, and average years are shown in the following graphs.

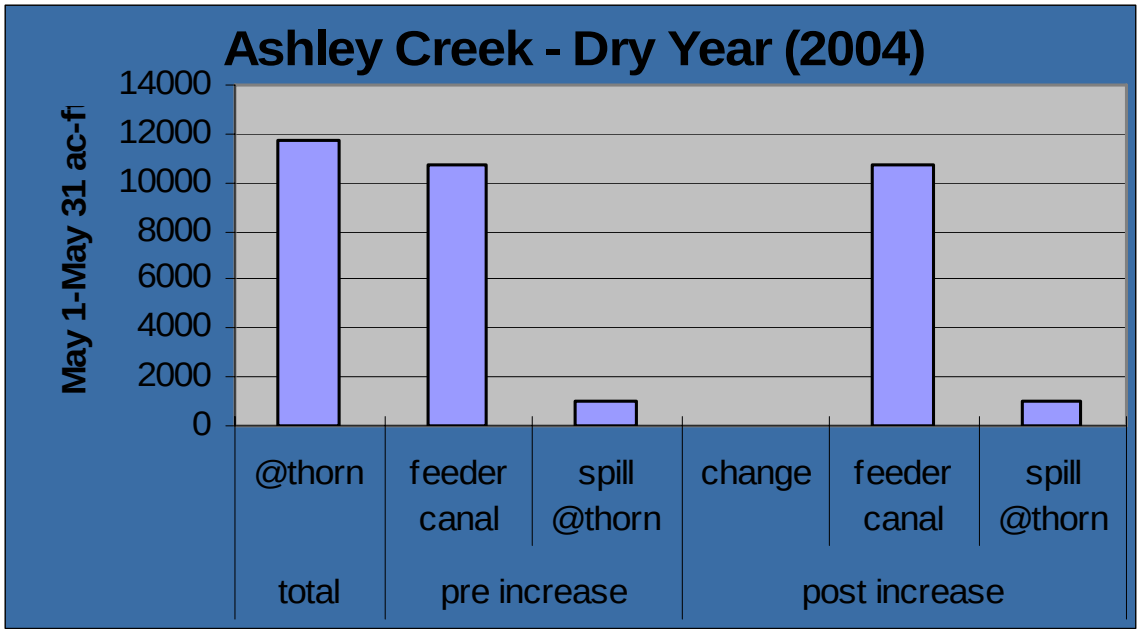



Ashley Creek - Avg Year
flow (cfs)
1000
900
800
700
600
500
400
300
200
100
0
total
pre spill
post spill
pre canal
post canal
change
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31
May 2001

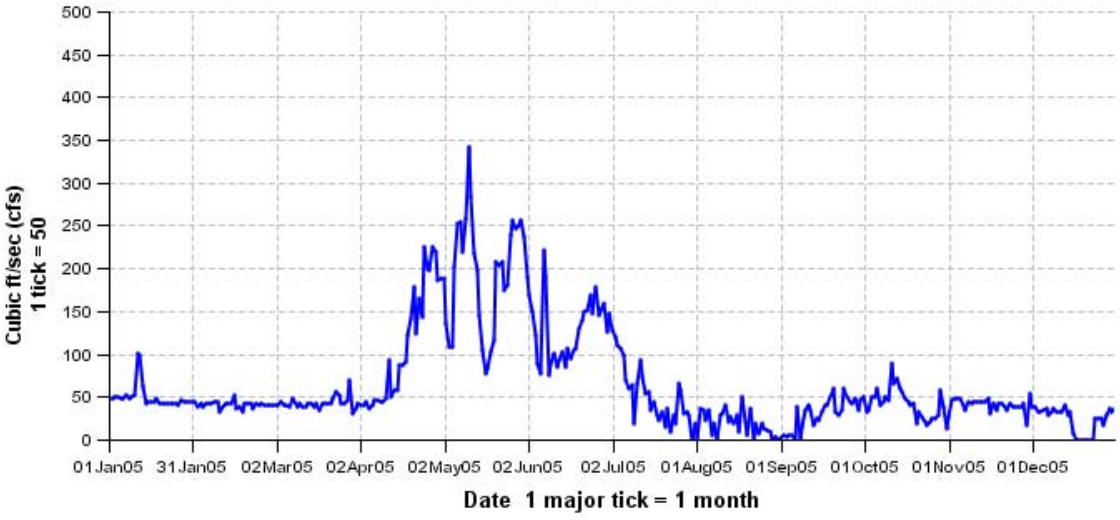

Ashley Creek - Dry Year
flow (cfs)
500
450
400
350
300
250
200
150
100
50
0
total flow
pre spill
post spill
pre canal
post canal
change
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31
May 2004


Ashley Creek - Wet Year (2005)
May 1-May 31 ac-ft
80000
70000
60000
50000
40000
30000
20000
10000
0
@thorn
feeder canal
spill @thorn
change
feeder canal
spill @thorn
total
pre increase
post increase

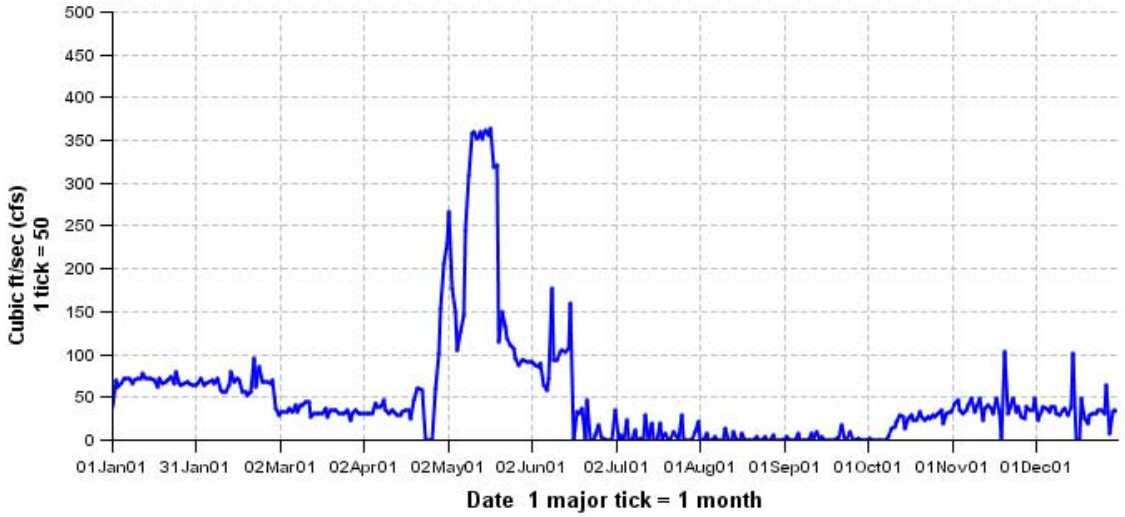

Ashley Creek - Avg Year (2001)
May 1-May 31 ac-ft
40000
35000
30000
25000
20000
15000
10000
5000
0
@thorn
feeder canal
spill @thorn
change
feeder canal
spill @thorn
total
pre increase
post increase



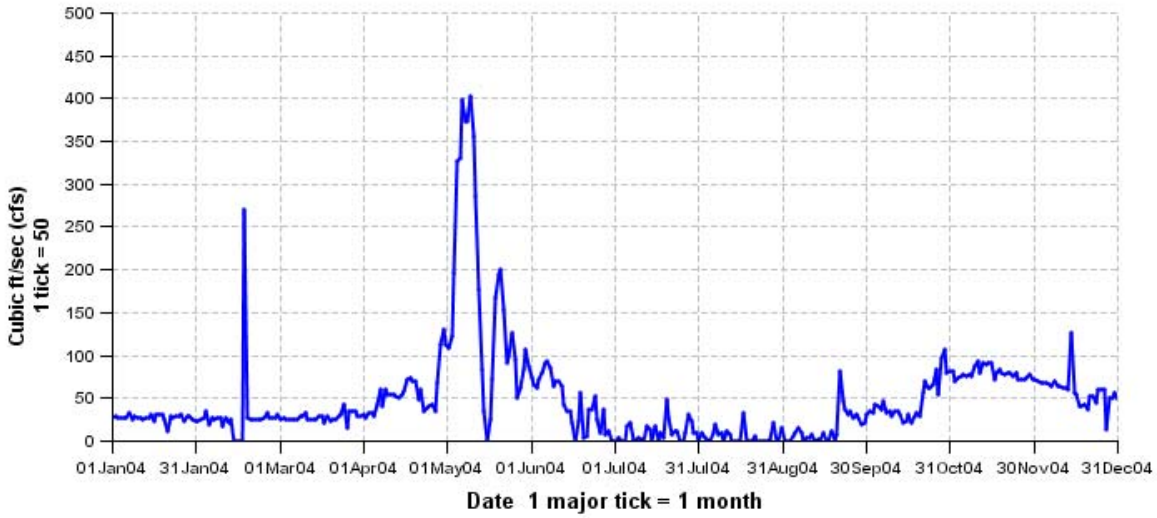
Steinaker Reservoir – Calculated Inflow Wet Year (2005)



Steinaker Reservoir – Calculated Inflow Avg Year (2001)



Steinaker Reservoir – Calculated Inflow Dry Year (2004)



3.3.4 Water Quality

3.3.4.1 No Action Alternative

Since no construction would occur, there would be no construction-related water quality impacts. There would also be no long term water quality impacts, since there would be no change in the historic water elevation of Steinaker Reservoir.

3.3.4.2 Proposed Action Alternative

Under the Proposed Action Alternative, best management practices would be employed during construction activities to minimize temporary impacts to water quality in Steinaker Reservoir.

Since soils within the reservoir area are mostly sand and silt, and could be highly susceptible to erosion from wave action on the new higher shoreline, there could be some temporary turbidity in localized areas along the shoreline. This erosion would be temporary and the new higher shoreline would stabilize within several seasons. Areas around and within campgrounds and boat dock would be repaired or stabilized, where deemed necessary by Reclamation and the State Park, to minimize potential erosion and turbidity problems

Raising the reservoir water surface elevation several feet and increasing the volume of water in Steinaker Reservoir would have only minimal impact upon overall water quality. The detention time in the reservoir would periodically be increased slightly, and the flushing rate would be slightly decreased. These factors could result in a slight improvement in water quality, but overall it would be very minimal and insignificant.

The proposed increased diversions from Ashley Creek would have minimal if any impact upon water quality in Ashley Creek below the Fort Thornburgh Diversion Dam. The increased diversions would only occur for about five to ten days during spring-time high flows in Ashley Creek, thus reducing peak flood flows and associated damage. In dry years, there would typically be no increased diversions, since there would be insufficient water available. Under current water rights and historical operation, Ashley Creek is normally dewatered just below Fort Thornburgh Diversion Dam (which is also the diversion structure for four of main canals on Ashley Creek: Rockpoint, Dodds, Island and Ashley Central) during the winter months as well as during the irrigation season. Normally the only time there is natural stream-flow in Ashley Creek below this diversion is during high spring runoff. The rest of the time the flow consists of shallow natural groundwater recharge, irrigation return flow, wastewater discharge from the Vernal Wastewater Treatment System, and 2,400 acre-feet of subsurface water removed as a byproduct from the Ashley Oil Field (below highway 40). Consequently, the only impact upon lower Ashley Creek could be a small increase in irrigation return flow, but it would be essentially the same quality as the stream, since the stream-flow in this area consists mostly of irrigation return flow, down to the treated wastewater discharge location.

Increasing the storage capacity of Steinaker Reservoir by 2,195 acre-feet per year would yield approximately 1,300 acre-feet of additional water supply, or an increase of about two percent of the total annual water supply to Ashley Valley. Consequently, the additional increased irrigation return flow from the proposed project could be up to about two percent. As a result, impacts on contaminants levels, temperature, and dissolved oxygen in lower Ashley Creek, which already consists mostly of irrigation return flows, would be very minimal and insignificant

3.3.5 System Operations

3.3.5.1 No Action Alternative

The No Action Alternative would have no impact on dam operations.

3.3.5.2 Proposed Action Alternative

Typically when water is available, the reservoir elevation would be increased from the historic normal maximum of 5717.8-feet to 5520.5-feet. Currently the maximum allowable reservoir filling rate is 0.5-feet per day between 5717.8-feet and 5520.5-feet. Implementing the Proposed Action Alternative would have no meaningful effect on the operations of Steinaker Dam or related facilities.

3.3.6 Public Safety, Access, and Transportation

3.3.6.1 No Action Alternative

The No Action Alternative would have no impact on public safety, access, and transportation.

3.3.6.2 Proposed Action Alternative

The Proposed Action Alternative would have no impact on public safety, access, and transportation.

3.3.7 Visual Resources

3.3.7.1 No Action Alternative

The No Action Alternative would have no effect on visual resources.

3.3.7.2 Proposed Action Alternative

The visual resource has not been mapped; however, in the area where everything needs to be moved the visual quality objective is Partial Retention. Partial Retention means that management allows for man-made facilities and disturbances which would appear visually subordinate to the natural landscape and should blend with or complement it.

All work would be in harmony with this objective.

3.3.8 Socioeconomics

3.3.8.1 No Action Alternative

The No Action Alternative would have no significant impact on socioeconomic resources or existing economic conditions.

3.3.8.2 Proposed Action Alternative

Under the Proposed Action Alternative, raising the normal water surface elevation increases storage capacity in Steinaker Reservoir by 2,196 acre-feet (see section 3.3.2 Water Rights). This increased storage capacity may be characterized under two scenarios: 1) as carryover storage to secure existing water deliveries during shortage or drought periods, or 2) as a new marketable supply, surplus to the Vernal Unit. The impacts of the second scenario are not analyzed in this EA. However, if in the future there is demand for a new marketable supply, UWCD would request to contract with the United States for use of any additional yield. This would require further yield studies, environmental compliance, and negotiation of a water service contract. Under the first scenario, no significant economic impacts to water right holders below the dam are expected (see section 3.3.2 Water Rights). The first scenario will be a benefit to recreation, irrigation supply, M&I supply, and commercial interests.

For the carryover scenario the effects to socioeconomic resources such as recreation, reservoir yield, and commerce are discussed below. The effect on costs allocated to Vernal Unit water users and on contract obligations with the United States are also discussed.

Recreation— No significant impact to recreation would be expected under this scenario; however, the higher water surface elevation could extend the recreation season and provide opportunity to collect higher than expected revenues from increased visitation (Personal communication, March 31, 2007, Mike Murray, Park Manager for Steinaker State Park.

Reservoir Yield—Carryover storage does not represent an increase in available yield from the Vernal Unit. The Vernal Unit water supply is limited by repayment, water sales, and water right exchange contracts between the United States and UWCD. The municipal water supply is limited to 1,600 acre-feet annually. The irrigation water supply is limited to 17,900 acre-feet annually of supplemental supply to approximately 14,781 acres of irrigable land within the Vernal Unit which have executed water allotment petitions.

Commerce— No measurable effect to the commercial sector would be expected under the Proposed Action. It would likely extend the irrigation season for agricultural crop production and reduce the risk of crop failure during severe droughts. Carryover capacity would therefore be classified as a benefit to agricultural enterprises during shortage or drought periods.

Cost Allocation—When examining possible scenarios for the use of the identified carryover capacity, it is important to note that all costs for constructing the Vernal Unit have previously been allocated through the November 1972 Final Cost Allocation, and repayment of all reimbursable costs based on this allocation have been secured through a Repayment Contract (Contract No. 14-06-400-778, dated July 14, 1958, as amended) between the UWCD and the United States. The M&I obligation has been paid out, and the irrigation obligation remaining to be paid over the next nine years is $268,567.

The flexibility derived from the method used to allocate Vernal Unit costs precludes the need to reallocate project costs in order to address the additional benefits provided by the carry over storage. The costs of the surcharge capacity were not allocated to a specific project purpose; they were allocated as joint costs to all project purposes based on the following percentages: 23.1% to irrigation, 39.4% to M&I, and 37.6% to fish and wildlife. With this method, the magnitude of the Vernal Unit supply has no bearing on the allocation of project joint costs, i.e. an increase in the carryover capacity at Steinaker Reservoir does not increase or change the costs allocated to the various purposes of the Vernal Unit. Therefore, there are no additional Vernal Unit costs associated with converting the flood surcharge capacity to carry over storage capacity and no impact to the November 1972, Final Cost Allocation.

Contracts—Use of the additional storage capacity is subject to certain conditions found in the Repayment Contract. Article 7(d) "…reserved to the United States certain capacities in Steinaker Reservoir including the water filling such capacity as follows: (i) 2,170 acre-feet for flood surcharge below the bottom of the outlet sill of the spillway…" This amount was refined in the 2006 Steinaker Reservoir Capacity Allocation to be 2,196 acre-feet. Based on the determination that increasing the normal water surface elevation would not increase risk estimates above Reclamation guidelines, additional storage capacity is available for use as carryover and is not necessary for incidental flood control (U.S. Department of the Interior, 2007). Ability to use the additional storage capacity as carryover is provided in Article 7(a) which provides that UWCD "…shall have the permanent right to use and dispose of the annual yield of water from project works. Project water in excess of that necessary to satisfy project water requirements in any year shall be retained in Steinaker Reservoir to the extent of the capacity available therefore, for use during succeeding years." While carryover is allowed under the Repayment Contract, the annual yield of the Vernal Unit has been limited to those amounts stated above under Reservoir Yield. Therefore, UWCD has a right to the extent capacity is available for use as carry over to secure existing water deliveries during shortage or drought

periods. As described above, the scenario of carryover storage is within parameters and intent found in existing contracts.

3.3.9 Cultural Resources

Effects to cultural resources located within the APE for the proposed project may be caused by a combination of several factors, including topography, slope, soil type, site type, and various mechanical, biochemical, or human impact agents (Lenihan et al. 1981). Mechanical erosion caused by high energy wave action resulting from wind and boat wave motion creates the most damaging effects to buried cultural deposits located on the shoreline. Since the inundation of known historic properties at the 5520 foot elevation could be repeated on an annual basis under the Proposed Action, over time cultural deposits could be increasingly at risk for exposure, damage from erosion, or vandalism.

3.3.9.1 No Action Alternative

The table in section 3.2.9.2 lists historic properties which are located within the basin or near the historic shoreline of the reservoir. Under the No Action Alternative, the water levels would not differ from the range of elevations of the past 45 years, including drought years. One site (42UN162/1877) has been destroyed by wave action. This site was protected and monitored during high water tests in 2005, 2006, and 2007. Further evaluation during that time has led Reclamation to conclude that the site should be recommended to Utah SHPO as no longer eligible. In general, the sites have been affected more by human impact than by geomorphic or hydrologic effects of wave action.

3.3.9.2 Proposed Action Alternative

The table below lists only those sites which would possibly be affected by the proposed project. Most of the sites in and near the reservoir would not be affected. However, three sites may be partially inundated and one has been previously destroyed and is no longer eligible. Site Numbers and Anticipated Effects with possible mitigation measures are delineated below.

Anticipated Effects and Possible Mitigation Measures (2007)

Site No.	Anticipated Effects and Possible Mitigation Measures (2007)
42UN162/1877	Under either alternative, the site will be recommended to Utah SHPO as no longer eligible.
42UN1310	The east end of this site may be impacted by water/wave action-monitoring on an on-going basis recommended.
42UN2177	This site may be subject to wave action and partial or complete inundation on an annual basis. Further evaluation is planned prior to Utah SHPO consultation. If deemed appropriate, a Memorandum of Agreement (MOA) among all interested parties will be executed and data recovery will be recommended as

	mitigation.
42UN2180	This site may be subject to wave action on a previously tested area. Approximately 10% of the previously tested area of the site may be inundated on an annual basis. The remainder of the site will remain well above the 5520 foot water elevation. Data recovery is not recommended at this time. Monitoring on an on-going basis is recommended.

Of the four sites which may be subject to effects from the Proposed Action, site 42UN 162/1877 had partial data recovery and the remainder of the site has mostly been destroyed by wave action. Under either the Action or No Action Alternative, this will be recommended to Utah SHPO as no longer being eligible for the NHRP.

Site 42UN 1310 is borderline on the reservoir water elevation of 5520. It is not certain that it will be affected by the proposed project. Monitoring is recommended for the near future to evaluate possible cumulative damage and future recommendations.

At Site 42UN 2180, approximately 10% of the lower portion of this eligible site will be inundated on an annual basis, constituting an adverse effect to this historic property. However, the remainder of the site is located on a high sandy ridge, still contains surface artifact material, and is protected by the park rangers who are aware of its existence in a visible portion of the park. Under Section 110 (c) the preservation in place of archaeological sites is usually the preferred approach. Also, the cost of full data recovery on a site where only approximately 10 percent may be adversely affected cannot be justified. Monitoring of this site on an on-going basis is recommended to evaluate possible cumulative effects and future recommendations.

There is one eligible historic property at or near the 5520 foot elevation of the reservoir (42UN2177) which could be subject to wave action. The effects of the Proposed Action could, over time, expose buried materials, which would constitute an adverse effect to cultural material and/or prehistoric features (Lenihan et al.1981). In accordance with 36 CFR 800.8(c)(v), Reclamation would develop measures, in consultation with identified interested parties, to avoid, minimize, or mitigate the possible adverse effects of the Proposed Action on this historic property.

Consultation with Utah SHPO will occur after completion of this EA, since additional analysis has been determined to be necessary prior to consultation. As stated in Chapter 4, SHPO consultation must be completed prior to allowing an increase in water elevation. If deemed appropriate, in accordance with 36 CFR 800.6 (b) and (c), a Memorandum of Agreement (MOA) would be developed to provide the stipulations of a research design, and data recovery at site 42UN 2177. Identified interested parties and signatories to the MOA may include the

UWCD, Steinaker State Park, the Utah State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP) if they choose to participate, Reclamation, and other interested parties.

3.3.10 Paleontological Resources

3.3.10.1 No Action Alternative

There would be no change and thus no effect to paleontological resources as a result of the No Action Alternative.

3.3.10.2 Proposed Action Alternative

There would be no effect to paleontological resources as a result of implementation of the Proposed Action Alternative.

3.3.11 Wetlands and Vegetation

3.3.11.1 No Action Alternative

Under this alternative, the proposed water elevation raise would not be authorized. Therefore, no effects would occur to riparian, upland, or reservoir habitats.

3.3.11.2 Proposed Action Alternative

Approximately 5 acres of upland and wetland vegetation (consisting mostly of sagebrush, rabbitbrush, Juniper, willow, and cottonwood) would be directly disturbed by construction activities at recreation facilities around the reservoir.

Vegetational composition around the reservoir would change over time. Higher water elevations would not significantly change the amount of area covered by willow or cottonwood vegetation, but would likely cause this vegetation to re-establish itself at a slightly higher elevation in accordance with the 2.7 foot raise in normal water surface elevation. These effects would be negligible.

Sagebrush communities that now exist above willow and cottonwood communities would be killed from being inundated by water. They would likely be replaced by the adjacent willow and cottonwood communities. In other areas of sagebrush shoreline that are not associated with willow/cottonwood communities, the extent of bare ground surrounding the reservoir could be increased.

A small reduction of flow in Ashley Creek below the Fort Thornburgh Diversion Dam during the spring runoff would occur in wet years. Therefore flood control would be enhanced during normal to wet years within Ashley Creek. Therefore, these effects would be insignificant and hard to measure, and could be viewed as a benefit.

Disturbed areas around the reservoir associated with relocation or modification of recreation facilities would be recontoured and reseeded with native species for the

various habitats impacted by the proposed construction activities. These areas would return to useful habitat over time.

3.3.12 Wildlife Resources

3.3.12.1 No Action Alternative

Under this alternative, the proposed project would not be constructed; therefore, no effects would occur to wildlife resources.

3.3.12.2 Proposed Action Alternative

Approximately 5 acres of upland/wetland habitat would be temporarily disturbed. Big game would be able to obtain water and any other needs provided by upland, wetland, or lacustrine habitat in the same general areas as they now find it. Big game may be temporarily displaced from small areas during construction activities, but would move back in a short period of time. Due to the relatively small extent of disturbance and in comparison to normal human activity in the area, big game would not be measurably affected. Other mammals existing in riparian areas where construction occurs would be temporarily excluded from construction areas.

Eagles use cottonwood trees in the area for roost and observation perches mainly during the winter. Removal of these trees either living or dead should be avoided. However, loss of a tree would only move these birds to other nearby trees and not reduce the capacity of the area to support the current population.

Construction activities could disturb various bird species from preferred breeding, nesting, or foraging habitat. These effects would be limited to a relatively small area, and birds would be capable of moving to very similar habitat nearby. This would also be true for any sage grouse (*Centrocercus urophasianus*) that may use the area. No known sage grouse leks (breeding grounds) occur within the proposed construction areas.

Construction associated with this alternative could disturb reptiles and amphibians from preferred habitat. These effects would be limited to a relatively small area and these animals would be capable of moving to very similar habitat nearby.

The reservoir fishery would not be negatively affected by the Proposed Action and may experience some minimal benefits due to increased water volume. Effects to flows in Ashley Creek would be minimal and have no measurable effect on fish populations within this stream or drainage system.

After construction, disturbed areas would be recontoured and revegetated with native plants. A process of vegetative succession would then begin. This process would eventually establish a vegetative community favorable to native species.

3.3.13 Threatened, Endangered, Candidate, Protected and Sensitive Species

3.3.13.1 No Action Alternative

Under this alternative, the proposed water elevation raise and related recreation facility construction activities would not be authorized. Therefore, no effects would occur to any threatened, endangered, candidate, or state sensitive species.

3.3.13.2 Proposed Action Alternative

Bald eagles are winter residents of this area and may be displaced by construction activities (noise and habitat disturbance). Removal of cottonwood trees and dead snags should be avoided during construction. However, loss of one or several trees may occur. This could displace eagles if they are present in the area. These effects would be short term or very limited in extent and would have no significant negative effects since these birds would be able to use very similar roost sites or other habitat elements in the immediate vicinity of the project.

Canada lynx, and black-footed ferrets are not known to occur within the area affected by this alternative and have not been seen in the area for years. Therefore, no effects would occur to them.

Western yellow-billed cuckoo are not known to occur within the area affected by this alternative. However, a few individuals may migrate through the area or even possibly use the area for some segment of their life cycle. The extent of disturbance associated by this project would leave a large area of suitable habitat unaffected allowing any possible use by these birds to occur in these adjacent areas.

Fish species occurring in Ashley Creek, and managed under conservation agreements (i.e. roundtail chub, bluehead sucker, flannelmouth sucker, and Colorado River cutthroat trout), would not be appreciably affected by lowered flows during spring runoff since the difference between pre- and post-project flows would not significantly affect the riparian or riverine habitat.

Northern goshawk would not likely use habitats within the area of disturbance to any significant degree. Therefore, effects to them would be negligible.

Ute ladies'-tresses (*Spiranthes diluvialis*) exist along Ashley Creek. Hydrologic conditions associated with this stream are not expected to change significantly from current conditions and would therefore not affect this species of plant.

Under the Proposed Action Alternative a No Effect determination is made for all species.

3.4 Summary of Environmental Effects

The table below describes environmental effects under the No Action Alternative and the Proposed Action Alternative.

Summary of Environmental Effects

Resource Issue	Alternatives	
	No Action Alternative	**Proposed Action Alternative**
Recreation	No effect	No effect
Water Rights	No effect	No effect
Water Resources	No effect	No effect
Water Quality	No effect	Minimal effects during construction and first several years. Minimal effects long-term.
System Operations	No effect	No effect
Public Safety, Access, and Transportation	No effect	No effect
Visual Resources	No effect	No effect
Socioeconomics	No effect	No effect
Cultural Resources	No effect	Possible adverse effect. Testing and data recovery if necessary at one historic property would be conducted. All stipulations would be stated in an MOA among Reclamation, Utah SHPO, ACHP, and other interested parties.
Paleontological Resources	No effect	No effect
Wetlands and Vegetation	No effect	Minimal effects during construction. A very small amount of wetland would be temporarily impacted.
Wildlife Resources	No effect	Minimal temporary effects during construction.
Threatened, Endangered, Protected Species	No effect	No effect

3.5 Cumulative Effects

In addition to project-specific impacts, Reclamation analyzed the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities within the watershed.

According to the Council on Environmental Quality's regulations for implementing NEPA (50 CFR §1508.7), a "cumulative impact" is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. It focuses on whether the Proposed Action, considered together with any known or reasonably foreseeable actions by Reclamation, other Federal or state agencies, or some other entity combined to cause an effect. There is no defined area for potential cumulative effects.

Based on Reclamation resource specialists' review of the Proposed Action Alternative, Reclamation has determined that this action would not have a significant adverse cumulative effect on any resources.

3.6 Indian Trust Assets

Indian Trust Assets are legal interests in property held in trust by the United States for Federally recognized Indian tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to, such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that all Federal agencies take all actions reasonably necessary to protect trust assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts when possible. When impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation. Implementation of the Proposed Action Alternative would have no foreseeable negative impacts on Indian Trust Assets.

3.7 Environmental Justice

Implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the project area. The reason for this is that the proposed project would not involve major facility construction, population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority and low-income populations as defined by environmental justice policies and directives.

Executive Order 12898, established environmental justice as a Federal agency priority to ensure that minority and low-income groups are not disproportionately affected by Federal actions. Steinaker Reservoir is located in Uintah County. As of 2000, the population of Uintah County was 25,224 consisting of 3,603

individuals living below poverty level and 3,562 individuals belonging to various minority groups. Statistics for the year 2000 are the most recent available (Utah Governor's Office of Planning and Budget).

Chapter 4 - Environmental Commitments

The following environmental commitments would be implemented as an integral part of the Proposed Action.

1. Standard Reclamation Management Practices--Standard Reclamation management practices would be applied during construction activities to minimize environmental effects and would be implemented by Reclamation construction forces or included in construction specifications. Such practices or specifications include sections in the present report on public safety, dust abatement, air pollution, noise abatement, water pollution abatement, waste material disposal, erosion control, archaeological and historical resources, vegetation, and wildlife.

2. Additional Analyses--If the Proposed Action were to change significantly from that described in the EA because of additional or new information, or if other construction areas are required outside the areas analyzed in this EA, additional environmental analysis including cultural and paleontological analyses would be undertaken if necessary.

3. Clean Water Act Compliance: If required, before beginning construction activities associated with modification or relocation of recreation facilities, Reclamation would obtain a 404 permit from the U.S. Army Corps of Engineers. The conditions and requirements of the 404 permit would be strictly adhered to by Reclamation and UWCD.

4. Appropriate measures would be taken to ensure that construction related sediments would not enter Steinaker Reservoir either during or after construction.

5. Cultural Resources-- SHPO consultation must be completed prior to authorizing a higher water elevation. If appropriate, a MOA will be executed as described in Section 3.3.9.2 to define the process to complete data recovery at one historic property for subsurface cultural material. The MOA would define a procedure to minimize, or mitigate possible adverse affects to this site, produce a research design and preserve important information through data collection which will add to the prehistoric record of the Steinaker area.

   Any person who knows or has reason to know that he/she has inadvertently discovered possible human remains on Federal land, must provide immediate telephone notification of the discovery to Reclamation's Provo Area Office archaeologist. Work would stop until the proper authorities were able to assess

the situation onsite. This action would promptly be followed by written confirmation to the responsible Federal agency official with respect to Federal lands. The Utah State Historic Preservation Office and interested Native American tribal representatives would be promptly notified (see Section 3.2.9.2 for list of tribes contacted). Consultation would begin immediately. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (43 CFR Part 10); and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

The above process is listed on a "yellow card," to be placed in the cabs of heavy equipment used during construction of the proposed project. This card would be distributed to the equipment operators and verbal direction and description of possible inadvertent discovery scenarios would be given at a preconstruction meeting by the Provo Area Office archaeologist prior to any ground-disturbing activity.

6. Construction Activities Confined to Previously Disturbed Areas--All construction activities associated with modifying or relocating recreation facilities would be confined to previously disturbed areas, to the extent practicable. All winter construction activities occurring within ½ mile of any bald eagle roost site would be restricted to hours between 9:00 a.m. and 4:00 p.m. from November 1st to March 31st and into April, if necessary until all bald eagles have left the area.

7. Public Access--Construction sites would be closed to public access. Temporary fencing, along with signs, would be installed to prevent public access. Reclamation and UWCD would coordinate with Steinaker State Park personnel as necessary to ensure public safety.

8. Disturbed Areas--All disturbed areas would be smoothed, shaped, seeded, contoured, and rehabilitated to as near their pre-project construction condition as practicable. After completion of the recreation facility construction and restoration activities, disturbed areas would be seeded at appropriate times with weed-free, native seed mixes. The composition of seed mixes would be coordinated with Reclamation wildlife habitat specialists. Weed control on all disturbed areas would be required.

9. Appropriate steps would be taken to prevent the spread of, and to otherwise control undesirable plants and animals within areas affected by construction activities. Equipment used for the project would be inspected for reproductive and vegetative parts, foreign soil, mud or other debris that may cause the spread of weeds, invasive species and other pests, and for removing such material before moving vehicles and equipment onto any Federal land or out of any area on Federal project land where work is performed. Upon the completion of work, decontamination would be performed within the work area before the vehicle and/or equipment are removed from Federal project lands.

10. Environmental Commitment Plan (ECP) and Environmental Commitment Checklist (ECC)--An ECP and an ECC would be prepared and used by the Provo Area Office to ensure compliance with the environmental commitments and the environmental quality protection requirements. A post-construction environmental summary (PCES) would be completed within 1 year after completion of the project to assess the effectiveness of the mitigation measures.

Chapter 5 - Consultation and Coordination

5.1 Introduction

This chapter details the consultation and coordination between Reclamation and other Federal, state, and local government agencies, Native American Tribes, and the public during the preparation of this EA. Compliance with NEPA is a Federal responsibility that involves the participation of all of these entities in the planning process. NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

5.2 Public Involvement

A public scoping period to provide the interested public an opportunity to provide input regarding the scope of this EA was initiated on October 18, 2005, with a scoping letter mailed to over 31 municipalities, organizations or agencies considered to have an interest in the Proposed Action. The scoping period ended on Friday, November 4, 2005 with three comment letters received. Those comments were given full consideration in defining issues to be analyzed in this EA.

A draft EA was made available for public review and comment from August 30, 2007 to September 14, 2007. Comments received on the draft EA were fully and carefully considered in preparing this final EA.

Interested parties may receive a copy of this final EA and Finding of No Significant Impact (FONSI) by written request to Mr. W. Russ Findlay, Bureau of Reclamation, Provo Area Office. The address is 302 East 1860 South, Provo, Utah 84606-7317, or e-mail, rfindlay@uc.usbr.gov. To view this final EA and FONSI electronically, go to Reclamation's Provo Area office web site at www.usbr.gov/uc/provo/index.html (look under the section "Current Focus" and click on the final EA).

The project file in the Provo Area Office contains the comment letters as well as a complete description of all public involvement activities.

5.3 Native American Consultation

Consultation regarding cultural resources for the current proposed project is in progress with all interested tribes, including the Ute Tribe of the Uintah and Ouray Reservation near Fort Duchesne, Utah; the Northwest Band Shoshone Nation of Brigham City, Utah; the Paiute Indian Tribe of Utah, Cedar City, Utah; the Skull Valley Goshute Tribe of Salt Lake City, Utah; the Confederated Goshute Tribe of Ibapah, Utah; the Zuni Indian Tribe of Zuni, New Mexico; the Hopi Tribe of Kykotsmovi, Arizona; the Pueblo of Zia of Zia, New Mexico; the Kaibab Band of Paiute Indians of Fredonia, Arizona; the Pueblo of Laguna, Laguna, New Mexico; and the Pueblo of Nambe, of Santa Fe, New Mexico.

This consultation is being conducted in compliance with 36 CFR 800.2(c)(2), on a government-to-government basis. Through this effort, the tribes are given a reasonable opportunity to (1) identify any concerns about historic properties; (2) advise on the identification of historic properties, including those of traditional religious and cultural importance; (3) express their views on the undertaking's effects on such properties; and (4) participate in the resolution of adverse effects.

5.4 Coordination with Other Agencies

Consultation will be undertaken with the Utah SHPO in the near future to comply with Section 106 of the NHPA for cultural resources.

Chapter 6 - Preparers

The following contributors to the EA are part of the U.S. Department of the Interior, Bureau of Reclamation, Provo Area Office.

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Gary Carlson	Supervisory Civil Engineer	Public Safety, Access, and Transportation; System Operations, Water Resources
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Jim Jensen, LA[b], LS[c]	Landscape Architect; Land Surveyor	Recreation; Visual
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