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Forest  
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# Upper East Walker Landscape Strategy

**Bridgeport Ranger District, Humboldt-Toiyabe National  
Forest, Mono County, California**



**Sawtooth Ridge**

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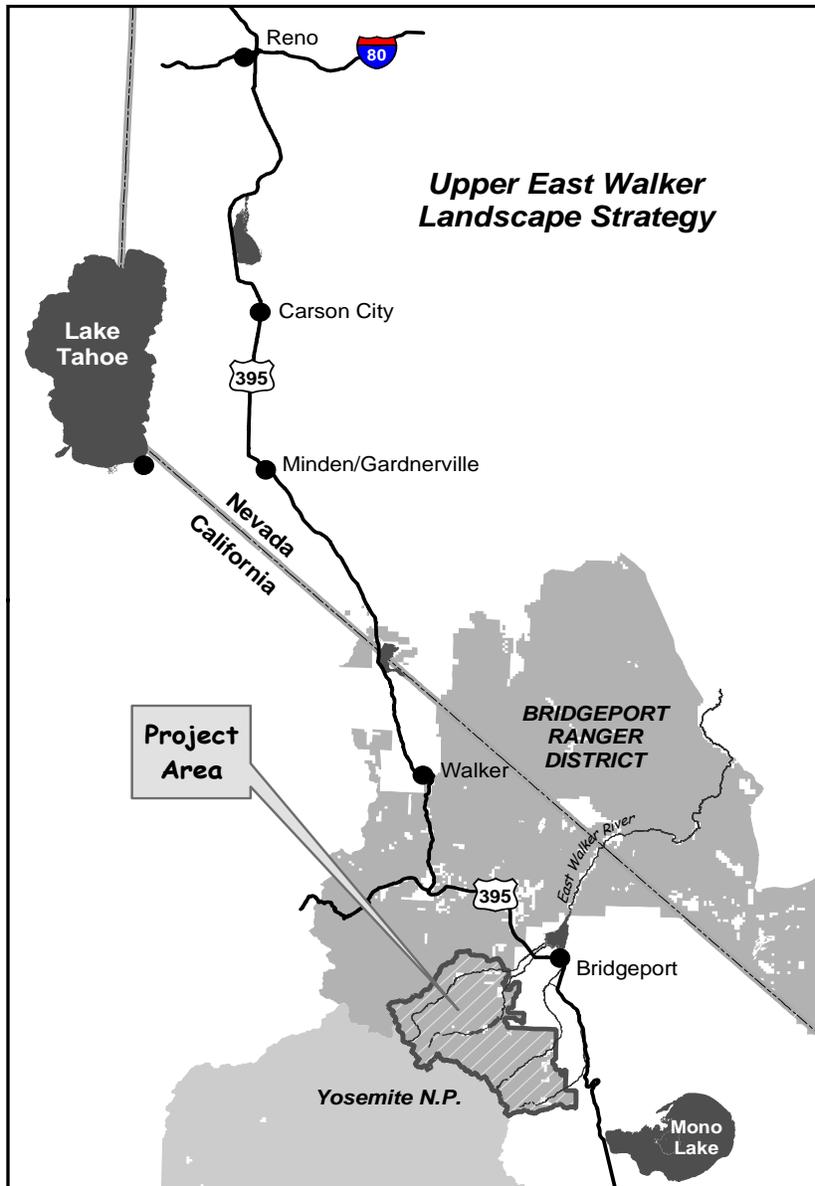
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## Chapter 1: Characterization

This is the first of four chapters that document the Upper East Walker Strategy. In this chapter, the dominant features, human uses, and land use status of the landscape 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.

### ***Landscape Character***

The Upper East Walker country forms the northeastern boundary of Yosemite National Park. It drops steeply from the crest of the Sierra Nevada to the pastoral setting of Bridgeport Valley in Mono County, California. The town of Bridgeport serves as the principal gateway to the National Forest. The dominant land forms in the area are the towering spires and cliffs of the Sawtooth Ridge of the Sierra Nevada and its most prominent feature, the Matterhorn Peak. The upper reaches of the area are the sheer rock faces of the high Sierra crest. The highest peak is Dunderberg at 12,300 feet. Elevation drops to 6500 feet in Bridgeport Valley in a distance of less than ten miles. Deeply incised canyons contain the four principal headwaters of the East Walker River – Buckeye, Robinson, Green, and Virginia Creeks. The high country in each of these drainages forms the Hoover Wilderness Area, a rough, pristine region sprinkled with alpine lakes. Recreation is the predominant use of this area. Forest Service campgrounds in the Robinson and Virginia Creek areas are filled to capacity on weekends throughout the summer. These are the most heavily used campgrounds in the Humboldt-Toiyabe National Forest. The area is particularly popular with anglers from Southern California who often reserve the same campsite year after year. Sightseeing and backpacking in the Hoover Wilderness are also popular activities.

*Then it seemed to me that the Sierra should be called, not the Nevada or Snowy Range, but the Range of Light. And after ten years of wandering and wondering in the heart of it, rejoicing in its glorious floods of light, the white beams of the morning streaming through the passes, the noonday radiance on the crystal rocks, the flush of the alpenglow, and the irised spray of countless waterfalls, it still seems above all others the Range of Light. – John Muir*

The analysis area includes 88,000 acres of land of which 85,000 are managed by the Forest Service. The remaining lands are private (2500 acres) or State of California (500 acres).

Vegetation at the lower elevations adjacent to Bridgeport Valley is mainly sagebrush, bitterbrush, and a mix of grasses. Upslope this transitions to a mixed woodland of pinyon and Jeffrey pine and then to a mid elevation mix of Jeffrey pine, white and red fir, and

aspen forests. Above 8500 feet, lodgepole pine is common, with stands of white and red fir on north facing slopes. Even higher are patches of whitebark and western white pine. Much of the area is above 10,000 feet with scattered pockets of these pines, brush and large areas of steep barren rock.

Highway 395, the major north-south route through the eastern Sierra, runs along the eastern boundary of the East Walker analysis area. It is a designated Scenic Highway. This area is among the most scenic landscapes along the Highway with foreground views of Bridgeport Valley framing background views of the Sawtooth Ridge.

The East Walker country supports a large recreational fishery that is popular with anglers from throughout California and Nevada. The upper reaches of the drainages that feed into the East Walker River support populations of mountain yellow legged frog and Yosemite toad. These amphibians have suffered significant population declines throughout the Sierra.

## **Land Use Status**

### **Toiyabe Forest Plan**

The Toiyabe National Forest adopted a Land and Resource Management Plan (Forest Plan) in 1986. It provides guidance based on management areas. The Upper East Walker Landscape Analysis area falls into Management Area 4, Walker and Management Area 5, Wilderness.

Management Area	Management Area Emphasis	Acres	% of NFS Lands in Analysis Area
MA-4A: Walker	Directed toward the amenity values of wildlife, dispersed recreation, developed recreation, and water quality in the major canyons and along the highways. Implement a cost effective and coordinated fire protection program.	36,000	42
MA-4B: Walker (Wilderness Addition)	Meet the intent and objectives of the Wilderness Act	20,000	24
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.	29,000	34
Total		85,000	100

### **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, old forest emphasis areas, riparian conservation areas, critical aquatic refuges, and urban wildland intermix zones.

### **Landscape Analyses**

Landscape analysis 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.

### **Old Forest Emphasis Areas**

Old forest emphasis areas contain the majority of existing old forest stands. They are managed to expand the amount of old forests over time by reducing the risk of stand replacing fires. Prescribed fire is emphasized to reduce fuels and meet ecological goals.

Old forest emphasis areas in the East Walker country are located in the upper reaches of the Buckeye Creek drainage in the Hoover Wilderness Area.

### **Riparian Conservation Areas**

The Framework amendment also 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 Yosemite toads and mountain yellow legged frogs.

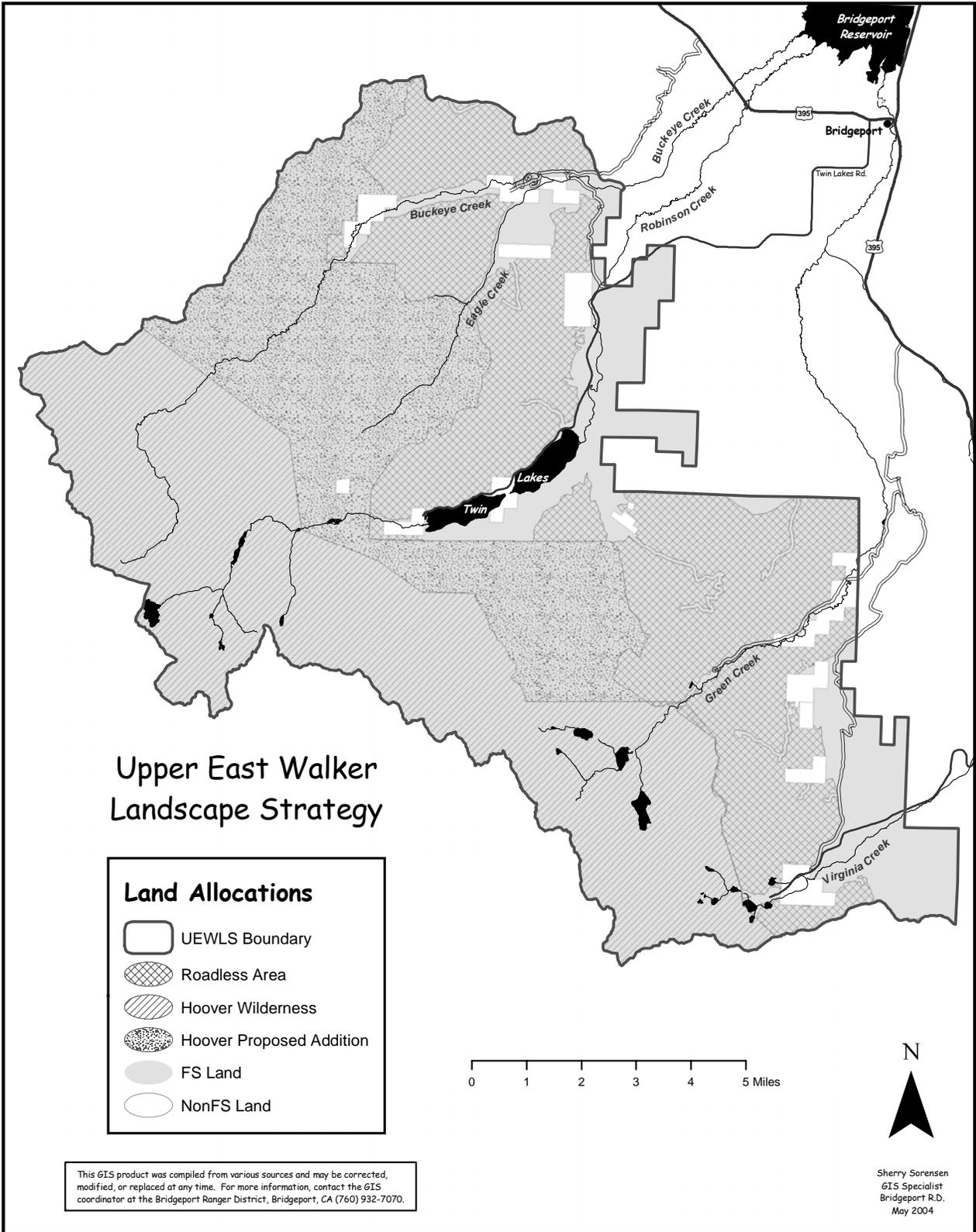
### **Urban Wildland Intermix**

The Framework amendment established specific land allocations for fire and fuels management associated with areas where human habitation is mixed with areas of flammable wildland vegetation. These are urban wildland intermix zones which extend a mile and a half out from areas that have residences, commercial buildings, or administrative sites with facilities. These areas are given top priority for treatments designed to reduce the risk of wildfire. Urban wildland intermix zones in the East Walker country are located in the Twin Lakes, Virginia Lakes, and Green Creek areas.

## **Roadless Areas**

Much of the East Walker country was identified as roadless in the 1998 inventory of roadless areas for the Humboldt Toiyabe National Forest. These areas are managed to maintain their roadless character until direction for their management is developed in the Forest Plan. The Forest Plan Revision process is expected to be completed in 2007 and include roadless area direction.

Altogether roadless and wilderness areas include 74,000 acres or 87 percent of the National Forest System lands in the analysis area (Land Allocation Map). The largest roadless area is the proposed East Addition to the Hoover Wilderness area. It totals 20,000 acres. Another 25,000 acres are included in a series of roadless areas that cover most of the mid elevation country below the Hoover Wilderness. These range in size from the 29 acre Hoover-Virginia Lakes Roadless Area to the 7200 acre Hoover-Green Creek North Roadless Area.



## Chapter 2: Issues

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

### **Recreation**

The overall quality of recreation experiences is very high, but the demand for recreation facilities exceeds the supply in a number of areas, including parking at Virginia and Trumbull Lakes and camping at Green Creek. Recreational stock use opportunities are limited by the lack of legal access from the Virginia Lake Pack Station, lack of trails from the Virginia Creek camping area, and the lack of a designated stock camp. Mountain biking opportunities are limited by the lack of single track bike trails. There is unmet demand for mountain bike riding opportunities in the Twin Lakes area. Use of Buckeye Hot Springs and its dispersed camping sites are currently causing erosion and sedimentation in Buckeye Creek, pose safety problems, and have potential health/sanitation risks. Dispersed camping in the Dunderberg and Green Creek areas is causing stream bank erosion, trash problems, and potential health/sanitation risks. The quality of camping opportunities is adversely affected by bears stealing food in campgrounds throughout the East Walker country.

Key Questions: What are the appropriate quantity, quality, and type of recreation opportunities? What projects are needed to provide those opportunities?

### **Wilderness**

The Hoover Wilderness provides outstanding opportunities for solitude in a highly scenic setting. However, wilderness qualities are being affected by concentrated use in some areas, particularly lakes within reach of day hikes, such as Green Lake. This problem is the result of an outdated quota system that applies to only overnight use. Human/bear encounters are frequent in the wilderness and there are inconsistencies in bear regulations with adjacent Forests and Yosemite National Park. Past fire suppression activities have limited the natural role of fire in



Figure 1: Hoover Lakes

the wilderness. No legal public trail access to the Hoover Wilderness exists through private lands in the upper Robinson Creek and Buckeye Creek areas.

Key Questions: What are the appropriate wilderness opportunities in the Hoover Wilderness? What projects are needed to provide those opportunities?

### ***Watershed***

Watershed functions and overall water quality are high throughout most of the area, but Robinson and Buckeye Creeks do not meet water quality standards. One road near Sinnamon Meadow (#178) is in the creek and causing sedimentation. Erosion is occurring at trail/stream crossings above the Virginia Lakes, Green Creek, and Buckeye trailheads.

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

### ***Vegetation/Fuels***

Most of the East Walker country does not present a high risk of catastrophic fire. However, fuels buildup in some timber stands is increasing the risk of stand replacing fires. There is a risk of wildfire in the Twin Lakes and Green Creek areas that poses a threat to recreation residences.

Key Questions: What are the appropriate conditions for fuels/vegetation condition? What projects are needed to achieve those conditions?

### ***Fisheries/Amphibians***

The East Walker country supports a highly popular recreational fishery. However, fishery habitat in Virginia, Robinson, Green and Buckeye Creeks is at less than optimum condition due to the impacts of dispersed camping, bridge construction and loss of streamside vegetation.

The East Walker country provides important habitat for Mountain yellow legged frog and Yosemite toad, two species of amphibians whose populations have declined throughout the Sierra.

Key Questions: What are the objectives for preserving/enhancing fisheries and amphibian habitat? What projects are needed to achieve those objectives?

### ***Wildlife Habitat***

The overall quality of wildlife habitat is high, but migratory bird and deer habitat has been impacted by the encroachment of conifers into aspen stands, including in the

Tamarack/Summers Meadows areas. Development in the Twin Lakes area has intruded into migratory deer habitat.

Key Questions: What are the objectives for enhancing wildlife habitat in aspen stands? What projects are needed to achieve those objectives? What level of development will unacceptably impact deer habitat?

### ***Visual Resources***

The East Walker country is among the most scenic areas in the nation; however, Forest Plan direction for visual resources is inappropriate in some areas and lacking in others.

Key Questions: What are the appropriate scenery management objectives? What projects are needed to achieve those objectives?

### ***Roads***

Some roads no longer serve the purpose for which they were established, others have been created through cross country travel, including the user created road above Snow Lake to Kavanaugh Ridge. These roads cause safety problems, habitat fragmentation, accelerated erosion, and visual impacts.

Key Questions: What is the appropriate road system? What projects are needed to implement that system?

## 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 landscape.

### **Recreation**

#### **Current Conditions**

##### **Developed**

Developed recreation sites provide significant opportunities for quality recreation experiences in the East Walker country.

American Land and Leisure, a campground concessionaire, operates eight developed campgrounds with 300 family campsites and three group sites and two picnic areas on National Forest System lands. Five developed campgrounds have paved interior roads, and all

have potable water systems, picnic tables, and fire rings. All campgrounds but Green Creek Campground have up to date toilet

facilities, and four of the five campgrounds in Twin Lakes have flush toilet facilities.

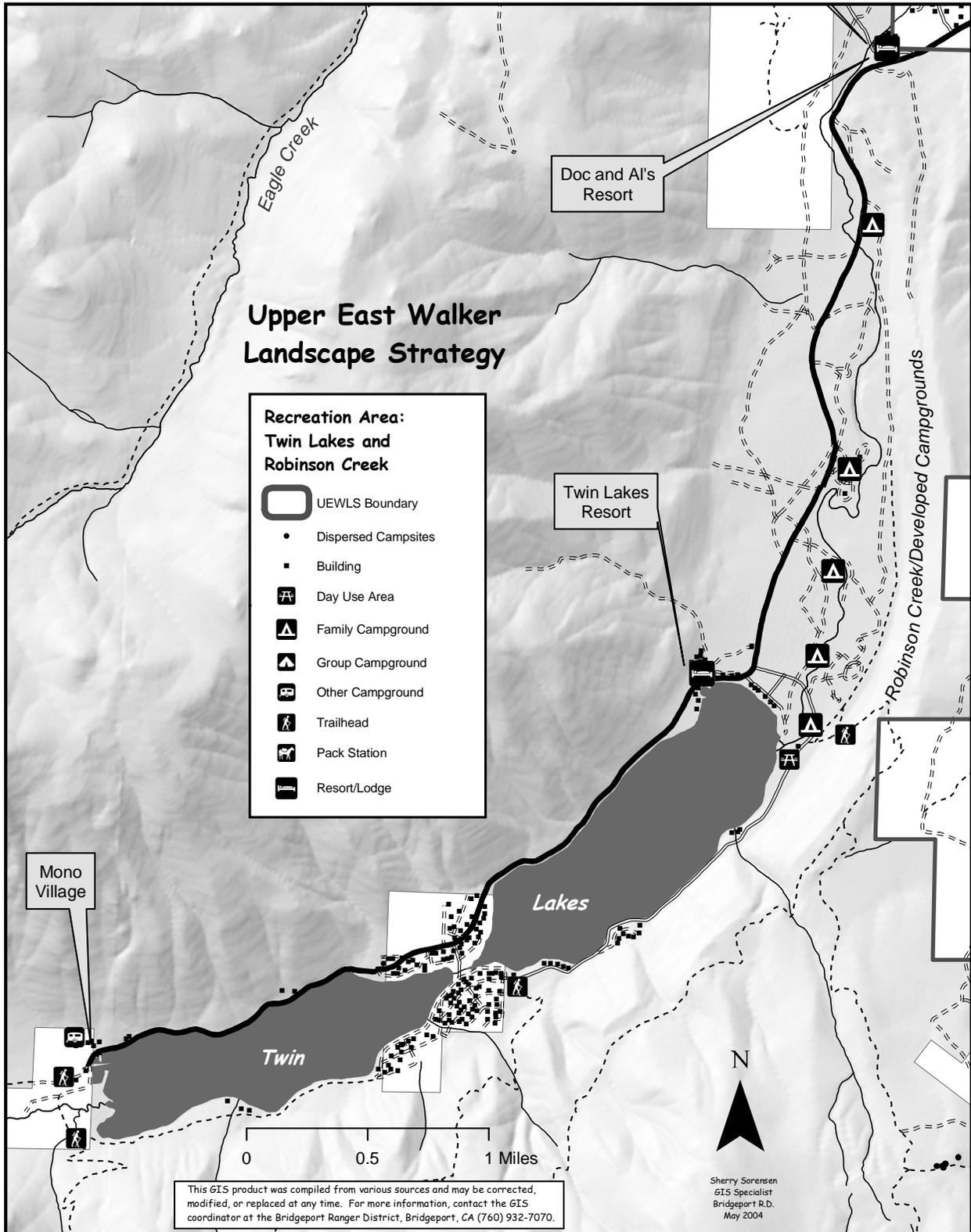


**Figure 2: Trumbull Lake Campground**

The economy of Bridgeport is heavily dependent on recreation opportunities. Popular recreational activities include: fishing, camping, day hiking, backpacking, picnicking, off-highway vehicle riding and snowmobiling.

Much of the developed recreation use is related to fishing and hiking activities with plentiful lakes, streams, and trailheads in close proximity. The Twin Lakes drainage is the most highly developed and heavily used area (Twin Lakes Map). National Forest campgrounds in the Twin Lakes area are near two resorts on National Forest lands (Twin Lakes Resort and Doc and Al's) and one on private lands (Mono Village). In addition to camping and cabin accommodations, the resorts offer public access to two small grocery

stores, a laundromat, and a restaurant. In 2001, a Forest Service traffic counter on Twin Lakes Road counted 67,000 cars from May to September, an average of 530 cars per day. Many of the developed sites in the East Walker country are “destination” campgrounds where visitors will come to stay for up to two weeks at a time. Approximately two thirds of campsites at the five campgrounds in Twin Lakes, as well as Trumbull Lake Campground can be reserved in advance through the National Recreation Reservation Service. The majority of the campground users are from Southern California, but many visitors also come from northern Nevada and the San Francisco Bay Area.



In 2003, there were a total of 71,000 visitor days at developed campgrounds in the East Walker country. Campground receipts totaled \$270,000. In the Twin Lakes area, campground occupancy levels are consistently at 80% of capacity, Memorial Day through Labor Day. At Trumbull Lake Campground near Virginia Lakes, the average campground use in summer months is 92% of capacity. Green Creek campground reaches 100% of capacity in August. Buckeye Campground has the lowest occupancy rate at 30% of capacity Memorial Day through Labor Day. Buckeye is the largest campground. It has 63 family campsites and often serves as an overflow campground for the Twin Lakes area.

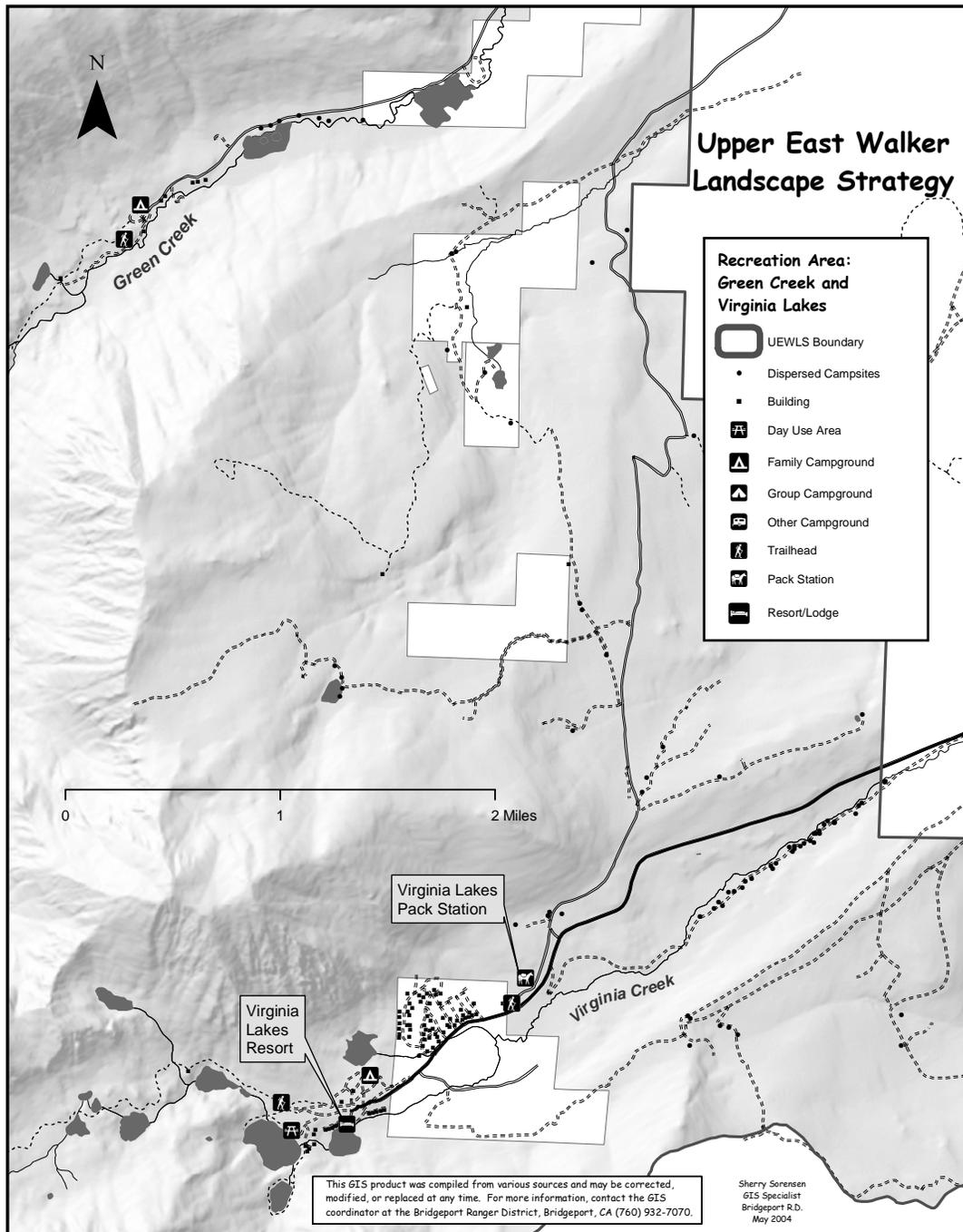
Bears frequent developed campgrounds in the evening hours during the summer and fall, particularly in the Twin Lakes drainage and Trumbull Lake Campground. Bear-proof food storage lockers were installed at Paha and Lower Twin Campgrounds in 2004. There are no bear-proof food storage lockers at Robinson Creek, Crags, Honeymoon Flat, Trumbull Lake, Green Creek, or Buckeye Campgrounds. Many campers choose to leave their coolers out in the open at their site where food lockers have not been provided. Bears easily obtain camper's food on a regular basis.

No Forest Service dumping facilities are available for recreational vehicles. A mobile septic pumper operates in Twin Lakes Campgrounds two days per week under a special use permit. Two private dump stations at Mono Village and the Bridgeport Mo Mart are available to Forest campers, but they are not convenient to the Forest Service campgrounds. Consequently, recreational vehicles often dump gray water tanks in or near campgrounds. There is a particular problem in the Twin Lakes drainage since visitors typically stay for longer periods and generate significant volumes of gray water.

Day use facilities include the Virginia Lakes Trailhead and Twin Lakes Boat Launch. Both of these day use sites have picnic tables, barbecues, and restroom facilities. The Virginia Lakes trailhead is popular with anglers, who access the three lakes nearby, and for hikers to the Hoover Wilderness and beyond to Yosemite National Park. The parking lot is insufficient to accommodate all of these users on busy summer weekends. Visitors will often park unsafely along Virginia Lakes Road or in Trumbull Lake Campground where there is no designated parking (Green Creek/Virginia Lakes Map).

Recreation residence permits number fifty-eight. There are also three resorts and a pack station facility with outfitter guide authority, accommodating approximately 20,000 visitors per year. An additional ten outfitter guides operate in the analysis area.

Permitted special recreation events have been increasing over the past several years. Non-commercial group use is limited at present, but requests for filming permits and recreational events for off-road vehicle clubs or outfitter guiding is on the rise. Off highway four-wheel drive and historical tour guiding are the most popular recreation events. Many permits are executed in partnership with the Bureau of Land Management, since many events must travel over both agencies' management areas.

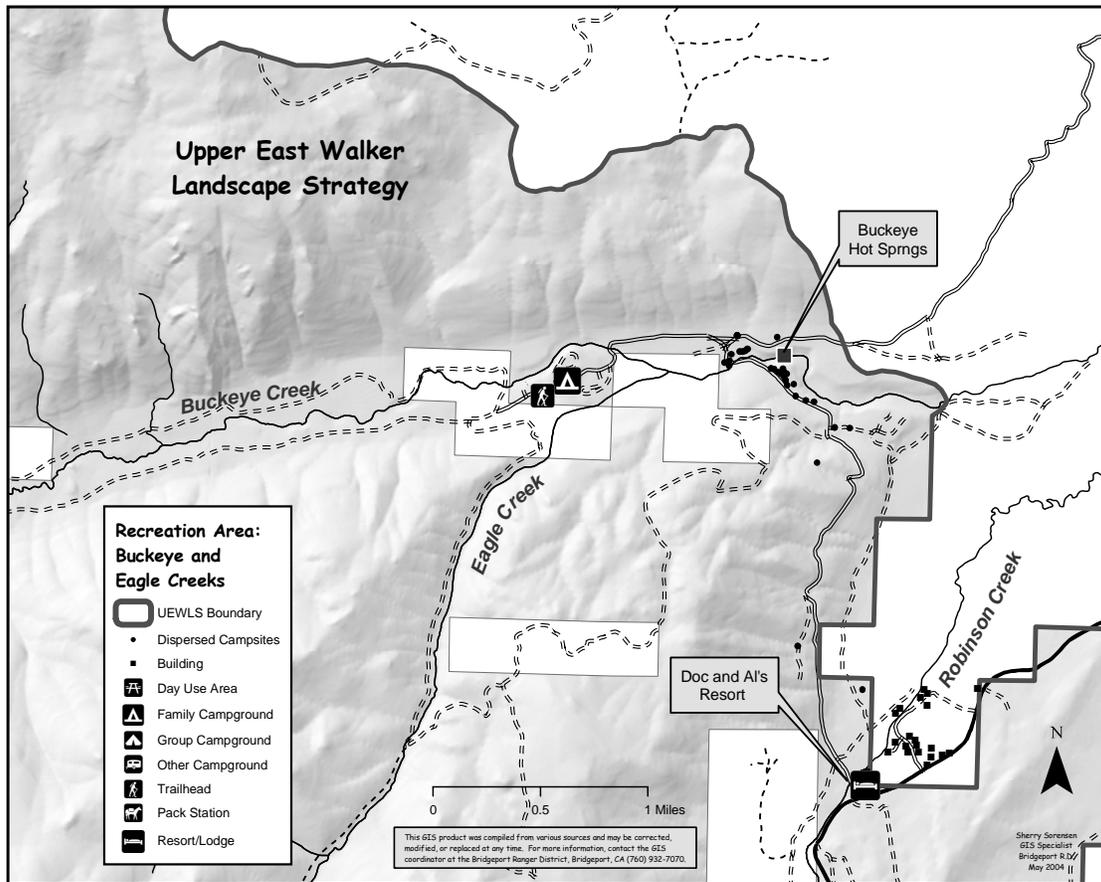


### Dispersed Recreation

Dispersed camping is extremely popular along Virginia Creek, Green Creek, and Buckeye Creek. There is no dispersed camping permitted in the Twin Lakes drainage. Virginia Creek has a popular dispersed camping area that was improved in 1999. There

are 40 hardened campsites, four toilet facilities, and fire rings. During 2003, the dispersed area at Virginia Creek was at approximately 60% of capacity with 1,500 campsite nights June through September. Volunteer hosts are stationed at the Virginia Creek dispersed area June through September. Dunderberg Road, which spurs off of Virginia Lakes Road, is another popular dispersed camping area.

Green Creek has 4-5 dispersed camping sites on National Forest System lands. There are no toilet facilities at these sites, and campsites are very close to the creek. Many other dispersed sites are located on adjacent California Department of Fish and Game land. Buckeye Creek drainage has a dispersed camping area that is used primarily by hot springs visitors. There are 15-20 campsites with no toilets. Field staff frequently see more people camped in dispersed areas at Buckeye than in the developed campground (Buckeye Map).



Stock camping is not permitted in developed campgrounds. It is allowed in dispersed camping areas in Virginia, Dunderberg, Green, and Buckeye Creek drainages. However, there are no designated stock camping areas and there is no direct trail access to

trailheads or riding areas. Trail use by recreational stock is heaviest along Buckeye and Eagle Creeks and at the Virginia Lakes trailhead into the Hoover Wilderness.

### ***Buckeye Hot Springs***

Buckeye Hot Springs is an unmanaged hot springs site located on Buckeye Creek, approximately three miles on a dirt road from Twin Lakes Road, and six miles from Highway 395. Visitors access the hot springs on foot by a system of user-created trails on a very steep hillside. These trails have eroded the hillside above the hot springs. A dispersed camping area is mainly used by visitors that want to camp near the hot springs. No toilet or trash facilities exist at the hot springs or dispersed camping area. It is typical to see 5-10 cars parked at the user made parking lot during summer months.



**Figure 3: User created trail network at Buckeye Hot Spring**

### ***Off-Highway Vehicles***

Off highway vehicle use in the East Walker country has increased in the last several years. There is a trend for developed and dispersed campers to bring off-highway vehicles with them. Off-highway vehicle users often look for places to ride that are close to their campsite. In the Twin Lakes area this use is incompatible with camping, resort, and residential uses.

Vehicle and OHV use in the Dunderberg and Kavanaugh Ridge area has increased cross-country travel between designated routes. Roadless areas adjacent to Kavanaugh Ridge have illegal use. The Virginia Creek drainage, however, offers OHV opportunities in the Jordan Basin area, although many of the roads accessing and within the basin are eroded. Lack of maintenance or improperly aligned roads through steep terrain has created a network of unmanaged OHV roads.

In addition to OHV demands, mountain biking opportunities are also desired. However, no routes are currently managed as single tracks.

Over-snow vehicle travel is possible on the Virginia Lakes Road to Big Virginia Lake during the winter. The Bridgeport Chamber of Commerce has requested that trails be

groomed for snowmobiles from Virginia Creek Road to the Green Creek/Dunderberg Road. Snow pack consistency has been a problem over the past decade.

## **Desired Future Conditions**

### **Area Wide**

- Bear and human conflicts at campgrounds will decrease through proper food storage requirements and visitor awareness.
- Existing facilities will be maintained and improved to meet Forest standards.
- New trail opportunities are provided (mountain bike, OHV, stock, etc.) so as to reduce conflicts.

### **Buckeye Creek Drainage**

- Buckeye Hot Springs and its dispersed camping area will be managed to meet health and safety standards.
- Trail access and the parking area for the Hot Springs will be managed to eliminate hillside erosion and concentrate parking to a site-specific area.
- Visitor use and sanitation at hot springs and dispersed campsites will have no potential negative effects on water quality in Buckeye Creek.
- Stock camping opportunities will be directed to site-specific areas.
- OHV opportunities will be managed through visitor information and signing.

### **Robinson Creek/Twin Lakes Drainage**

- Developed campsites will be managed to decrease impacts to water quality and stream bank erosion, and meet Forest health and safety standards.
- Recreation opportunities and new development will be consistent with carrying capacity of the Twin Lakes drainage and Forest Plan.
- User conflicts will be managed through emphasizing recreational opportunities that are consistent with the highly developed nature of the Twin Lakes drainage.
- OHV opportunities will be managed through visitor information and signing.
- Illegal gray water dumping will be eliminated through management actions.

### **Green Creek Drainage**

- Visitor use demands will be met for additional developed camping opportunities.
- Out-of-date facilities at the developed campground will be maintained and improved.
- Road access will be maintained or improved.
- Developed and dispersed campsites will be managed to decrease impacts to water quality and stream bank erosion, and meet health and safety standards.

### **Virginia Lakes Drainage**

- The parking areas at Virginia Lakes Trailhead and Trumbull Lake will meet parking demands of trailhead users and anglers.
- Dispersed camping sites within the Virginia Lakes drainage will be managed to decrease impacts to water quality and erosion to stream banks.
- Stock camping will be directed to site-specific areas.

## **Wilderness**

### **Current Conditions**

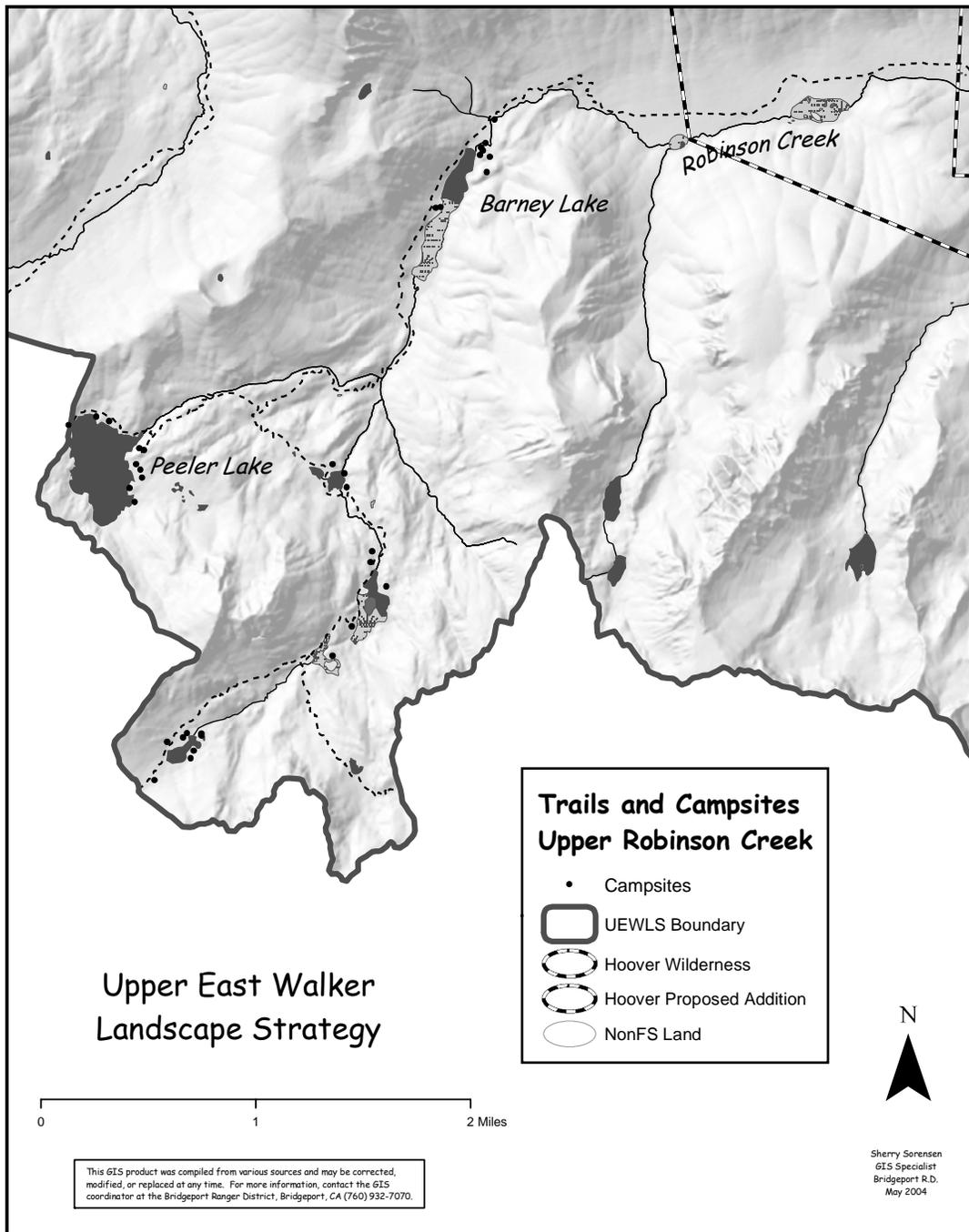
First established as a Primitive area in 1931, then a Wild area in 1957, the Hoover was designated Wilderness in 1964 with passage of the Wilderness Act. Here is an extremely rugged and scenic area with elevations from around 8,000 feet to more than 12,000 feet, a region of alpine lakes and meadows but little timber. As an original wilderness, the Hoover is a Class I airshed. It contains 48,601 acres, of which 39,094 acres are managed by the Bridgeport



**Figure 4: Upper Green Creek Watershed in the Hoover Wilderness**

Ranger District. Most of Bridgeport's portion lies within the East Walker River drainage. In addition to the designated portion of the Hoover Wilderness, there are proposed additions to the Hoover Wilderness within the watershed. They are managed to retain their wilderness characteristics until Congress decides their ultimate disposition. A wilderness management plan for the Hoover Wilderness was written in 1976 and has never been revised. An environmental analysis was conducted in 1985 to establish the requirement for wilderness permits for overnight use and the quota system to manage use during the peak season. That analysis also established allocations for commercial use within the wilderness.

There are six developed trailheads which provide access to the Hoover Wilderness and proposed additions. Two trailheads—Robinson Creek and Buckeye Creek—do not have legal right-of-way access through private property (Robinson Wilderness Map). There are approximately 60 miles of system trails within the wilderness and proposed additions in the East Walker watershed. This trail system is used heavily by hikers and stock users for both day and overnight trips. The trail system developed over time, and has been improved as funding has been available. There are trails located in areas that could cause resource damage, and there are portions of trails that should be relocated, rebuilt, or require significant maintenance. There are no trails on the district specifically designated for mountain bike use.



There are a wide variety of uses that occur within the Hoover Wilderness. Commercial use includes a pack station, climbing, backpacking and hiking, and educational trips. Private users include hikers, backpackers, climbers, and stock users.

Overnight use within the wilderness and proposed additions requires a permit, and permits are limited during the quota season that runs from the last Saturday in June through September 15. Day use does not require a permit and is not regulated.

During the past 4 years, there have been a total of 5,170 wilderness permits issued, for a total of 15,446 wilderness visitors. In 2003, a total of 1,337 wilderness permits were issued to a total of 4,059 wilderness visitors. Anecdotal evidence from wilderness rangers suggests that day use is approximately half of the total use. The most popular trailheads are Robinson Creek, Green Creek, Virginia Lakes, and Buckeye Creek. The average group size is 3.0 people and the average length of stay is 3.5 days. Use is heaviest from Thursday through Sunday. Heaviest visitation occurs during the month of August, with July being the next busiest month.

Campsites have been inventoried routinely since 1980. In 2003, campsites were reinventoried and plotted using GPS equipment. Popular campsites are obvious and show impacts such as bare soil and lack of vegetation. Most camping occurs near lake shores, with a large portion in the Virginia, Green, and Robinson creeks drainages. There are many suitable places to camp that are well away from water, but the majority of users seek camping locations near water and other visitors.

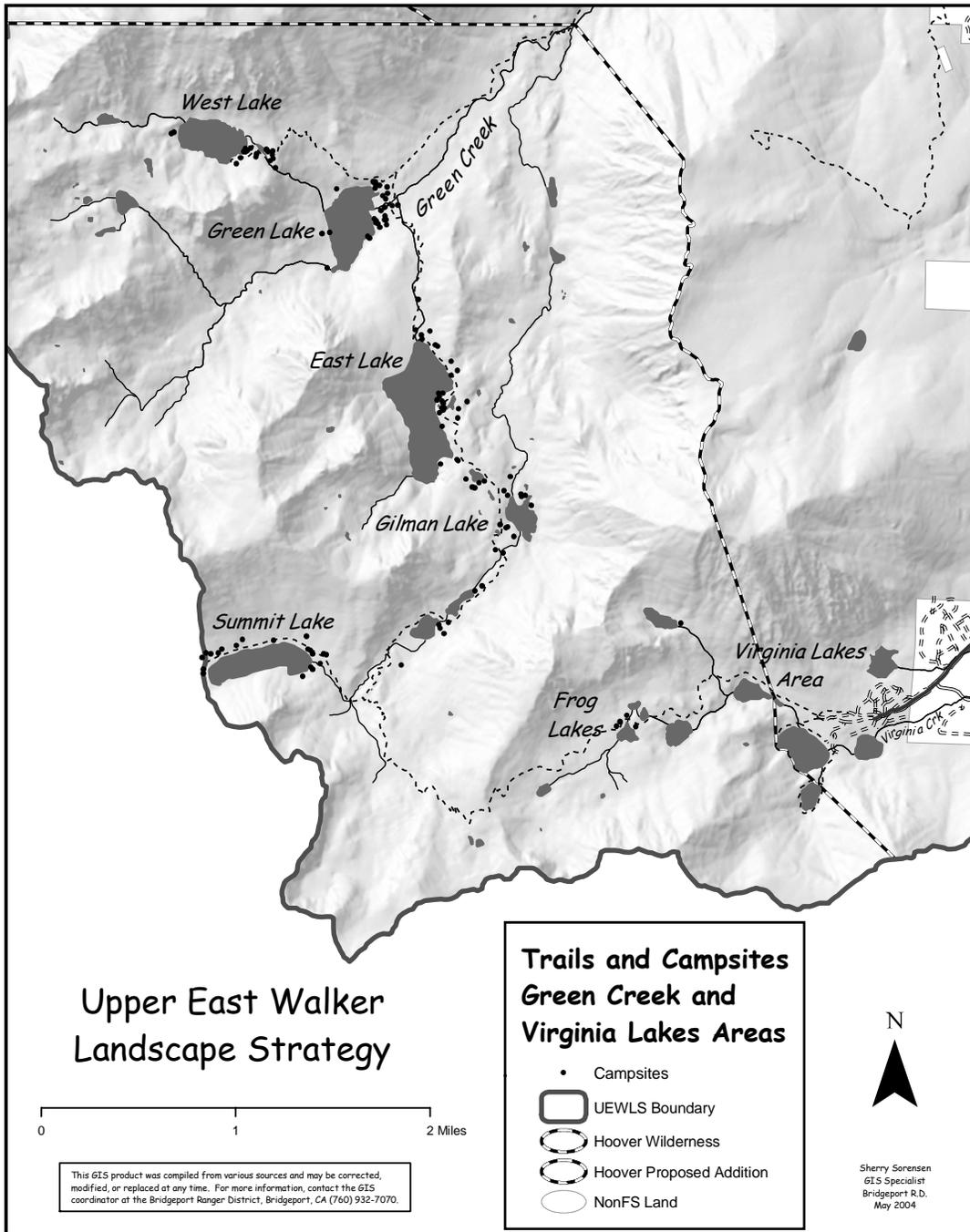
***A popular wilderness widely known for its extreme mountain terrain, in the Hoover visitors will find a land of lakes, meadows, streams and mountain spires. – CalWild.Org***

Human/bear conflicts occasionally occur within the wilderness. There are no requirements for storing food and other bear attractants so that bears are not able to obtain them.

In addition to standard national and regional direction, regulations specific to the Hoover Wilderness have been applied to respond to resource or social issues. These include:

- Campfires and stove fires (except for a portable stove using gas, jellied petroleum, or pressurized fuel) are not allowed within 1/4 mile of Barney and Peeler Lakes, or above 9,000 feet within the Virginia and Green Creek drainages (Virginia/Green Trails/Campsites Map).
- Camp more than 100 feet away from any lakeshore, stream and trail (unless terrain prohibits), but not within 25 feet in any situation.
- No camping within 1/4 mile of Barney Lake for more than one consecutive night.
- No camping within 100 feet of Barney Lake.
- No camping at Red Lake, Blue Lake or Virginia Lake.
- Special Regulations for the Sawtooth Zone
  - No campfires are allowed.
  - Maximum group size is 8 persons.
  - No camping within 100 yards of established routes.
- No use of firearms except for emergencies and taking of wildlife as permitted by state law.
- Group size is limited to no more than 15 persons.

- Pack or saddle stock are limited to no more than 25 head in any group.
- A fire season special order prohibiting the use of campfires below 8,000 feet was changed in 2004. The new special order does not impose special fire season restrictions beyond those mentioned above.



## **Desired Conditions**

- The Hoover Wilderness Management Plan guides management of the wilderness for the future, and is revised as necessary.
- Education and interpretation are used effectively to enhance recreation visitor experiences in the wilderness, reducing conflicts and impacts.
- Coordination occurs across forest and park boundaries in order to provide a seamless experience for wilderness visitors.
- The Hoover Wilderness is managed to meet the intent of the Wilderness Act by emphasizing wilderness character and values.
- The Hoover Wilderness offers outstanding opportunities for solitude or a primitive and unconfined type of recreation.
- Recreation use (commercial and private) in the Hoover Wilderness is managed in balance with wilderness characteristics or wilderness values.
- The Hoover Wilderness is managed so that fire plays a natural role. Fire management direction is current and meets standards.
- Commercial uses within the Hoover Wilderness are provided as appropriate. Recreation special uses are managed in balance with wilderness characteristics and values.
- Human/bear conflicts are reduced in wilderness.
- Adequate and legal access to trails and trailheads (Buckeye, Robinson Creek, Horse Creek, etc.) is provided.

## ***Watershed***

### **Current Condition**

The analysis area includes five subwatersheds; Buckeye Creek, Robinson Creek, Green Creek, Virginia Creek and Summers Creek. Buckeye Creek and Robinson Creek both flow directly into Bridgeport Reservoir from the west. Virginia Creek, Green Creek and Summers Creek merge in the Bridgeport Valley to form the East Walker River, which flows into Bridgeport Reservoir from the south.

Bridgeport Reservoir has water quality problems with a high level of nutrients which are adversely affecting beneficial uses of the reservoir. The Lahontan Water Quality Control Board (WQCB) is conducting studies on the reservoir to determine sources of nutrient loading and measures to improve water quality. Because of this problem the water quality of the reservoir's tributaries are a concern. The Lahontan WQCB has conducted monitoring on several tributaries. The Forest Service, Bridgeport Ranchers Association and the North Mono County Resource Conservation District have also funded a water quality study on tributaries and high-elevation lakes in the East Walker watershed.

### **Buckeye Creek**

Buckeye Creek originates within the Hoover Wilderness near the Sierra Nevada crest; its main tributary within the analysis area is Eagle Creek. Buckeye Hot Spring is located near the creek above Bridgeport Valley.

Buckeye Creek has been listed by the Lahontan Regional Water quality Control Board on its 303(d) list of water quality limited segments for pathogens. This listing is a result of Buckeye Creek exceeding the water quality objective for fecal coliform bacteria. Fecal coliform bacteria in water are indicators of contamination from the feces of warm-blooded animals. Bacterial sampling by the USGS was conducted at two sites on Buckeye Creek in 2000 and 2001, one at HWY 395 and one near Bridgeport Reservoir. Both of these sites are below national forest lands. Because impairment was evident at two stations, and because grazing occurs in much of the watershed, the Lahontan WQCB listed the entire creek. Potential sources of fecal coliform include grazing, natural sources, and recreational activities. A dysfunctional sewage system at Buckeye Campground was eliminated in 2003.

The USGS also tested Buckeye Creek waters for total phosphorus. Some of the samples exceeded the water quality objective. Additional testing is needed to define the extent of phosphorus problems in Buckeye Creek upstream of Bridgeport Reservoir. The Lahontan WQCB recommended that Buckeye Creek be listed for phosphorus, but it does not show up on the 2002 303(d) list of water quality limited segment. Phosphorus is present in soils and may reach the creek through erosion. Other possible sources are livestock wastes, atmospheric deposition, and potential natural inputs from Buckeye Hot Springs.

Forest Service staff walked the lower part of Buckeye Creek during the summer of 2003 and noted reaches of eroded stream banks. Some of this erosion may be the result of the 1997 New Year's flood. The peak stream flow in Buckeye Creek was 2,750 cubic feet per second (cfs). This peak is nearly three times higher than any previously recorded stream flow in Buckeye. There may also be some stream bank impacts from cattle grazing.

### **Robinson Creek**

Robinson Creek originates near the Sierra Nevada crest. There are a number of small lakes in its headwaters area. Upper and Lower Twin Lakes are glacial lakes with dams and are managed as reservoirs by private water owners. Water from these lakes is used in Bridgeport Valley for irrigation.

The reach of Robinson Creek from Twin Lakes to HWY 395 is on the WQCB 303(d) list for pathogens. USGS sampled bacteria at three Robinson Creek stations in 2000 and 2001. This reach of Robinson Creek flows by several FS campgrounds and recreation sites. The Lahontan WQCB lists livestock wastes as the probable major source of fecal bacteria loading to Robinson Creek. Other possible sources are failing septic systems on National Forest System or private lands and wildlife.

### **Green Creek**

The Green Creek watershed originates on the Sierra crest in the Hoover Wilderness. Green Lake, East Lake, and West Lake, all fed from Green Creek, supply water to downstream water rights holders in Bridgeport Valley. All three lakes have dams and are managed as reservoirs by the private water owners.

Forest Service staff conducted a watershed condition survey of Green Creek in 2002. The watershed was evaluated as being in healthy condition with some impacts to the upper elevation lakes from recreational use causing soil compaction around the shorelines.

### **Summers Creek**

This subwatershed includes Summers Creek, Deep Canyon and Cameron Canyon. The watershed condition survey conducted in 2002 noted several reaches of stream bank erosion along Summers Creek. A possible cause of this problem may be the diversion of water from Tamarack Creek into Summers Creek, resulting in higher flows and stream bank erosion. The survey also noted road crossings in poor condition in Deep Canyon along Forest Road 144, including Summers Creek flowing down the road for about 50 yards.

### **Virginia Creek**

The Virginia Creek subwatershed originates at the crest of the Sierra Nevada between Black Mountain and Castle Peak. There are three perennial streams in this watershed: Dog Creek, Dunderberg Creek, and Virginia Creek.

A watershed condition survey was conducted in 2002 by Forest Service staff. The survey noted that stream bank erosion is prevalent along the reach of Virginia Creek through the dispersed camping area accessed by Forest Road 139. The survey also described some erosion problems where Forest Road 020 crosses the irrigation ditch that transfers water from Dunderberg Creek into Dog Creek. The water flows along the road and then down a slope causing rills and gullies.

### **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.
- Meadows are hydrologically functional. Sites of accelerated erosion, such as gullies and head cuts are stabilized or recovering.

## ***Vegetation and Fuels***

### **Current Conditions**

#### **Vegetation Composition and Distribution**

Elevations in the Upper East Walker watersheds range from 6,500 feet near the Bridgeport Valley floor to 12,500 feet in the Dunderberg Peak area, forming multiple vegetation zones. In the lower elevations the nonforest cover types are mainly sagebrush and bitterbrush with a mix of grasses. The sagebrush zone transitions to small areas of a mixed woodland of pinyon pine and Jeffrey pine. At higher elevation coniferous forests occur within the montane and subalpine vegetation zones.

Jeffrey pine, white fir, aspen, and red fir forests occur in the middle elevations of the montane forest zone. Lodgepole pine forest type occupies the highest elevations above 8,500 feet, with both white and red fir occurring on the north slopes. The upper montane zone transitions to the subalpine vegetation zone. Subalpine forest types consist of whitebark pine and western white pine with discontinuous and patchy distribution. Most of the Hoover Wilderness is at the higher elevations within the subalpine zone with scattered pockets of timber, brush and large areas of barren rock.

#### ***Shrublands***

##### **Sagebrush**

Species of sagebrush have adapted to varying soil types and topographical conditions, with adaptations to both cold and dry environments. Major species types that occur in the sagebrush type include Wyoming big sagebrush, Great Basin big sagebrush, mountain big sagebrush, low sagebrush, antelope bitterbrush, desert peach, rabbitbrush, and a variety of perennial and annual grasses.

Sagebrush is common at the lower and mid elevations. Twenty percent (17000 acres) of the project area has sagebrush as the cover type.

Precipitation within the sage type is 12-15 inches. The historical fire frequency was 15-20 years prior to the mid 1800's. Historical fire patterns normally burned in mosaic patterns related to fine fuel, topography and wind patterns. Vegetation patterns were usually patchy with several age classes represented within any area.

In many basin big sagebrush communities, changes in fire regime have been caused by fire suppression and livestock grazing. Fire severity in big sagebrush communities is described as variable depending on weather, fuels, and topography. However, fires occurring in the basin big sagebrush communities are typically stand replacing. Fire intensity, size, and risk are much greater than what occurred in the past. The threat of cheatgrass following fire is significant and has the possibility of affecting large areas and further altering the historic fire regimes.

##### **Bitterbrush**

Bitterbrush is a common associate of sagebrush and in some areas dominates the vegetation type. In the East Walker country, bitterbrush shrublands are often found on bench lands intermingled with the sagebrush cover type. Common associates include sagebrush, rabbitbrush, and manzanita. Bitterbrush frequently intermingles with pinyon-juniper and Jeffrey pine vegetation types. Bitterbrush is common within the understory of open Jeffrey pine stands.

### **Mountain Mahogany**

Curlleaf mountain-mahogany occurs on 20% (17000 acres) of the project area and is one of the dominate vegetation types within the Buckeye and Twin Lakes areas. It is found in the shrub ecotones or mountain brush communities, in open forests, on ridge tops, and rock outcrops. Curlleaf mountain-mahogany usually occurs in isolated, pure patches that are often very dense.

Within the conifer stands, mountain mahogany appears to be on the decline due to lack of fire which kept the stands more open and favored an understory of mahogany. As the needle and litter buildups this prevents seed from reaching mineral soil. The increase in canopy closure also reduces the understory of mahogany and other shrubs.

Curlleaf mountain-mahogany may depend on fire to reduce conifer competition and produce favorable soil conditions for seedling establishment (Bradley, Anne F.; Noste, Nonan V.; Fischer, William C. 1991). However, individual curlleaf mountain-mahogany are severely damaged by fire.

### ***Pinyon-Juniper Woodlands***

The pinyon-juniper zone occurs at the lower elevations below 8,000 feet just above the sagebrush scrub zone and intermingled with Jeffrey pine. The understory in this vegetation zone is sparse and is composed primarily of sagebrush, bitterbrush, and perennial grasses. Major species types in the pinyon-juniper woodlands include singleleaf pinyon, sagebrush, and grass. Within the project area only 100 acres has been classified as pinyon pine vegetation type.

In pinyon-juniper cover type, historical fire regimes were patchy (Potter 1998). When favorable fire conditions occur, areas of high stand density probably resulted in intense stand replacing fires. In other areas, the lack of continuous fuels resulted in little damage to trees.

### ***Montane Forest Cover Types***

#### **Yellow pine**

In the lower montane zone Jeffrey pine is the predominate species. Common conifer species associates are singleleaf pinyon and white fir. Yellow pine forests range from open stands, with grass and shrub understories, to dense, single-storied canopy stands. On moister sites, Jeffrey pine often dominates the overstory with white fir in the understory. The yellow pine forest type is commonly adjacent to sagebrush, bitterbrush,

and mountain shrub cover types. Approximately 16 percent (14000 acres) of the Upper East Walker River Landscape Strategy Area is in this yellow pine type.

Historically, frequent, low-intensity ground fire maintained open stands of Jeffrey pine with some white fir in the understory. Trees tended to be scattered or in clumps, rather than a continuous canopy. Large, old trees were common. Frequent fires favored Jeffrey over white fir, especially at lower elevations (USDA Forest Service 1997). The historical fire return interval in pine-dominated stands was likely 5 to 20 years (Potter 1998). Historical fire return interval in white fir/Jeffrey pine forest type is estimated at 20 to 50 years (USDA Forest Service 1997).

### **Mixed Conifer**

Mixed conifer forest type is located in the middle to upper area of the montane zone. Jeffrey pine, white fir and aspen dominate the mid-montane mixed conifer forests. Annual precipitation in this vegetation zone averages 25-30 inches. Jeffrey pine dominates the dry, south-facing slopes from 7,500 feet to over 8,500 feet. The understory vegetation layer consists primarily of sagebrush, bitterbrush, and snowbrush.

Jeffrey pine tends to dominate the upper canopy layer at lower elevations. White fir is generally found in the lower canopy layer at all elevations on north and west aspects. Red fir occurs within stands at the higher elevations. Forest canopy closures are dense, greater than 60 percent and the understory vegetation is generally sparse. In canopy openings, sagebrush, bitterbrush, snowberry, and mountain mahogany occur.

Forest types dominated by white fir occur on north-facing slopes from 7,500 to 8,500 feet. Jeffrey pine occurs less frequently in these forest types. Western white pine and lodgepole pine are a small component of the upper montane, mixed conifer forests. Mixed conifer forest type occurs primarily between 7,500 to 8,500 feet elevations.

Fire suppression and favorable climatic conditions during stand establishment of the pine and white fir dominated mixed conifer forest types has led to higher stocking levels, fuel accumulations, and greater abundance of white fir occurring in the forest stands. Most of these areas have not experienced wildfire for over 100 years. On some sites that were historically maintained as more open pine dominated stands, the density and stocking levels has greatly increased compared to historical times.

### **Lodgepole pine**

The lodgepole pine forest type occurs at elevations above 8,500 feet. Depending on site conditions, these stands range between open stands to single-storied, dense canopied stands with western white pine, red fir, and whitebark pine also present. Understory vegetation includes sagebrush, manzanita, snowbrush, gooseberries, and currants. Approximately 16 percent (13500 acres) of the East Walker country is in lodgepole pine forest type.

In denser lodgepole pine stands, infrequent, stand replacement fires may have occurred; however, these areas tended to be small because of the topographic influences of high

elevation (Potter 1998). Lodgepole pine forest type is estimated to have historical fire return intervals between 25 to 150 years (USDA Forest Service 1994). Because of the extended fire return intervals that occurred in these forest types, fire suppression has not likely affected the fire regimes in higher elevations. Much of the Hoover Wilderness is a good example of this fuel type.

### **Aspen**

Large stands of quaking aspen groves occur in the mid and upper elevations throughout the East Walker country. Aspen groves are found on the moister sites near the many springs and seeps, and along drainages in riparian corridors. Aspen is the dominant species, with willow and alder present in the understory. In some areas the conifers are increasing in the aspen groves due to the lack of disturbance. Without disturbance to stimulate aspen suckering and reduction of conifer density over time, advanced conifer succession will reduce hardwood riparian and aspen communities (Bartos 2000). Aspen stands account for 4 percent (3500 acres) of the area.

Probable contributing factors to the reduction in aspen stands and the change in composition are:

- Highly effective control of wildfires in the last 50 years, especially in the quaking aspen type.
- Reduction of fine fuels in quaking aspen/grass and quaking aspen/forb types due to grazing.
- Cessation of deliberate burning by Native Americans.

Fire was the most significant disturbance factor influencing changes in structural stages and composition of aspen groves and minimizing dominance by conifer species. Non-lethal fires at lower elevations, and stand replacement fires at the higher elevations, historically regenerated aspen and kept conifers from encroaching. Fire return intervals are less frequent today compared to historical averages.

### **Mountain Riparian**

Mountain riparian vegetation occurs in relatively narrow strips along perennial streams in steep draws in higher elevations. In intermittent stream corridors, aspen dominates the riparian vegetation. Conifers are becoming increasingly abundant within the riparian communities due to lack of disturbance.

### **Subalpine Forest Cover Type**

Subalpine forests are composed of whitebark pine, lodgepole pine, and mountain hemlock. Small isolated scattered stands of whitebark pine occur throughout the area at the uppermost elevations. They are usually associated with lodgepole pine and red fir types. Whitebark pine only accounts for about two percent of the vegetation in the area.

White bark pine occurs mainly on dry rocky, subalpine slopes, and exposed ridges. These stands are isolated and generally are open with an undergrowth of low shrubs, forbs, and grasses. In upper elevation subalpine forests, whitebark pine is generally seral and competes with and is replaced by more shade-tolerant trees.

The vulnerability of whitebark pine to fire is limited by the open structure of its stands and the dry, exposed habitats with meager undergrowth in which it grows. Whitebark pine is favored by severe, stand-replacing fires which burn shade-tolerant associated trees. Where succession to shade-tolerant species is relatively rapid, fires are important in moist sites for whitebark pine perpetuation (Arno, Stephen F. 1986).

The regeneration of whitebark pine in small openings is probably the result of surface fires. In contrast, the perpetuation of whitebark pine on moist sites where succession to shade-tolerant species is relatively rapid is probably due to severe fires. The occurrence of whitebark pine in subalpine basins and on moist north slopes is probably the result of fire (Arno, Stephen F. 1986).

### **Mountain Shrub**

Mountain shrubs dominate in some areas of the East Walker country. They are most often found at mid elevations from 8,000 to 9,000 feet. The major plant community in the mountain shrub cover type is chaparral shrub that includes species such as manzanita. Sagebrush and bitterbrush also occur in this montane shrub cover type in small isolated areas. Approximately 300 acres is in the mountain shrub cover type.

### **Forest Insects and Disease**

During the 1860s through 1900, the coniferous forests in the Buckeye Canyon, Eagle Creek, and Sawmill Ridge were extensively logged to support activities associated with the Comstock gold mining operations. Following the Comstock logging, the forests regenerated during a period of moist climatic conditions, extensive sheep grazing, and aggressive fire suppression. The resulting forest conditions tend to be relatively dense compared to historical forest condition. In favorable site conditions, white fir was more abundant in both the forest understory and overstory. The change in forest composition and structure has likely increased the susceptibility to insect outbreaks and disease, particularly in times of low precipitation. The drought of the late 1980s to the mid-1990s increased insect infestations in the conifer forest types.

White fir mortality to fir engraver beetles occurred in the Twin Lakes/Robinson Creek drainage, particularly in densely stocked mixed conifer stands. This drought related mortality ranged from 15 to 55 percent. Stand density and host tree reductions during the outbreak in the 1990s may have reduced the extent of future outbreaks for some species. However, these insect-caused tree mortalities have increased ground fuels accumulation, particularly on the south side of Upper Twin Lakes.

### **Fire Regime Condition Classes**

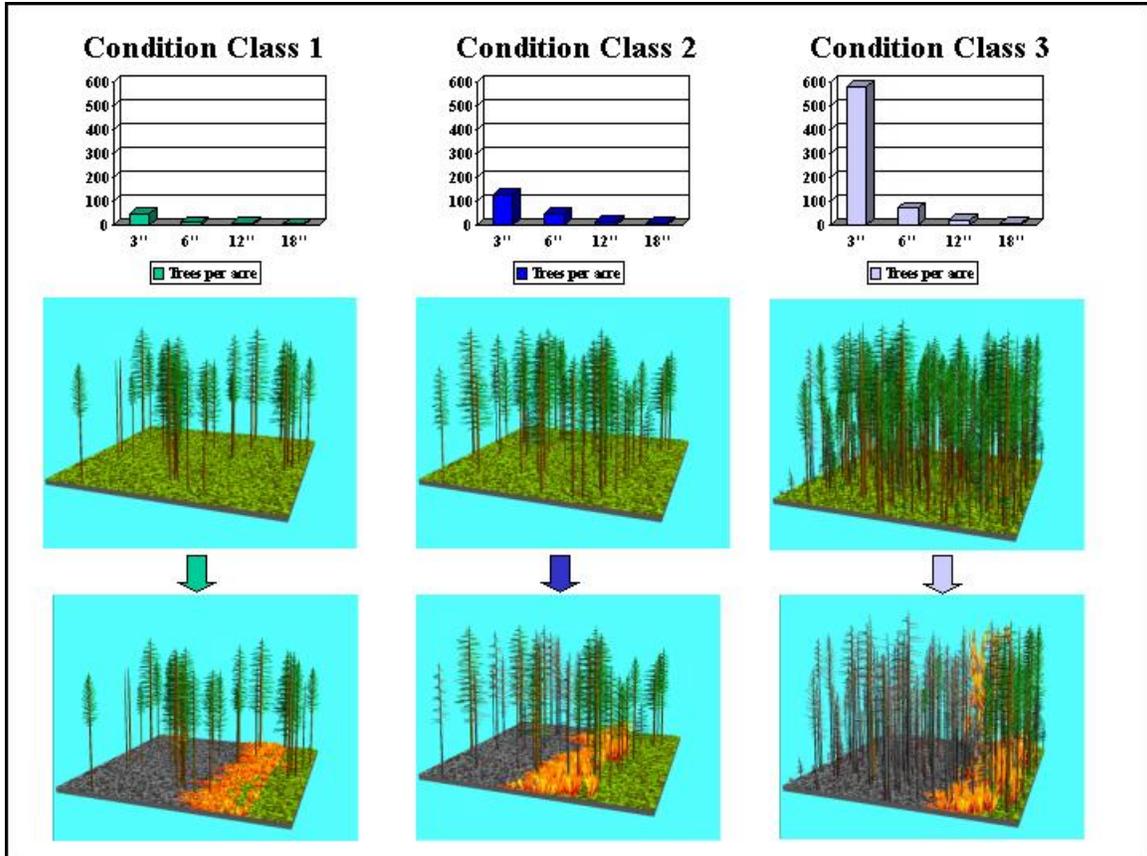
The Cohesive Strategy (USDA Forest Service 2002a) addresses the impacts of past fire suppression and other factors on vegetation composition and structure. The increased risk of loss of key ecosystem components (or resources at risk) and on public safety, as a result of departures from historical fire regimes, is described as fire regime condition class. The risk increases from condition class 1 (lowest risk) to condition class 3 (highest

risk). The following table describes the fire regime condition classes used in this analysis.

**Descriptions of Fire Regime Condition Classes.**

<b>Condition Class</b>	<b>Departure from Historical Fire Regime</b>	<b>Description</b>
1	None, Minimal, & Low	Vegetation composition, structure, and fuels are similar to those of the historic regime and do not predispose the system to risk of loss of key ecosystem components. Wildland fires are characteristic of the historical fire regime behavior, severity, and patterns.
2	Moderate	Vegetation composition, structure, and fuels have moderate departure from the historic regime and predispose the system to moderate risk of loss of key ecosystem components. Wildland fires are moderately uncharacteristic compared to the historical fire regime behaviors, severity, and patterns.
3	High	Vegetation composition, structure, and fuels have high departure from the historic regime and predispose the system to high risk of loss of key ecosystem components. Wildland fires are highly uncharacteristic compared to the historical fire regime behaviors, severity, and patterns.

Source: Hann and others 2002; USDA Forest Service 2002a



Prior to the 1860s, fire was an integral part of the terrestrial ecosystem in portions of the Upper East Walker Landscape Strategy. Lightning and American Indian-caused fires were common before European settlement of the area (Gruel 2001; USDA Forest Service 2001a; Skinner and Chang 1996; USDA Forest Service 1997). Fire regimes characterize patterns of fire frequency, severity, size, and uniformity for vegetation types. The fire regimes that existed during pre- Euro-American settlement are referred to as the historical fire regimes. These are illustrated in the top panel of Figure 5.

Fire suppression, moist climatic conditions, wildland fires, sheep grazing, and past logging have influenced the current vegetation conditions in the Upper East Walker Landscape Strategy. The combined effect of these factors has changed the historical fire regimes in some vegetation types, particularly in pine-dominated forests. These are illustrated in the bottom panel of Figure 5. The following table shows the historical and current fire regimes, and condition classes for major vegetation cover types in the Upper East Walker Landscape Strategy.



**Figure 5: Upper panel illustrates a low intensity surface fire. The lower panel illustrates a high intensity stand replacing fire in heavy fuels.**

**Historical and Current Fire Regimes and Condition Classes by Major Vegetation Cover Types in the Upper East Walker Landscape**

<b>Vegetation Cover Type</b>	<b>Historical Fire Regime</b>	<b>Current Fire Regime</b>	<b>Current Condition Class</b>
Sagebrush/ Bitterbrush	Frequent stand– replacement fire	Infrequent stand– replacement fire	1
Pinyon pine	Variable interval– mixed intensity fire	Moderate interval– mixed intensity fire	1
Jeffrey pine	Frequent–low intensity fires	Moderate interval– low to moderate intensity fire	1-2
Jeffrey pine/white fir	Frequent– low intensity fire	Moderate interval– moderate to high intensity fire	2-3
Red fir/lodgepole pine/whitebark pine	Variable interval– mixed intensity	Moderate interval – mixed intensity	1

**Wildfire Occurrence History**

The Humboldt-Toiyabe National Forest has fire records for the past 50 years (1950 through 2003). During that time, the majority of wildfires in the Upper East Walker Landscape Strategy area occurred in the Jeffrey pine stands and within the sagebrush communities. Most of the fires primarily occurred at the lower elevations of the Buckeye Canyon and in the Twin Lakes drainage.

Fire history is closely related to vegetation and climatic pattern in forest ecosystems. Fire risk is defined as fire ignitions causes, such as natural-caused (lightning strikes) or human-caused. Large fires within this area have been human-caused and they occurred under higher fire weather conditions. The following table shows nearly 30 percent of the wildfires in the East Walker country as having unknown causes, with 35 percent lightning-caused, and 35 percent human-caused.

**Wildfire Occurrence History in the Upper East Walker Landscape**

Year	Fire Cause & Acres Burned			Total Acres Burned
	Lightning	Human	Unknown	
1968	0	1419	0	1419
1974	0	45	0	45
1976	0	20	0	20
1984	277	0	0	277
1988	1799	0	1789	3588
1992	71	0	0	71
1998	0	0	32	32
2003	0	688	0	688
Total	2147	2172	1821	6140

Source: Humboldt-Toiyabe National Forest Fire Reports

**Potential Fire Behavior and Fuel Models**

The prediction of fire behavior is valuable for assessing potential fire damage to resource, for fire suppression planning, and for fuels treatment planning. Fire behavior is a function of topography (i.e., elevation, slope, and aspect), weather, and vegetation/ fuel characteristics (vegetation-fuel types, canopy closure, stand structure, and fuel moisture contents).

Wind direction drives the fire spread (Rothermel 1983). The stronger the wind, the faster the fire spread. Winds in the East Walker country are variable. Strong, down slope winds off the Sierra Crest occur primarily in the afternoon and evening hours. During these winds, wildfires burn downhill. When down hill and southeast winds prevail, wildfires will spread both down slope and parallel to the slope. During the day, when upslope winds prevail, fires tend to burn upslope.

Fire fuel models are a representation of the vegetative condition that equates to the vegetation-fuel classes present in an area. Fuel models describe the potential fire intensity based on existing surface vegetation-fuel classes. The following table shows the fuel models and vegetation cover types crosswalk for vegetation-fuel classes applicable to the East Walker country. The definitions of fuel models are based on Albin (1976), and the criteria for choosing the fuel model are based on Anderson (1982).

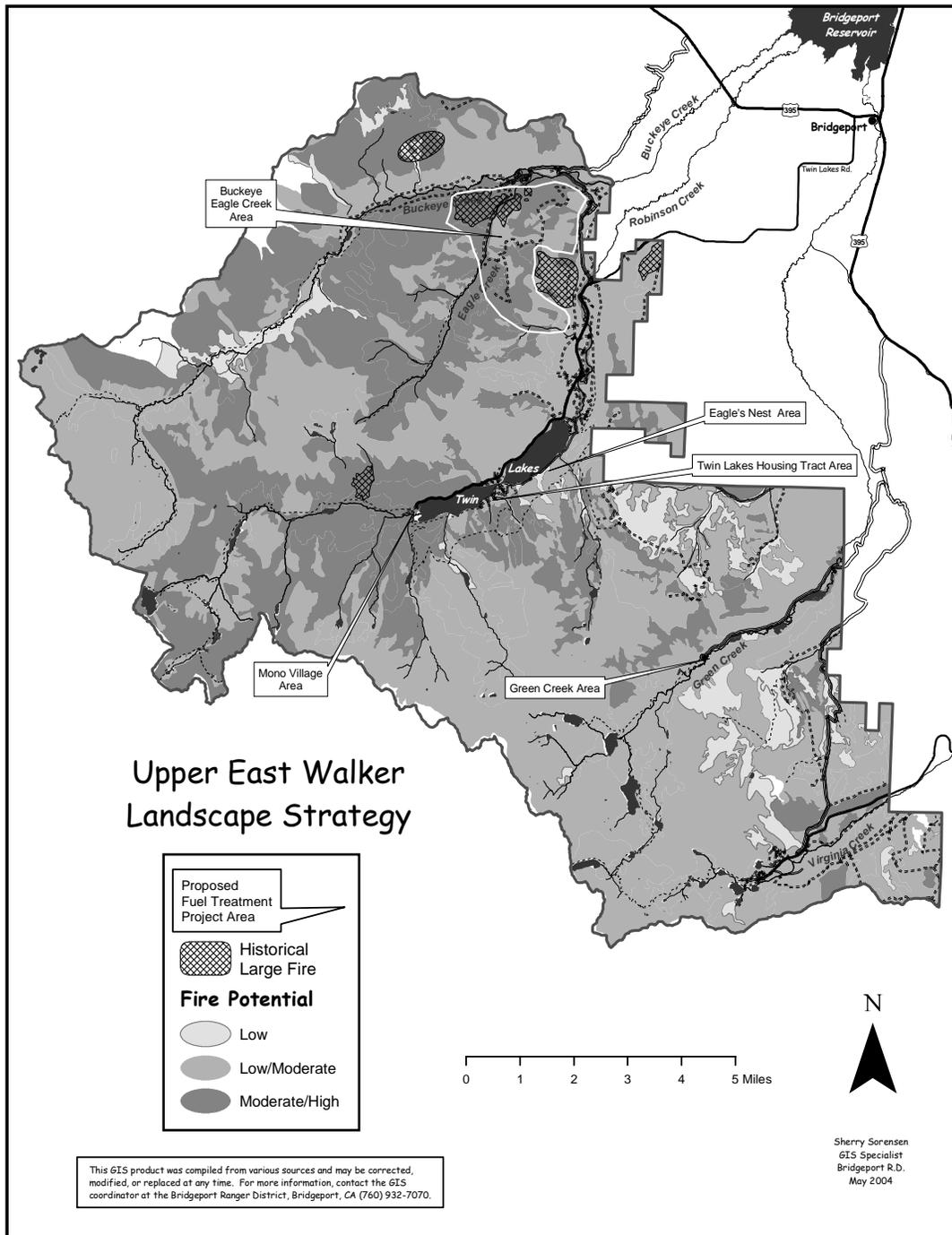
**Fuel Models and Vegetation Cover Types Crosswalk for Vegetation-Fuel Classes Applicable to the Upper East Walker Landscape Strategy.**

Fuel Model	Vegetation Cover Type
2- Timber (grass and understory)	Jeffrey pine with less than 30% crown cover; Lodgepole pine with less than 60% crown cover; Lowland riparian; Mountain riparian; Sagebrush/perennial grass.

4- Chaparral (6 ft.)	Aspen; Pinyon-juniper with 30-60% crown cover; Jeffrey pine/mountain shrub; Bitterbrush; Mountain shrub.
6- Dormant (shrub and hardwood)	Pinyon-juniper with less than 30% crown cover; Pinyon with less than 30% crown cover; Jeffrey pine with 30-60% crown cover; Mountain sagebrush; Sagebrush.
8- Closed timber litter	Pinyon with 30-60% crown cover; Lodgepole pine with greater than 60% crown cover; Whitebark pine with less than 30% crown cover; Jeffrey pine with greater than 60% crown cover.
10- Conifer (litter and understory)	White fir with greater than 60% crown cover.
99- Miscellaneous	Agriculture; Urban; Barren.

Source: Anderson 1982; Vegetation Inventory Data 2002

The following map shows fire potential based on these fuel models.



### Wildland-Urban Interface and Fuels Hazard

The wildland-urban interface is where developed areas, such as homes, ranches, and farms, are located in or near wildlands. In the wildland interface development, the risk of wildfires threatens life and property. In these areas, human habitation is mixed with areas of flammable vegetation. Intermix zones identify where fuels treatment would be

focused to reduce fire risk to property, and reflect the degree of fuel treatments that would be applied in these zones.

The inner defense zone extends 0.25 miles around the developed property. Treatment within this zone is dependent on historical fire spread and intensity, weather patterns, topography, and access. Treatments are designed to reduce wildland fire spread and intensity sufficiently for suppression forces to succeed in protecting human life and property.

The threat zone is a 1.25-mile wide buffer immediately beyond the inner defense zone (USDA Forest Service, 2004). Treatment in the threat zone is designed to reduce fire intensity and rate of spread as it approaches the inner defense zone. The following table identifies 30 percent (26,430 acres) of the project area is identified as urban wildland intermix defense and threat zones. The majority occurs within the Twin Lakes watershed.

**Urban Wildland Intermix Defense and Threat Zones in the Upper East Walker Landscape**

<b>Urban Wildland Intermix Zones</b>	<b>Twin Lakes Acres</b>	<b>Green Creek Acres</b>	<b>Virginia Lakes Acres</b>	<b>Total Acres</b>
Defense	1950	220	860	3030
Threat	14,000	4550	4850	23,400
<b>Total</b>	<b>15,950</b>	<b>4770</b>	<b>5710</b>	<b>26,430</b>

Source: Humboldt-Toiyabe National Forest GIS data; Urban wildland intermix defense and threat zones are USFS mapped land allocations.

**Desired Conditions**

**General Forest and Old Forest Emphasis Areas**

- Forest structure and function generally resemble pre-settlement conditions. High levels of horizontal and vertical diversity exist at the landscape-scale.
- Stands are composed of roughly even-aged vegetation groups, varying in size, species composition, and structure. Individual vegetation groups range from less than 0.5 to more than 5 acres in size. Tree sizes range from seedlings to very large diameter trees. Species composition varies by elevation, site productivity, and related environmental factors. Multi-tiered canopies, particularly in older forests, provide vertical heterogeneity. Dead trees, both standing and fallen, meet habitat needs of old-forest-associated species.
- Where possible, areas treated to reduce fuel levels also provide for the successful establishment of early seral stage vegetation.

### **Urban Intermix Defense Zone**

- Stands in defense zones are fairly open and dominated primarily by larger, fire tolerant trees.
- Surface and ladder fuel conditions are such that crown fire ignition is highly unlikely.
- The openness and discontinuity of crown fuels, both horizontally and vertically, result in very low probability of sustained crown fire.

### **Urban Intermix Threat Zone**

Under high fire weather conditions, wildland fire behavior in treated areas within the threat zone is characterized as follows:

Flame lengths at the head of the fire are less than 4 feet;

The rate of spread at the head of the fire is reduced to at least 50 percent of pre-treatment levels;

Hazards to firefighters are reduced by managing snag levels in locations likely to be used for control of prescribed fire and fire suppression consistent with safe practices guidelines;

Production rates for fire line construction are doubled from pre-treatment levels; and

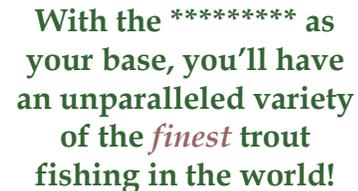
Tree density has been reduced to a level consistent with the site's ability to sustain forest health during drought conditions.

## ***Fisheries and Amphibians***

### **Current Conditions**

#### **Recreational Fisheries**

The East Walker River watershed is known for great recreational fishing opportunities. Rainbow, brook, and brown trout are common throughout area. In 2004 the California Department of Fish and Game stocked 175,000 rainbow trout in Buckeye Creek, Green Creek, Virginia Creek, Virginia Lakes, Robinson Creek, and Twin Lakes.



With the \*\*\*\*\* as  
your base, you'll have  
an unparalleled variety  
of the *finest* trout  
fishing in the world!

**Figure 6: Ad for local inn**

The recreational fisheries habitat in Virginia, Green, Robinson, and the Buckeye Creek are being affected by fishing, other recreational use, dispersed camping, roads, user created trails, and loss of streamside vegetation.

#### **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, FS Region 5 Sensitive Species, and a USFWS candidate species.

The Yosemite toad is found in a wide variety of high mountain wet meadows, lakes, springs, small ponds, side channels, and sloughs. They are most commonly found in shallow, warm water areas in habitats surrounded by lodgepole or whitebark pine. They like thick meadow vegetation and patches of low willows. Yosemite toads are found from 6,400-11,300 feet elevation. The toad lays eggs at snowmelt over a short period of time and emerges from winter hibernation as soon as snowmelt forms pools. Eggs are deposited in gelatinous strings that are intertwined with vegetation and buried in silt. After breeding, adults feed in meadow habitat or move into other aquatic habitat away from meadows such as headwater springs.

Across its range, the Yosemite toad faces potential threats from livestock grazing, roads and timber harvest, conflicts with recreation, loss of habitat from dams and diversions, predation from the stocking of nonnative fishes, diseases, and possibly recent increases in UV radiation. While research on environmental toxin affects on this species has not yet been conducted, closely related species in other regions have shown sensitivity to numerous pesticides, herbicides, and fertilizers (Berrill et. al. 1993, Berrill et. al. 1997, LeBlanc and Bain 1997). Because these chemicals are thought to disrupt endocrine systems in amphibians at low concentrations, application of pesticides and herbicides are considered to be a risk factor for this species.

Threats to the Yosemite toad in the East Walker country are currently limited, because their only location is in the Hoover Wilderness where no chemicals are applied, no livestock grazing occurs, and there are no roads or timber harvest. From 2001-2003 California Department of Fish and Game (CDFG) surveyed each lake in the upper East Walker River watershed for fish, amphibians, reptiles, and habitat conditions. Frog Lakes, part of the Virginia Creek drainage in the Hoover Wilderness, was the only area where they found Yosemite Toads. Frog Lakes also supports a population of Brook Trout. Since the CDFG survey was completed after the decision on the Sierra Nevada Forest Plan Amendment, Frog Lakes were not identified as a Critical Aquatic Refuge.

### **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; Drost and Fellers 1996). 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, FS Region 5 Sensitive Species, and a USFWS candidate species.

Mountain yellow-legged frogs historically inhabited ponds, tarns, lakes and streams from 4,500 to over 12,000 feet. Tadpoles are primarily herbivores, grazing on algae, diatoms, and detritus in the aquatic environment. Adults eat invertebrates but also take tadpoles of other frogs. Adults like the water and are often found along lakeshores and low gradient streams with irregular shores and rocks. Overland movements up to 66m occur when frogs move from one body of water to another for breeding, over-wintering and feeding.

Over-wintering habitat condition is important for both tadpoles and adults. Tadpoles do not turn into frogs in their first year and may spend 2-3 winters in aquatic habitats. During winter dormancy, tadpoles can withstand anoxic conditions, while some sub-adult and adult frogs have a lower tolerance and seek winter cover in deep granite crevices along the lake shorelines. The decline in this species can be contributed to the introduction of non-native fish, increased recreation use, and the use of pesticides and herbicides.

Across their range, mountain yellow-legged frogs face potential threats from livestock grazing, roads, timber harvest, conflicts with recreation, loss of habitat from dams and diversions, predation from the stocking of nonnative fishes, and diseases. Introduction of exotic predatory fish in aquatic habitats used by this species is likely the primary reason for the species' decline (Bradford, et. al. 1998, Knapp and Matthews 2000, Matthews and Knapp 1999). A recently discovered Chytrid fungus may also be affecting a number of mountain yellow-legged frog populations but research on this subject is just beginning. While research on environmental toxin affects on this species has not yet been conducted, closely related species in other regions have shown sensitivity to numerous pesticides, herbicides, and fertilizers (Berrill et. al. 1993, Berrill et. al. 1997, LeBlanc and Bain 1997). Because these chemicals are thought to disrupt endocrine systems in amphibians at low concentrations, application of pesticides and herbicides are considered to be a risk factor for this species.

In 2002 CDFG found mountain yellow-legged frogs in the Hoover Wilderness at two unnamed lakes near Peeler Lake. No fish were found in the 2 unnamed lakes. This area was not identified as a Critical Aquatic Refuge in the Sierra Nevada Forest Plan Amendment. This area does not lie within a grazing allotment.

Human activities occurring near Frog Lakes and Peeler Lake may be affecting Yosemite toad and Mountain yellow-legged frog populations. Human activities in the Frog and Peeler Lakes area include dispersed camping, hiking, recreational fishing, and horse and stock use. These activities have the potential to disturb pond and lake shorelines critical to the Yosemite toad and Mountain yellow-legged frog. Human activities can result in trampling of toads and frogs and can decrease the quality of amphibian habitat through stream/vegetation down-cutting and head-cutting, increased siltation, and changes in micro-topography of egg deposition and larval rearing areas.

## Desired conditions

High mountain lake and stream habitat needs to be managed in a manner which maintains or restores native biodiversity and habitat quality, will support viable populations of native species, and provides for recreational opportunities considering historical and future use patterns.

Management of the habitat should balance recreational benefits with maintaining or improving native biodiversity and a thriving 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.
- Habitat supports viable populations of native and desired non-native riparian and aquatic-dependent species. New introductions of invasive species are prevented. Where invasive species are adversely affecting the viability of native species, the appropriate State and Federal agencies must take appropriate actions to reduce impacts to native populations.
- 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.
- In-stream flows are sufficient to sustain desired conditions of riparian, aquatic, wetland, and meadow habitats and keep sediment regimes as close as possible to those with which aquatic and riparian biota evolved.

- The physical structure and condition of stream banks and shorelines minimizes erosion and sustains desired habitat diversity.
- The ecological status of meadow vegetation is late seral (50 percent or more of the relative cover of the herbaceous layer is late seral with high similarity to the potential natural community). A diversity of age classes of hardwood shrubs is present and regeneration is occurring.
- 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 Condition**

The Upper East Walker country provides a variety of habitats for many species of wildlife. These habitats include sagebrush, pinyon-juniper, aspen, mixed conifer and alpine. The wildlife present in this area range from the endangered Sierra Nevada bighorn sheep, to goshawks and sage grouse, both Forest Service sensitive species, and common species such as mule deer, black bears and neo-tropical migratory birds. Habitats found in this area are generally in good condition. Sagebrush stands offer suitable habitat for sage grouse during the brood-rearing season. The mixed-conifer stands present in this area provide suitable nesting habitat for goshawks. A Goshawk Protected Activity Center is located in the Virginia Creek area.

Aspen stands in the Dunderberg and Tamarack Pines areas are declining. Due to the encroachment of conifers, aspen regeneration and the shrub/forb understory are reduced. Consequently, nesting habitat for neo-tropical birds including mountain bluebird, orange-crowned warbler, yellow warbler, MacGillivray's warbler and Wilson's warbler as well as mule deer fawning habitats are impacted.

Two migratory mule deer herds are present, the Mono herd and the East Walker herd (Taylor, 1991). These herds typically occupy the East Walker country during the spring and summer. Fawning occurs during the spring to early summer and usually occurs

within aspen stands. Facilities development and occupancy in the Twin Lakes area has fragmented mule deer transition range and reduced available forage.

### **Desired Future Condition- Wildlife**

Aspen Stands at Dunderberg Peak and Tamarack Peak:

- Re-generation of aspen stands is not impeded by conifer encroachment.

### **Landscape Scenery**

The East Walker country includes a wide variety of scenic landscapes, from the pastoral Bridgeport Valley to the High Sierra peaks along the border with Yosemite National Park. People relate to these landscapes through their sense of place, a mutually shared image of the landscape.

### **Current Conditions**

The East Walker country has some of the most dramatic scenery in the nation. The character of this landscape is predominantly natural, affected mostly by the natural processes of erosion and plant succession. The dominant landform is the renowned Sawtooth Ridge along the boundary of Yosemite National Park. Dominated by the 12,200 foot Matterhorn Peak, the ridge is located within the Hoover Wilderness Area and provides a spectacular backdrop to Bridgeport Valley. Dunderberg Peak (12,400 feet) is the highest peak in the East Walker country and dominates the scenery of the Green and Virginia Creek areas. High alpine lakes are sprinkled throughout the Hoover Wilderness below the crest of the Sierra Nevada. The Hoover Wilderness borders Yosemite National Park (designated a World Heritage Site in 1984).

**O**riginally called Big Meadows, Bridgeport Valley offers a truly glorious setting of open range and grassland. It is the gateway to the remote and unspoiled reaches of Yosemite National Park. High above this lush valley is the Sawtooth Ridge of the High Sierra Crest. This is an exciting area known for its disparate rock climbs and ski mountaineering routes. This ridge is aptly named with its knifelike spears of granite splitting the sky with splendid accuracy.  
-sierranet.com

Cultural factors play a minimal role at the higher elevations but are quite evident in the heavily used recreation areas of Twin and Virginia Lakes, home to cabins, summer and year-round homes, rustic resorts, as well as several private and Forest Service campgrounds. Vegetation ranges from alpine tundra, groves of lodgepole and Jeffrey pine, to aspen intermixed with natural meadow and rock outcrop openings. At the lowest elevations a few small areas are dominated by sagebrush. Topography is among the steepest in the nation, falling sharply from over 12,000 feet along the Sierra



**Figure 8: Virginia Lakes Resort**

Crest to 6,500 feet at in Bridgeport Valley in the space of less than seven miles. Scenic integrity is moderate to very high. Minimal evidence of human caused disturbance is visible outside of the Twin and Virginia Lakes recreation areas.

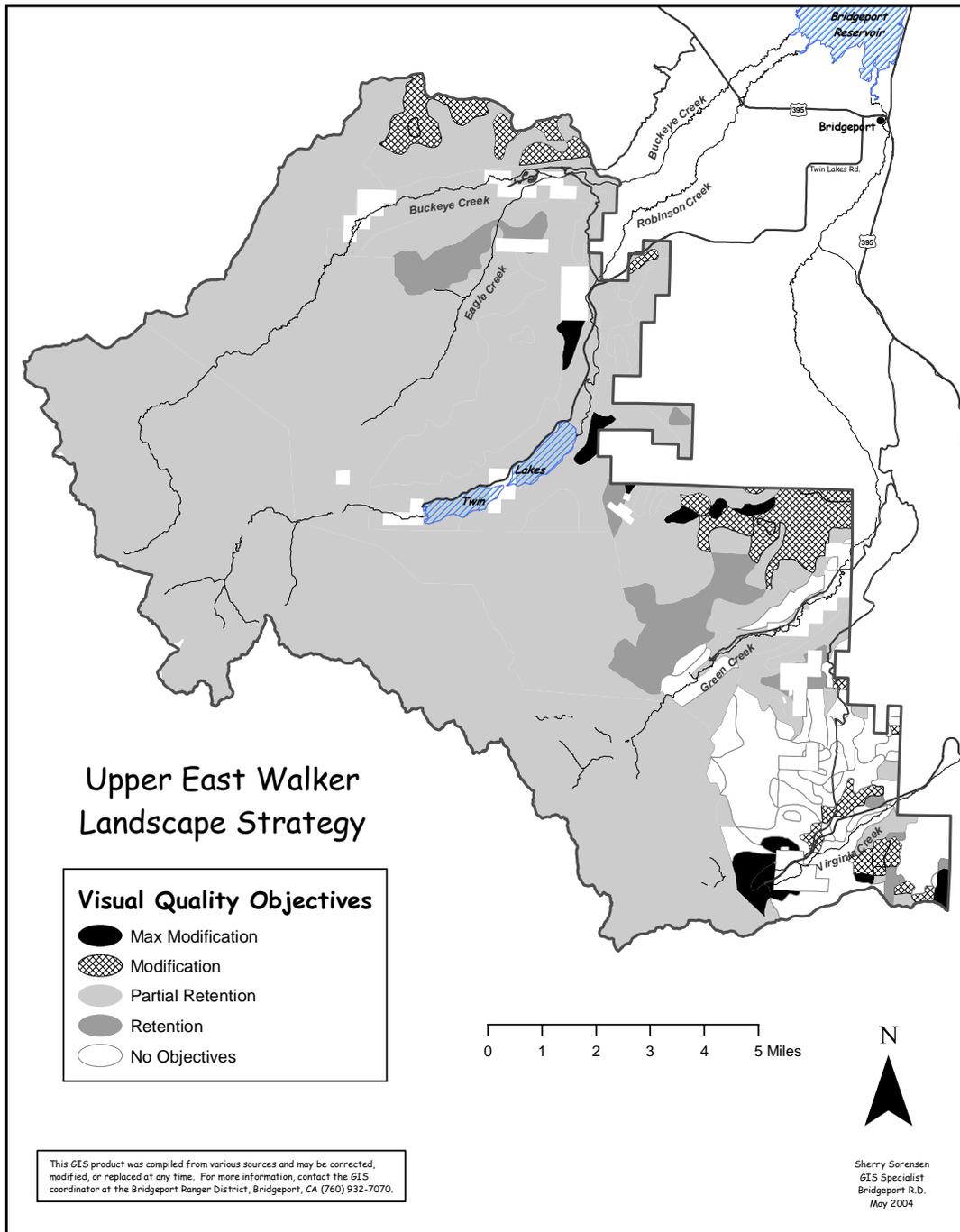
The area retains a sense of natural wholeness in an unimpaired condition. Landscape visibility centers on Highway 395 to the east of the planning area. Spectacular background views of the Sawtooth Ridge and the High Sierra Peaks bordering Yosemite National Park draw visitors to the area from throughout the nation.

Middleground views are dominated by Kavanaugh, Monument, Sawmill and Buckeye ridges. In the northern part of the planning area, fire scars and the Buckeye road provide a minor, if visible disruption to middleground scenic integrity. Scenic integrity is also compromised in the Jordan Basin on the southern boundary of the planning area due to a proliferation of roads and trails. Foreground views include the BLM's Conway Summit Scenic Area and the pastoral setting of Bridgeport Valley.



**Figure 9: Upper Robinson Creek Country**

The 1986 Toiyabe Forest Plan identifies much of the East Walker country for management under the "Partial Retention" visual quality objective. This is where man's activities may be evident, but should be subordinate to the natural landscape. This includes the Sierra Crest along the Yosemite border, the Sawtooth Ridge, and the Hoover Wilderness area. Higher protection through the "Retention" objective is provided for less scenic areas in Jordan Basin, the Hunewill Hills, Tamarack Mine, north Green Creek, and Eagle Creek areas. A large area below Dunderberg Peak and above the BLM's Conway Summit Scenic Area has no visual quality objective (Visual Quality Objective Map).



### Desired conditions

With increasing development and cultural changes, the desired conditions in the Forest Plan appear outdated, with a lower emphasis on achieving scenic integrity than is appropriate

Desired conditions should include maximum protection for the Sawtooth Ridge and Sierra Crest, Dunderberg Peak, Hoover Wilderness, Monument Ridge, and Buckeye Ridge areas, while allowing for minor modification in the Virginia, Green, Robinson, and Buckeye Creek areas.

**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**

Most of the analysis area is located in the Hoover Wilderness or in roadless areas. The existing road system primarily follows drainages leading towards the eastern slopes of the Sierra Nevada. The two main use road corridors in the analysis area are the Virginia Lakes and Twin Lakes corridors. Other important travel routes in the area include the Buckeye Creek, Green Creek, and Dunderberg. These roads constitute the “backbone” of National Forest System roads in the analysis area and they connect to all other roads in the area.

US Highway 395 is the major transportation route that provides a north-south link to the analysis area. Major population centers of southern California, including Los Angeles, access the East Walker area from the south on US 395. Central California and northern Nevada access the area from the north on US 395. California SR 108 is an important east-west route that provides access from major population centers including Sacramento and San Francisco. Mono County roads interconnect with National Forest System roads in the analysis area.

Due to land ownership patterns in the analysis area, jurisdiction of roads in the area is mixed. While the Forest Service has jurisdiction over most of the roads there are some segments of roads under County, Bureau of Land Management, and private jurisdiction.

National Forest System (NFS) road 32017 Buckeye Robinson Creek has been proposed for designation as a Forest Service Public Road. This designation would make the road eligible to compete for construction funding from the Federal Lands Highway Program through the Federal Highway Administration.

The physical characteristics of the East Walker road system are described in the following two tables for classified and unclassified roads.

<b>Summary of Classified Roads in the Upper East Walker Watershed</b>					
<b>Road No. and Name</b>	<i>Length</i>	<b>Lanes</b>	<b>Surface Material</b>	<b>Mace. Level</b>	<b>Jurisdiction</b>
32017 Buckeye Robinson	7.8	Single	MP 0.0-3.1 Crushed Aggregate MP 3.1-7.0 Native	3 3	0.0-0.7 County 0.7-7.8 Forest Service

<b>Summary of Classified Roads in the Upper East Walker Watershed</b>					
<b>Road No. and Name</b>	<i>Length</i>	<b>Lanes</b>	<b>Surface Material</b>	<b>Mace. Level</b>	<b>Jurisdiction</b>
			MP 7.0-7.8 Asphalt	3	
32017A Spur Line	0.42	Single	Native	2	Forest Service
32017B Heliport	0.10	Single	Native	2	Forest Service
32017C Connector	0.21	Single	Native	2	Forest Service
32017D Fence line	0.78	Single	Native	2	Forest Service
32017E Spur	0.09	Single	Native	2	Forest Service
32017F Foothill	2.30	Single	Native	2	Forest Service (0.0-0.42)
					Private (0.42-0.85)
					Forest Service (0.85-1.35)
					Private (1.35-2.30)
32017G Fence line Spur	0.25	Single	Native	2	Forest Service
32017H Short Spur	0.16	Single	Native	2	Forest Service
32017IJ Creek Spur	0.75	Single	Native	2	Forest Service (0.0-0.35)
					Private (0.35-0.50)
					Forest Service (0.50-0.75)
32017IK Private Way	0.10	Single	Native	2	Forest Service
32017L Southway	0.11	Single	Native	3	Forest Service
32017M AI & Docs Campground	0.10	Single	Native	3	Forest Service
32018 Twin Lakes	15.30	Double to MP 14.6 Single MP 14.6-15.3	Asphalt Asphalt	5 4	County Forest Service
32020 Dunderburg Meadow	8.1	Single	Asphalt	3	County
32020A Dunderburg Creek	0.50	Single	Native	2	Forest Service
32020B Forestway	0.05	Single	Native	2	Forest Service
32020C Connector	0.50	Single	Native	2	Forest Service
32020D Spur	0.35	Single	Native	2	Forest Service
32020E Pond Spur	1.20	Single	Native	2	Forest Service
32021 Virginia Lakes	4.68	Single	Native	2	Forest Service
32021A Virginia Lakes Summer Homes	0.20	Single	Native	2	Forest Service
32021B Resort Lake Cabin	0.20	Single	Native	2	Forest Service
32021C Connector	0.20	Single	Native	2	Forest Service (0.0-0.10)
					Private (0.1-0.20)
32021D Castle Peak	0.60	Single	Native	2	Forest Service (0.0-0.50)
					Private (0.5-0.60)
32021E Connector	0.10	Double	Asphalt	3	Forest Service
32043B Spur	0.20	Single	Native	2	Forest Service
32044 South Lower Twin Lakes	2.21	Double	Native	3	Forest Service (0.0-2.20)
					Private (2.20-2.21)

<b>Road No. and Name</b>	<i>Length</i>	<b>Lanes</b>	<b>Surface Material</b>	<b>Mtce. Level</b>	<b>Jurisdiction</b>
32044A Lower Twin Lakes Boat Ramp	0.15	Single	Native	3	Forest Service
32044B Lower Twin Lakes Campground	0.30	Single	Asphalt	4	Forest Service
32044C Summer Home Entry	0.20	Single	Native	3	Forest Service
32044D Summer Home Lakeshore	0.10	Single	Native	3	Forest Service
32044E Eagle Nest Summer Home	0.25	Single	Native	2	Forest Service
32044F Trailhead	0.65	Single	Native	3	Forest Service (0.0-0.50)

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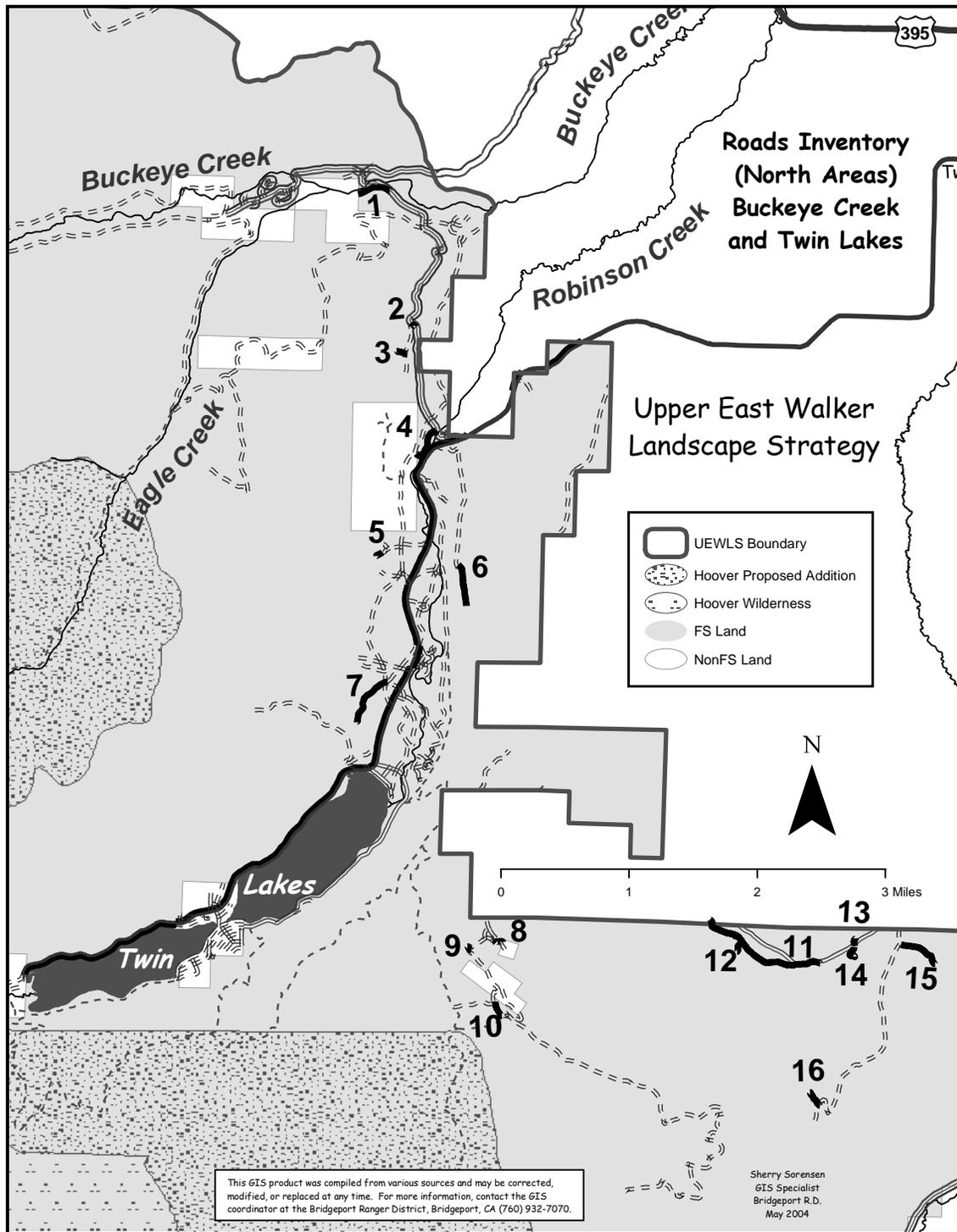
					Private (0.50-0.65)
32044G Subdivision	0.05	Single	Native	2	Forest Service (0.0-0.05) Private
32044H Trespass	0.45	Single	Native	2	Forest Service (0.0-0.35) Private (0.35-0.45)
32066 Little Walker River	6.82	Single	Native	3	Private (0.0-0.80) Forest Service (0.80-6.82)
32066C Willow Flat	1.01	Single	Native	3	Private (0.0-0.80) Forest Service (0.80-6.82)
32066D Riverside	0.45	Single	Native	2	Forest Service
32129 Sawmill Campground	0.30	Single	Native	3	Forest Service
32130 Crags Campground	0.65	Single	Asphalt	4	Forest Service
32134 Paha Campground	0.60	Single	Asphalt	4	Forest Service
32135 Robinson Creek Campground	0.80	Single	Asphalt	4	Forest Service
32136 Honeymoon Flat Campground	1.30	Single	Native	3	Forest Service
32138 Stone	0.22	Single	Native	2	Forest Service
32138A Stone Spur	0.20	Single	Native	2	Forest Service
32139 Castle Rock	2.65	Single	Native	2	Forest Service
32140 Trumbull Lake Campground	1.40	Single	Native	3	Forest Service
32141 Virginia Lake Resort	0.40	Single	Native	3	Forest Service
32141A Resort Cabin Creek	0.10	Single	Native	2	Forest Service
32142 Green Creek	5.48	Single	Native	3	Forest Service
32142A Green Creek Loop	0.21	Single	Native	2	Forest Service
32142B Hoover Way	0.65	Single	Native	2	Forest Service
32143 Green Creek Campground	1.99	Single	Native	3	Forest Service
32144 Upper Summer Meadows	11.80	Single	Native (MP 0.0-6.25) ML 3 Native (MP 6.25-8.0) ML 2 Native (MP 8.0-11.8) ML 1	- - -	County (0.0-6.25) Forest Service (6.25-7.00) Private (7.00-7.50) Forest Service (7.50-11/8)
32144A Meadows Way	2.11	Single	Native	2	Private (0.0-1.60) Forest Service (1.60-2.11)
32144B Mine Entry	0.10	Single	Native	2	Forest Service
32148 Hoover View	0.20	Single	Native	2	Forest Service
32150 El Camino Estate	1.20	Single	Native	2	Forest Service
32154 Powerline	2.05	Single	Native	2	Private (0.0-0.70) Forest Service (0.70-2.05)
32160 Buckeye Creek	1.33	Single	Native (MP 0.0-0.75) ML 3 Native (MP 0.75-1.17) ML 4 Native (MP 1.17-1.33) ML 3	- - -	Forest Service (0.0-0.75) Private (0.70-0.75) Forest Service (0.75-1.33)
32160A Buckeye Campground Spur	0.50	Single	Asphalt	4	Forest Service
32160B Buckeye Campground Spur	0.40	Single	Asphalt	4	Forest Service
32160C Buckeye Campground Spur	0.10	Single	Asphalt	4	Forest Service
32160D Buckeye Campground Spur	0.10	Single	Asphalt	4	Forest Service

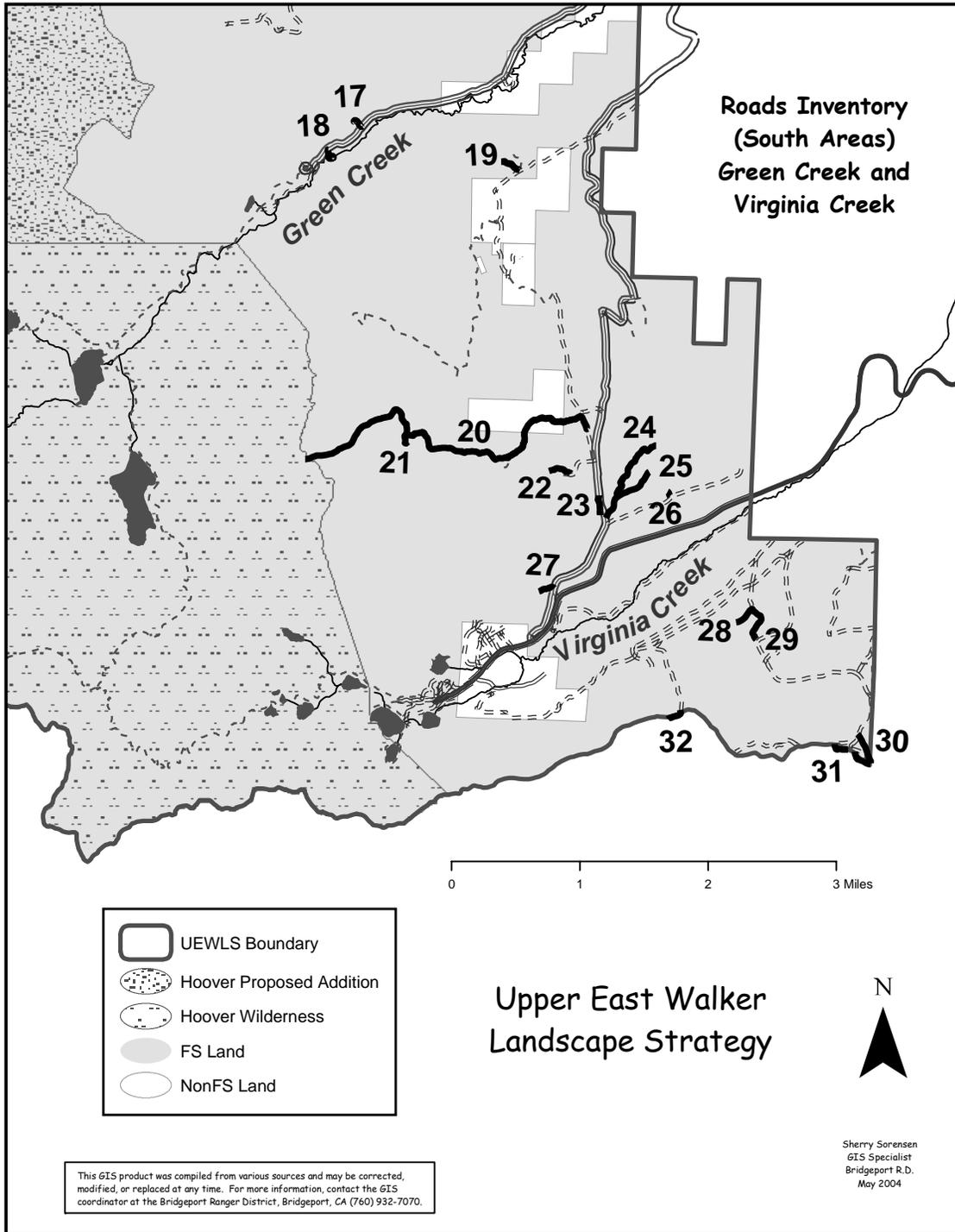
Road No. and Name	Length	Lanes	Surface Material	Mtce. Level	Jurisdiction
32176 Labrosse Creek	2.26	Single	Native	2	Forest Service (0.0-0.25) Private (0.25-0.95) Forest Service (0.95-2.26)
32176A Labrosse	0.25	Single	Native	2	Forest Service
32176B Creek Way	0.25	Single	Native	2	Forest Service
32176C Mountain Toe	0.10	Single	Native	2	Forest Service
32176D Connector	0.05	Single	Native	2	Forest Service
32176E Creek	0.20	Single	Native	2	Forest Service
32176F Mountain View	0.10	Single	Native	2	Forest Service
32176G Loop	0.55	Single	Native	2	Forest Service

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32176H Mountain Wall	0.22	Single	Native	2	Forest Service
32176J Drainage Dip	0.17	Single	Native	2	Forest Service
32176K Glacier View	0.06	Single	Native	2	Forest Service
32176L Glacier	0.20	Single	Native	2	Forest Service
32176M Boulder View	0.10	Single	Native	2	Forest Service
32178 Dunderberg Mill	3.75	Single	Native	2	Forest Service (0.0-0.25) Private (0.25-0.50) Forest Service (0.50-0.85) Private (0.85-1.60) Forest Service (1.60-1.75) Private (1.75-2.15) Forest Service (2.15-3.75)
32179 Woodcutters	2.6	Single	Native	2	BLM (0.0-1.00) Forest Service (1.0-2.60)
32180 Old Virginia	4.80	Single	Native	2	BLM (0.0-1.40) Forest Service (1.40-3.40) Private (3.40-4.80)
32181 Jordan Spring	4.80	Single	Native	2	Forest Service
32200 Cameron Canyon	2.23	Single	Native	2	Private (0.00-0.25) Forest Service (0.25-2.23)
32238 Sawmill Ridge View	1.02	Single	Native	2	Forest Service
32238A Trailer Park	0.30	Single	Asphalt	4	Forest Service
32241 Borrow Pit Spur	0.46	Single	Native	2	Forest Service (0.00-0.46)

<b>Summary of Unclassified Roads in the Upper East Walker Watershed</b>					
<b>Road Name and Number</b>	<b>Miles</b>	<b>Lanes</b>	<b>Surface Material</b>	<b>Mtce. Level</b>	<b>Jurisdiction</b>
Buckeye No. 1	0.42	1	Native	-	Forest Service
Buckeye No. 2	0.05	1	Native	-	Forest Service
Buckeye No. 3	0.15	1	Native	-	Forest Service
Robinson Creek No. 4	0.52	1	Native	-	Forest Service
Robinson Creek No. 5	0.09	1	Native	-	Forest Service
Robinson Creek No. 6	0.55	1	Native	-	Forest Service
Robinson Creek No. 7	0.69	1	Native	-	Forest Service
Summers No. 8	0.10	1	Native	-	Forest Service
Summers No. 9	0.07	1	Native	-	Forest Service
Summers No. 10	0.21	1	Native	--	Forest Service
Summers No. 11	1.70	1	Native	--	Forest Service
Summers No. 12	0.15	1	Native	-	Forest Service
Summers No. 13	0.22	1	Native	-	Forest Service
Summers No. 14	0.27	1	Native	-	Forest Service
Summers No. 15	0.53	1	Native	-	Forest Service
Summers No. 16	0.21	1	Native	-	Forest Service
Green Creek No. 17	0.15	1	Native	-	Forest Service
Green Creek No. 18	0.22	1	Native	-	Forest Service
Green Creek No. 19	0.27	1	Native	-	Forest Service
Virginia Creek No. 20	4.72	1	Native	-	Forest Service
Virginia Creek No. 21	0.19	1	Native	-	Forest Service
Virginia Creek No. 22	0.30	1	Native	-	Forest Service
Virginia Creek No. 23	0.26	1	Native	-	Forest Service
Virginia Creek No. 24	0.93	1	Native	-	Forest Service
Virginia Creek No. 25	0.85	1	Native	-	Forest Service
Virginia Creek No. 26	0.07	1	Native	-	Forest Service
Virginia Creek No. 27	0.21	1	Native	-	Forest Service
Virginia Creek No. 28	0.27	1	Native	-	Forest Service
Virginia Creek No. 29	0.49	1	Native	-	Forest Service
Virginia Creek No. 30	0.68	1	Native	-	Forest Service
Virginia Creek No. 31	0.22	1	Native	-	Forest Service
Virginia Creek No. 32	0.22	1	Native	-	Forest Service





#### Key Roads Questions and Answers

***What are peoples perceived needs and values for roads? How does road management affect people's dependence on, need for, and desire for roads?***

Visitors and residents of the Bridgeport area have relied on the road system since the early 1900's for recreation, timber harvest, fuelwood cutting, grazing, and mining.

Today, people value roads for recreation, driving for pleasure, sightseeing, hiking, off-highway vehicle riding, horseback riding, and bicycling. Access to recreation areas, private lands, hunting and fishing areas, wildlife viewing areas, and winter sports is highly valued. Local residents highly value continued roaded access to the National Forest.

Road management has a direct affect on people's use of roads. Management of a road may enhance or limit a recreation opportunity, or even change the setting of that recreation opportunity.

***What are peoples perceived needs and values for access? How does road management affect people's dependence on, need for, and desire for access?***

Almost all of the varied types of recreation opportunities depend on roads for access. Local residents and visitors to the Bridgeport area strongly support continuation of existing roaded access to the National Forest.

Recreational opportunities in the Bridgeport area are dependent on public lands. Access to the National Forest is through the Forest road system. Forest Plan direction is to provide for high quality recreation experiences. Management of the road system may enhance or limit a recreation experience, depending on management decisions made.

***How does road management affect community social and economic health (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)?***

Both benefits and costs are associated with building, maintaining, and continuing use of the Forest road system. The major effect of these roads in the local economy results from the economic activity they support by providing access to the National Forest. Forest system roads in the East Walker country support economic activities associated with recreation. The economy of Bridgeport is highly dependent on recreation related income. Local businesses such as hotels and resorts, campground concession operations, restaurants, sporting good stores, grocery stores, and outfitter guides depend on Forest System roads for their patrons to access recreation areas.

Building and maintaining roads support jobs and other economic activities, but must be balanced against the cost of building and maintaining those roads.

Changes in road management, particularly road availability and quality, also affect the quality of user's experience, and thereby the benefit they receive. Access to Virginia Lakes recreation area is by a paved road that allows visitors a unique experience in an alpine environment, without having to walk far from their vehicle. How the Forest Service manages the road system has a direct and significant effect on their lifestyles.

***How does the road system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)?***

Altering the Forest road system could disrupt long-established access and use patterns on the Forest. Paving a dirt road that is currently native surface could change the recreation opportunity provided in that area. Management decisions on road systems may exclude certain socio-economic groups, because they may not have a viable means to travel to a certain area where a road may not be maintained.

Management of road-side facilities such as scenic overlooks, interpretative sites, parking areas, picnic areas, and developed campgrounds can affect people with disabilities if design features that accommodate their needs are not considered.

***What are the adverse effects of noise caused by developing, using, and maintaining roads?***

Road construction can cause a decrease in the quality of the recreational experience. Noise, rough road conditions, dust, and traffic delays can affect the solitude and recreation experience visitors expect. Road maintenance activities do not reach the amount or duration of construction activities, but when these activities are being performed they can affect the quality of visitor's recreation experience.

During these activities some users will experience diminished quality of experience and others may choose roaded recreation opportunities at other locations. Roaded recreation opportunities such as driving for pleasure, sightseeing, wildlife viewing, hunting and bicycling could be limited or made unavailable during certain construction activities.

Noise and other disturbances generated by traffic use have fairly low adverse effects on roaded recreation opportunities.

***Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities?***

There is likely to be excess demand for roaded recreation opportunities in the future rather than future excess supply.

***Is developing new roads into unroaded areas or changing maintenance of existing roads causing substantial changes in the quantity, quality, or type of roaded recreation opportunity?***

The Land Use Management Plan for the Toiyabe National Forest (1978) recommends that no new roads be constructed in the Virginia or Green Creek drainages. Beneficial changes could occur with upgrading existing roaded recreation facilities.

***Who participates in roaded recreation in the area?***

During spring, summer, and fall the majority of visitors come from Southern California. Many visitors also come from the greater Reno area and the San Francisco Bay area. In 2001, Twin Lakes Road had an average of 530 cars per day from May to September.

Visitors participate in a variety of roaded recreation opportunities. Participant activities include camping and picnicking at developed and undeveloped sites along roads, access to trailheads, off-highway vehicle driving, access to fishing sites, bicycling, hunting, driving for pleasure, wildlife viewing, photography, and sightseeing.

During the winter months mostly local and regional residents participate in snow sports including snowmobiling, snowshoeing, telemark skiing and cross-country skiing.

***What are the participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?***

There is a strong local attachment to roaded areas remaining open and accessible through out the East Walker Landscape. The economy of Bridgeport depends on fishing and other recreation opportunities offered by roaded access to areas. Regional visitors to the area also have a strong attachment to roaded access to recreation areas. There are accounts of visitors coming to areas such as Virginia and Robinson Creeks in the early 1900's.

***What is the perceived social and economic dependency of a community on an unroaded area versus the value of that unroaded area for its intrinsic existence and symbolic values?***

Unroaded lands are essential for many of the economic benefits the local community derives from the forest. Scenic beauty, clean air and water, streams and lakes for fishing, trails and wilderness (which provide opportunities for

outfitters and guides as well as the general public) are benefits that the local community, the region, and the nation derive from unroaded and wild lands. The local community of Bridgeport, in particular, is dependent upon the Hoover Wilderness, the proposed additions to the Hoover Wilderness, and the other contiguous roadless lands. Bridgeport is a recreation- and tourist-based community, and the wilderness provides both the scenic backdrop that lures people here and the actual recreation-related activities that causes them to spend time here. There is value to retaining as unroaded and wild lands on the district, as it provides a historic perspective to visitors and residents alike.

The Sierra Nevada mountain range forms the backbone of the state, both geographically and symbolically. There is great attachment to the pioneer spirit, and the ability to look up to the wild Sierra peaks provides residents and visitors with an opportunity to connect to that spirit.

***How does road management affect wilderness attributes, including natural integrity, natural appearance, opportunities for solitude, and opportunities for primitive recreation?***

Roads provide access points to the trail system, where most visitors begin and end their trips. Roads provide visitors the opportunity to get close to wilderness before beginning their trip into the wilderness. Roads, as they develop and improve, provide opportunities for increases in visitation. Roads have been widened and paved, and trailheads improved with some unforeseen consequences on wilderness and unroaded lands.

***How does the road system address the safety of road users?***

The classified roads within the East Walker analysis area have been evaluated and meet road safety standards based on classification levels. Users of the area are mostly from out of the area and remain on the Level 3-5 roads. Roads and hazards associated with the road have adequate safety signing. Some of the Level 2 roads are difficult and do present some level of risk for the experience level of the visitors using these roads.

Maintenance Level 2-3 Roads: Classified roads in the East Walker country that are designated Maintenance Level 2-3 are relatively short, low volume, low speed roads that have design features adequate for safe use.

Maintenance Level 5 Road: The Twin Lakes Road and Virginia Lakes Road have a Maintenance Level 5 designation. The horizontal and vertical alignments meet or exceed the minimum standards as required by the *Highway Safety Act of 1966*.

Emphasis on safety has come from Federal and State Highway Departments, safety agencies, and has also come from Congress with passage of the Highway Safety Act of 1966. Maximum safety has been mandated for incorporation into

our motor vehicle transportation system. Both the Twin and Virginia Lakes roads have been recently resurfaced.

During the winter months the Virginia Lakes road is snow covered and inaccessible to passenger vehicles. Snowmobilers and other winter sport enthusiast's take advantage the snow-covered road for their activities.

***How and where does the road system generate erosion?***

Surface erosion from road surfaces, cutbanks, and ditches represents a source of road-related sediment input to streams. Erosion is occurring along Forest Road 020 where it crosses an irrigation ditch. Other erosion problems have not been documented.

***How and where does the road system affect mass wasting?***

The existing road system has not affected mass wasting and is not likely to in the future.

***How and where do road-stream crossings influence local stream channels and water quality?***

Stream crossings can divert onto the road and can also affect channel morphology, water quality and habitat.

Forest Service Road 020 crosses an irrigation ditch that transports water from Dunderberg Creek into Dog Creek. Water backs up above the culvert, flows down the road, and then down the fill slope, causing erosion. There are two other culverts on this road crossing small streams above Sinnamon Meadow. Water is being diverted at these culverts and flowing on the road.

Forest Road 144 crosses Summers Creek in several places. Water has been diverted onto the road.

Forest Road 139 provides access to dispersed camping along Virginia Creek. A portion of this road was closed but is still diverting water from Virginia Creek.

***How and where does the road system restrict the migration and movement of aquatic organisms? What aquatic species are affected and to what extent?***

Several road-stream crossings occur within the analysis area; however there are no known road-stream crossings in the analysis area restricting the migration and movement of aquatic organisms.

***How does the road system affect shading, litter fall, and riparian plant communities?***

Many of the roads within the analysis area occur within riparian communities. Impacts from the road system to riparian function have not been evaluated.

In general, the road system directly affects riparian communities where it impinges on riparian areas. Roads can indirectly affect riparian communities by intercepting surface and subsurface flows and routing these flows so that riparian areas dry up and the riparian vegetation is replaced with upland vegetation. Roads are a source of sediment and can be a barrier to nutrient cycling within these systems. Riparian communities play a vital role in providing shade. Removal or degradation of these communities can affect stream stability and water temperatures, which in turn, affects aquatic habitat.

***How and where does the road system contribute to poaching, or direct habitat loss for at-risk aquatic species?***

High traffic roads adjacent to streams with fish are the most likely to contribute to poaching. This is not generally considered an issue in the area and does not significantly affect aquatic populations and at-risk aquatic species.

Lahontan cutthroat trout, a federally threatened species, does not occur within the analysis area, and is therefore not affected by the road system. All known mountain yellow-legged frog and Yosemite toad populations, two Forest Service sensitive species, occur within the Hoover Wilderness, and are therefore also not affected by the road system. No known at-risk species occur within the analysis area.

***How and where does the road system facilitate the introduction of non-native aquatic species?***

The introduction of non-native aquatic species occurs primarily through stocking of non-native fish. The California Department of Fish and Game coordinates stocking of non-native rainbow, brook, and brown trout in lakes and streams. Stocking of higher elevation lakes is accomplished primarily by aerial methods because there is not a road system that accesses these sites. Stocking tributaries to the East Walker River is accomplished via the road system. Within the analysis area, the road system does not contribute to any significant non-state stocked introduction of non-native aquatic species.

However, the accidental transplantation of invasive species such as the New Zealand mud snail is a concern. This snail has been found just south of the East Walker area near Bishop, California. Also the transplantation of aquatic diseases such as whirling disease is a concern. Mud snails and whirling disease are transported by anglers, boats, vehicles, waders, etc; anything that comes in contact with infected water and then is not properly disinfected prior to moving to a new location.

***To what extent does the road system overlap with areas of exceptionally high aquatic species diversity or productivity, or areas containing rare or unique aquatic species or species of interest?***

The road system overlaps with the highly productive recreational fisheries in the Twin Lakes/Robinson Creek, Virginia Creek, and Green Creek drainages. The road system has minimal overlap with areas of exceptionally high aquatic diversity or aquatic species of interest in the area. The primary species of interest include Lahontan cutthroat trout, which currently does not occur within the analysis area. Mountain yellow-legged frogs and Yosemite toads, two amphibian species of interest, do occur within the analysis area, but not near the road system. Areas such as small isolated perennial streams, ponds, springs, and wet meadows are often described as having high species diversity. The extent to which the road system overlaps these types of areas is minimal.

## Chapter 4: Recommendations

This final chapter displays integrated and prioritized recommendations that would help to achieve desired conditions for human uses, improve ecosystem resilience, 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**

The Upper East Walker country is a recreation magnet for people from California, Nevada, and the rest of the nation. The scenery, fishing, backpacking, camping, rock climbing, and picnicking opportunities rank with the best in the nation. But along with these attractions comes the need for protection of our natural resources. These issues are outlined below.

### **Current Situation**

The demand for recreation facilities exceeds the supply in a number of areas, including parking at Virginia and Trumbull Lakes and camping at Green Creek. Congestion, waste disposal, and water quality concerns are limiting the carrying capacity of campgrounds in the Virginia and Robinson Creek areas. Recreational stock use opportunities are limited by the lack of legal access from the Virginia Lake pack station, lack of trails from the Virginia Creek camping area, and the lack of a designated stock camp. Mountain biking opportunities are limited by the lack of single track bike trails. There is unmet demand for mountain bike and OHV riding opportunities. Use of Buckeye Hot Springs and its dispersed camping sites is currently causing erosion and sedimentation in Buckeye Creek, pose safety problems, and have potential health/sanitation risks. Dispersed camping in the Dunderberg and Green Creek areas is causing stream bank erosion, trash problems, and potential health/sanitation risks. The quality of camping opportunities is adversely affected by bears stealing food in campgrounds throughout the East Walker country.

### **Recommendations**

#### **Area Wide**

1. Develop a system of mountain bike trails outside of wilderness.
2. Require proper food storage and provide bear proof storage lockers at campgrounds.

#### **Buckeye Drainage**

1. Install a double-unit toilet facility at the parking area for the Hot Springs.
2. Place educational and informational signs around the Hot Springs area.
3. Close the north side of Buckeye Creek in the vicinity of the Hot Springs to dispersed camping (approximately 4-5 campsites).
4. Harden the campsites in the dispersed area on the south side of creek in the vicinity of the Hot Springs (approximately 10-15 campsites).

5. Develop and construct a trail from an appropriate parking area to Buckeye Hot Springs.
6. Evaluate the need for a new water system at Buckeye Campground.
7. Create the opportunity for a designated stock camp at Buckeye Campground.
8. Acquire legal right-of-way for access to Buckeye Creek trail.
9. Relocate portions of Buckeye Trail to eliminate multiple trailing and conflicts with livestock grazing. Users should be able to follow the trail readily.

#### **Robinson Creek Drainage**

1. Focus on management, maintenance, and rehabilitation of existing campgrounds rather than development of new ones.
2. Develop a family-oriented bicycle route in the Lower Twin Lake area
3. Improve the fishing trail and enhance fish habitat along Robinson Creek.
4. Acquire legal right-of-way for trail access to the upper Robinson Creek drainage.
5. Do not develop or designate OHV trail systems in the Twin Lakes area.

#### **Green Creek Drainage**

1. Expand and improve the developed campground from its current total of 11 campsites to allow for up to 20 campsites.
2. Improve Green Creek road conditions.
3. Close dispersed sites (4-5) along Green Creek Road on Forest Service land, below the developed campground to protect fish habitat and water quality.
4. Improve educational and informational signing for Off-highway vehicle routes.

#### **Virginia Lakes Drainage**

1. Focus on management, maintenance, and rehabilitation of Trumbull Lake campground rather than expansion or development of a new campground.
2. Improve interior roads at Trumbull Lake Campground.
3. Pave and stripe the parking area at Virginia Lakes. Grade and pave the access road to the parking area.
4. Monitor use and occupancy at Virginia Creek Dispersed Area. If peak use reaches 80%- 90% of capacity, then convert to a "fee area" under management of campground concessionaire.
5. Sign Virginia Lakes Road as "no parking", and use enforcement.
6. Improve and harden sites for day use parking at Trumbull Lake.
7. Relocate campsites less than 100 feet from Virginia Creek. Restore eroded stream banks.
8. Evaluate OHV opportunities on existing NFS roads accessing the Jordan Basin.
9. Acquire legal right-of-way access for a trail from Virginia Lakes Pack Station to the Virginia Lakes Trailhead.
10. Sign the Virginia Creek dispersed camping area to restrict vehicle/camping use to designated sites. Designate one or more sites specifically for stock use.

## **Wilderness**

The high elevations of the East Walker country are part of the Hoover Wilderness Area. This area encompasses the east slope of the Sierra Nevada bordering on Yosemite National Park. It's both a very pristine area dominated by scenic beauty and natural wild land features and an area popular with hikers, backpackers, anglers, and rock climbers. Many visit the alpine glacial lakes that sprinkle the wilderness. It's attractiveness leads to the many management challenges outlined below.

### **Current Situation**

Wilderness qualities are being affected by concentrated use in some areas, including Green Lake. This problem is the result of a quota system that does not address the recent increase in day use of the Wilderness as well as unintended consequences from the current campfire regulations. Human/bear encounters are frequent in the wilderness and there are inconsistencies in bear regulations with adjacent Forests and Yosemite National Park. Past fire suppression activities have limited the natural role of fire in the wilderness.

### **Recommendations**

1. Update the wilderness plan for the Hoover Wilderness to include current use patterns, especially the increase in day use. Determine whether the quota and permit systems are working, and if they should be extended to day use.
2. Write a fire management plan for the Hoover Wilderness where fire is allowed to play a more natural role.
3. Determine what measures are needed to protect wilderness characteristics. Establish a holistic approach to use of campfires, group sizes, and camping areas to enhance wilderness qualities.
4. Adopt the bear related food storage requirements of the adjacent Yosemite National Park and Inyo National Forest.

## **Watershed**

National Forest System lands in the upper East Walker country form the most vital sources of water for the East Walker River. Water flowing from these lands is among the most pristine in the nation, but there are concerns in some of the lower drainages that are affected by heavy campground recreation use and summer home developments.

### **Current Situation**

Robinson and Buckeye Creeks do not meet water quality standards. Erosion is occurring at trail/stream crossings above the Virginia Lakes and Buckeye trailheads.

### **Recommendations**

1. Construct a dump station near the campgrounds along Robinson Creek to hold gray water from RVs.

2. Adopt the recommendations in the recreation section to improve management of Buckeye Creek.
3. Improve trail/stream crossings on the Buckeye trail and the trail from Virginia Lakes by hardening the crossings using rock or relocating sections of the trail.

### ***Vegetation/Fuels***

The higher elevations of the upper East Walker country are in near pristine conditions, characterized by steep rocky slopes with pockets of whitebark, lodgepole, and western white pine. These areas are not at high risk of intensive wildfire. Mid and lower elevation slopes with stands of Jeffrey pine and sagebrush pose some risk, but not as high as other areas of the Eastern Sierra.

### **Current Situation**

Fuels buildup in some timber stands is increasing the risk of stand replacing fires. There is a risk of wildfire in the Twin Lakes and Green Creek areas that poses a threat to recreation residences.

### **Recommendations**

#### **Buckeye Drainage**

1. Reduce the risk of large stand replacing fires in the timber stands within the Buckeye and Eagle Creek drainages. Reduce the fuel loading and increase the ground to crown ratio within timber stands that are in Condition Class 2 and 3 and move them towards a Condition Class 1. Project treatments should involve re-introducing fire into Jeffrey pine, sagebrush, and other fire-adapted ecosystems through the use of prescribed fire. Strategically place fuel treatments to interrupt fire spread and reduce the size and severity of wildfire. Treatment should be designed to lead to fires that burn at lower intensities and slower rates of spread compared to untreated areas.

#### **Urban Wildland Urban Intermix Zone**

1. Develop fuels treatments that will function as a buffer between the developed area and the wildlands. Fuel reduction treatments should take place within the threat zone (1 ¼ -mile buffer) and the defense zone (inner ¼- mile wide buffer zone). The objective within these zones is to enhance fire suppression capabilities by modifying the fire behavior through fuels reduction treatments and increasing the safety and effectiveness of fire suppression activities.

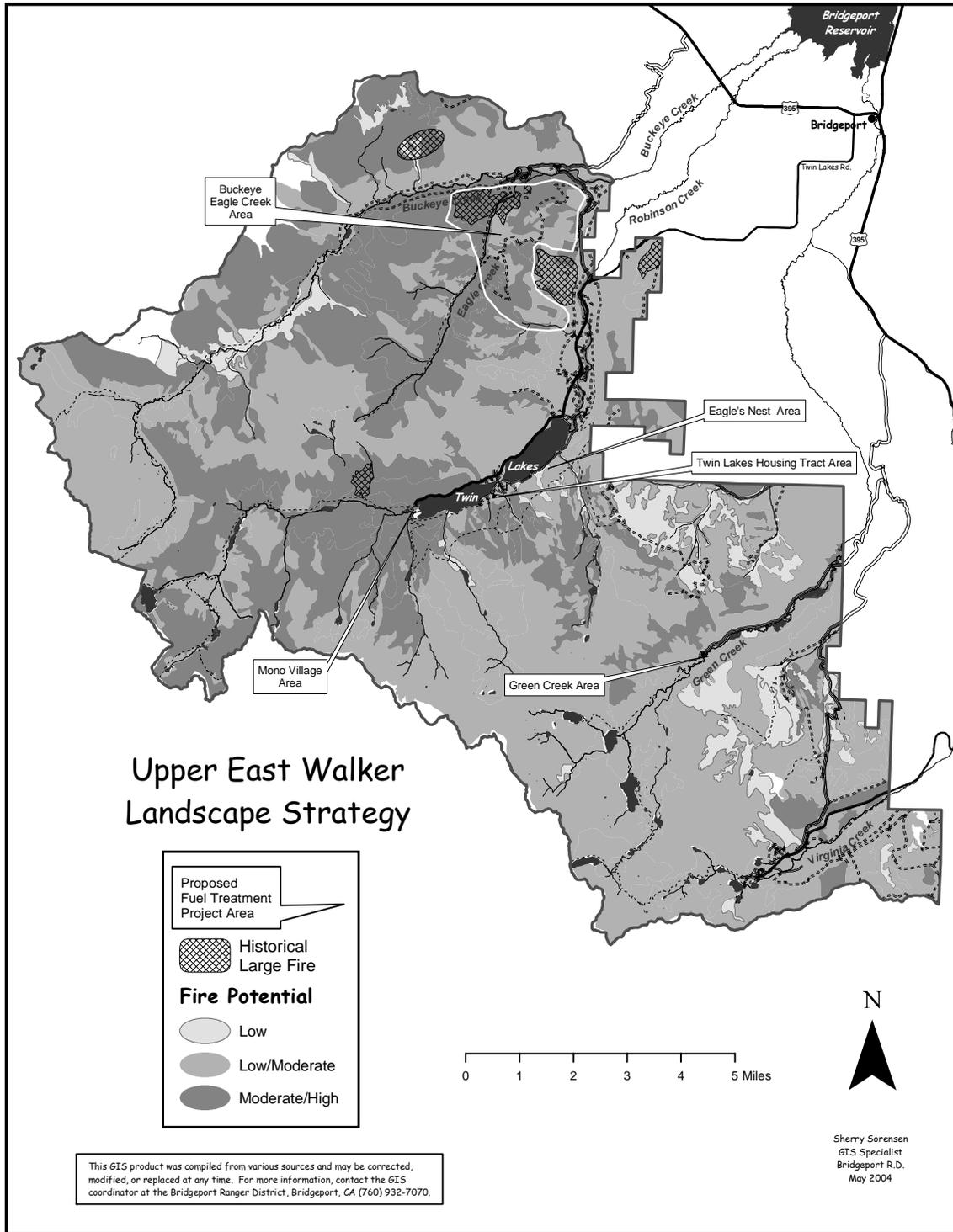
#### ***Twin Lakes (Eagles Nest and Twin Lakes Summer Home Tract, Mono Village)***

1. Fuel reduction within the defense zone will involve reducing the amount of fuels within the understory by thinning the timber and brush using mechanical methods. The canopy cover will be reduced, live crown base height will be increased and ground fuels will be reduced in an attempt to reduce surface fires to flame height of 4 feet or less.

2. Where possible, fuel reduction within the threat zone will involve reduction of surface fuels, increasing the live crown base height and reducing the canopy cover by about 25%. Treatment could involve both mechanical and prescribed fire. This area is prone to snow avalanches so treatments will have to be planned and implemented taking this into consideration.

***Green Creek Summer Home Tract***

1. Fuel reduction will take place within both the defense zone and threat zone. Treatments will be designed to reduce the risk of fire burning into the residential area. Selective tree thinning, surface fuels removal and prescribed fire will be utilized (Fuels Treatment Map).



## ***Fisheries/Amphibians***

The upper East Walker country provides some of the most productive and popular recreational fisheries in the nation. Anglers from throughout California and Nevada enjoy the opportunities provided on streams and lakes in the area. Fishing is an important asset to the economy of the town of Bridgeport. The popularity of fishing in the area presents management challenges. The area is also home to some of the most valued and rare amphibian species, including the Yosemite toad and mountain yellow legged frog.

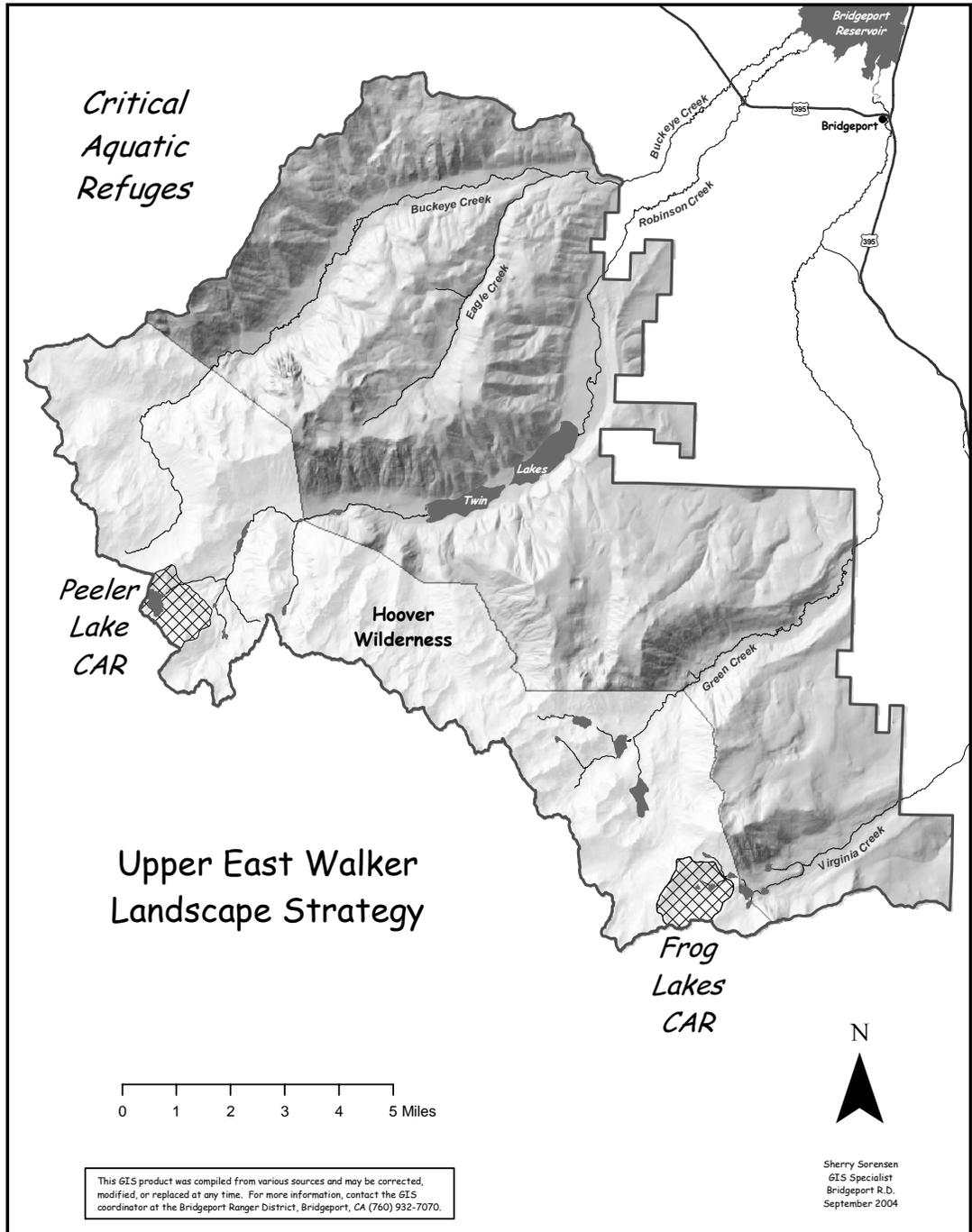
### **Current Situation**

Fishery habitat in Virginia, Robinson, Green and Buckeye Creeks is at less than optimum condition due to the impacts of dispersed camping, roads, user created trails, and loss of streamside vegetation.

The East Walker country provides important habitat for mountain yellow legged frog and Yosemite toad, two species of amphibians whose populations have declined throughout the Sierra Nevada.

### **Recommendations**

1. Establish new critical aquatic refuges where mountain yellow-legged frog and Yosemite toad populations have been found. These areas include the Frog and Peeler Lakes areas (See Critical Aquatic Refuge Map).
2. Develop a public educational program in consultation with Mono County and the California Department of Fish and Game that addresses measures to enhance the habitat of sensitive amphibian species.
3. Assist the California Department of Fish and Game with mountain yellow-legged frog and Yosemite toad habitat restoration efforts. California Department of Fish and Game is currently working on a management plan for the East Walker River Watershed that will identify and prioritize lakes feasible for restoration.
4. If recreational impacts to sensitive amphibian species are documented, the appropriate actions may be taken as appropriate to minimize/reduce impacts to Mountain yellow-legged frog and Yosemite toad populations. Appropriate actions may also be taken to restore damaged habitat.
5. Adopt the recommendations in the recreation section to improve management of recreation uses along Buckeye, Green, Robinson, and Virginia Creeks.
6. Continue to monitor the road system in the Virginia, Green, Robinson, and Buckeye Creek drainages. Create new waterbars and improve existing waterbars as needed to assure the road system is functioning properly, and not delivering large amounts of sediment into the streams during runoff. As needed use gravel and plant vegetation between the stream and road system to reduce amount of erosion caused by adjacent roads.



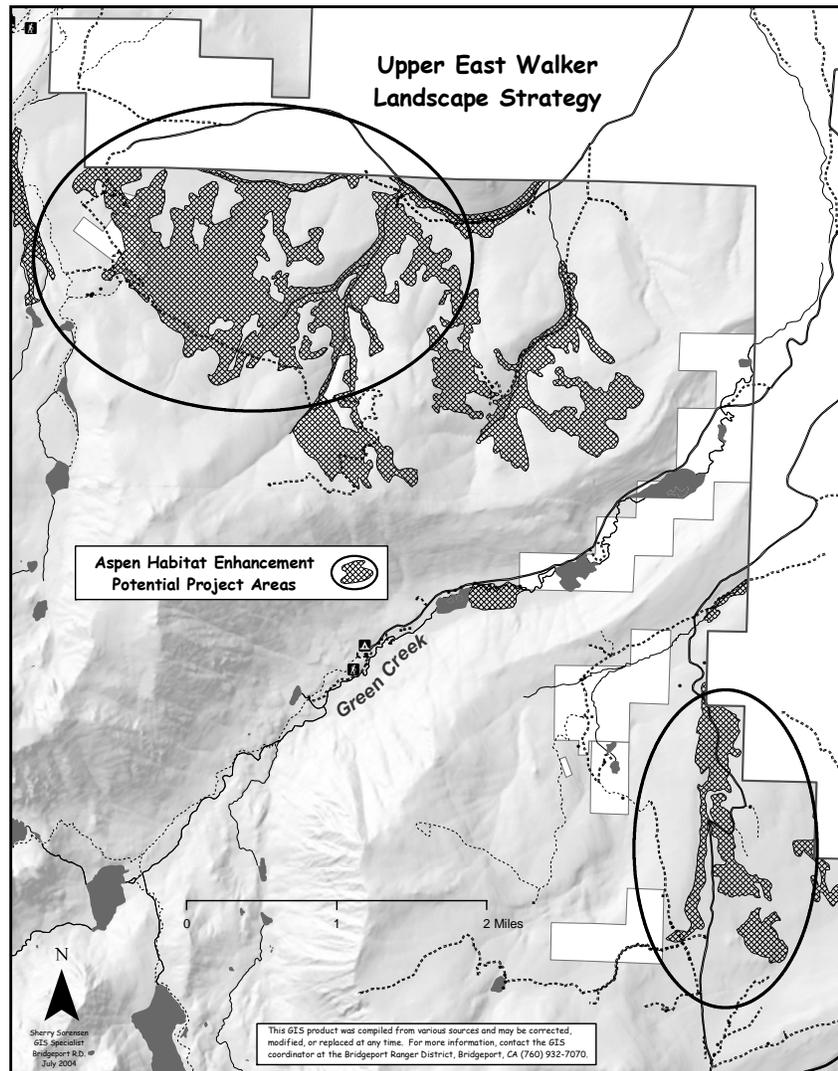
## Wildlife

### Current Situation

Migratory bird and deer habitat has been impacted by the encroachment of conifers into aspen stands, including in the Tamarack/Summers Meadows areas.

### Recommendations

- Reduce conifer encroachment on aspen stands in the Dunderberg Peak and Tamarack Peak areas using mechanical or prescribed fire treatments (Aspen Map). Treat 1000 acres of aspen by 2010 in these areas.



### ***Landscape Scenery***

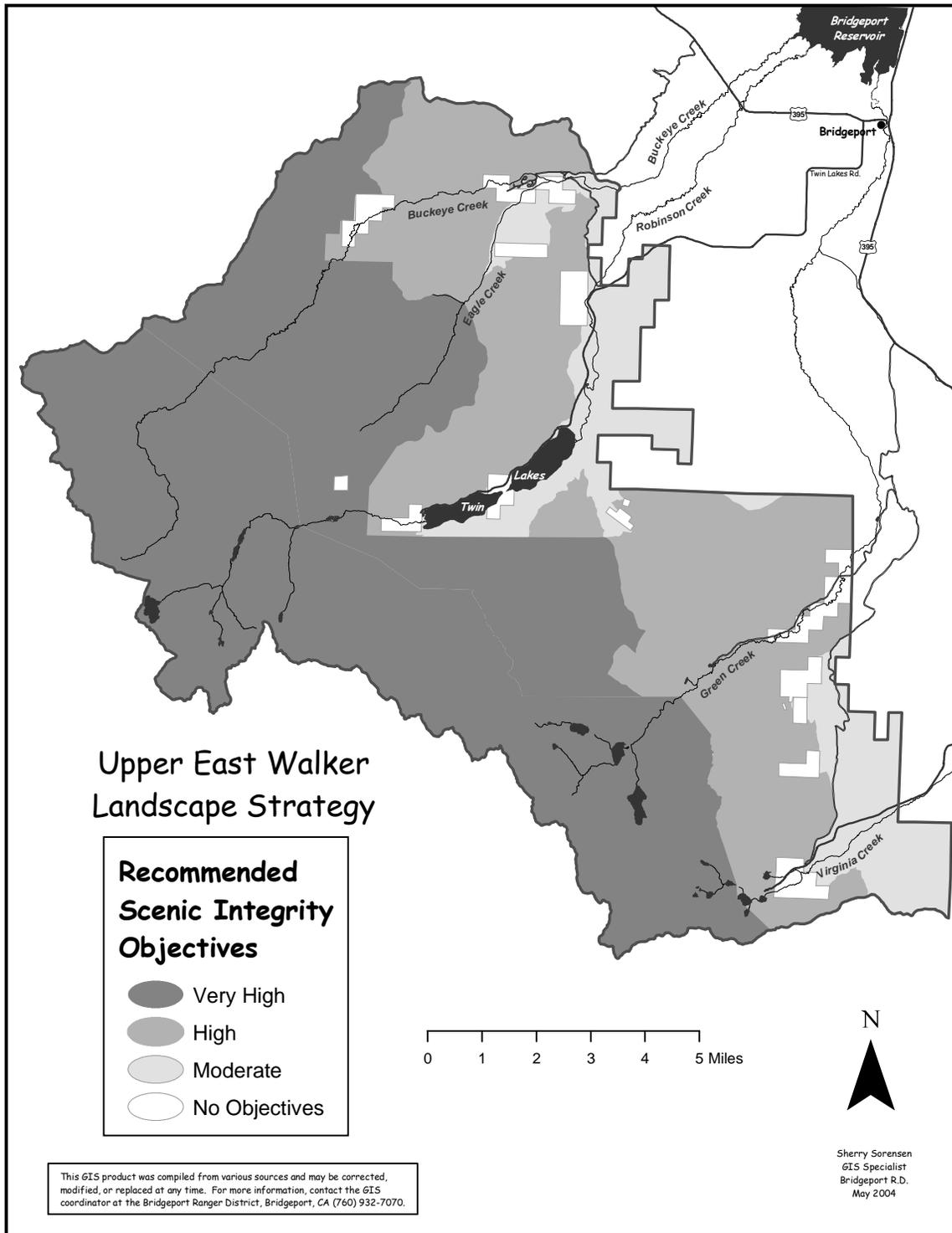
The upper East Walker River country includes some of the most scenic areas in the nation. This needs to be recognized in the Forest Plan.

### **Current Situation**

Forest plan direction for visual resources is inappropriate in some areas and lacking in others.

### **Recommendations**

1. Update the Forest Plan to provide for very high scenic integrity in the Hoover Wilderness and its proposed additions, high scenic integrity in the Summers Meadows, Kavanaugh Ridge, And Sawmill Ridge areas, and moderate scenic integrity in the Jordan Basin, Virginia Creek, Robinson Creek, Green Creek, and Buckeye Creek corridors in areas with existing disturbance from roads and structures (Scenic Integrity Map).



## Roads

### Current Situation/Recommendations

The roads recommendations are presented in table format to conform to Forest Service roads analysis guidance. Please refer to the Roads Maps in Chapter 3 for the locations of these recommendations.

### Classified Roads

Most segments of National Forest system roads in the Upper East Walker analysis area have blended with the landscape and have reached a new ecological balance. Although the roads have reached a stable state, issues remain concerning travel surface generated erosion/sedimentation and dust. Several roads have site specific recommendations to address environmental problems that have a risk degree of low to moderate, but none are ranked high risk or very high risk. Classified roads that do not warrant new recommendations are not displayed in the following table.

Description of Problems and Risks Posed by Forest System Roads	Ranking of the Problems (Risk Degree)	Unacceptable Risk To Ecosystem Sustainability (Y/N)
<p><b>Road 32017 – Buckeye Robinson Creek</b>  <i>Aquatic, Riparian Zone, and Water Quality:</i> This road has 3 miles of aggregate, surfacing, 0.8 mile of asphalt surfacing, and 4 miles of native surfacing. The unsurfaced segment of road generates some surface erosion and becomes rutted from traffic when wet. Vehicle traffic on the unsurfaced road segment encounters very slippery road surfaces when wet. Traffic also generates some dust that contributes a small amount of watershed sedimentation. Placement of crushed aggregate surfacing on 4 miles of existing native surface recommended.</p>	Moderate	No
<p><b>Road 32017 – Buckeye Robinson Creek</b>  <i>Aquatic, Riparian Zone, and Water Quality:</i> The bridge at the Buckeye Creek crossing is deteriorating and is insufficient for projected use. Heavy trucks are discouraged from using this crossing. The bridge does not pose any ecological concern due to its condition, but could pose a future road user safety concern if not replaced. There is some short term risk to water quality posed by bridge removal and replacement work activities. There is also some short-term disruption of recreation activities and road access to nearby recreation sites. Bridge replacement recommended.</p>	Moderate Risk	No
<p><b>Road 32017F - Foothill</b>  <i>Access:</i> This road crosses privately owned land between MP 0.42 – 0.85. There have been conflicts between the private property owner and forest visitors. Recommend acquiring easement for this segment of road.</p>	Low Risk	No
<p><b>Road 32140 – Trumbull Lake Campground Road</b>  <i>Recreation:</i> The existing campground road is constructed of native material. Most of the drainage structures have failed and the road surface is not consistent with the maintenance level assigned to it (ML3). This campground has very high use and ever increasing motor homes/travel trailers traffic. Recommend reconditioning existing road and parking areas, replacing drainage structures, and placing crushed aggregate surfacing.</p>	Moderate Risk	No

<p><b>Road 32160 – Buckeye Creek</b>  <b>Aquatic, Riparian Zone, and Water Quality:</b> This road has 1.33 miles of native surfacing and accesses the asphalt paved road system in the Buckeye Campground. The unsurfaced segment of road generates some surface erosion and becomes rutted from traffic when wet. The conditions of the road, including large boulders that protrude through the road surface, make the road surface unsuitable for the assigned maintenance level (ML3). Traffic also generates some dust that contributes a small amount of watershed sedimentation. Reconditioning the road and placement of crushed aggregate surfacing is recommended.</p> <p>A segment of this road, MP 0.70 – 0.75, crosses privately owned land. Recommend acquiring easement or relocating this segment of road to avoid the privately owned land.</p>	<p>Moderate Risk</p>	<p>No</p>
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**Unclassified Roads (User Created Roads)**

Unclassified roads in the analysis area present both problems and opportunities. Some of these roads have become defacto forest system roads, while others have created problems including erosion/sedimentation, site productivity, and adverse visual impacts. A description of the problems, risks, and recommendations associated with these roads is presented in the following table.

<p><b>Opportunities for Addressing Important Problems and Risks (Unclassified Roads)</b></p>		
<p><b>Road Name and Number</b></p>	<p><b>Miles</b></p>	<p><b>Recommendation</b></p>
<p>Buckeye No. 1</p>	<p>0.42</p>	<p>This road provides access to private property. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Buckeye No. 2</p>	<p>0.05</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Buckeye No. 3</p>	<p>0.15</p>	<p>This road provides access to dispersed camping. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Robinson Creek No. 4</p>	<p>0.52</p>	<p>This road provides fisherman access along the creek. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Robinson Creek No. 5</p>	<p>0.09</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Robinson Creek No. 6</p>	<p>0.55</p>	<p>This road provides access to power line utility. Commission road extension 1.2 miles beyond existing system road terminus, as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Robinson Creek No. 7</p>	<p>0.69</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Summers No. 8</p>	<p>0.10</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Summers No. 9</p>	<p>0.07</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Summers No. 10</p>	<p>0.21</p>	<p>This road provides access to a trailhead to Tamarack Lake. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Summers No. 11</p>	<p>1.70</p>	<p>This road presents resource and riparian concerns and is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.</p>
<p>Summers No. 12</p>	<p>0.15</p>	<p>This road presents resource and riparian concerns and is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.</p>
<p>Summers No. 13</p>	<p>0.10</p>	<p>This road is used by grazing permittees to access their allotments and is needed to meet forest resource management objectives. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Summers No. 14</p>	<p>0.19</p>	<p>This road is used by grazing permittees to access their allotments and is needed to meet forest resource management objectives. Commission road as part of the National Forest transportation system at Maintenance Level 2.</p>
<p>Summers No. 15</p>	<p>0.53</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Summers No. 16</p>	<p>0.21</p>	<p>This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.</p>
<p>Green Creek No. 17</p>	<p>0.15</p>	<p>This road is unneeded to meet forest resource management objectives.</p>

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		Decommission the road and return to a more natural state.
Green Creek No. 18	0.22	This road is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.
Green Creek No. 19	0.27	This road is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 20	4.72	This road provides access to a lake with no official name, but often referred to as "Snow" or "Dunderberg" Lake. Commission road as part of the National Forest transportation system at Maintenance Level 2. The upper portion of this road from the lake to Kavanaugh Ridge should be signed and monitored. If continued adverse impacts to the area occur that portion of the road should be decommissioned and returned to a more natural state.
Virginia Creek No. 21	0.19	This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.
Virginia Creek No. 22	0.30	This road is located in a designated roadless area and is not compatible with that designation. Decommission the road and return to a more natural state.
Virginia Creek No. 23	0.26	This road is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 24	0.93	This road provides access to hunting, camping, and firewood cutting areas. Commission road as part of the National Forest transportation system at Maintenance Level 2.
Virginia Creek No. 25	0.85	This road provides access to hunting, camping, and firewood cutting areas. Commission road as part of the National Forest transportation system at Maintenance Level 2.
Virginia Creek No. 26	0.07	This road is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 27	0.21	This road provides access to dispersed campsites. Commission road as part of the National Forest transportation system at Maintenance Level 2.
Virginia Creek No. 28	0.27	This road has excessively steep grades that present a safety concern and exacerbate surface erosion. This road is not needed to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 29	0.49	This road has excessively steep grades that present a safety concern and exacerbate surface erosion. This road is not needed to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 30	0.68	This road has excessively steep grades that present a safety concern and exacerbate surface erosion. This road is not needed to meet forest resource management objectives. Decommission the road and return to a more natural state.
Virginia Creek No. 31	0.22	This road provides access through the Jordan Basin loop. Commission road as part of the National Forest transportation system at Maintenance Level 2.
Virginia Creek No. 32	0.22	This road is unneeded to meet forest resource management objectives. Decommission the road and return to a more natural state.
Buckeye No. 33	0.17	This road has excessively steep grades that present a safety concern and exacerbate surface erosion. This road is not needed to meet forest resource management objectives. Decommission the road and return to a more natural state.

## List of Preparers

<i>Name</i>	<i>Responsibility</i>	<i>Education: Degrees</i>	<i>Experience</i>
Kathy Lucich	District Ranger	Bachelor of Science Wildlife Biology	29 years
Bill Bryant	Fuels/Vegetation	Bachelor of Science Natural Resources	34 years
Sally Champion	Watershed	Master of Science Watershed Science Bachelor of Science Wildlife Biology	13 years
Lynne Ingram	Special Uses	Bachelor of Science Biology	21 years
Jason Kling	Fisheries/Amphibians	Bachelor of Science Fisheries/Wildlife	2 years
David Loomis	Project Manager	Master Of Science Land Use Planning Bachelor Of Arts Economics	26 years
Leeann Murphy	Wildlife	Bachelor of Science Wildlife	3 years
Erika Sharp	Recreation	Bachelor of Science Natural Resources	3 years
Sherry Sorensen	GIS / Mapping	Qualified by Experience	21 years
Jim Schaefer	Roads		
Jeff Weise	Wilderness / Trails	Qualified by Experience	17 years

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