



United States  
Department of  
Agriculture

Forest  
Service  
July 2007



# East Carson River Strategy

**Carson Ranger District, Humboldt-Toiyabe National  
Forest, Alpine County, California and Douglas County,  
Nevada**



For Information Contact:

David Loomis

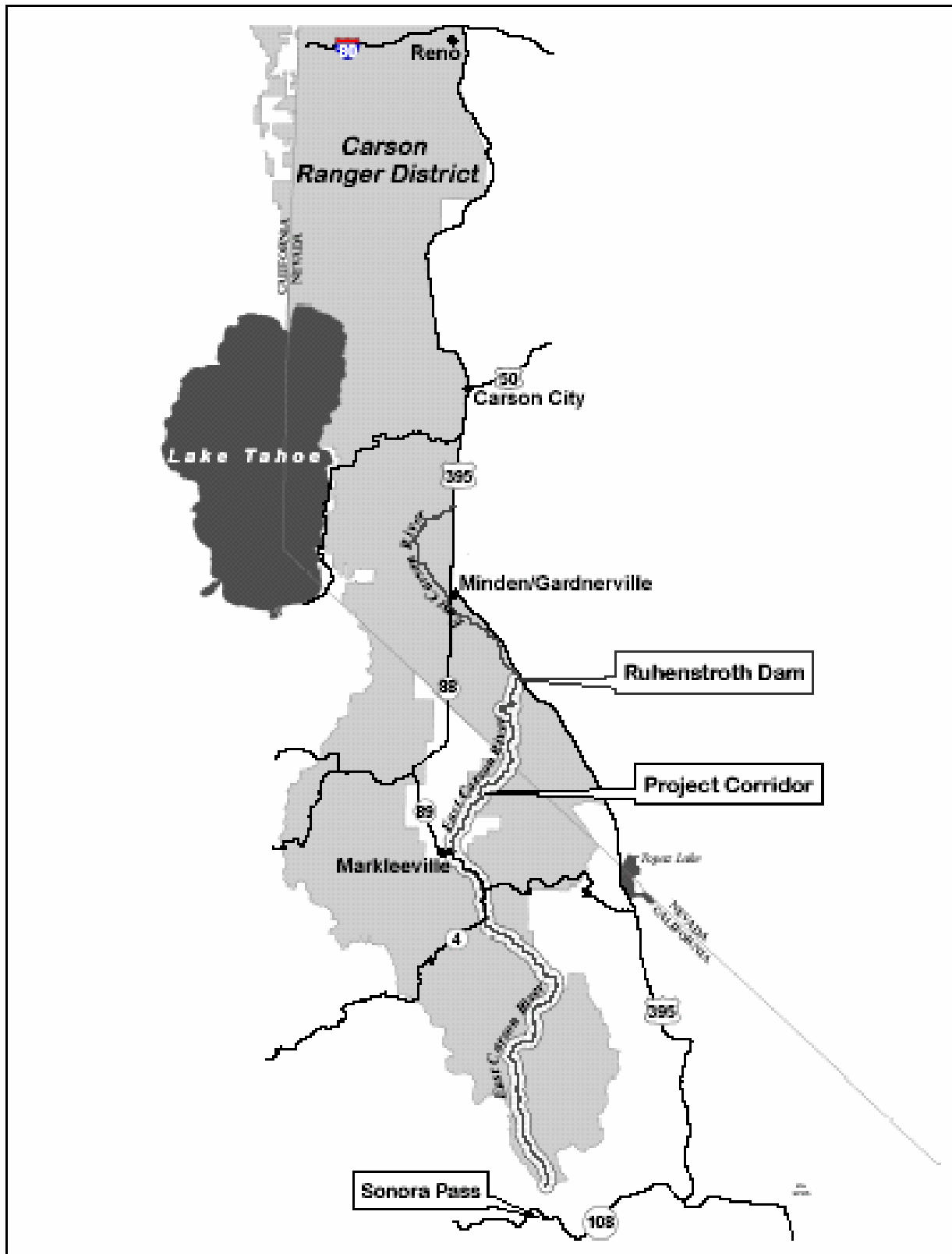
Humboldt-Toiyabe National Forest

1536 South Carson St.

Carson City, NV 897903

775 884-8132

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.



# Table of Contents

**EXECUTIVE SUMMARY ..... 1**

**Objective.....1**

**Background.....1**

**What We Found: .....3**

    Recreation .....3

    Wildlife/Plant Habitat .....4

    Weed management.....4

    Fish and Amphibian Habitat .....4

    Watershed Resources .....5

    Heritage Resources .....5

    Wild and Scenic River Management .....6

    Roads .....7

**APPENDIX..... 9**

**Chapter 1: Characterization.....9**

    River Landscape Character .....9

    Land Use Status .....11

**Chapter 2: Issues .....3**

    Recreation .....3

    Wildlife/Plant habitat .....3

    Weed management.....3

    Fish and amphibian habitat .....4

    Watershed Conditions .....4

    Heritage resource management .....4

    Wild and Scenic River Management .....5

    Roads .....5

**Chapter 3: Current and Desired Conditions.....6**

    Recreation .....6

    Watershed .....9

    Fisheries .....11

    Wildlife Habitat .....14

    Wild and Scenic River Management .....16

    Heritage Resources .....18

    Roads .....19

**Chapter 4: Recommendations .....21**

    Recreation .....21

    Wildlife/Plant Habitat .....21

    Weed management.....22

    Fish and Amphibian Habitat .....22

    Watershed Resources .....22

    Heritage Resources .....23

Wild and Scenic River Management .....23  
Roads .....24  
**List of Preparers .....25**  
**References .....26**

# **Executive Summary: East Carson River Strategy**

**Carson Ranger District, Humboldt-Toiyabe National Forest, Alpine County, California and Douglas County, Nevada**



## Executive Summary

### Objective

This strategy lays out a solid plan of action for enhancing the management of National Forest System lands and details a vision for the future of the East Carson River country. The strategy outlines recommendations for enhancing recreational experiences, ecosystem functions, transportation, and the scenic beauty of this area. It provides information for site-specific decisions, sets priorities for management actions, and identifies special situations needing attention. While it does contain specific recommendations, it does not make final decisions. Any site specific action that would be undertaken as a result of these recommendations will require compliance with the National Environmental Policy Act that includes an environmental analysis and opportunities for public comment.

### Background

The East Fork of the Carson River originates in a glaciated alpine valley at the base of 11,500 ft Sonora Peak, near the border of Alpine and Mono counties in California. It drops steeply from the rugged alpine country of the Sierra Crest to the pastoral lowlands of Carson Valley where it joins with the West Fork to form the main stem of the Carson River. It

descends through a variety of mountain, meadow, and canyon habitats into the sagebrush and desert shrub of the Great Basin in Nevada. It is recognized as only one of two major free flowing rivers on the eastern Sierra. The study section flows approximately 52 miles from the Carson-Iceberg Wilderness in Alpine County, California into Douglas County, Nevada.

The river passes through the Carson-Iceberg Wilderness on the Humboldt-Toiyabe National Forest, BLM, other Forest Service lands, private, California Fish & Game lands and traditional Washoe Tribal lands.

The 10.2 miles from Hangman’s Bridge on CA Route 89/4 south of Markleeville downstream to the State line is designated “scenic” under the California Wild and Scenic Rivers Act. Scenic river segments are defined as “free from impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads”.

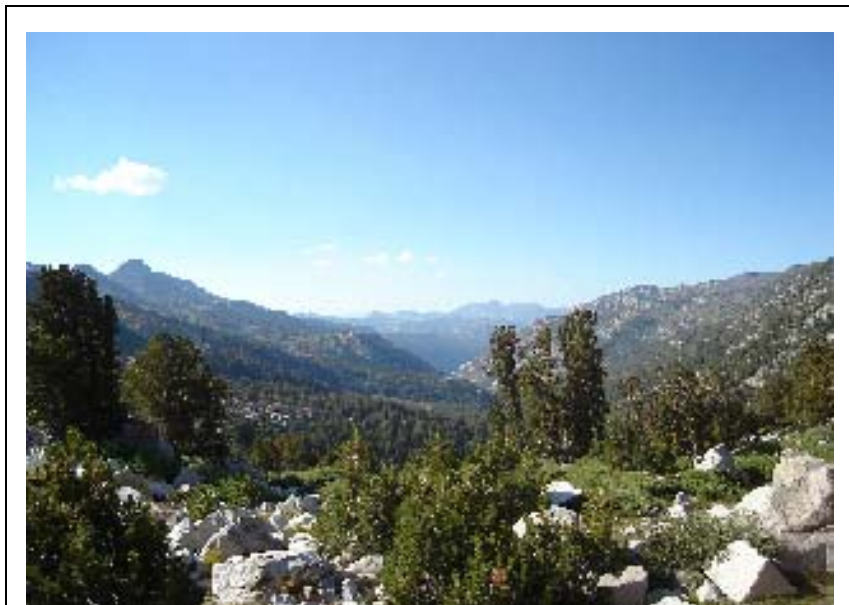


Figure 1: Headwaters of the East Carson near Sonora Pass

The wide range of vegetation communities along the East Fork of the Carson River creates a mosaic of landscapes which are both biologically diverse and highly valuable to a variety of wildlife species. Beginning from the upper reaches of the river to its confluence with Wolf Creek, vegetation includes primarily wet meadow riparian interspersed with mixed conifer and aspen. A pure strain of Lahontan cutthroat trout, a threatened species, occupy approximately five miles of the River from the headwaters to Carson Falls.

Stretching north to Hangman's Bridge, the riparian canopy becomes fairly open and intermittent and is dominated primarily by cottonwood and willow. Bald eagles have been observed perched in the cottonwoods in this area while foraging in the river. From Hangman's Bridge north to the Ruhlenstroth dam, the river corridor contains a patchy distribution of mixed aged willow/alder shrublands expanding into upland communities of sagebrush, bitterbrush and mahogany. River otters are known to occur in this section of the River and much of the upland shrub communities are utilized by the Turtle Rock and Carson River deer herds as important winter range.

The East Carson country has a rich cultural heritage. People have occupied of the eastern Sierra Nevada for 12,000 years. Through out this time people have used areas within and surrounding the East Fork of the Carson River for habitation, hunting, gathering plants, mining, and spiritual reasons.

***As the first leaves appeared in the warming sun my People went high into the mountains, to the headwaters of the Carson River and to Tahoe, the big lake in the sky. In these places they would hunt with their bows for deer and mountain sheep, forage highland plants, and net trout in the clear alpine waters.***

***Washoe Village Elder***



### **What We Found:**

Based on our analysis we have identified the following topic areas:

- 1) Recreation; 2) Wildlife/Plant Habitat;
- 3) Fish and Amphibian Habitat 5) Watershed Resources;
- 6) Heritage Resources;
- 7) Wild and Scenic River Management

### **Recreation**

#### **Current Situation**

The East Carson River country provides a wide variety of recreation opportunities, but is declining in quality due to overuse in some areas. Use of the river corridor for day use is the predominant recreation use. This includes floating during the spring runoff season, off-highway vehicles, hunting, and fishing outside the Wilderness.

Overnight camping is increasing both during the float season as well as at other times of the year where motorized vehicles can drive to the river. An increase in user created camping sites, fire rings, trash, and new or expanded impact areas from additional use is occurring, particularly at the hot spring area in Alpine County.



**Establish a requirement to pack out human waste.**

- **Enhance signage along the river, at vehicle access points, and at the put in and take out areas for rafting.**
- **Protect the main Hot Springs area by providing overnight camping opportunities in other areas. Allow for current pool development at the Hot Springs that are natural in appearance and compatible with the natural character of the River corridor. Protect the Hot Springs from overuse by educating visitors that no new permanent pools, benches or other structures will be constructed at any of the hot springs in the river corridor.**

#### **Recommendations**

- **Reduce sanitation problems along the river by closing the overflowing unmaintained pit toilet at the hot springs.**
- **Protect stream banks and water quality by establishing camping at designated sites only downstream from Centerville Flat. Clearly sign these sites.**

- **Re-engineer/relocate the whitewater rafting take out point and inform responsible state, local, and private parties about the safety issues at Ruhenstroth dam.**

## **Wildlife/Plant Habitat**

### **Current Situation**

Much of the Carson River corridor provides excellent winter range for mule deer as well as suitable habitat for a variety of other wildlife species, including sage grouse and pygmy rabbit. However, some of the native plant communities in these areas are currently being converted to homogenous stands of cheatgrass and no longer provide adequate forage or cover for these species.

### **Recommendations**

- **Protect vital riparian habitat from being cut away by implementing a no woodcutting policy in the river corridor.**
- **Implement a native plant restoration project in cheatgrass areas to enhance mule deer and other mammal and bird habitat.**
- **Enhance signage**

## **Weed management**

### **Current Situation**

The dense riparian vegetation found along the river corridor provides important habitat for a variety of migratory songbirds. However, large infestations of noxious weeds, including yellow starthistle hoary cress, Canada

thistle, bull thistle, Russian knapweed and tall white top, are currently out-competing and replacing native riparian vegetation along sections of the river. These weeds can also be carried downstream into agricultural areas and damage croplands. While not classified as an “official” noxious weed, cheatgrass has also invaded much of the lower stretch of the river, replacing native vegetation, increasing fire danger, and spreading onto adjacent private lands.

### **Recommendations**

- **Accelerate weed control/eradication efforts in the River corridor.**
- **Coordinate and cooperate funding and weed eradication projects with the Alpine/ Upper Carson River Invasive Weed management group**
- **Enhance signage and guidance regarding invasive species**

## **Fish and Amphibian Habitat**

### **Current Situation**

The recreational fishery habitat between Carson Falls and Ruhenstroth Dam is being affected by loss of streamside vegetation, hiking, recreational fishing, horse and stock use, dispersed camping, improper disposal of human waste, leave-no-trace principles not being practiced, usage of non-designated roads, cattle grazing, and the expansion of noxious weeds. Portions of the current habitat of the Lahontan Cutthroat Trout, a threatened and endangered fish, are being affected

by hiking trails in the vicinity of the East Fork of the Carson River.

**Recommendations**

- **Manage recreation use along the river as outlined in the recreation section in order to enhance and protect fish habitat.**
- **Re-route portions of the hiking trails along the river in the Carson Iceberg Wilderness in order to protect the critical aquatic refuge for Lahontan Cutthroat Trout.**
- **Establish a critical aquatic refuge to protect threatened species habitat upstream of Carson Falls.**



Figure 2: Lahontan Cutthroat Trout above Carson Falls

**Watershed Resources**

**Current Situation**

A stream corridor condition assessment for the Upper Carson River watershed was completed in 2004.

The assessment team recommended floodplain restoration on the reach of the East Fork adjacent to HWY 4 between the confluence with Wolf Creek downstream to Hangman’s Bridge. Much of this reach has been impacted by the proximity of the highway.

**Recommendations**

- **Pursue opportunities from willing sellers only to acquire easements or property in the River corridor to protect watershed and other resources. Due to the limited private land base in California, acquisitions should be limited to the lower stretches of the river in Nevada.**
- **Harden campsites and roads at the Centerville Flat dispersed camping area to protect watershed resources.**
- **Designate campsites on Forest Service lands in the river corridor downstream from Centerville Flat in order to protect watershed and other resources.**

**Heritage Resources**

**Current Situation**

The River is within the traditional land use areas of the Washoe people. They had temporary camps for resource extraction and long term occupation sites along the East Fork of the Carson River in addition to its use as a travel route. Cultural resources of the Washoe people occur on these lands.

Discovery of the Comstock Lode in 1859 brought an influx of prospectors and in 1860 gold was discovered along the River at what would become the Silver Mountain Mining District. Construction of mines, mills and towns have all left physical remains along the River.

**Recommendations**

- **Monitor cultural sites near hot springs and adjust management as necessary to address any problems.**
- **Evaluate Centerville Flat for heritage resources. Harden campsites and roads at the Centerville Flat dispersed camping area Flat to protect historic resources.**
- **Enhance signage related to protection of heritage resources.**
- **Consult with the Washoe Tribe on issues related to their cultural resources.**

**Wild and Scenic River Management**

**Current Situation**

The East Fork of the Carson River was determined to be eligible for Wild and Scenic River status in the Toiyabe Plan of 1986. A suitability study to recommend all, portions, or none of the River for designation as Wild and Scenic has not been completed yet.

Public concerns about management for wild and scenic river values include the need to protect Highway 4 from flooding

and erosion, the potential for a water diversion structure near Horseshoe Bend, and the potential for future restrictions on private land use, livestock grazing, weed management, and hazard tree removal.

Public concerns also include the need to manage the river as wild and scenic in order to protect recreation, watershed, and wildlife values and to protect the free flowing river for the use and enjoyment of future generations. It's recognized that a wild and scenic designation could enhance management by providing additional appropriated and grant funding for weed control, recreation use, watershed enhancement and other purposes.

**Recommendations**

- **Move forward with wild and scenic suitability study. Consider excluding portions of**



**the river with potential conflicts, such as those along Highway 4 and at Horseshoe Bend. Ensure no interference with use of private lands along the river. Ensure that no new**

**requirements for fencing private lands are established. Preserve current livestock grazing opportunities. Preserve potential for weed management. Preserve current practice of removing hazard trees.**

## Roads

### Current Situation

Off-highway vehicles (OHV) often pass through tribal (BIA allotment lands), private and national forest system lands to access the river. Damage has occurred to tributaries such as Bryant Creek and its riparian zone, as well as to private property including River Ranch, and the river corridor especially at the Hot Springs.

Some motorized users coming from Haypress Flat down the Barney-Riley Trail are trespassing through California Fish & Game property at the Hot Springs. During most of the year when there is low water flow (i.e. unsuitable for float trips), some users cross the river in their vehicles onto the west side to access the Hot Springs area which is closed to motorized vehicles.

Motorized users have historically accessed the river on Forest Roads 689 & 690 from China Springs area in Douglas County, Nevada. Day and overnight use in this area is increasing and impacting the riverbank. New campsites and fire rings are appearing and used more often along this section of the river down to private property at River Ranch. The private property owners at River Ranch replaced a wire fence several years ago with a pipe and rail fence set in concrete to gate off

motorized use trespassing on their property.

Occasionally, OHV's have removed the parking lot barricades at the Take-out in order to drive down to and/or through the river.

OHV web sites have been encouraging trespass vehicle use on areas closed to vehicles.

### Recommendations

- **Keep Forest Roads 689 and 690 in Douglas County open for public access to the river upstream of Horseshoe Bend.**
- **Work with Alpine County and Cal Fish and Game on vehicle management on route 310 across from the hot springs. Vehicles are going through Cal Fish and Game lands and causing damage in the hot springs area.**
- **Work with Douglas County, BIA, and the Washoe Tribe on management of Forest Road 189. It goes mostly through private/Indian allotment land, causing damage to Bryant creek and hot springs area.**
- **Monitor OHV/Hot Springs web sites and send them notices about legal access and responsibility.**
- **Protect stream bank integrity, visual quality, and water quality by enhancing public education, signage and enforcement of closed areas. Rehabilitate new user created roads in areas set aside for non-motorized use.**

- **Close and rehab the user created road/hill climb above the hot springs.**
- **Coordinate with the BLM on future management of the Scossa Canyon road.**

# Appendix

## Chapter 1: Characterization

This is the first of four chapters that document the East Carson River Strategy. In this chapter, the dominant features, human uses, and land use status of the river are highlighted. Chapter 2 identifies the issues that focus analysis. Chapter 3 describes current and desired conditions in terms relevant to core issues. Chapter 4 describes recommendations for management activities that move conditions from current to desired and are responsive to the issues.

### River Landscape Character

The East Fork of the Carson River originates in a glaciated alpine valley at the base of 11,500 ft Sonora Peak, near the border of Alpine and Mono counties in California. It drops steeply from the rugged alpine country of the Sierra Crest to the pastoral lowlands of Carson Valley where it joins with the West Fork to form the main stem of the Carson River. It descends through a variety of mountain, meadow, and canyon habitats into the sagebrush and desert shrub of the Great Basin in Nevada. It is recognized as only one of two major free flowing rivers on the eastern Sierra. The study section flows approximately 52 miles from the Carson-Iceberg Wilderness in Alpine County, California into Douglas County, Nevada.

The river passes through the Carson-Iceberg Wilderness on the Humboldt-Toiyabe National Forest, BLM, other Forest Service lands, private, California Fish & Game and traditional Washoe Tribe lands.

The 10.2 miles from Hangman's Bridge on CA Route 89/4 south of Markleeville downstream to the State line is designated "scenic" under the California Wild and Scenic Rivers Act. Scenic river segments are defined as ".free from impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. The section of the river from the confluence with Wolf Creek upstream to Carson Falls is a California state designated Wild Trout The section from Hangman's Bridge downstream to CA/NV state line is designated California Wild and Heritage Trout catch and release waters.

The wide range of vegetation communities along the East Fork of the Carson River creates a mosaic of

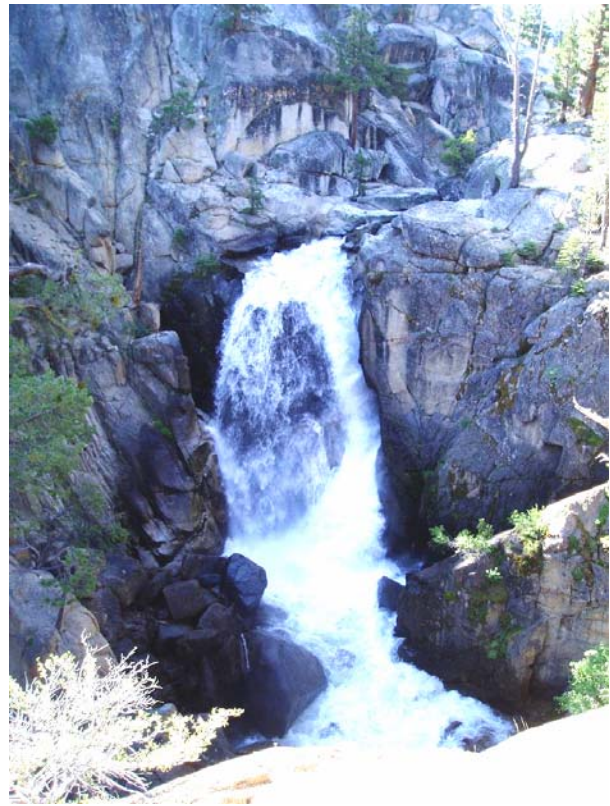


Figure 3: Carson Falls

landscapes which are both biologically diverse and highly valuable to a variety of wildlife species. Beginning from the upper reaches of the river to its confluence with Wolf Creek, vegetation includes primarily wet meadow riparian interspersed



**Figure 4: Wolf Creek Meadows**

with mixed conifer and aspen. Dense patches of willow which occur along this stretch provide high quality habitat for willow flycatcher as well as a multitude of migratory songbirds. A pure strain of Lahontan cutthroat trout, a threatened species, occupy approximately five miles of the River from the headwaters to Carson Falls.

Stretching north to Hangman’s Bridge, the riparian canopy becomes fairly open and intermittent and is dominated primarily by cottonwood and willow. Bald eagles have been observed perched in the cottonwoods in this area while foraging in the river. From Hangman’s Bridge north to the Ruhenstroth dam, the river corridor contains a patchy distribution of mixed aged willow/alder shrublands expanding into upland communities of sagebrush, bitterbrush and mahogany. River otters are known to occur in this section of the River and much of the upland shrub communities are utilized by the Turtle

Rock and Carson River deer herds as important winter range.

The East Carson country has a rich cultural heritage. People have occupied of the eastern Sierra Nevada for 12,000 years. Through out this time people have used areas

within and surrounding the East Fork of the Carson River for habitation, hunting, gathering plants, mining, and spiritual reasons.

Temporary camps along the river were maintained by specific families as seasonal fishing camps. The Bagley Valley area in particular was used for processing food plants and hunting Mountain sheep (d’Azevedo 1956).

Discovery of the Comstock Lode in 1859 brought an influx of prospectors and in 1860 gold was discovered along the River at what would become the Silver Mountain Mining District. The influx of prospectors, laborers and merchants lead to the establishment of the towns of Monitor, Mountain Bullion, and Markleeville.

The construction demanded large quantities of timber, which was cut from the mountain forests up slope of the river corridor. In the fall of 1862 the Carson River Lumber Company organized the first wood drive down the



river. By the mid 1860s large quantities of saw logs were flumed down to the river forming large log runs down the East Fork of the Carson. The last log drive occurred in 1896 (Murphy 1982).

The Toiyabe National Forest adopted a Land and Resource Management Plan (Forest Plan) in 1986. It provides guidance based on management areas. The East Carson River country falls into Management Area 3, Walker and Management Area 5, Wilderness.

**Land Use Status**

**Toiyabe Forest Plan**

Management Area	Management Area Direction	Miles
MA-3: Alpine	Protect the East Fork of the Carson River from any activity that may reduce its suitability for Wild, Scenic, and/or Recreational River classification until a suitability study is completed and recommendation is made. Interim management will be in accordance with Wild and Scenic River Management Guidelines. Cooperate with the BLM to improve the quality of the hot springs along the river.	25
MA-5: Wilderness	Wilderness will be managed to provide outstanding opportunities for solitude, physical and mental challenge, primitive recreation, and to maintain wilderness characteristics of the land.	52

**Sierra Framework Amendment**

All of the National Forest System lands in the analysis area were included in the Sierra Nevada Forest Plan Amendment of 2004, commonly known as the Sierra Framework Amendment. This amendment established management direction for old forest ecosystems; aquatic, riparian, and meadow ecosystems; fire and fuels management; and control of noxious weeds. Tools to address these problem areas include landscape analyses, riparian conservation areas, and critical aquatic refuges.

**Landscape Analyses**

The East Carson River Strategy is a type of landscape analysis as identified in the Sierra Framework Amendment. It characterizes the current status, and future trends of an area. It identifies opportunities and priorities for correcting problems. Landscape analyses are not decision processes. They only identify opportunities for needed projects. Project level plans are decision processes subject to the National Environmental Policy Act.

**Riparian Conservation Areas**

The Framework amendment identified riparian conservation areas around lakes and along perennial and intermittent streams. They are managed to maintain or restore the

structure and function of aquatic, riparian and meadow ecosystems. Standards and guidelines were developed to protect water quality, biological characteristics, in-stream flows, and hydrologic connectivity. Other measures ensure a renewable supply of large down logs that can reach the stream channel and provide suitable wildlife habitat. Standards and guidelines ensure that management activities including fuels reduction projects enhance or maintain physical and biological characteristics associated with aquatic and riparian dependent species.

### ***Critical Aquatic Refuges***

Critical aquatic refuges provide habitat for native fish, amphibian, and aquatic invertebrates. They provide protection for threatened, endangered, or sensitive species, including Lahontan cutthroat trout.

## Chapter 2: Issues

Issues identify the resource concerns or opportunities that are unique or relevant to the East Carson River. Their relevance is determined by their relationship to ecosystem functions and human uses of National Forest System Lands along the River. The analysis of issues is focused by identifying key questions for each issue.

### Recreation

The East Carson River country provides a wide variety of recreation opportunities, but is declining in quality due to overuse in some areas. Use of the river corridor for day use is the predominant recreation use. This includes floating during the spring runoff season, off-highway vehicles, hunting, and fishing outside the Wilderness.

Overnight camping is increasing both during the float season as well as at other times of the year where motorized vehicles can drive to the river. An increase in user created camping sites, fire rings, trash, and new or expanded impact areas from additional use is occurring, particularly at the hot spring area in Alpine County.

Key Questions: What are the appropriate recreation opportunities along the East Carson River? What management actions are needed to accommodate those opportunities?

### Wildlife/Plant habitat

Much of the Carson River corridor provides excellent winter range for mule deer as well as suitable habitat for a variety of other wildlife species, including sage grouse and pygmy rabbit.

However, some of the native plant communities in these areas are currently being converted to homogenous stands of cheatgrass and no longer provide adequate forage or cover for these species.

Key Questions: What actions are needed to preserve and restore habitat for mule deer and other wildlife within the East Fork of the Carson River corridor? How can native plant communities be protected along the River?

### Weed management



Figure 5: Yellow starthistle

The dense riparian vegetation found along the river corridor provides important habitat for a variety of migratory songbirds. However, large infestations of noxious weeds, including yellow starthistle and tall white top, are currently out-competing and replacing native riparian vegetation along sections of the river. These weeds can also be carried downstream into agricultural areas and damage croplands. While not classified as an "official" noxious weed, cheatgrass has also invaded much of the lower stretch of the river, replacing

native vegetation, increasing fire danger, and spreading onto adjacent private lands.

**Key Questions** What actions are necessary to reduce noxious weeds and restore native riparian plant communities? What actions are needed to prevent future spread of noxious weeds along the river?

### **Fish and amphibian habitat**

The recreational fishery habitat between Carson Falls and Ruhensroth Dam is being affected by loss of streamside



**Figure 6: Lahontan cutthroat trout above Carson Falls**

vegetation, hiking, recreational fishing, horse and stock use, dispersed camping, improper disposal of human waste, leave-no-trace principles not being practiced, usage of non-designated roads, cattle grazing, and the expansion of noxious weeds. Portions of the current habitat of the Lahontan Cutthroat Trout, a threatened and endangered fish, are being affected by hiking trails in the vicinity of the East Fork of the Carson River.

**Key Questions:** What are the objectives for preserving/enhancing fisheries and amphibian habitat within the East Fork

Carson River corridor? What projects are needed to achieve those objectives?

### **Watershed Conditions**

The East Carson River has its headwaters on the eastern side of the Sierra Crest just south of Sonora Pass, at an elevation near 11,000 feet. From the headwaters the river flows north through NF, BLM and private lands, until its confluence with the West Fork Carson River approximately 56 miles downstream. The primary tributaries in the upper reaches of the East Carson River, above Ruhensroth Dam, are Silver King, Wolf, Pleasant Valley and Markleeville Creeks.

Snowpack development and melt are the dominant factors in producing runoff in the East Carson River. During most years, precipitation falls as snow from November through April. The snow pack begins to melt in March, typically reaches a maximum in May, and then recedes through the remainder of the summer. The East Fork Carson River has been gauged below its confluence with Markleeville Creek for peak flows since 1961 and daily flows beginning in 2004. Peak flows have ranged from 586 cfs (cubic feet per second) during the drought year of 1977, to 18,900 cfs during the New Years flood of 1997.

**Key Questions:** What are the appropriate water quality conditions? What projects are needed to achieve those conditions?

### **Heritage resource management**

The River is within the traditional land use areas of the Washoe people. They had temporary camps for resource extraction and long term occupation sites along the East Fork of the Carson

River in addition to its use as a travel route.

Discovery of the Comstock Lode in 1859 brought an influx of prospectors and in 1860 gold was discovered along the River at what would become the Silver Mountain Mining District. Construction of mines, mills and towns have all left physical remains along the River.

Key Questions: Where are key cultural resource areas? What measures are needed to protect these areas?

### **Wild and Scenic River Management**

The East Fork of the Carson River was determined to be eligible for Wild and Scenic River status in the Toiyabe Plan on 1986. A suitability study to recommend all, portions, or none of the River for designation as Wild and Scenic has not been completed yet.

Public concerns about management for wild and scenic river values include the need to protect Highway 4 from flooding and erosion, the potential for a water diversion structure near Horseshoe Bend, and the potential for future restrictions private land use, livestock grazing, weed management, and hazard tree removal.

Public concerns also include the need to manage the river as wild and scenic in order to protect recreation, watershed, and wildlife values and to protect the free flowing river for the use and enjoyment of future generations. It's recognized that a wild and scenic designation could enhance management by providing additional appropriated and grant funding for weed control, recreation use, watershed enhancement and other purposes.

Key Questions: Should a suitability study be completed? If yes, what parameters and river sections should be considered in the study?

### **Roads**

Off-highway vehicles (OHV) often pass through tribal, private and national forest system lands to access the river.

Damage has occurred to tributaries such as Bryant Creek and its riparian zone, as well as to private property including River Ranch, and the river corridor especially at the Hot Springs.

Some motorized users coming from Haypress Flat down the Barney-Riley Trail are trespassing through California Fish & Game property at the Hot Springs. During most of the year when there is low water flow (i.e. unsuitable for float trips), some users cross the river in their vehicles onto the west side to access the Hot Springs area which has been/is closed to motorized

Key Questions: What is the appropriate road network for the River Corridor? What measures are needed to maintain this network and keep vehicles on the roads?

## **Chapter 3: Current and Desired Conditions**

This chapter displays information about conditions as they are now and as they should be in the future. The description of current conditions is focused on the issues and key questions displayed in Chapter 2. Desired conditions are derived from the Forest Plan, as amended by the Sierra Framework. This provides a contemporary, comprehensive set of goals relevant to the River.

### **Recreation**

#### **Current Conditions**

##### ***Developed Recreation Facilities***

The BLM manages the Hangman's Bridge river launch site on Highway 89/4 just south of Markleeville, CA. It has a single riser SST and a small parking lot whose vehicle capacity is routinely exceeded during the spring float season. It also serves as a parking lot for fishers accessing the catch and release waters. A gated dirt road leads over a mile downstream to the river. The non-motorized path down to the river has an uneven surface from erosion, is not wide enough for an inflated raft, and the beach width is inadequate for the number of boats and people

The gravel bar in the floodplain adjacent to Highway 4/89 was created during the January 1997 flood less than ½ mile south of Hangman's. This undeveloped area is mostly on private land belonging to Carson River Resort with a small portion on BLM. The public and customers staying at the Resort use this site to launch more than

Hangman's. It often fills before Hangman's and/or serves as the overflow from Hangman's on busy float days. In recent years, with the increase in private floaters, both sites are often filled to capacity and users park on the shoulder of the State highway.

The Forest Service's Markleeville Campground is less than a mile from the BLM Hangman's Bridge launch. It has 10 campsites, water, and a single riser SST situated on Markleeville Creek (which feeds into the main river).

The Carson River Resort is located about a mile upstream of the Hangman's Bridge launch and is privately owned and operated. It has a retail store, campground, rental cabins, and direct river access.

The Forest Service manages the Carson River Take-out in Douglas County, NV just upstream from Ruhenstroth Dam. It has a double riser SST, large multi-lot parking area, and take-out ramp that was severely damaged by flooding in early 2006. It has been routinely vandalized and tagged since its construction in 2002. In 2004, vandals poured gasoline down into the restroom sewage vaults. The resulting fire required replacing the entire vault below ground, the toilet risers, and the large stack that vents the building at a cost over \$12,000. Most of the year it serves as a destination for local users who sometimes engage in illegal non-recreational activities. The takeout ramp down to and in to the river was partially washed out during flooding in early 2006. Currently, routine maintenance is provided through an agreement with the Douglas County Department of Parks and Recreation.

There are no trailheads directly on the River. The East Carson River Trail in

the Carson-Iceberg Wilderness begins at the High Trail/East Carson River Trailhead in Wolf Creek Meadows.

### ***Dispersed Recreation***

Within the Carson-Iceberg Wilderness use of the river corridor is limited to non-motorized muscle means e.g. horses and on foot. Fishing, day hiking, equestrian, and overnight camping are the primary activities. Overnight use concentrates on the river corridor and is primarily within 100' of the river edge. Fire rings, trash, barren soil, firewood collection, horse tethering sites, and user created paths occur in multiple places. A low number of river users come in from Monitor Pass road then down Bagley Valley to the Vaquero Camp area.

Use of the river corridor for day use is the predominant recreation use. This includes floating during the spring runoff season, off-highway vehicles, hunting, and fishing outside the Wilderness. During the highest flows in the spring, floaters desiring a Class III river experience launch informally at the Highway 4 bridge near the Wolf Creek Road junction and run the river down to Hangman's. Often they arrange a shuttle at Hangman's to take them back upriver to rerun of "lap" the same section.

Overnight camping is increasing both during the float season as well as at other times of the year where motorized vehicles can drive to the river. An increase in user created camping sites, fire rings, trash, and new or expanded impact areas from additional use is occurring. Leave No Trace guidelines for western rivers are not being followed by most users especially in the non-float season.

The number of commercial outfitter/guides under permit to the Forest Service for guiding fishing and floating the river has remained relatively constant from year to year. Commercial overnight use is not allowed at the Hot Springs and commercial party size is restricted. However by contrast, the number of private floaters and fishermen has increased approximately fourfold in the last fifteen years. Fishing use (both legal and poaching) of the river downstream from Hangman's Bridge has increased markedly since it was designated a California Wild and Heritage Trout section. The variety of watercraft going down the river has also increased in diversity and numbers.

Year-round day and overnight use is highest and most concentrated at the natural Hot Springs approximately halfway between Hangman's and the Nevada takeout. Prior to the unauthorized construction of two stone basins in the Hot Springs feeder creek starting in 2000, use and impacts monitored year after year at the Hot Springs remained stable and low. An inoperable fiberglass portable toilet was removed in the mid-1990's by the Forest Service and replaced by a hand dug pit toilet. It did not show any increase in use until the early 2000's and is now full. Following construction of the stone pools, use and impacts have been steadily increasing year-round. Additional unauthorized work on the stone pool structures that allow some control of the water temperature in the pools has now created new year-round use at the site.

Impacts that are increasing at the Hot Springs from public use include:

- OHV hill climbing,
- cutting of live trees for firewood,

- area devoid of dead downed wood for fires,
- vandalism of archeological resources,
- proliferation of fire rings,
- increase in size of the historic camping area,
- creation of new campsites fanning out from the historic camping area including new campsites up and downstream,
- improperly disposed of human waste,
- trampling of the adjacent riverbank (from watercraft and vehicles) and area surrounding the stone pools down to bare soil,
- additional new unauthorized structures being built in and around the two stone pools,
- increased OHV use of the site year-round.

Since the stone pools were constructed at the Hot Springs new day & overnight use, campsites, footpaths, impacts, and human made structures are appearing in other nearby hot springs.

In 2005 volunteers who assisted river users at the put-ins found out that many river users are coming from the west slope of the Sierra where they encountered rivers that are more regulated. The main reasons they come to the Carson are for the Hot Springs, scenery, and lack of regulation & permits.

## **Desired Future Conditions**

### ***Developed Recreation***

A launch facility accommodates floaters desiring the Wolf Creek to Hangman's section along Highway 4 at the upper end of this section.

The BLM's launch facility at Hangman's Bridge provides adequate parking, restrooms, river access, river user & fisherman information, and self-registration river permit system if in effect.

Interpretive, river user, fisheries habitat, and fishermen information is provided in conjunction with the Ebbetts Pass National Scenic Byway.

The Forest Service's Markleeville Campground accommodates overnight river users who are floating and/or fishing the Wild Trout section below Hangman's.

The Carson River Take-out in Douglas County, Nevada has a long term maintenance agreement that has a regular presence, cleans the facilities, and maintains the improvements. The Forest Service and Douglas County routinely patrol the take-out year-round so visitors have security and the site is used strictly for legal recreational purposes.

The Centerville Flats dispersed camping area is clearly defined to protect its archeological and historical resources as well as the riverbank.

River access from the High Trail/Carson River Trailhead and Bagley continues to adequately provide river access in the Carson-Iceberg Wilderness.

### ***Dispersed Recreation***

The use within the Carson-Iceberg Wilderness continues to be limited under the Wilderness Act to non-motorized muscle means e.g. horses



and on foot. Fishing, day hiking, equestrian, and overnight camping are the primary activities.

BLM, Forest Service, and California Department of Fish & Game employees regularly and routinely patrol the river corridor. They provide information, maintain facilities, enforce regulations, and enforce state fishing regulations.

Users practice guidelines provided in the Leave No Trace-Outdoor Skills & Ethics booklet for Western River Corridors year-round. Leave No Trace information and regulations are issued with each permit issued. As a result, the river corridor condition is on an upward trend and users have a quality recreation experience. Overnight camping and impacts from motorized and non-motorized users have diminished. There is no increase in user created camping sites, fire rings, trash, human sanitation problems, and new or expanded user impact areas.

The number of commercial outfitter/guides under permit to the Forest Service for guiding fishing and floating the river provides a quality recreation float experience for the public.

Illegal fishing use along the river downstream from Hangman's Bridge does not occur. The sport fisheries objectives of the California Wild and Heritage Trout section being met and sustained.

The number of campsites and overnight users is stable. Day and overnight use levels provide river users a quality uncrowded experience in a natural setting.

Fire hazards and evidence of campfires outside designated campsites is at a low level.

The Hot Springs and other sensitive river corridor areas no longer have unauthorized structures being constructed. Archeological resources in and around the Hot Springs and other culturally sites have been protected. Native vegetation has returned to the area around the Hot Springs and other formerly impacted sites.

## Watershed

### Current Condition

The East Carson River has its headwaters on the eastern side of the Sierra Crest just south of Sonora Pass, at an elevation near 11,000 feet. From the headwaters the river flows north through NF, BLM and private lands, until its confluence with the West Fork Carson River approximately 56 miles downstream. The primary tributaries in the upper reaches of the East Carson River, above Ruhensroth Dam, are Silver King, Wolf, Pleasant Valley and Markleeville Creeks.



**Figure 7: East Carson River Canyon near Bagley Valley**

Snowpack development and melt are the dominant factors in producing runoff in the East Carson River. During most years, precipitation falls as snow from November through April. The snow pack begins to melt in March, typically reaches a maximum in May, and then recedes through the remainder of the summer. The East Fork Carson River has been gauged below its confluence with Markleeville Creek for peak flows since 1961 and daily flows beginning in 2004. Peak flows have ranged from 586 cfs (cubic feet per second) during the drought year of 1977, to 18,900 cfs during the New Years flood of 1997.

The East Fork Carson River is dominated by poorly consolidated volcanic rocks that tend to be friable and very erosive.

In the East Fork, channels are strongly incised into this material, and adjacent slopes are extremely steep. Large landslides throughout the East Fork watershed cause the episodic delivery of sediment to the channel.

On the East Fork, just downstream of the Wolf Creek confluence, a massive landslide is evident that dates back to at least the 1960's. This landslide is currently

active, with additional movement occurring during high flows. During the 1997 flood the landslide appears to have blocked the entire channel, resulting in channel aggradation upstream and incision of the landslide mass.

**Water Quality:** There is a limited amount of water quality data for the East Fork Carson River and its tributaries. Currently, Indian Creek, Bryant Creek (both CA & NV), Leviathan Creek, Monitor Creek, and the reach of the East Carson River from state line downstream to HWY 395 have been listed under Section 303(d) of the Federal Clean Water Act. Bryant Creek, Leviathan Creek and Monitor Creek are all affected by acid mine drainage from

Leviathan Mine and Colorado Hill and are listed for various metals. Water quality in these creeks is being improved through the CERCLA process of mine site restoration. Indian Creek is listed for pathogens from grazing related sources.



Figure 8: East Carson River upstream of Centerville

The reach of the East Carson River in Nevada is currently listed for turbidity and iron. Although NV doesn't list likely sources, turbidity is caused by erosion which can be generated from OHV use,

grazing and other disturbances. Much of the East Carson River in Nevada was previously listed for nitrate, phosphates, and total dissolved solids. One of the sources for these constituents is grazing. These constituents may still exceed water quality standards, but are no longer listed since the state developed TMDLs.

Two efforts are going on to collect water quality data in the Carson River watershed. The Carson Water Subconservancy District is leading the effort to conduct a comprehensive water quality monitoring program for the Upper Carson River Watershed in Alpine County, California. The purpose of this project is to identify causes of water quality problems and provide current information on water quality conditions on the West Fork and East Fork of the Carson River and Indian Creek, a tributary to the East Fork. The data has been collected and is currently being analyzed by the Desert Research Institute. The CWSD expects to have a draft Carson River management plan, which will include this water quality data, completed in June, with the final plan out in December.

The Alpine Watershed Group has created a volunteer citizen water quality monitoring program. This program, which began in spring 2005, includes two sampling sites on the East Carson River and one site on Markleeville Creek. This program may provide some useful baseline data if it is continued for the next five years. One of its main purposes at this point is to inform and engage the community in effective watershed stewardship.

**Watershed Condition:** A stream corridor condition assessment for the Upper Carson River watershed was

completed in 2004. The assessment was conducted for the Alpine Watershed Group. The purpose of the project was to describe the current condition of both the West Fork and East Fork of the Carson River and provide restoration recommendations. The assessment team recommended floodplain restoration on the reach of the East Fork adjacent to HWY 4 between the confluence with Wolf Creek downstream to Hangman's Bridge. Much of this reach has been impacted by the proximity of the highway.

Recommendations were also made for three reaches of Markleeville Creek. The Alpine Watershed Group, in conjunction with the Carson RD, is beginning the restoration process on the reach of stream through the guard station.

### **Desired Conditions**

- Water quality meets the goals of the Clean Water Act and California state water quality standards.
- The physical structure and condition of stream banks and shorelines minimizes erosion and sustains desired habitat diversity.

### **Fisheries**

#### **Current Conditions**

The East Fork Carson River upstream of Carson Falls supports a small population of Lahontan cutthroat trout, a Federally-listed threatened species. The East Fork Carson River from Carson Falls downstream to Ruhlenstroth Dam supports a highly popular recreational fishery. This same stretch of river between Carson Falls and Ruhlenstroth Dam was also

historically inhabited by Lahontan cutthroat trout.

The Lahontan cutthroat trout and recreational fishery habitat within the East Fork Carson River corridor is at less than optimum condition due to the impacts from loss of streamside vegetation, hiking, recreational fishing, horse and stock use, dispersed camping, improper disposal of human waste, leave-no-trace principles not being practiced, usage of non-designated roads, cattle grazing, and the expansion of noxious weeds.

The East Fork Carson River corridor also provides important habitat for mountain yellow-legged frogs and Yosemite toads, two species of amphibians whose populations have declined throughout the Sierra Nevada mountain range.

### **Recreational Fisheries**

The East Fork Carson River between Carson Falls and Ruhensroth Dam is known for great recreational fishing opportunities. Rainbow, brook, and brown trout are common throughout this area. The California Department of Fish and Game and Alpine County stock the East Fork Carson River with these non-native fishes regularly.

The recreational fishery habitat between Carson Falls and Ruhensroth Dam is being affected by loss of streamside vegetation, hiking, recreational fishing, horse and stock use, dispersed camping, improper disposal of human waste, leave-no-trace principles not being practiced, usage of non-designated roads, cattle grazing, and the expansion of noxious weeds. If managed inappropriately, all of these activities and impacts have the potential

to result in severe degradation of the recreational fishery habitat.

### **Lahontan Cutthroat Trout**

The Carson River Watershed historically provided an estimated 300 miles of stream habitat for the native Lahontan Cutthroat trout. Populations of these fish within the watershed were interactive and interconnected, and therefore these metapopulations had high genetic diversity and were capable of long term persistence through adverse conditions.

Currently the Lahontan cutthroat trout occupies approximately 9.0 miles of habitat in the Carson River drainage: approximately 3.0 percent of their historic range. Lahontan cutthroat trout have been introduced into six Carson River tributaries that were previously unoccupied by Lahontan cutthroat trout. The entire East Fork Carson River upstream of Ruhensroth Dam was historically inhabited by Lahontan cutthroat trout. The Lahontan cutthroat trout was listed as endangered in 1970 and reclassified to threatened in 1975 to allow regulated fishing and more management flexibility.

The primary causes for the decline of Lahontan cutthroat trout include: 1) reduction and alteration of stream discharge; 2) alteration of stream channels and morphology; 3) degradation of water quality; and 4) introductions of non-native fish species. The Carson River corridor downstream of Carson Falls is primarily inhabited by non-native fishes which include: rainbow trout, brook trout, and brown trout. A small population of pure Lahontan cutthroat trout still exists in the East Fork Carson River upstream of Carson Falls.

Upstream of Ruhenstroth Dam, the East Fork of the Carson River is free flowing and has no water diversions, and the only fish barrier is the naturally occurring Carson Falls located within the Carson-Iceberg Wilderness. Preserving this important habitat is important for fishery management. This important river habitat upstream and downstream of Carson Falls is currently being affected by loss of streamside vegetation, dispersed camping, improper disposal of human waste, usage of non-designated roads, and the expansion of noxious weeds.

### ***Yosemite Toads***

The Yosemite toad is endemic to the Sierra Nevada mountain range. As of the mid-1990's the Yosemite toad had declined substantially or disappeared from over 50% of the sites where it was known historically (Jennings 1996) and it is currently a California State Species of Special Concern, Forest Service Region 5 Sensitive Species, and a U.S. Fish and Wildlife Service candidate species.

Yosemite toads have not been sighted within the East Fork Carson River corridor; however, Yosemite toad habitat does exist in the wet meadows, springs, small ponds, side channels, and sloughs that occur within the corridor.

### ***Mountain Yellow-Legged Frogs***

Mountain yellow-legged frogs have declined dramatically during the past century, and are now found in fewer than 20% of historic localities (Jennings and Hayes 1994). Mountain yellow-legged frogs have disappeared from nearly all known low-elevation sites on the west slope (5,000'-9,000'), are extremely rare on the east side, and are

uncommon even in the most remote habitats along the west side of the Sierra crest (10,000'-12,000'). As a result, mountain yellow-legged frogs are currently a California State Species of Special Concern, Forest Service Region 5 Sensitive Species, and a U.S. Fish and Wildlife Service candidate species.

Mountain yellow-legged frogs have not been sighted within the East Fork Carson River corridor; however, Mountain yellow-legged frog habitat does exist in the river, and in the nearby ponds and tarns that occur within the corridor.

### **Desired conditions**

The East Fork Carson River corridor should support biodiversity and habitat quality, including viable populations of native species, and provide for recreational fishing opportunities considering historical and future use patterns. Management of the habitat should balance recreational benefits with maintaining or improving native biodiversity and a recreational fishery. Native biodiversity and habitat quality are maintained in Riparian Conservation Areas and Critical Aquatic Refuges as defined in the Sierra Framework Amendment.

### ***Riparian Conservation Areas***

- Water quality meets the goals of the Clean Water Act and Safe Drinking Water Act; it is fishable, swimmable, and suitable for drinking after normal treatment.
- Species composition and structural diversity of plant and animal communities in riparian areas, wetlands, and meadows provide desired

- habitat conditions and ecological functions.
- The distribution and health of biotic communities in special aquatic habitats (such as springs, seeps, vernal pools, fens, bogs, and marshes) perpetuates their unique functions and biological diversity.
  - Spatial and temporal connectivity for riparian and aquatic-dependent species within and between watersheds provides physically, chemically and biologically unobstructed movement for their survival, migration and reproduction.
  - The connections of floodplains, channels, and water tables distribute flood flows and sustain diverse habitats.
  - Soils with favorable infiltration characteristics and diverse vegetative cover absorb and filter precipitation and sustain favorable conditions of stream flows.
  - The physical structure and condition of stream banks and shorelines minimizes erosion and sustains desired habitat diversity.
  - Meadows are hydrologically functional. Sites of accelerated erosion, such as gullies and head cuts are stabilized or recovering. Vegetation roots occur throughout the available soil profile. Meadows with perennial and intermittent streams have the following characteristics: (1) stream

energy from high flows is dissipated, reducing erosion and improving water quality, (2) streams filter sediment and capture bedload, aiding floodplain development, (3) meadow conditions enhance floodwater retention and groundwater recharge, and (4) root masses stabilize stream banks against cutting action.

### *Critical Aquatic Refuges*

- Critical aquatic refuges provide habitat for native fish, amphibians and aquatic invertebrate populations. Remnant plant and animal populations in aquatic communities are maintained and restored.
- Streams in meadows, lower elevation grasslands, and hardwood ecosystems have vegetation and channel bank conditions that approach historic potential.
- Water quality meets State streams standards.

## **Wildlife Habitat**

### **Current Conditions**

#### **Riparian Upland**

The middle and lower upland sections of the East Carson River contain predominantly shrubland communities of sagebrush, bitterbrush and mahogany. Much of this area is designated as critical winter range for the Carson River mule deer herd, a bi- state herd whose range encompasses much of Alpine County and portions of Douglas County. Range for mule deer is generally

considered “critical” when habitat components meet or exceed the biological requirements necessary to sustain a viable population of mule deer. Population levels for the Carson River Herd have fluctuated over the years. For example, population estimates in 1956 were recorded at approximately 11,000 animals and peaked in 1959 at 21,500 (Fowler et al 1981). Since 1980, populations have declined and the long term trend for this herd is downward (Lackey 2004). Loss of habitat from urban development and type-conversion of critical habitat to cheatgrass are two of the major factors for the herds decline (Lackey 2004, deVos et al 2003).

Much of the area identified as critical winter range for mule deer, also provides the best habitat for other important wildlife species such as sage grouse and pygmy rabbit. Both of these species rely on dense stands of sagebrush to provide cover and forage throughout the year. Although sage grouse and pygmy rabbits have not been documented along the River corridor, existing stands of brush communities in this area could likely support both species. Furthermore, sage grouse historically have occurred near the Heenan Lake area, approximately five miles south of the River.

Currently, portions of the identified critical winter range along the middle and lower stretches of the river are becoming infested with cheatgrass. Cheatgrass is an invasive annual that easily becomes established in areas disturbed from wildfire and other disturbance events. Once established, cheatgrass begins to deplete soil moisture and eventually replace native plant communities including bitter brush

and sagebrush stands, which mule deer rely on for important forage and cover. Another damaging effect to landscapes from cheatgrass infestation is the increased frequency of fire. For example, native shrubland communities typically burn in 60-100 year intervals compared to 3 to 5 year intervals in homogenous cheatgrass stands (Billings 1994). The constant burning eliminates the range of woody plant species and decreases perennial forbs and grasses.

### **Riparian Corridor**

Much of the riparian corridor contains dense patches of riparian shrub including willow, alder, and bitter cherry that provide quality habitat for a variety of neotropical songbirds. Neotropical songbirds breed in North American riparian areas during summer and spend winters in Central and South America in search of insects, nectar, and fruits. Many species of songbirds have suffered large declines in recent years, primarily due to degradation and loss of important riparian habitat. Loss of habitat not only reduces nesting substrate, it also leads to an increase in nest parasitism and nest predation of songbirds. Therefore, conservation of riparian areas is considered critical for the protection of migratory and resident birds (Manley and Davidson 1993)

Noxious weeds, including tall whitetop and yellow starthistle, are appearing in greater frequency along the lower stretches of the River. Both of these species are extremely invasive and easily out compete native plant communities for soil moisture and nutrients. The whitetop and starthistle occur primarily along the banks of the river where they are replacing native willow/alder shrublands and effectively reducing habitat for migratory birds. The

replacement of native vegetation with invasive species affects birds by eliminating foraging and nesting substrate, reducing several orders of native insect populations, and by increasing non-native animal populations (predators). Habitat loss and degradation are probably the most important factors in the decline of riparian bird populations.

**Desired Future Condition- Wildlife**

The Desired condition for the Carson River includes restoring native plant communities by reducing cheatgrass and other noxious weed infestations along the river corridor. Restoration of these sites will improve range conditions for mule deer and other wildlife while reducing the risk of more frequent and more damaging wildfires.

**Wild and Scenic River Management**

The East Carson is one of only two free flowing rivers on the east slope of the Sierra Nevada. The River was

determined to be eligible for Wild and Scenic River status in the Toiyabe Plan on 1986. A suitability study to recommend all, portions, or none of the River for designation as Wild and Scenic has not been completed yet.

**Current Conditions**

In 1968 Congress passed the Wild and Scenic Rivers Act, protecting certain of the nation's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. The Act designated 61 rivers or segments of rivers as Wild and Scenic. The Act also directed federal agencies to determine which additional rivers should be evaluated. This resulted in "The Nationwide Rivers Inventory" which listed rivers which may be eligible for designation. The East Fork of the Carson River was included as a river that may be eligible.

During the preparation of the Toiyabe Forest Plan in 1986, the Forest Service completed an eligibility assessment of the East Fork of the Carson River. This assessment examined the physical features of the river and compared them to the classification criteria in the Wild and Scenic rivers Act. The criteria are:

Wild River Areas – Those sections of river that are free of impoundments and generally inaccessible except by trail. With watersheds or shorelines essentially





primitive and waters unpolluted.

Scenic River Areas – Those sections of river that are free of impoundments, with watersheds or shorelines largely undeveloped, but accessible in places by roads.

Recreational River Areas – Those sections of river that are readily accessible by road, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The result of this comparison of criteria against physical features resulted in the following eligibility classification for the East Fork of the Carson River:

Wild River – From source to the mouth of Wolf Creek (27 miles)

Scenic River – From Hangman’s Bridge to Ruhestroth dam (20 miles)

Recreational River – From Wolf Creek to Hangman’s Bridge (9 miles)

The next step still to be completed in accordance with the Wild and Scenic River Act involves a suitability study which includes an analysis of resource values gained or foregone by designation and alternatives to designation. The suitability study would result in a recommendation to Congress for designation or non-designation as a Wild and Scenic River. The suitability study could also include recommendations on the whole East Fork of the Carson River or on portions. The completion of this study becomes more important as populations increase in the area and conflicting demands compete for uses of the river.

In the interim, the Forest Service is required to protect the wild and scenic characteristics of the river. This management of the river as wild and

scenic prevents the impoundment of the river by dams or actions that would destroy the free flowing nature of the river. The river has been managed under this direction for 30 years, since 1986.

While there are currently no active proposals to dam the East Fork of the Carson River, it has been the subject of various dam proposals over the last hundred years. The River was seriously studied in 1978 by the Bureau of Reclamation for the Watasheamu Dam Project. The project was shelved for many years because of lack of financial backing by irrigators and local governments. In 1988, the Watasheamu Dam and a smaller Bodie Dam proposal surfaced again. The Watasheamu Dam was set aside when the State of California added a portion of the East Fork of the Carson River to its State designated Wild and Scenic river list.

The East Fork of the Carson River was determined eligible based on its outstanding values as a free flowing river for the use and enjoyment of current and future generations of residents of and visitors to Douglas County in Nevada and Alpine County in California. The river is highly valued for its scenic attractions, recreation opportunities and fishery values.

The River offers pristine scenery as it descends the east slope of the Sierra Nevada through the glacier carved granitic canyons and coniferous forests of the Carson Iceberg Wilderness, through alpine meadows and rolling tree covered hills to emerge into the sagebrush and pinyon covered foothills and desert canyons of the Great Basin.

### **Desired conditions**

Maintain quality recreation experiences and ecosystem integrity in the river corridor.

## Heritage Resources

### Current Conditions

Human use of the Sierra Nevada and Carson Range over the centuries has transformed into a diverse cultural setting. Anthropological research and physical evidence in the form of prehistoric or historic archaeological sites and traditional cultural properties chronicle the patterns of human land use and reconstruct the retrospective landscape setting. The East Carson landscape analysis area is located in a relatively high sensitivity zone for historic heritage resources and high sensitivity zone for prehistoric sites.

Archaeological, ethnographical, and historic research suggests that the Washoe people used the natural resources in the region for centuries. The Washoe subsistence base was focused on obtaining resources during seasonal rounds, such as the use of Lake Tahoe's shoreline and small streams for fishing in the summer, the gathering of pine nuts on the eastern slopes in the fall, and using lowlands or meadows in the winter. Unidentified prehistoric sites probably exist in unsurveyed portions of the East Carson landscape analysis area, especially along streams or creeks, in meadows, or within the pinyon-juniper woodlands. Although few prehistoric sites have been identified and formally recorded, the Washoe people have strong traditional ties to the analysis area. The Washoe currently practice traditional subsistence, plant gathering, and religious activities on their ancestral lands, and consider the East Carson

area important culturally and environmentally.

Natural environmental processes and current human activities continuously affect heritage resources sites. For instance, erosion and vehicle traffic have affected sites near the hot springs, and Centerville.

There are 24 formally recorded historic sites in the East Carson River corridor. The region's contemporary landscape setting is a reflection of historical human settlement patterns and land uses over a long period of time. Heritage resources in the analysis area can continually contribute to scientific studies and interpretations on human history and use of the area. Furthermore, the area is still utilized by native people who have traditional cultural ties to the lands.

### Desired future conditions

The desired future condition for cultural resources will be written in the Cultural Resource Overview (per the direction in the Forest Plan, USDA Forest Service 1986). This document will guide the management direction related to cultural resources and will provide a link to the California and Nevada State Historic Preservation Plans. The Overview will delineate areas for moderate and high archaeological sensitivity, and guide work targeted for completion in a Forest-wide cultural resource inventory. It will also nominate sites for the NHRP and define historic districts. In addition, compliance with the National Historic Preservation Act (1966, as amended) requires completion of a Section 110 plan, which will describe enhancement or interpretation of heritage resource values. For example, the Section 110 plan includes managing NRHP site and historic districts by signing, developing

public interpretation programs, and creating brochures. The Cultural Resource Overview and the Section 110 plan are under development (T. Birk, personal communication 2003).

**Roads**

The roads discussion is structured different from the rest of this analysis because it is based on the question and answer based format of the Forest Service Roads Analysis Process.

**Current Conditions**

Off-highway vehicles (OHV) often pass through tribal, private and national forest system lands to access the river. Damage has occurred to tributaries such as Bryant Creek and its riparian zone, as well as to private property including River Ranch, and the river corridor especially at the Hot Springs.

Motorized users have historically accessed the river on Forest Roads 689 & 690 from China Springs area in Douglas County, Nevada. Day and overnight use in this area is increasingly and impacting the riverbank. New campsites and fire rings are appearing and used more often along this section of the river down to private property at River Ranch. The private property owners at River Ranch replaced a wire fence several years ago with a pipe and rail fence set in concrete to gate off motorized use trespassing on their property.

Occasionally, OHV’s have removed the parking lot barricades at the take-out in order to drive down to and/or through the river.

OHV web sites have been encouraging trespass vehicle use on areas closed to vehicles.

Classified Roads	Miles (NFS)	Recommendations
Hwy 4	2 miles	State Route
Hwy 89 (Monitor Pass to Hangman’s Bridge)	2.5 miles	State Route
Hangman’s Bridge to BLM/Private (Barney Riley Trail)		Closed with Gate
Scossa Cyn BLM and F.S.	1.5 miles	Coordinate with BLM
Haypress Flat (BLM and F.S.) Off of Hwy 395 (Route 310)	5 miles	Establish drainage on road, close portions adjacent to river
Forest Road 189	4 miles	Coordinate with BIA, Douglas County, Washoe Tribe
Forest Road 689	2 miles	Maintain
Forest Road 690	2 miles	Maintain
Forest Road 675 (Carson River Takeout)	.5 Miles	Maintain

Some motorized users coming from Haypress Flat down route 310 are driving through California Fish & Game property at the Hot Springs. During most of the year when there is low water flow (i.e. unsuitable for float trips), some users cross the river in their vehicles onto the west side to access the Hot Springs area which has been/is closed to motorized

**Desired Conditions**

OHV hill climbing areas have been naturalized and no longer are being created. Motorized vehicles stay on

designated roads and camp at designated campsites.

Motorized users continue to enjoy accessing the river on Forest Roads 689 & 690 from China Springs area in Douglas County, Nevada. Day and overnight use in this area no longer adversely impacts the riparian area along the riverbank. New campsites and fire rings do not appear along this section of the river down to private property at River Ranch.

Rivers users at the Carson River take-out in Douglas County enjoy a safe and quality non-motorized experience away from the parking lot. Facilities at the take-out are maintained regularly and are no longer vandalized.

Fishing, day use, and dispersed camping where vehicles can easily get to the river's edge from Highway 4, Highway 4/89, and Wolf Creek Road no longer adversely impacts the riparian area.

## Chapter 4: Recommendations

This final chapter displays integrated and prioritized recommendations that would help to achieve desired conditions for human uses and enhance ecological integrity. Recommendations are focused on the issues identified in Chapter 2 and are designed to move from current conditions to desired conditions as addressed in Chapter 3.

### Recreation

#### Current Situation

The East Carson River country provides a wide variety of recreation opportunities, but is declining in quality due to overuse in some areas. Use of the river corridor for day use is the predominant recreation use. This includes floating during the spring runoff season, off-highway vehicles, hunting, and fishing outside the Wilderness.

Overnight camping is increasing both during the float season as well as at other times of the year where motorized vehicles can drive to the river. An increase in user created camping sites, fire rings, trash, and new or expanded impact areas from additional use is occurring, particularly at the hot spring area in Alpine County.

#### Recommendations

- **Reduce sanitation problems along the river by closing the overflowing unmaintained pit toilet at the hot springs. Establish a requirement to pack out human waste.**

- **Enhance signage along the river, at vehicle access points, and at the put in and take out areas for rafting.**
- **Protect the main Hot Springs area by providing overnight camping opportunities in other areas. Allow for the current level of pool development at the Hot Springs, but protect them from overuse by educating visitors that no new permanent pools, benches or other structures will be constructed at any of the hot springs in the river corridor.**
- **Protect stream banks and water quality by establish camping at designated sites only downstream from Centerville Flat. Clearly sign these sites.**
- **Re-engineer/relocate the whitewater rafting take out point and inform responsible state, local, and private parties about the safety issues at Ruhenstroth dam.**

### Wildlife/Plant Habitat

#### Current Situation

Much of the Carson River corridor provides excellent winter range for mule deer as well as suitable habitat for a variety of other wildlife species, including sage grouse and pygmy rabbit. However, some of the native plant communities in these areas are currently being converted to homogenous stands of cheatgrass and no longer provide adequate forage or cover for these species.

#### Recommendations

- **Protect vital riparian habitat from being cut away by implementing a no woodcutting policy in the river corridor.**
- **Implement a native plant restoration project in cheatgrass areas to enhance mule deer and other mammal and bird habitat.**

## Weed management

### Current Situation

The dense riparian vegetation found along the river corridor provides important habitat for a variety of migratory songbirds. However, large infestations of noxious weeds, including yellow starthistle and tall white top, are currently out-competing and replacing native riparian vegetation along sections of the river. These weeds can also be carried downstream into agricultural areas and damage croplands. While not classified as an “official” noxious weed, cheatgrass has also invaded much of the lower stretch of the river, replacing native vegetation, increasing fire danger, and spreading onto adjacent private lands.

### Recommendations

- **Accelerate weed control/eradication efforts in the River corridor.**

## Fish and Amphibian Habitat

### Current Situation

The recreational fishery habitat between Carson Falls and Ruhensroth Dam is being affected by loss of streamside

vegetation, hiking, recreational fishing, horse and stock use, dispersed camping, improper disposal of human waste, leave-no-trace principles not being practiced, usage of non-designated roads, cattle grazing, and the expansion of noxious weeds. Portions of the current habitat of the Lahontan Cutthroat Trout, a threatened and endangered fish, are being affected by hiking trails in the vicinity of the East Fork of the Carson River.

### Recommendations

- **Manage recreation use along the river as outlined in the recreation section in order to enhance and protect fish habitat.**
- **Re-route portions of the hiking trails along the river in the Carson Iceberg Wilderness in order to protect the critical aquatic refuge for Lahontan Cutthroat Trout.**
- **Establish a critical aquatic refuge to protect threatened species habitat upstream of Carson Falls.**

## Watershed Resources

### Current Situation

A stream corridor condition assessment for the Upper Carson River watershed was completed in 2004.

The assessment team recommended floodplain restoration on the reach of the East Fork adjacent to HWY 4 between the confluence with Wolf Creek

downstream to Hangman's Bridge. Much of this reach has been impacted by the proximity of the highway.

### Recommendations

- Pursue opportunities from willing sellers only to acquire easements or property in the River corridor to protect watershed and other resources. Due to the limited private land base in California, acquisitions should be limited to the lower stretches of the River in Nevada.
- Harden campsites and roads at the Centerville Flat dispersed camping area Flat to protect watershed resources.
- Designate campsites on Forest Service lands in the river corridor downstream from Centerville Flat in order to protect watershed and other resources.

### Heritage Resources

#### Current Situation

The River is within the traditional land use areas of the Washoe people. They had temporary camps for resource extraction and long term occupation sites along the East Fork of the Carson River in addition to its use as a travel route.

Discovery of the Comstock Lode in 1859 brought an influx of prospectors and in 1860 gold was discovered along the River at what would become the Silver Mountain Mining District. Construction of mines, mills and towns have all left physical remains along the River.

### Recommendations

- Monitor cultural sites near hot springs and adjust management as necessary to address any problems.
- Evaluate Centerville Flat for heritage resources. Harden campsites and roads at the Centerville Flat dispersed camping area Flat to protect historic resources.

### Wild and Scenic River Management

#### Current Situation

The East Fork of the Carson River was determined to be eligible for Wild and Scenic River status in the Toiyabe Plan on 1986. A suitability study to recommend all, portions, or none of the River for designation as Wild and Scenic has not been completed yet.

Public concerns about management for wild and scenic river values include the need to protect Highway 4 from flooding and erosion, the potential for a water diversion structure near Horseshoe Bend, and the potential for future restrictions private land use, livestock grazing, weed management, and hazard tree removal.

Public concerns also include the need to manage the river as wild and scenic in order to protect recreation, watershed, and wildlife values and to protect the free flowing river for the use and enjoyment of future generations. It's recognized that a wild and scenic designation could enhance management by providing additional appropriated and grant funding for weed control, recreation use, watershed enhancement and other purposes.

## Recommendations

- **Move forward with wild and scenic suitability study. Consider excluding portions of the river with potential conflicts, such as those along Highway 4 and at Horseshoe Bend. Ensure no interference with use of private lands along the river. Ensure that no new requirements for fencing private lands are established. Preserve current livestock grazing. Preserve potential for weed management. Preserve current practice of removing hazard trees.**

## Roads

### Current Situation

Off-highway vehicles (OHV) often pass through tribal, private and national forest system lands to access the river.

Damage has occurred to tributaries such as Bryant Creek and its riparian zone, as well as to private property including River Ranch, and the river corridor especially at the Hot Springs.

Unclassified roads in the analysis area present both problems and opportunities. Some of these roads have created problems including erosion/sedimentation, site productivity, and adverse visual impacts.

### Recommendations

- **Keep Forest Roads 689 and 690 in Douglas County open for public access to the river upstream of Horseshoe Bend.**
- **Work with Alpine County and Cal Fish and Game on vehicle management on route 310**

**across from the hot springs. Vehicles are going through Cal Fish and Game lands and causing damage in the hot springs area.**

- **Work with Douglas County, BIA, and the Washoe Tribe on management of Forest Road 189. It goes mostly through private/Indian allotment land, causing damage to Bryant creek and hot springs area.**
- **Monitor OHV/Hot Springs web sites and send them notices about legal access and responsibility.**
- **Protect stream bank integrity, visual quality, and water quality by enhancing public education, signage and enforcement of closed areas. Rehabilitate new user created roads in areas set aside for non-motorized use.**
- **Close and rehab the user created road/hill climb above the hot springs.**
- **Coordinate with the BLM on future management of the Scossa Canyon road.**



**List of Preparers**

<b>Name</b>	<b>Responsibility</b>	<b>Education: Degrees</b>	<b>Experience</b>
David Loomis	Project Manager	Master Of Science Land Use Planning Bachelor Of Arts Economics	26 Years
Sally Champion	Watershed	Master of Science Watershed Bachelor of Science Wildlife Biology	14 Years
Linn Gassaway	Heritage Resources	Master of Arts Anthropology Bachelor of Arts Anthropology	17 Years
Steve Hale	Recreation	Master of Science Recreation Bachelor of Science Biology	28 Years
Jason Kling	Fish/Amphibians	Bachelor of Science Fisheries/Wildlife	6 Years
Maureen Easton	Wildlife	Bachelor of Science Wildlife Biology	10 Years
Kim Williams	GIS/Mapping	Bachelor of Science Ecology/Biology	5 Years
Marnie Bonesteel	Recreation	Bachelor of Science Forestry/Range	5 Years

## **References**

- Ataman, Kathryn, et al 2001 Summer in the Sierras: 6000 Years of Occupation in Bagley Valley. Prepared for Humboldt-Toiyabe National Forest Carson Ranger District, Contract No. 53-9360-0-01. Prepared by Summit Envirosolutions, Inc.
- Clayton and Beesley 1979 Aspen Art and the Sheep Industry of Nevada and Adjoining Counties. Nevada County Historical Society Bulletin, Volume 33, Number 4, October
- D'Azevedo, W.L. 1956 Washoe Place Names. Ms. On file Department of Anthropology, University of Nevada, Reno.
- Hine, R. and J. Faracher 2000 The American West: A New Interpretive History. Yale University Press, New Haven.
- Murphy, Shane, The Lore and Legend of the East Fork: A Historical Guide for Floating the East Carson River, The Carson River Conservation Fund, Zephyr Cove, NV 1982
- USDA Forest Service. Land and Resource Management Plan Toiyabe National Forest, 1986
- Zeier, C.D. Tire Water: Irrigation Practices in Bagley Valley, Alpine County, California. Harding ESE, Carson City, Nevada.
- Zeier, Charles, et al 2002 A Historic Context and Cultural Resource Sensitivity Framework for the Pine Nut Mountains, West-Central Nevada. Submitted to Carson City Field Office Bureau of Land Management.

**Approval**

/s/ Gary Schiff \_\_\_\_\_

**Gary Schiff**  
**Carson District Ranger**

06/21/2007

**Date**