

# RECLAMATION

*Managing Water in the West*

## **Blue Cut Water Service Environmental Assessment PRO-EA-13-002**



## **Mission Statements**

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

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



# **Blue Cut Water Service Environmental Assessment**

**PRO-EA-13-002**

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

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# Chapter I Purpose and Need

## 1.1 Introduction

The project area is part of the Cottonwood Creek and Huntington Creek watersheds near Castle Dale, Utah, in unincorporated Emery County. The area was first settled in 1877 by Orange Seely, a Mormon pioneer assigned by Brigham Young to bring livestock into the area for grazing. Within 1 year after their arrival, the settlers had already planted fields and began construction of canals to irrigate their crops. While the population in the area grew slowly, by 1900, all dependable natural flow on Cottonwood Creek and Huntington Creek had been appropriated. These creeks provide the majority of water that feeds the San Rafael River, a tributary to the Green River.

In 1935, various canal companies and individual irrigators in the area combined their water rights and formed the Cottonwood Creek Consolidated Irrigation Company (CCCIC). CCCIC is a private corporation which controls most of the non-federal water rights on Cottonwood Creek.

In 1956, the Colorado River Storage Project Act (CRSPA) authorized nearly 20 initial and participating water development projects to capture, store, regulate, and distribute the waters of the Colorado River for the Upper Colorado River Basin states (Arizona, Colorado, New Mexico, Utah, and Wyoming). In addition, CRSPA established the Colorado River Basin Fund to receive project revenues, ensure repayment, and fund operation and maintenance of CRSPA facilities. The Emery County Project is a participating project of the CRSPA and construction commenced on June 20, 1963, and was substantially completed in 1966.

In 2011, CCCIC submitted an application for \$6,500,000 from the Upper Basin Fund, which makes certain Colorado River Basin Fund revenues available to fund operation and maintenance of CRSPA project facilities—under the provisions of Section 5 of CRSPA. Under the application, the Bureau of Reclamation (Reclamation) will lease water from CCCIC in order to secure the water supply for the Emery County Project. Accomplishing this objective requires the complex exchange described below.

The U.S. Fish and Wildlife Service is the owner of Water Right No. 93-2241, a 21 cubic feet per second (cfs) flow right on Huntington Creek. While never having been exercised since being acquired by USFWS, the right's 1888 priority date poses a potential threat to the Emery County Project's water supply and operation. This right having been dormant for many years would likely require a change application with the State Engineer in order to be used.

## **1.2 Purpose and Need for Action**

Reclamation has proposed an exchange under which it would provide an augmentation to flows in Cottonwood Creek and the San Rafael River to the USFWS in exchange for the USFWS's temporary and conditional forbearance of Water Right No. 93-2241, when usage of this right would be detrimental to Reclamation's Project water rights. Water Right No. 93-2241 allows for the annual diversion of 21 cfs (15,204 acre-feet annually) from Huntington Creek under an 1888 priority date. If this right were activated and used without the consultation and involvement of Reclamation, it could cause substantial harm to the Emery County Project's water users.

Cottonwood Creek is currently dry-dammed at the Swasey Diversion Dam for 7 months out of the year. During periods of no delivery, the San Rafael only receives return flows from Huntington Creek, Cottonwood Creek, and Ferron Creek. With the proposed action in place, there would be a constant flow of water in Cottonwood Creek year round and an ensured delivery of water to the San Rafael River. In the interest of being good environmental stewards, all participants in the exchange believe that additional water in Cottonwood Creek and the San Rafael River would contribute to healthier riparian and aquatic environments, thereby providing intrinsic benefits to the surrounding community.

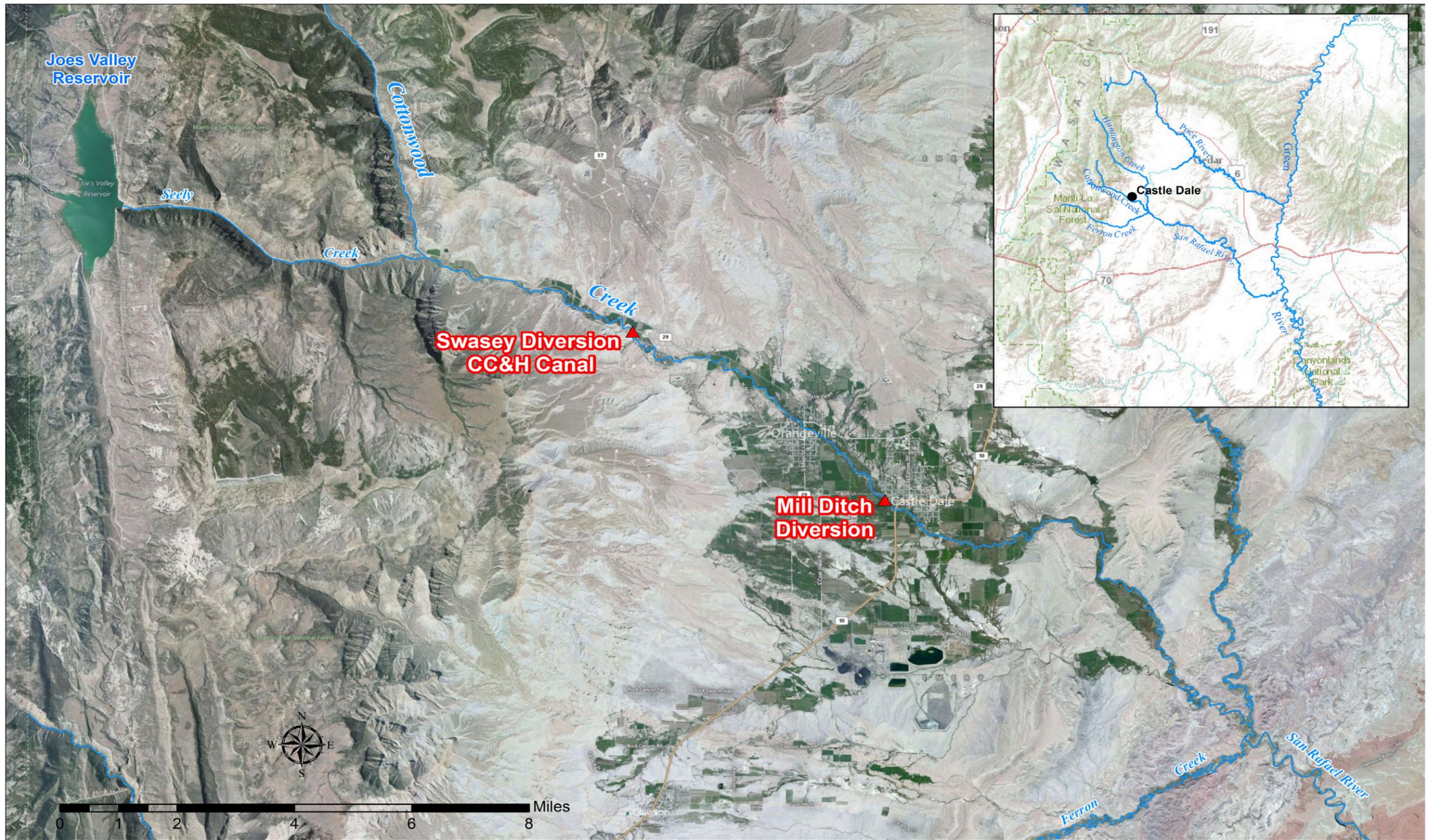
## **1.3 Description of Project Facilities**

The principal features of the Emery County Project are Joes Valley Dam and Reservoir, Swasey Diversion Dam, Huntington North Reservoir, and the Cottonwood Creek-Huntington Canal.

The Swasey Diversion Dam is a concrete ogee-type weir and is located 10 miles downstream from Joes Valley Dam. It has a diversion capacity of 165 cfs, is 11 feet high, 75 feet long, and has a volume of 9,000 cubic yards. The Swasey Diversion Dam will be the point of delivery for the 3 cfs instream flows.

## **1.4 Location**

Map 1 shows the location of the project and project facilities.



Map 1

# **Chapter II Alternatives**

## **2.1 Proposed Action**

Under the Proposed Action, Reclamation would lease 2,168 acre-feet of water from CCCIC, to remain in Cottonwood Creek at a constant flow of 3 cfs, under a 40-year term (with the option to renew) in exchange for a one-time payment of \$6,500,000 from the Basin Fund. CCCIC's full diversion of 3 cfs at Swasey Diversion into Cottonwood Creek and the San Rafael River would be staged, based on the following schedule: 1 cfs from November 1, 2015 to October 31, 2017; 2 cfs from November 1, 2017 to October 31, 2018; and the full 3 cfs beginning November 1, 2018, until the termination of the contract. The releases would be verified approximately 6 miles downstream, just below the Mill Ditch Diversion Dam.

USFWS would temporarily forbear the use of Water Right No. 93-2241, when use of this right would be detrimental to Reclamation's Emery County Project rights, in exchange for the 2,168 acre-feet of water to be left in Cottonwood Creek from the Swasey Diversion to the head of the San Rafael River, and assistance from the EWCD to make certain that the USFWS receives its full allotment of Emery County Project water rights at Desert Lake. The exchange provides Reclamation an opportunity to reduce the associated risks of Water Right No. 93-224, while proactively assisting the USFWS in its charter to improve habitats for fish and other wildlife.

In order to determine the quantity of water that could be provided for Cottonwood Creek and San Rafael River flows under a lease from CCCIC, Reclamation enlisted the Department of the Interior's Office of Valuation Services (OVS) for assistance in appraising the value of a water supply on Cottonwood Creek. An appraisal was completed by an independent third party and verified by OVS. It was determined that \$6,500,000 could pay for the lease, operation, and maintenance (O&M) of 2,168 acre-feet, a sufficient quantity to guarantee additional flows of 3 cfs in Cottonwood Creek and the San Rafael River for the benefit of fish and wildlife in the area.

## **2.2 No Action Alternative**

The 2,168 acre-feet of water would not be leased and would continue to be lost due to inefficiencies within the Emery County Project.

Cottonwood Creek would continue to be dry-dammed for 7 months out of the year at the Swasey Diversion Dam, and the San Rafael River would not receive augmented flows from Cottonwood Creek during this time.

The USFWS would retain full control of Water Right No. 93-2241 and may be able to arrange delivery under the right without consulting Reclamation. The result would jeopardize the Emery County Project.

# Chapter III Affected Environment and Environmental Consequences

## 3.1 Introduction

This chapter describes the affected environment and environmental consequences of the Proposed Action on key resources in the study area. The effects on these resources under the No Action Alternative described in Chapter 2 provide the basis of comparison for the effects of the Proposed Action.

## 3.2 Resources Eliminated From Further Consideration

The following resources are not discussed in this EA: Water Quality, Air Quality and Climate Change, Energy Oil and Gas, Hazardous Waste, Floodplains, Paleontological Resources, Wilderness and Wild and Scenic Rivers, Recreation, Visual Resources, Cultural Resources, Socioeconomics, Land Use, Prime and Unique Farmland, Agricultural Farmlands, Public Safety, Public Health, and Indian Trust Assets. Impacts to these resources were considered, but not analyzed in detail because they were determined to not be affected by the Proposed Action. The rationale for eliminating the resources from further consideration is provided below in Table 3.2.

**Table 3.2  
Resources Eliminated from Further Consideration**

<b>Resource</b>	<b>Rationale for Elimination from Further Analysis</b>
<b>Water Quality</b>	Based on the nature of the proposed action, there would be no effects to water quality.
<b>Air Quality &amp; Climate Change</b>	Based on the nature of the proposed action, there would be no effects to air quality or climate change.
<b>Energy Oil and Gas</b>	There are no oil or gas sites associated with the project
<b>Hazardous Waste</b>	There are no hazardous wastes associated with the project
<b>Floodplains</b>	Based on the nature of the proposed action, there would be no impacts to floodplains within the project area.
<b>Paleontological Resources</b>	Based on the nature of the proposed action, and the fact that there are no known paleontological resources in the vicinity of the proposed action, there are no foreseeable impacts to paleontological resources.
<b>Wilderness and Wild and Scenic Rivers</b>	There are no designated wilderness areas or Wild and Scenic Rivers within the project area; therefore, there would be no impact to those resources.

<b>Recreation</b>	Based on the nature of the proposed action, there would be no impacts to recreation.
<b>Visual Resources</b>	Based on the nature of the proposed action, there would be no impacts to visual resources within the project area.
<b>Cultural Resources</b>	Based on the nature of the proposed action, and the fact that there are no known cultural resources in the vicinity of the proposed action, there are no foreseeable impacts to cultural resources.
<b>Socioeconomic</b>	Based on the nature of the proposed action, there would be no impacts to socioeconomic resources.
<b>Land Use</b>	Based on the nature of the proposed action, there would be no impacts to land use.
<b>Prime and Unique Farmland</b>	There is no Prime and Unique Farmland within the project area and therefore, there would be no impacts to this resource from the proposed action.
<b>Agricultural Farmlands</b>	Based on the nature of the proposed action, there would be no effects to agricultural farmlands.
<b>Public Safety &amp; Public Health</b>	There would be no negative impacts on public safety or public health from the proposed action.
<b>Indian Trust Assets</b>	There are no known Indian Trust Assets associated with the proposed action.

### 3.3 Affected Environment

Information in this section is derived from a comprehensive review of existing information pertaining to the project area. It includes information from the Price - San Rafael Rivers Unit, Utah Planning Report/Final Environmental Impact Statement (Bureau of Reclamation, Soil Conservation Service, 1993) and other available sources. Specialist information regarding the analyses has been provided by agency professionals, in collaboration with other subject matter experts.

#### 3.3.1 Water Resources

Cottonwood Creek is located in Central Utah, and flows southeast from its headwaters in Cottonwood Canyon to its confluence with Huntington and Ferron Creeks. The three creeks combine approximately 5 miles southeast of Castle Dale, Utah, and form the San Rafael River, which is a major tributary to the Green River. Flow in Cottonwood Creek is largely regulated by releases from Joes Valley Reservoir. The reservoir discharges to Seely Creek, which flows roughly 5 miles east before joining with Cottonwood Creek.

Although current streamflow data is not available<sup>1</sup>, reservoir releases can be used to estimate flows in Cottonwood Creek above the Swasey Diversion Dam. This estimate is likely conservative (i.e. lower than actual streamflows) as it does not include runoff from the creek's headwaters in Cottonwood Canyon. Reclamation records operational data for numerous reservoirs. Joes Valley Reservoir releases

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<sup>1</sup> Less than three miles downstream of the confluence of Seely and Cottonwood Creeks, USGS Gage 0932400 recorded daily flows in Cottonwood Creek from 1909 to 1984. Unfortunately, none of this period overlaps with available reservoir release data, and the period of record does not likely reflect the impact of current reservoir operations on flows in Cottonwood Creek.

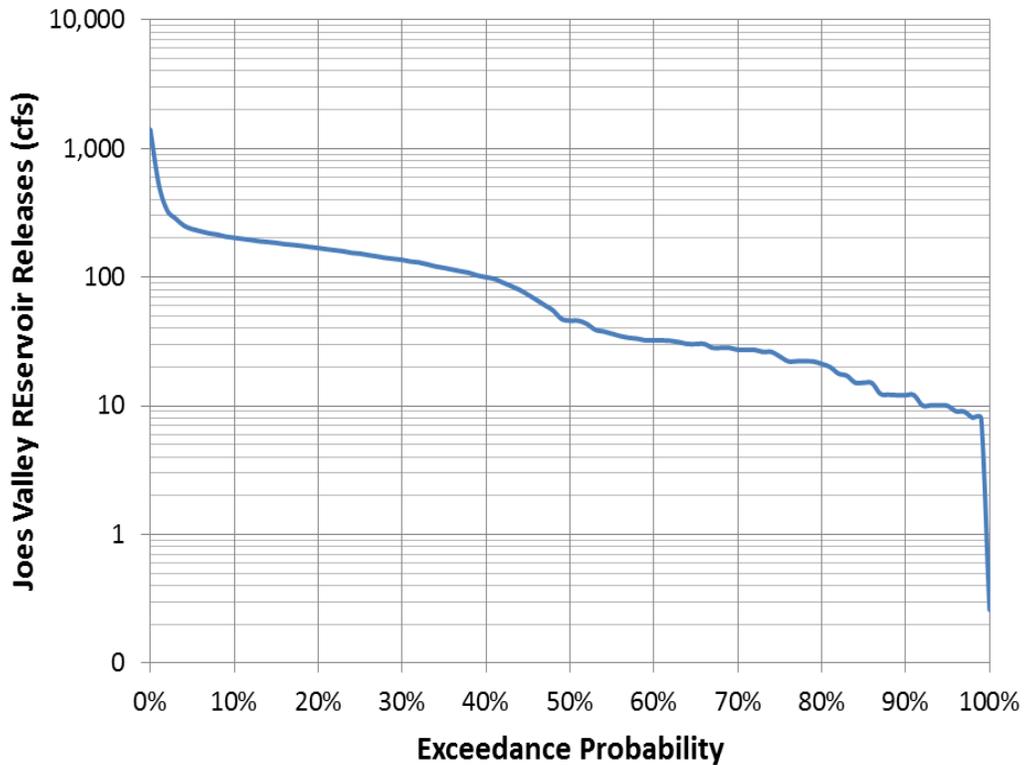
are available from October 1988 to present day (May 2013). Table 3.3.1.1 summarizes monthly releases from Joes Valley Reservoir, while Figure 3.3.1 provides an exceedance curve characterizing the distribution of actual releases over the period of record. This data indicates that 95 percent of reservoir releases exceed 10 cfs. This is consistent with the operational requirement that allows for a minimum release of 10 cfs during non-irrigation season for domestic and stock-watering purposes. The lowest releases occur between November and March, when flows average 20 to 30 cfs. On rare occasions, observed minimum daily releases have been below 10 cfs in all months except for May, June, July, and August.

**Table 3.3.1.1  
Joes Valley Reservoir Monthly Releases (cfs)**

Month	Average	Median	Max	Min
Oct	63	50	195	1.6
Nov	29	30	105	0.3
Dec	25	27	203	8.1
Jan	22	22	46	8.0
Feb	23	22	192	6.0
Mar	30	15	270	5.0
Apr	57	32	292	1.2
May	154	144	380	48.4
Jun	245	185	1250	71.4
Jul	216	189	1400	28.0
Aug	155	154	349	37.3
Sep	126	127	237	1.6

Source: Bureau of Reclamation Hydrologic Database, 2013

**Figure 3.3.1**  
**Exceedance Probability Curve for Joes Valley Reservoir Releases (Oct 1988 – May 2013)**



Data Source: Bureau of Reclamation Hydrologic Database, 2013

The Swasey Diversion Dam, a concrete ogee-type weir, is located 10 miles downstream from Joes Valley Dam on Cottonwood Creek. It has a diversion capacity of 165 cfs, and diverts flows from Cottonwood Creek to the Cottonwood Creek-Huntington Canal. The Cottonwood Creek-Huntington Canal extends 16.7 miles from the Swasey Diversion Dam northward to the vicinity of Huntington, where it terminates at North Ditch. Daily diversions to the Cottonwood Creek-Huntington Canal are available from the Utah Division of Water Rights from January 2007 to January 2013, and are summarized on a monthly basis in Table 3.3.1.2. On average, diversions to the canal are lowest during winter months and highest in the summer.

**Table 3.3.1.2  
Monthly Diversions to CC&H Canal (cfs) (May 2007- Jan 2013)**

Month	Average	Med	Max	Min
Oct	29	28	87	0.3
Nov	6	2	28	0.0
Dec	10	8	25	0.0
Jan	0	1	1	0.2
Feb	0	0	0	0.1
Mar	19	0	139	0.0
Apr	85	133	200	0.0
May	58	12	226	0.0
Jun	100	38	1293	0.4
Jul	115	70	1042	0.7
Aug	62	65	103	10.2
Sep	60	56	127	33.0

Source: Utah Division of Water Rights, 2013

Average Cottonwood Creek streamflow downstream of Swasey Diversion Dam can be estimated as the difference between Joes Valley Reservoir releases and diversions to CC&H Canal. The change in flow given an additional 3 cfs, as proposed, can be presented as a portion of estimated monthly average flow, as shown in Table 3.3.1.3. The largest impact to existing flows would occur during late winter and spring months, when the 3 cfs would increase streamflows by 13 to 27 percent, on average. The impact from May through October would be less than 10 percent, on average.

**Table 3.3.1.3  
Estimated Augmentation of Average Cottonwood Creek Flows (cfs)**

Month	Joes Valley Reservoir Releases (1988 – 2013)	CC&H Diversions (2007-2013)	Remaining Cottonwood Creek Flow	Cottonwood Creek Flow + 3 cfs	3 cfs Increase % of Existing Flows
Oct	63	29	34	37	9%
Nov	29	6	23	26	13%
Dec	25	10	15	18	20%
Jan	22	0	22	25	14%
Feb	23	0	23	26	13%
Mar	30	19	11	14	27%
Apr	57	85	-28	NA	NA
May	154	58	96	99	3%
Jun	245	100	144	147	2%
Jul	216	115	100	103	3%
Aug	155	62	92	95	3%
Sep	126	60	66	69	5%

Note: Average CC&H diversions exceed releases in April. This is likely due to a discrepancy in actual versus estimated streamflows. Snowmelt runoff typically peaks in April, and actual streamflows are likely to be much higher than reservoir releases alone.

### **3.3.2 Water Rights**

#### **Cottonwood Creek Consolidated Irrigation Company’s Water Rights**

CCCIC holds nearly all of the decreed water rights on the Cottonwood Creek drainage along with several late priority, large appropriations. To create the water supply for the Emery County Project, Reclamation entered into Exchange and Adjustment Contracts in June of 1962 with CCCIC. Under these agreements, CCCIC agreed not to take more than 15,100 acre-feet before July 1, in order to facilitate Emery County Project storage. Due to operational constraints, CCCIC usually takes a constant 120 cfs from April to July 1, then takes more as needed; whatever is available plus storage (120 cfs for one day is 238 acre-feet). There is a 10 cfs release during the non-irrigation season for municipal and stock-watering purposes. The water conserved by the piping the Blue Cut and Mammoth canals will make it possible for CCCIC to leave a portion of its historic diversions in Cottonwood Creek for instream flows in the San Rafael River. Since no irrigated lands are being retired as a result of this conservation project, the Office of the Utah State Engineer refuses to recognize the non-consumptive, conserved water as part of the CCCIC’s water rights, and it will not protect this water against diversion by other water users. Fortunately, CCCIC holds almost all of the senior decreed water rights that draw from Cottonwood Creek and there is only one downstream water user who will be able to call for Cottonwood Creek flows after the Blue Cut piping project is completed. As long as the Mill Ditch water users

are provided the water they are entitled to, it will be feasible to shepherd the conserved water past this diversion and through the Upper San Rafael River.

### **U.S Fish and Wildlife Service's Water Rights**

To help protect the water rights of the Emery County Project, Reclamation is proposing to exchange the conserved water left in the Upper San Rafael River for a conditional forbearance of Water Right No. 93-2241 held by USFWS for Desert Lake. Water Right No. 93-2241 represents the portion of the Huntington Creek flows that had historically been stored in Desert Lake and used for irrigation by the Desert Lake Reservoir and Irrigation Company. This water right was quantified in the 1915 Decree by A.H. Christenson, as one-third of the Huntington Creek Flows above 272.25 cfs, not to exceed 40 cfs. If this water right is taken through the North Ditch, it is limited to 21 cfs. This decree also allows for a 20 cfs diversion during the non-irrigation season. This right has been referred to as "Class D" water and is limited to a maximum annual diversion of 13,722 acre-feet. The State Engineer included this water right in the 1982 Proposed Determination and assigned it the Water Right No. 93-2241.

It appears that this water right has not been beneficially used for irrigation since the original Desert Lake Dam, built by early settlers, failed shortly after 1910, and the Town of Desert Lake was abandoned. Reclamation is concerned that if this water right were used to fill Desert Lake Reservoir, it would interfere with Huntington Reservoir's junior storage Water Right No. 93-953. Because both of these water rights store water during the same time of year and the USFWS is senior, the Desert Lake right would take the water that has historically been stored in Huntington Reservoir. To prevent this interference, Reclamation would enter into a conditional forbearance agreement with the USFWS that would prevent Water Right No. 93-2241 from being exercised if it impairs the operations of the Emery County Project.

Desert Lake is currently filled by Water Right No. 91-286 which cannot interfere with the Huntington Reservoir right because it has a 1961 priority date. Additionally, the source of water for Water Right No. 91-286 is not Huntington Creek but instead the nearby washes that channel rainwater, groundwater, and return flows into the lake. Lastly, Water Right No. 91-286 is limited to a diversion rate of 10.0 cfs and 2200 acre-feet per year. Reclamation is concerned about USFWS reactivating Water Right 93-2241 because as the upland irrigation method converts from flood to sprinklers, the quantity of water entering Desert Lake under Water Right No. 93-286 will likely decrease substantially.

### **3.3.3 Vegetation**

Within the San Rafael River drainage, altitude-appropriate plant communities are found at elevations ranging from approximately 4,000 to 10,000 feet above mean sea level.

Most of the proposed project area occurs between 5,500 and 6,000 feet in elevation within the salt-desert shrub zone. This zone receives less than 10 inches

of annual precipitation and is dominated by native communities of shadscale, Castle Valley clover saltbush, fourwing saltbush, mat saltbush, winterfat, and black greasewood. These plants are associated with soils containing varying amounts of salts.

### **3.3.4 Wetlands**

There are an estimated 11,000 acres of wetlands within the San Rafael River drainage. These plant communities are commonly referred to as riparian wetlands. Common plants include Frémont cottonwood, narrowleaf cottonwood, willows, Russian olive, tamarisk, and black greasewood. Along canals and laterals, forested/scrub-shrub wetlands predominantly contain cottonwoods growing adjacent to the bank. Cottonwoods, and to a lesser extent Russian olive, tamarisk, and river birch, provide the tree overstory. An understory of shrubby willow, rabbitbrush, or greasewood may also occur depending upon the amount of moisture available, soil type, aspect, and other factors. Ground cover varies among several species of grasses, sedges, and rushes, again varying in species composition and density depending upon moisture conditions.

### **3.3.5 Wildlife**

Approximately 26 species of reptiles, 9 species of amphibians, 270 species of birds, and 90 species of mammals are found in the area (Dalton et al., 1978; UDWR, 1978; Sparks, 1981).

#### **Big Game (Large Mammals)**

Principal large mammals found at lower elevations in the vicinity of the project area include mule deer and pronghorn with some mountain lions also present. Mule deer are the most numerous big game animal in the region, but populations have been relatively low in recent years. Although portions of the study area could support more mule deer, productive winter range is the limiting factor for mule deer distribution over most of the region. The UDWR has established a pronghorn herd, which is part of the Iceland Wash herd, in the Castle Valley area.

#### **Upland Game**

Several species of upland game animals are found in the area. Ring-necked pheasant, California quail, and mourning doves represent important game birds associated with agricultural lands at lower elevations. Cottontails are the most important upland game mammals found in several cover types throughout the project area.

#### **Waterfowl**

Wetlands and stock ponds along the San Rafael and Cottonwood River corridors provide nesting, brooding, and resting habitat for 23 species of waterfowl.

#### **Furbearers**

The muskrat is a semiaquatic species that is commonly found in close association with canal banks, rivers, streams, reservoirs, and stock ponds. The beaver is also

occasionally found in these semiaquatic sites. These two species construct their dens in canal and riverbanks, often causing damage to irrigation facilities. Mink and raccoons probably use the region's larger wetlands with permanent water regimes.

### **Nongame Birds**

Birds commonly observed in and adjacent to tree and shrub cover in the project area include the long-eared owl, American robin, black-billed magpie, and starling. Other common bird species include western meadowlark, horned lark (associated with bare ground habitat), vesper sparrow, red-winged blackbird (associated with cattail wetlands), Brewers blackbird, and brown-headed cowbird (associated with farmland).

The loggerhead shrike has been mentioned by the USFWS as a species of concern (Bureau of Reclamation, Soil Conservation Service, 1993).

### **Raptors**

The majority of eagle nests are located in cliffs outside the project area. The rough-legged hawk is probably the most commonly observed raptor in the vicinity of the project area during winter months, while the American kestrel is most common in the summer. The northern harrier or marsh hawk is the second most commonly observed raptor and is present in the area year-round (UDWR, 1978).

### **Small Mammals**

Small mammals include the western harvest mouse and deer mouse. These two species are probably the most abundant mammals in most cover-types. Several species of voles inhabit wet pastures, forested/scrub-shrub wetlands, and other areas where ground cover is dense. Other commonly observed mammalian wildlife include the house mouse, long-tailed weasel, white-tailed prairie dog, cottontails, black-tailed and white-tailed jackrabbit, rock squirrel, striped skunk, coyote, and red fox.

### **Reptiles and Amphibians**

Temperature-adjusting animals such as reptiles and amphibians generally exhibit low population densities throughout the area because of the extreme seasonal temperature fluctuations. Leopard frogs, garter snakes, western boreal toad, and others are found in emergent and forested/scrub-shrub wetlands. Rattlesnakes, gopher snakes, and sagebrush lizards occur in the desert shrub cover type.

### **3.3.6 Fisheries**

While the headwaters of the San Rafael River have good quality water and support populations of trout including cutthroat, rainbow, brown, and brook trout, the upper midsection of the San Rafael River and lower section of Cottonwood Creek (beginning at the Swasey diversion) are usually dewatered during the main irrigation season. In these stretches, water temperatures and turbidity are relatively high, and flows may fluctuate dramatically. In areas where water flow is adequate, sediments are the major fisheries problem. Increased sediments

reduce light penetration and aquatic productivity, scour algae and benthos from the bottom, smother fish eggs and larvae, and interfere with filter-feeding organisms and the gill efficiency of fish and invertebrates. Accordingly, large portions of the San Rafael River and the lower section of Cottonwood Creek do not support game fish.

### 3.3.7 Threatened and Endangered Species

The San Rafael River harbors the Colorado Pikeminnow and Razorback Sucker, listed as endangered under the Endangered Species Act of 1973. Other Threatened and Endangered species occur within Emery County, but they would not be affected by the actions being considered in this assessment and therefore, were not analyzed.

### 3.3.8 Special Status Species

The San Rafael River harbors the Roundtail Chub, Flannelmouth Sucker, and Bluehead Sucker, considered sensitive species by the State of Utah. Other sensitive species occur within Emery County.

### 3.3.9 Environmental Consequences

Table 3.3.9 below provides a summary of environmental consequences by resource and action.

**Table 3.3.9  
Environmental Consequences Summary**

Resource	No Action Alternative	Proposed Action
Water Resources	There would be no impacts to Cottonwood Creek or San Rafael River hydrology.	Historically Cottonwood Creek and the San Rafael River have seen flows over 3 cfs for the majority of the year. As such, impacts to river hydrology would be minimal to null.
Water Rights	Water rights would not be affected by the No Action Alternative.	There would be no adverse impacts to water rights as a result of implementing the Proposed Action. Water Right 93-2241 would not be exercised in a manner that would impair the Emery County Project. CCCIC would forbear in the diversion of approximately 3 cfs of their water rights to supplement flows into the San Rafael River.
Vegetation	There would be no impacts to vegetative communities. The existing conditions would remain intact and native flora would not be affected.	It is expected that there would be an increase to riparian habitat along the Cottonwood Creek and San Rafael Rivers as a result of the year-round diversion of 3 cfs, of water, into Cottonwood Creek.
Wetlands	There would be no impacts to wetlands. The existing wetland	It is expected that with the year-round diversion of 3 cfs, of water, into

Resource	No Action Alternative	Proposed Action
	conditions would remain intact and would not be affected.	Cottonwood Creek, wetland habitat along Cottonwood Creek and the San Rafael River could increase.
Wildlife and Fisheries	Fish, terrestrial wildlife, and their habitat would remain in its current condition, and there would be no gains or losses to the fish, wildlife, and habitat as a result of the No Action Alternative.	It is expected that Fish, terrestrial wildlife, and their habitat would benefit from with the year-round diversion of 3 cfs, of water, into Cottonwood Creek. These water flows would be expected to cause an increase in fish and wildlife habitat along the Cottonwood Creek and San Rafael River corridors time.
Threatened and Endangered	The No Action Alternative would have a “No Effect” on threatened or endangered species or their respective habitats.	The Proposed Action would have “No Effect” on threatened and endangered species. The year-round diversion of 3 cfs, of water, into Cottonwood Creek would be expected to cause an increase in fish and wildlife habitat along the Cottonwood Creek and San Rafael River corridors over time.
Special Status Species	There would be no impact to State Sensitive Species under the No Action Alternative	There would be no adverse impacts to State Sensitive Species under the Action Alternative.

### 3.3.10 Cumulative Impacts

Cumulative impacts are impacts on the environment that result from the incremental impact of the proposed project together with the impacts of other past, present and reasonably foreseeable future projects. These impacts can result from individually minor but collectively significant impacts taking place over a period of time. Cumulative impacts were evaluated in conjunction with the Propose Action to determine if they have any additive impacts on a particular resource No cumulative projects were identified in the project area.

Under the Proposed Action 3 cfs of water would be diverted at the Swasey Diversion into Cottonwood Creek, which is a tributary of the San Rafael River. As a result of the 3 cfs of water that would be available year-round, increases in vegetation (including wetland) community size, and changes to vegetation integrity and function along the Cottonwood Creek and San Rafael River corridors could be expected. With these increases in vegetation it would also be expected that there would be an increase in the use and habitation of these areas by fish and wildlife.

# Chapter IV Coordination

## 4.1 Coordination with Cooperators

The USFWS requested to be a cooperator during a conference call that was held on May 7, 2013. Multiple Meetings between USFWS, CCCIC, and Reclamation to discuss the project were held via conference call and face to face.

On March 29, 2013, a site visit was performed with CCCIC and Reclamation to discuss the project and overlook the project area.

A public review of the EA was not considered necessary as the Proposed Action does not fit into any of the following criteria identified by the Council on Environmental Quality for making public review necessary: (a) if the proposal is a borderline case, i.e., when there is a reasonable argument for preparation of an EIS; (b) if it is an unusual case, a new kind of action, or a precedent setting case such as a first intrusion of even a minor development into a pristine area; (c) when there is either scientific or public controversy over the proposal; or (d) when it involves a proposal which is or is closely similar to one which normally requires preparation of an EIS (CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (March, 1981).

## Chapter V List of Preparers

Table 5.1 provides a list of the agency representatives who participated in the preparation of this EA.

**Table 5.1  
List of Preparers**

Name	Title/Position	Contributions
<b>Agency Representatives</b>		
Kerry Schwartz	Water and Environmental Resources Division Manager, Bureau of Reclamation, Provo Area Office	Project Manager
Jeffrey D'Agostino	Environmental Group Chief, Bureau of Reclamation, Provo Area Office	Project Coordination
C. Shane Mower	Biologist, Bureau of Reclamation, Provo Area Office	Biological Resource Oversight
Bryson Code	Biologist, Bureau of Reclamation, Provo Area Office	Biological Resource Oversight
Brian Joseph	Archaeologist, Bureau of Reclamation, Provo Area Office	Cultural Resources, Paleontological Resources, and Indian Trust Assets
Peter Crookston	Environmental Protection Specialist, Bureau of Reclamation, Provo Area Office	NEPA Oversight and Threatened and Endangered Species Oversight
Lee Traynham	Hydrologist, Bureau of Reclamation, Provo Area Office	Hydrology
Justin Record	Water Rights Engineer, Bureau of Reclamation, Provo Area Office	Water Rights
Jeff Hearty	Economist, Bureau of Reclamation, Provo Area Office	Project History

## Chapter VI References

- Bureau of Reclamation, Soil Conservation Service. (1993). *Price - San Rafael Rivers Unit, Utah Planning Report/Final Environmental Impact Statement*. Bureau of Reclamation.
- Dalton, L., Smith, R., & Wilson, R. (1978). *Inventory of Terrestrial, Vertebrate Wildlife in Carbon and Emery Counties of Utah that Inhabit or Utilize Irrigated Farmland, Potentially Irrigable Rangeland, and Wetland in the Price-San Rafael River Drainages of the Colorado River*. Salt Lake City, Utah: Utah Division of Wildlife Resources.
- Sparks, E. (1981). *Species List of Vertebrate Wildlife that Inhabit Utah*. Salt Lake City, Utah: Utah Division of Wildlife Resources.
- Utah Division of Wildlife Resources. (1978). *Stream Evaluation Map*. Salt Lake City, Utah: Utah Division of Wildlife Resources and U.S. Fish and Wildlife Service.